**Article title**

Spatial parameters for circular hubs - A case study of the building industry in the Netherlands

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**Content of this document**

This document contains the transcripts of interviews conducted for the study, as well as highlights for the different types of spatial parameters. Some names of the parameters have changed during the editing process of the paper:

* Operations perspective → Resources perspective
* Business perspective → Socio-economic perspective

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_Vlasman\_Jan Stokman

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**SPEAKERS**

Tanya Tsui, Jan Stokman

**Tanya Tsui** 00:01

Cool. Yeah. Thanks. Thanks a lot for your time. How are you doing?

**Jan Stokman** 00:06

Yes. Good. See you?

**Tanya Tsui** 00:08

Yeah, pretty good. Pretty good. Let me just open up my notes. Sorry about that.

**Jan Stokman** 00:17

Yeah, I'm sorry, I didn't have the time already to look into your question. So

**Tanya Tsui** 00:22

don't Don't, don't be obliged. Yeah, it's fine. You didn't have to have to look at it. Shall I introduce my project and an interview a bit? And then I'd love to hear a bit about you. And then we can start the interview? Yes, yeah. Okay. So my name is Tanya, I'm from Hong Kong. I do. I'm doing a PhD in to Delft. I'm in my final year, I have one more year to go. And it's about it's a PhD in urbanism, urban design, urban planning. And what we're interested in is the future location of circular hubs in the Netherlands, because we recently noticed that different companies and municipalities and provinces have been thinking of this idea of circular construction hubs, you know, either from from a demolition perspective, like Fluss, Minh, or a logistics perspective. But we noticed that no one's really looking at location yet. So it's all about operations, the business model, who's responsible for what? So that's what we're interested in, where, where will they be? And so that's why I have these interviews with with you and with other similar companies to ask, What do you care about when it comes to location is what kind of what do you have to be close to the land price? The space requirements, do use water or road transport, stuff like that, right. So all of these requirements, so I'm, I'm collecting these requirements through interviews, and the outcome is, we will try to do data analysis of the whole of the Netherlands to to have a map of potential suitable locations based on you know, the outcomes of this interview. So so that's what this interview is about. So I'll ask you about, you know, what, what are the pros and cons of your current location, what you're looking for in the future? And then some some details about operations and things like that. So that's it. Do you have any questions?

**Jan Stokman** 02:47

No, it's interesting. Study.

**Tanya Tsui** 02:50

Yeah. Yeah. Yeah. Cool. Cool. And do you mind introducing yourself? What was the role that plus one and stuff like that?

**Jan Stokman** 02:59

Well, I'm young. I work at floss one since 2015. So I started younger at the company. I'm now 20 to 22 years old.

**Tanya Tsui** 03:12

Well, you started when you were 15?

**Jan Stokman** 03:14

Yes. 15 years. Wow. Okay. Yes. As I recall, it's like inertia.

**Tanya Tsui** 03:22

Yeah. Sounds Yeah.

**Jan Stokman** 03:23

Yeah. Yeah. And I worked my way up in the in the company. And now, my, my job is to connect new partners to our already big network. To make sure all the materials from the building have like a destination and zoom in. When we get the when we get the question, how we can do the job I explained it in, in, in, in the plans, like here in the in the in, in the plans, we put it in a plan. So that's my job inside this company. So as I sell the materials, I look for partners. I ride with the plans to new jobs we get. So that's

**Tanya Tsui** 04:33

okay. Okay, great. Very cool. You're just like, my girlfriend. She also started working very young at 15 1415 Yeah, in the truck nicer. All right. What's up? Yeah,

**Jan Stokman** 04:49

I like it. Because it's different. We are really big company with with different Yeah, departments. We have asbestos. Demolition, we have power cutting, soil remediation. So we have a lot of departments. And inside you, you stay at the same company, which you see different kinds of parts of the company. As part of Yeah, doing different jobs inside the same company.

**Tanya Tsui** 05:27

Yeah. Yeah. Very cool. Very cool. Um, I'd like to ask some questions about the operations of last month first, and then we'll dive into the location. So, so is, as I understand, is there a circular department in first Okay, so all the questions I'll be asking is about the circular department what what are the activities that you guys do? Let me share my screen just give me a sec. So, let me see. Let me zoom in. Give me a sec. So out of these activities, what what do you guys do in the secondary department?

**Jan Stokman** 06:16

Well, we, when we get like the demolition job, we have a lot of materials and our I think our specialty in what makes us different from the other companies: our hub is the projects (the site). So we because we have a lot of partners, we managed to get all the materials of our projects directly from the projects to a partner. So I think we, we maybe do the less because we collect all the stuff like I'm now at projects in Hodor and it's a really big main spirity building and inside a lot of desks and chairs and we all collected in one space and from there we sell it to our partners and our partners come to collect it and bring it to their own location we yeah we don't have we have location in often on the line where we are located but we don't really have like locations like hubs

**Tanya Tsui** 07:48

so actually the material is stored at the demolition site Yes. So immediately find someone to match to

**Jan Stokman** 07:57

it's not you can't match everything at the moment because we're we're it's like in one way it's like a business who is what we are doing from from way back to when we started but it's it's developing it's still developing so we don't have for everything like a partner at the moment. So there's also a partner who's going to be demolished like the concrete is a little bit difficult at the moment too. I'm sure you have seen a lot of companies who already do that we do it with bridges like we collect the good like the beams like yeah, we collect them and we we make them ready for new bridges but as buildings it's still be difficult. So all the materials we we we share we can we have a partner for we collect them and more than that even because we try to invite new partners to look because every project is unique. So we invite new partners to look at we have this now we have a lot of wood in this in this project. We have a little love carpet in his in his project and then at that way we managed to make love

**Tanya Tsui** 09:32

sorry, Mike, oh my internet is unstable. There's something wrong with my internet. I let me let me change to let me change to my phone's internet. Give me a minute.

**Tanya Tsui** 10:00

One moment. Well, let's see. Let's see if it stops again, I will change it to my phone. Um, so you were seeing that? Yeah, every project is different. So every project, you get new partners. So for example, there's a lot of work, then you find someone who needs that. Okay. Okay. And is it? I was talking to an Austrian Fluss Minh. And they said, actually, there's no need for a hub, because the demolition sites are there for so long. Because because the land, the owners of the land, they're not in a hurry to build something new because they're waiting for the price to increase before they invest. Is that the case here in the Netherlands as well? Is that why you guys don't have a hub?

**Jan Stokman** 10:53

No, I think in the Netherlands more. We have a lot of, we don't, we don't have a lot of space. But it's like, like, here at this project, it's in the middle of Hoofdorp so that's, that's like, it's they need to get demolished as fast as possible, but they give us the time to make sure most of the materials get a new life. But in the Netherlands, I think it's more efficient to say, like the people already in, like the business. Like that make an example like doors. We have a lot of doors in this building, we have a partner who sells doors. So we're not going to create a hub for those doors. Yeah, he is already like a big player in the markets. So we're not going to recreate that market or to make ourselves a new player in the markets. We just save on Okay, we have 100 doors, can you get them out of out of the building, and you can sell them you give us a price or you can sell them yourself. And I think with construction elements in the building, or like the basic construction of the building, it's the same because the companies who are making like the concrete or they have also like big locations to store it is and like the building or construction sites. Like here we have like, like big wooden beams. And a school here in Holdsworth wants to have them for their new projects. So that's if you have that connection, that's super, because then you don't have to have location, maybe for a couple of months. But you already have like an somebody who wants it or you don't have to store it. And otherwise you can make this you can say okay, we we can demolish it.

**Tanya Tsui** 13:06

Yeah, yeah. Yeah. Because that's true because the because I hear two stories. One side is there's always a mismatch between supply and demand. So you know, in Leiden for example, let's say you know this year there's a lot of demolition and there's all this extra material but no one is there to use it and so you need to store it so that maybe next year or you're after these materials will be used but then on the other side which is the story I hear from you and other floss months is no there is not a problem we can just we can there is no problem like when whenever we demolish then someone will buy it if we demolish a bunch of doors then a door seller will buy it

**Jan Stokman** 13:53

Yeah, I think I think there is like a problem but I don't think the problems is for like the demolition companies because then they do it for so long. And if they can't sell it, they recycle it or they they make it in like all those doors if you can sell all those 100 doors because the doors are one of the most difficult to sell because you have to do with the heights is not the same because the rules change every 10 years or five years.

**Tanya Tsui** 14:26

Ah yeah. Okay,

**Jan Stokman** 14:27

so there if we can't use those doors again. We recycle it to make wood out of it again. It's not it's not our first priority to do because we love to see those doors in the door again, but if it's not possible Yeah, we can recycle it I mean make new wood for it for new door.

**Tanya Tsui** 14:48

And do you guys also do the recycle work or do you send sell it to a recycler?

**Jan Stokman** 14:53

Yeah, we send it to a recycler. So we once we did that I'm like, way back. But yeah, sometimes it's you have other companies who want to do all the demolition part recycling parts. But we, we didn't do that.

**Tanya Tsui** 15:14

Yeah, yeah. So it's kind of tell me if I got it right. Or got it wrong. So it's sort of Flashman started as a demolition company, which is I go, I demolish your building, and I just throw it away used to be kind of No, I was always like, sort of.

**Jan Stokman** 15:37

I remember when, because I was like, I started the Department of circularity in our company. I made a plan and I

**Tanya Tsui** 15:50

so cool. Oh, my God.

**Jan Stokman** 15:53

It's not, it's not like we didn't make anything new. It's more like I want to make it on a bigger I want to do it on a bigger level, and to show like, like people in the surrounding of the demolition projects, and to make sure everybody sees what we're doing, because our recall it like the people we get our work from, like my clients, they want to know what we are doing with shape, clarity, and it's going to be a bigger demands than it used to be. Because when I first says to my boss, I said, Yeah, I want to I have a plan. And I want to make this or I want to zoom in on the circularity inside the company, to make sure everybody knows what we're doing on what scale we are doing it and how we are doing it. And he says, he says this, this, he always says, like, it's not you're not doing anything new. It's like, we already did it, because he said, When I first started demolishing buildings, we always get out the doors because doors were worth money. Stones in those times were worth money. goods in that time is worth money. But when the recycling came in, that's turned the business arounds. Because how more you can split the materials or more, you can make money out of a project. And that's it's like a bit of that makes the market more recycling than reuse.

**Tanya Tsui** 17:38

Hmm, interesting. Yeah.

**Jan Stokman** 17:41

I hope you can read my English you can? Yeah, yeah. It's perfect.

**Tanya Tsui** 17:45

That people always say my English is bad, and your English is very good. You have not heard what bad English sounds like, trust me. You don't have bad English. I know. I know what you mean. That's really interesting.

**Jan Stokman** 17:58

Yeah. So I think the recycling part really turns the business model around. And I think the companies who never or like, the newer buildings, or the buildings we demolish now are different from the buildings we did 30 years ago. Because then you get demolished the grades. Are there like the buildings in Amsterdam - Like the records from the store houses (canal houses) or the apartment buildings? Yeah. Well, where are we getting? Where are you using? Now we, we get a lot of money from those houses. We used to demolish that kind of houses. And now we're demolishing something that's built like 30 years ago was what is ugly, you know, seen as ugly? Because if you don't come to, to go to Amsterdam and demolish, like all the planes, yeah, because that's, that's beautiful. But now what we're demolishing now yeah, it's ugly. You know, it's, it's a this is the idea that in the 90s 80s buildings Yeah. So that's, that's the difficulty with materials that are coming out are also like the same style.

**Tanya Tsui** 19:15

So then it's harder to sell them as products because they're kind of ugly, so it's better to just break them apart and sell the recycled material.

**Jan Stokman** 19:24

And also it's like, when we have windows like when you walk past building what's going to demolish you think that window is perfect stage you can reuse it. have difficulties everybody wants like a ticker?

**Tanya Tsui** 19:42

Yeah, triple glazed double glazed. Yeah, yeah,

**Jan Stokman** 19:45

that's difficulty. And it's the same with with doors. I can see if somebody wants all these doors. I can. Sure you can ask them what's that when they're going to build something new. They have to play by the rules or with law of the dorsum. SB the highest was it's it's not what it used to be.

**Tanya Tsui** 20:09

Yeah, because Dutch people are now much taller than they used. Yeah,

**Jan Stokman** 20:12

yeah, it's and I think over 20 years, I can then the new doors we saw sell now we can use it again. Because then they are against low. Do you

**Tanya Tsui** 20:25

then do you see in the future? You mentioned two paths, right, the reuse path versus the recycling path? Do you see in the future, like which path to take?

**Jan Stokman** 20:37

I think there's way more. Building companies are now starting to focus on like, more modular building. Yeah, to pick it apart. And a lot of companies are Yeah, they go on to get Bio Base building. So I think it's, I think we, we get a lot less waste was on useful, but I think we get a lot more waste of like the bio based materials unless they're by the Greater degradable. So, but it's takes the recycling companies are now focusing on the materials they use, because they think it's going to be problems. They think the products we use now are going to be problem in the future. So that were like, when you have when you you have house and you want to make it you want to isolate it. Because the gas prices get higher and you want to isolate shs they use spray inside of the wall, you can spray like foam on the floor, you can spray like foam. And that's that's going to be a problem in the future. Because those houses when they get (to their) end of life, it's going to be one day they get to end of life. And then we and we get those materials, whether it's like concrete sprays with this this isolation stuff or pair of difficult stuff, which can’t be recycled.

**Tanya Tsui** 22:25

Hmm, yeah, it can't be recycled. And I think

**Jan Stokman** 22:29

with bio based materials, I think there are a lot of materials who are Bio Base but the time they're not going to live out the building they're in.

**Tanya Tsui** 22:40

Hmm, yeah, they're much shorter lifetimes. So in that,

**Jan Stokman** 22:43

yeah, I think the building has a shorter lifetime. But the materials they can I think you can reuse it in a way you can get those biobased materials back in other building again.

**Tanya Tsui** 22:56

If you Oh, yeah, yeah, so the, in the past if you build buildings out of steel and concrete, the buildings lifetime is much shorter than the material. Yeah, with the biobased it could be the materials lifetime is not that much longer than the building. Yeah, I know. can't reuse it again. And again.

**Jan Stokman** 23:15

Yeah. Or it's difficult way to recycle it because you you can make like bio based material with its needs to be get back in another material or to recycle it. Yeah, yeah. And just put on the fields with with our bio based materials and weights with Recology I like the gradable huh

**Tanya Tsui** 23:40

yeah, yeah, that's

**Jan Stokman** 23:41

that's also difficult. But I think when you when are now starting to build buildings that are completely to pick apart, we can we can focus on this and we already focusing on it, because we now we have we have material to demolish things, you know, we have big excavators with big scissors with with steel scissors and, and we with hammers. And now we are focusing on what can we do to make in the future, we can dismantle stuff with with machinery, so to make efficiency because it's now when we need to dismantle anything, it's it's way expensive to then demolishing something if we have to pick a concrete building apart, or we call it with with a sitter, and we make it into small pieces. And it's way cheaper.

**Tanya Tsui** 24:46

It's cheaper to do want to cut to

**Jan Stokman** 24:51

Yeah, to

**Tanya Tsui** 24:53

Yeah. Yeah,

**Jan Stokman** 24:55

demolish it. Yeah.

**Tanya Tsui** 24:57

Yeah, to kind of just get a wreck. Limbo or

**Jan Stokman** 25:02

an old fashioned way? We call it in like a concrete scissor.

**Tanya Tsui** 25:08

Yeah. Okay.

**Jan Stokman** 25:09

We got a building apart.

**Tanya Tsui** 25:13

Yeah. When do you do see in the future? Um, in terms of location, it's sort of similar. Oh, wait, wait, wait. Okay. I have another question first. You said you have a facility and often underline is that what kind of facility? Is that? Is that the headquarters?

**Jan Stokman** 25:36

Yes. Headquarters? Yeah. We used to have a company in in Germany and in Kuwait. Kuwait in

**Tanya Tsui** 25:47

Oh, wait. Okay. Yeah. So we, we used

**Jan Stokman** 25:51

to was, I think I didn't think we were. We were getting smaller. But I think we're going more efficient to let everybody's markets be their own markets and let our do our stuff. And we have our partners to do the, the recycling parts and transporting parts and that kind of stuff. Often runs our headquarters. And we do have recycling. We do crush concrete at one of our facilities.

**Tanya Tsui** 26:24

Yeah, kind of bulk material stuff.

**Jan Stokman** 26:27

Yeah. Because that's, we have our Department of over pile-cutting departments. So when the new bill is getting bills and the poles are getting, the bells are getting in, we get off the heads and we bring them back to our location of nine and they can be material for under the road. So So it's fair like, yeah, it's not like we have like a partner who can crush it to make it concrete again. But the market of the concrete who's going to be used on the roads, like the crusher the crushed parts? Is we can... the market is bigger of crushing the concrete and put it on the roads, then recycled into new concrete.

**Tanya Tsui** 27:28

Hmm, yeah, there's more demand for the aggregate. Yes. Yeah. Okay,

**Jan Stokman** 27:33

so everybody sees like the is downgrading? Because you put it on the roads? It's not going to be used again. Yeah, I think the market... the people who say it's downgrading, those are the building companies. And they need to have more demands of recycled concrete. Yeah, they have to deal with, like the law or like, they can use more than 20 percentage of recycled concrete in non constructive parts in the building. So they're also walking through a wall.

**Tanya Tsui** 28:12

Yeah, okay. Okay. And with often why, why is the location and often

**Jan Stokman** 28:20

because we had one started. It was first it was, yeah, from fleets. It's called and he was specialized in power cutting. He was the inventor of automatic Belka thing on excavator. Okay. And so that is went to, like American companies like BFI was a big investment company. And after that, it became floss man. And it all was on same location. And we're close to the highway. We're like half an hour of Amsterdam, half an hour of Rotterdam half an hour from Den Haag. So it's an it's also difficult because we also do work in Slovenia and in labor. Yeah, yeah. That was not in that way. We're not central because yeah, we work all around the country and even outside the country so it's I think it's not I think we're we're at a good location, but we didn't look at it like it's the most efficient. I think the other companies who have recycling departments inside a company, they are they are looking at where they're going because Rotterdam they can put it on a boat and they had the most recycled parts are in the big cities because they have like they should, they should look at where they're going to place a company.

**Tanya Tsui** 29:57

But also do do further Add facility and often it's also along the water right? There's a lot of new concrete companies, if I remember. Yeah. Do you guys use the water transport?

**Jan Stokman** 30:14

Well, we we can work on the water if we want to. So we, but it's not like when we have like an excavator, we demolish, like the bootleg roof in Rotterdam. And when we it's, I think it's not efficient, but it's like it's I think it's even cheaper to put the excavator like on a loader on the on the roads and drive it to the quay and put it on a pontoon. Then go all the way on the water.

**Tanya Tsui** 30:52

Hmm,

**Jan Stokman** 30:54

that's a difficulty because then I that we can use, we can use water and we get more demands of using the water. Because a lot of when we demolish something as a waterside, they ask to, to, to lower our transport on the roads. They asked to put it on water and go anywhere, anywhere else with the boat. So we do transport on whatever it's not like because we're on the water or at the water sites we use airports.

**Tanya Tsui** 31:33

Hmm, okay, so is it mainly it's mainly road? Yeah, yeah. And is it because road is more convenient than water? So a lot of sites you can access by road? Yeah, not by water.

**Jan Stokman** 31:47

No, no. That's yeah, I think that's that's that's an I think it is cheaper even to transport something by roads and at the water.

**Tanya Tsui** 32:01

Hmm. Yeah, cuz I also heard water is cheaper in bulk. Really small, I guess for Flashman is not Yeah, you're not a concrete factory with like, a huge container ship of Yeah.

**Jan Stokman** 32:18

I think the only transport we are doing is like, get our excavators on site. And even when we're on the side, sometimes our recycling partners are even driving with the trucks. And when we demolished like the bridge on the water, we had, like we had two ships to get them to the recycling sites. So when we're underwater, I think we, we do use it because it's otherwise it's not to do it's not not but I think for transporting your like, like your excavators and your equipments and that kind of stuff. It's more efficient to do it on the roads. Otherwise, you have to transport one excavator onto the onto the water and after that he gets on a pontoon who's even bigger than then the the where it can fit through at first. So if you have to transport on smaller boats to even to get there on audibles,

**Tanya Tsui** 33:27

okay.

**Jan Stokman** 33:28

Two times you have to lift the excavator. So that's why we transported by road.

**Tanya Tsui** 33:34

I see I see. And what about the transporting materials? So you mentioned the facility and often is you know, taking concrete and then crashing it into aggregate the materials that go into that plant are they also transported by truck?

**Jan Stokman** 33:56

Yeah, because we have like our the combination who who we with our packaging department, we also work in a whole country and they collect on the truck like all the tops of the piles and then they drive back to often Amrhein to empty their container because they're all the I think we're with like 12 or 13 of those combination is like a truck with the excavator behind it. So you have like one truck to dry so combination and then it's not like a lot of concrete. You can feel the container with it, but you can feel a boat with it.

**Tanya Tsui** 34:49

Huh? Yeah. What about the after the the piles have been made into aggregate? Is it all So by truck to new clients, so do do clients actually pick it up from the facility?

**Jan Stokman** 35:06

Yeah, the clients pick it up at the facility. Okay, we have a company who's like 500 meters further their company, and they buy it, they loaded with trucks to their site and they have like, where like you have to give to water. Then you have like a piece of lens growth, there's a company and the company farther away is like, he's on the water sides. He also gets with shapes of sense and he's like he's like his business is doing sense and Chris concrete Yeah, that's me. Yeah. He buys it at us. He drives with a truck. So your own company, you don't sedan and then you can load it over on a boat.

**Tanya Tsui** 36:03

Okay, I see. I see. Yeah. Very cool. Very cool. Um, let me see. Let me look for some of my questions. I've been the thing is I my interviews, they're not very structured I just and then now I've we've covered a lot of things I wanted to know and now I'm just looking at what we're missing. Do

**Tanya Tsui** 36:34

Okay, so for the so the way I'm seeing class right now is there's two kinds of operations one is the bulk stuff so that's the concrete aggregate and processing and the other is the sort of building products like doors and windows so the I have more understanding of the bulk thing so I want to ask more about the products Let me see. What do I want to know

**Tanya Tsui** 37:14

is there a limit to how far your clients are? So what from from the headquarters or are they all over the Netherlands or all over Europe?

**Jan Stokman** 37:33

Well yeah, I think in in the Netherlands it's it's more starting to be like a business model or to have its its way around like the circularity and the well I think in Germany I don't I think we don't have that model much of question yeah to reload, relocate stuff or to give it a sector of the life or to have partners to add it doesn't really say like is ways doesn't it's Yeah, it doesn't count them much over there. Yeah, yeah. Most of the partners are in the Netherlands but if we work in in Limburg of Groningen we sometimes get people from Germany or Belgium

**Tanya Tsui** 38:31

Yeah, yeah. I think is more

**Jan Stokman** 38:33

of the of the bigger products like we when we have buildings with like these big engines in them. It gets like worldwide business. So in that part, you can say we have international partners but in the doors we only have in Netherlands

**Tanya Tsui** 38:53

Yeah. When you say engines What do you mean is it the air system?

**Jan Stokman** 39:00

More of like when we're here in this building, you have like most of them men spirits buildings. They have like engines in the basement or at top when the electricity falls out, it has like a backup engine and it's can light up roll the building.

**Tanya Tsui** 39:22

Okay, okay. And I guess these engines can be used in other industries other than just the energy Okay, interesting. But

**Jan Stokman** 39:30

those are the things we can also say like we can give we also can sometimes our clients as to give us a price for for the for the engine because they know it's worth something. And I think like simple things like the motors or the like the copper or steel. You always have really you already have to Make something you'll have to if something were his words. But now you're going to get the turnarounds because they say I add the doors are getting word money and the ceilings are getting getting a word of money. So they

**Tanya Tsui** 40:20

already worth money because of goals or No.

**Jan Stokman** 40:24

But you have a lot of people tell our clients they say yeah, with the demolition company they sell it was like the gift. Most of the time when you have projects you have somebody who makes like, mistake or they make like like in now, but they have a different party with like, specifications. Yeah, they make they have different party will make specification. And they make sometimes they make material passports and like they also make like like what they think stuff is worth. And that's that's that's really like a killer because it's not because we want to keep it all to ourselves. But they they don't know how that business is going because they save on if there's somebody who, who sells all doors. (Our clients say that) "So the doors are in this building are worth money you can make we are sure of that." But then the demolition company says, "No, those are not the doors from like the 60s or the 70s, like really nice old doors; these doors don't worth money." That's also like this, because they and they can they start doing that with a lot of materials? Yeah, we see what his words, but if you can make it into money.

**Tanya Tsui** 42:10

Yeah. Yeah, that's true. Yeah, there's a difference between the value and yeah, who is Pete? What people are actually willing to pay? Which maybe way less?

**Jan Stokman** 42:18

Yeah. And when it comes to sealing, it's perfect. Again, if you ever office and it was a new ceiling, can't get it out. You can have for free. But they think oh, yeah, this this ceiling? This is this is worth money. Because what costs new ceiling? Like 50 euros a meter? Make it a half 25 euros meter? You can make sure you can get like 20 years of meat out of it. Yeah. Like no. Like, like, like a school or scouting or who can use it. But it's not that big of a market. They can sell it for that kind of prices.

**Tanya Tsui** 42:58

I see. I see. Yeah, with the with the operations for the building products. So you you do the matchmaking. When do you? Let's say you find a partner? Do they do the transportation so they can pick it up? Or do you do the logistics as well?

**Jan Stokman** 43:15

Yeah, well, that's not because we're too lazy to do it, because it's the most efficient way to? Because I think, you know, we have like a shortage of people in every sector in Netherlands. Yes. And we can, we can do it by our own people. But we always first say we are demolition company, we can dismantle stuff, but we can make sure that's the part where you see is is going to get out with the way you get it delivered at home or at your company. So we always try to save on if you get it out yourself, you know how it's built, or how its installed. And if you broke or you make something dirty or it's then you know, it's your own fault. Yeah. Because otherwise we put a lot of people on it too. dispense with a packet transport it at the company said there's a scratch on it. I don't want it. Yeah, yeah, you can make you can make like deals on it. But it's difficult because they if they say the one is yeah, what can you say? You bought it? Yeah.

**Tanya Tsui** 44:39

So actually the the sometimes the clients even come and demand it themselves. Yeah, see, I see.

**Jan Stokman** 44:47

I think that's that's our like our our specialty because I think other companies you talk to they these mentors their shells and maybe we okayed it or even put it on hub. But I think the most efficient and the most, we also show that to our clients. That's the most transparent, yes, most transparent way of doing business because you can see the parts were going out, are really going to somebody who's going to use it, unlike the hubs of demolition companies. Sometimes when we have like, how do you say that the SEC specification specifications, it's told to give like a percentage of how many parts you're going to reuse. And based on that percentage, you score the most points, and that's why he gets the cheapest price, then the thing is, the demolition companies will have always windows, because they can say, Yeah, we could use everything, bring everything to our hub. And from there, we sell everything. There's like, no, there's an asset, as I see, no, there's no client who's going to follow those materials. And go to make sure that materials are in those hubs. And they're going to be sold to somebody.

**Tanya Tsui** 46:25

Yep. Yeah, that's true. That is transparent.

**Jan Stokman** 46:29

Yeah, we, if somebody wants to buy like, like, this the ceiling, you can see the people who are going to buy it, or who's going to dispense with. And they, if you want to, you can ask which kind of picture? Are they relocated? And I think the hubs managed by municipalities, they are more transparent. Because then they can really see what's like, what's the business model where we can make money off when we're not going to make money off? And that's, then you're not going to what they are now are doing, bring all the materials to a hub, maybe reuse 50% of it, and afterwards, throw everything away when you finish the project. Hmm. Do you

**Tanya Tsui** 47:23

think that happens with these private hubs? Yeah. Really?

**Jan Stokman** 47:30

They're also like, my, I will say that, like, there are other companies that we work with, but that's, that's, like, all the jobs are the question. Yeah, record, like, most of the time, when the demolition projects like for companies gets question, can you make a price of it. And when the specifications are to made (to ask for) a percentage of the materials reuse, then companies who have private hubs are (always) going to win. Even though we are making way more projects, projects are going to get a new life than they are promising. But we can make it like we can have one party, we have all different kinds of parties who are going to buy like two goods like, like the ceiling. And they say, yeah, it's going to our hub. And they're going to sell it.

**Tanya Tsui** 48:33

Yeah, yeah. And you have no idea where it goes. No, no, yeah. Yeah. And it's not

**Jan Stokman** 48:39

to, to kill like my or to, to. To bring down my like my colleagues or like my, but it's, most of the time we see that happening.

**Tanya Tsui** 48:53

Yeah, yeah. I see. I see. And what's the kind of rough might be hard to say, but what's the rough percentage of, you know, every project a rough percentage of stuff that gets reused?

**Jan Stokman** 49:08

Yeah, and it's really small. Because when, when you demolish a building was time building was was built out of concrete, or steel, is like most of the it's like, 80% of that is concrete. So when you put it on percentage, sometimes even less than 0% of materials, because, like the these things don't weigh that much. Yeah, true. True. Yeah. So I think we can I just finished like a project and nutrex where we, I think maybe like 90% of the insides we reuse like the walls and the isolation and the air. Well, the most crazy thing you can think of, we reuse it or we found somebody who wants it Have you put it up percentage? Because we, we want to make it out of we want to make a percentage of it. It's coming as really weird because 80% of the building is concrete is going to be recycled.

**Tanya Tsui** 50:16

Yeah, yeah.

**Jan Stokman** 50:18

So yeah. Recycling purchases of like 80 or 90%. Or even more, because you're sometimes, yeah, oops, and that kind of stuff. But recycling persons is all that is. A lot of it prepare of the incomparable of the materials are coming out.

**Tanya Tsui** 50:43

Yeah, yeah, that's true. That's true. I have one more one more question. So with the, you know, with the operations of, you know, having a demolition site and then finding partners to pick up the different materials? What's, how far away are the partners? Usually? How far are they usually willing to travel?

**Jan Stokman** 51:08

Yeah, that's, that's difficult, because that's the, like, when I just said about the projects in Utrecht, I had a big kitchen there. And I got a lot of people want to give. Yeah, not much, because they want to resell it again, by themselves, I get it, but and then somebody from labor came, who can reuse the whole kitchen for themselves, because they're going to start a new restaurant. And they want to have it for a price, which I can sell it to like a dealer because you always sell, I always put it on, like, I get 1/3 of the price, then the, if I want to get 1/3 of the new price or the price it's worth, then if it goes to dealer you it sells for three, for three thirds of the price. But if I sell it directly to somebody who can use it, I get the 2/3 of the price of the 3/3 of the price. Yeah, yeah. So yeah, sometimes it's like somebody in in my surroundings or my partners, I always try to find partners in the surroundings. So when we're working in Groningen, I try to find or to locate my partner in Groningen and sometimes and I think not not library everything doing for the for the money. But sometimes a partner from Groningen gives more than a partner from Limburg, then a partner from Groningen will drive all the way to Limburg to pick up those materials. Hmm, yeah, is that the most efficient let's Yeah, because otherwise I think we the the project we make money off we invest again to new ways to dismantling stuff. Yeah, yeah. So it's not like we want to have money, money, money, but it's more like we can use the money to invest in new material or new ways of demolition. Or more time.

**Tanya Tsui** 53:29

Yeah, yeah. And when you say in the neighborhood cloning or do you mean the city or the province,

**Jan Stokman** 53:34

province or in city, most of the time in the city. Sometimes in the surroundings are like, like Utrecht is like a good how do you way... like they have like a lot of companies who are not that far outside of the city who make stuff. So if you have a lot of woods and you call the company and they say oh yes okay, we can pick it up and we love to do something with it or and I think I think less and less than then we say so you have to expand it some more.

**Tanya Tsui** 54:18

And these your partners are they also in the construction industry or in other industries as well?

**Jan Stokman** 54:24

Well, that's I've sometimes I've partners, we're just the people in between it so I can get it fast. Sometimes it needs to get fast out of the building so as the partners who will buy it from me for for Quick Price and get it out quick. Sometimes we it's like you, you put it down on a more time you have how fast you get to the to the people who are going to use it by themselves, but also have like a lot of partners who reuse wood to make tables out of it and they, like small but they, they like to have the woods to make something nice out of it. Or sometimes we have artists sometimes we have construction companies. Yeah, it's like it's a big, yes. It's a really big mix of people. Okay, because the new partners I get sometimes are just people want to renovate in their home or in their company or, and I think that's the most efficient way because they then can reuse it one on one. You don't have to be located somewhere. Okay. It's really, yeah. Makes.

**Tanya Tsui** 56:03

Yeah. Okay. I see. Very cool. This was really helpful for me. I have to go because I have another meeting in five minutes, and I want to drink some water and stuff. But the thank you so much for your time. And are you basing off an underline? Yes. Okay. That's where my girlfriend lives to. Oh, yeah. Did you grow up there? Yeah, yeah. Okay. And you're okay.... You're You're much younger than us. We don't know her.

**Jan Stokman** 56:35

Yeah, I'm 22. So yeah, we're,

**Tanya Tsui** 56:39

we're 28. So another generation you won't know her. Okay, cool. Cool. Cool.

**Jan Stokman** 56:47

No, thank you. I'm sorry. That's a bit criss cross. But

**Tanya Tsui** 56:50

no, this was good. This was good. Yes. Thanks a lot. Yeah. And good luck for your circular department.

**Jan Stokman** 56:58

Yeah, you good luck with your P

**Tanya Tsui** 57:00

PhD. Yeah. Yeah. Thanks a lot. Yes, everyone. I say you too. Bye. Bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_TKI Dinalog\_Niels Sneek\_1 (zoom)

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**SUMMARY KEYWORDS**

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**SPEAKERS**

Niels Sneek, Tanya Tsui

**Tanya Tsui** 00:00

Hold on this computer. Okay. So um, yeah, I'm really happy to be able to talk to you. So you mentioned in your email that Yeah. TKI is a research and logistics and maybe you're also interested in research on circular construction hubs. Do you mind? Okay, maybe I can introduce myself first. And then I would also like to know more about where you come from.

**Niels Sneek** 00:32

Let's do that. And I want to I want to understand what is your research team? Yeah, yeah, that was that's part of my job to understand what reacher researchers are actually researching. Yep. As it relates to logistics.

**Tanya Tsui** 00:44

Okay, okay. Yeah, yeah. So um, yeah, I am doing PhD. I'm in my last year and TU Delft, the Department of urbanism. So we're looking at, you know, circular economy from the perspective of, of cities and regions. And we noticed, so this is I'm in a research group with Arne vento Moran and Alexandre vandal. And they, you say are young, are you similar? Yeah.

**Niels Sneek** 01:17

It's first name are young.

**Tanya Tsui** 01:19

Yeah, are young. So he, he was the scientific director of IMS Institute for Advanced metropolitan solutions. Yeah, a bit of a mouthful. But for our whole research group, in general, we're interested in the fact that in Circular Economy Research, there's not a lot of talk about space. So all of the circular economy, activities, recycling, redistributing things, storing things, these require space, they have a location, but we don't know much about it. Instead, we're looking more at governance and business models and things like that. So this is the gap we're trying to fill. So space, regions, circular economy. And so specifically for me, I'm very interested in spatial analysis. So yeah, spatial geo data analysis, GIS stuff. And I've been for the past few years, doing spatial analysis on on waste datasets, to kind of see the clustering of waste we use in the Netherlands. But now the next step is we're trying to imagine, like the future, what the future of the Netherlands could look like when it comes to Circular Economy transition, how it physically changed the map of the Netherlands. And so one thing I'm interested in is circular hubs in the building industry. So their various ideas of all these hubs for the building industry, whether it's making something or storing materials. And my question is Where Where will they be in the future? And so the one question,

**Niels Sneek** 03:03

sorry, can I ask you one question? Yeah. Why focusing on the hubs for construction industry? Why why that particular focus, as part of your broader research on, let's say, the transition to a circular economy? Yeah.

**Tanya Tsui** 03:26

Well, the construction industry is highlighted as a key industry and in various policy documents in the national level, and also in the in the city level, mainly because of its huge volume. So it has a high impact. And also personally, we are based in the Faculty of Architecture. So we have a more better I myself, I'm background as an architect, so I have a better understanding of the of the construction industry. Whereas if I did, like a hub for plastics, I would I would not have the expertise to do that. Yeah, so that's the reason for the construction industry.

**Niels Sneek** 04:05

Even though even though you you did a lot of research on using waste datasets. Yeah. Yeah. Okay.

**Tanya Tsui** 04:13

Yeah. Because yeah, at first it was waste datasets. And it was a very general view. So it included construction materials, but it was agriculture, metal, plastic, things like that. But yeah, now,

**Niels Sneek** 04:26

that was my next question. Definition of waste.

**Tanya Tsui** 04:30

Yeah, it was, mainly it was based on the data from the London Lake melt print Apple stuffer, so the race registry of the Netherlands, and so it was the data that was available there. It doesn't cover every single waste stream in the country, but it's the most extensive one that we have access to. But yeah, but for now, like my research is looking at future locations of circular hubs. In the Netherlands, there have been some research on circular hubs already, but none of them have been quantitative. So my interest is collecting these spatial requirements for from experts. So, you know, where should they be? What are the requirements, how accessible, what kind of infrastructure, do they have to be close to certain things, etc. So collecting all these requirements, through interviews, and then translating these requirements into GIS analysis. So kind of using these requirements to select sites in the Netherlands, that would be suitable for circular hubs for the building industry. And the final result, hopefully, is this big map of the Netherlands, that shows these areas would be suitable for circular hubs. There might be different types of hubs, there probably will be based on the interviews. And so maybe there'll be like three maps for three different ideas for hubs and the good locations for them. So yeah, so I was hoping to also hear your location or spatial thoughts about the location of hubs.

**Niels Sneek** 06:24

We're talking specifically, circular hubs for the construction industry. Yes. Okay. So we're not talking in a broader context about circular hubs forget before city logistics city hubs? Yeah. Because I thought you made the remark, there might be likely different kinds of hubs. So that's why I'm asking. I just have a clearer view. Are you specifically focusing on the hub development in support of the circle hub development support in the construction industry? Or is that part of a larger definition where you're talking? We'd like to talk about circle hub development? Engine General? Hmm.

**Tanya Tsui** 07:10

Yeah, um, I'd say most of my interviews are about the circular construction hubs. But if you because it, but also, I think it could be that these hubs, like let's say, the port of Amsterdam, for example, will not be just focused on one industry. So I, I always, I'd also be curious to hear your thoughts on on hubs in general? Because that's also a problem with focusing on a specific industry, like, of course, that allows me to have more specific requirements. But then, yeah, it would assume that the hub is just for one for buildings, one for plastic one for metal, which might not necessarily be the case. Right, right.

**Niels Sneek** 07:56

Okay, well, first of all, the reason why I contacted you was because a colleague of mine boss from pay, he works for the same Institute, he actually noticed your LinkedIn message, and responded by providing you with my name. And I tried to explain it briefly in the email, why I thought it was a good reason to contact you. Because he made the direct connection between what you said was a research focusing on let's say, the spatial analysis regarding to develop the circular construction hubs. And the fact that within our Institute's, we facilitate several innovation programs within the top sector, logistics, top sector logistics being one of the 10. Industry, top sectors defined by our government, as far as innovation funding is and research is concerned. So every one of these, well, actually one of the latest program that became part of our portfolio is actually called the innovation program for construction logistics and mobile equipment. And this is a quick translation because it's a Dutch program. But I think it's the so it's it's a two year program funded by the Ministry of Infrastructure and waterways where we as a advanced knowledge Institute Research Institute are actually trying to come up with the right type of research questions for the universities and knowledge institutes to pick up and organized proposals based on Call of proposals that we put forward. Come up with proposals research proposals. Normally initiated by people like yourself in collaboration with either other PhDs or professors from other from from other universities and or higher education institutes, as well as companies from the business. So in this particular case showed come up with a consortium, a research consortium of knowledge partners and business partners who together run two three or four year research project funded by funded by taky. Ai, Dinah law as part of one of our innovation programs,

**Tanya Tsui** 10:40

this also includes a governmental bodies like municipalities and provinces.

**Niels Sneek** 10:46

Most certainly, okay, so,

**Tanya Tsui** 10:49

partner, you can also partner up with provinces or

**Niels Sneek** 10:52

Yeah, or municipalities or port authorities, depending again on let's say the topic, the theme. So, what we do we look from that perspective, we have three priority themes. As far as the entire logistics industry in the Netherlands, that is sustainable logistics, the number one, the number two is data driven logistics, a theme number three priority theme, if you would like to call it is supply chain coordination, or supply chain, yes, supply chain coordination patient, if we call it in Dutch. And the way we apply or try to apply research on these things is by looking at specific application areas. So one of the and there are actually four defined within the top sector logistics, first one being cities. Because if you take these three priority themes, and you project them on application area, like city and city development and everything that comes with it, then you will talk about a lot of different kinds of logistic supply chain, same type of questions, focusing around cities. The second one is multimodal corridors. So looking at more or less, I got this message saying we need to start again in four minutes. Is that correct? I got a message you need to restart in four minutes. Did you get the same message?

**Tanya Tsui** 12:29

Oh, okay. Well, if it doesn't work out, I'll send you another link. Alright.

**Niels Sneek** 12:34

Okay. Okay. So the second application area will be multimodal corridors more or less combining, let's say the hinterlands kinds of corridors, inward lands, in combination with the different types of modalities, transport modalities, in waterways, Ersi. Other than or the combinations of multimodal or single modal type logistics concepts. The third one is actually dealing with supply chains, broadly, could be global, could be smaller. It could be, for example, specifically looking at retail supply chains, or even supply chains providing foods or and the fourth one is based on this new innovation program. It's actually the construction logistics. So we are approaching construction logistics as an innovation area program from these three priority themes, sustainable logistics, data driven logistics, and supply chain coordination, and working on a program, try to program it in terms of also research questions for people like you and the business and the sector itself, to organize themselves around feasible and relevant research questions, which actually help us to understand, let's say the transition towards 2030. So taking a somewhat longer term perspective, so that could include some of more fundamental research, as well as more industrial research. Most likely, we see 80% 90% of our proposals coming in are actually in the latter category. Yeah. So that is what we do.

**Niels Sneek** 14:14

So in a way, I was triggered by, let's say, the specific research focus, from a spatial analysis point of view on the development of construction hubs. Knowingly that knowing that, in particular, you're referring to the concept of circular hubs. Now one of the big, big questions as we try to connect the world of logistics with the world of construction. I just came up out of a meeting this morning, where we had four different parties working on three different areas of research. But oh looking at from are various disciplines into the questions to come in the relevant question in the construction industry, as they have a massive task, we all have a massive task to facilitate the transition in the Netherlands for the next 10 years. And there are a lot of different topics that are actually worthwhile researching. So the whole concept of blending in circular concepts into Logistics is interesting as it is, but more specifically, in this case, blending in circular concepts into construction logicians or construction supply chain questions. That is very, there's one of the key topics we identified as being of interest, regardless of let's say, initially off the way of looking at it, from what angle from what discipline or just to give you another example, one other big, big area of research, which is also part of our program, is actually specifically looking at the whole digital transition of the construction industry. So there's a lot of a lot of, I would say, digital capability, as far as the design of buildings and objects is concerned, I really think that there's a lot of intelligence and digital intelligence involved there. But knowing me, that's as you move onward in towards, let's say, the next steps in the process of procurement, planning for execution, and the whole whole area of the actual building phases. The use of data, quality data is very, very low in the construction industry, as it is today, and they recognize that themselves. But of course, there are a lot of different plays in that entire supply chain involves. So that's one other area where, for example, now there's a separate special program looking into the new digital standards for the construction industry in the future. Now we talk with each other, because the end of the day, we're all looking at the construction industry, and what we try to maximize the opportunities to create some kind of synergy between these different research programs. So lastly, as part of my introduction, this program is actually steered by a steering group. So the program I'm working on hasn't separate steering group.

**Niels Sneek** 17:34

The chair of that steering group is the former CEO of the BAM group. So actually, a guy who is now let's say, working only on his hobbies. He's retired, but he used to lead one of the biggest construction companies, at least in the Netherlands. But we also have two representatives from what we call our knowledge partners. And one of them actually, one of your colleagues. It's Ellen von Bulow. She is a professor of I think urban management development. Yes, yes. So we have a link with Delft in that respect. And Elon has joined the let's say, the last steering committee meetings in discussing and helping to guide and assessing let's say, the steps in the program that we try to make but also I talked directly to Elon as far as try to let's say, get her input get her thoughts and get some feedback on relevant research questions again from her background from her expertise looking into the the objective of this program and of course looking at at at more connecting different areas of expertise if you would like as it comes down to how can we maximize the research efforts and of course the results within this program.

**Niels Sneek** 19:06

So there's let's say a second immediate reaction when I saw your email or when I saw your as it okay maybe there's a there's some kind of link with Elon or with with her verkoop and the other knowledge partners to complete it knowledge pardon in the steering committee, is a guy from the applied University of Science in Rotterdam. And that's a guy called Alexandre de swish. So he's a senior lecturer at in logistics management at the applied University of the University of Applied Science of Rotterdam MSA and he, he has done a lot of more industrial research if you would, like involve students within the construction industry in the Rotterdam area for the last 10 years already So we can, he can actually oversee a lot of developments and can actually relate a lot of developments. As far as okay, we're in a new situation, we have new challenges ahead of us. We have to look in a different way at rebuilding our inner cities. And specifically looking at the construction efforts and construction logistics efforts. He's actually in between more or less the builders and the municipalities. And specifically with, let's say, his knowledge and his connections in the Rotterdam area, of course, you'd mentioned Amsterdam. Another famous, famous project currently, is a project called Catan, wrecked in Rotterdam, which is actually more than just a building, it's actually a complete redesign of an area, including new builds, and rebuild and renovation of an entire area, if you would, like in Rotterdam so. So there's definitely a spatial element involved there. And of course, I'm became more and more aware, when we start this program off, let's say one of the instruments that is often mentioned, and, and which, which generates a lot of interest. And that's, that's the concept of construction hubs at let's say, the outer circle, outer area of cities. So the famous one is in Utrecht, and Rotterdam already developed one. The new one is in Eindhoven and the representative of that company Volker Wessels, material and logistics, are aware of that company. Yeah, yeah. Okay, the director of that company is actually also in our steering committee.

**Tanya Tsui** 21:52

Okay. Although I, I've been trying to get to talk to them, but they haven't replied, but if you have any personal contacts that you could recommend, I would very much appreciate it.

**Niels Sneek** 22:04

Well, that's, that's, that's part of our role to try to connect the business with, let's say, the knowledge infrastructure, but preferably, preferably in a way that it can contribute to, let's say, the research questions and research proposals that come come out of it. So in a nutshell, that's what we do, at least we tried to do, and I think your, your, your, your way of looking at, let's say, the entire development of, let's say, the hub concept, and leaning towards the construction hub. From a spatial point of view, I think it's a very interesting new insight that can help us to further develop our research questions as we go forward. So if you would look at our websites, today, you will find that we opened up a call for proposal at the end of March, specifically addressing the five major topics in the in the construction logistics program, but we will further develop that program. So we are currently working I'm currently working on more or less already blueprinting, the second call for proposals. So also this conversation, as far as I'm concerned, will help me to understand okay, what are an interesting ways of looking at what is happening from a research point of view also in terms of looking at several aspects of let's say, construction logistics innovation? So, I'm curious, and at the same time, I think is worthwhile trying to exchange some thoughts on how this could contribute to what exactly what kind of impact it could have, what are your expectations as far as the outcome of the research or what other questions already come to mind, when you when you take this particular view on the development of of construction house and the circular aspect in that respect is definitely something which will grow in importance, but will raise even more questions as we move forwards. I already witnessed that in several conversations, where we also actually tried to establish what the impact of circular economy or use of circular concepts or the reuse of materials will actually have, or how it can contribute to or to what extent on trying to reduce, let's say the, the, the emissions, which is let's say one of the overriding goals of doing this, how can we actually reduce the the emissions either carbon or A What do you call it analytics? Because that's the overall objective of this program. How can logistics actually help in realizing that?

**Tanya Tsui** 25:13

Yeah, yeah, yeah. Clear. All right. Okay. Can I can I show you shortly a presentation, which are going to help our discussion? So please do. Yeah. Let me just let me see you do Oh, yeah, this is a recent recent conference presentation. I'm just quickly, I wanted to show you this, because maybe it would give you a better idea of the spatial perspective, and then will allow us to come up with some questions I would be very curious to hear. Yeah, what what questions we come up with for this, so I'll just skip through these things. Okay, so this might be helpful. So the data that I would be interested to use is LMA data. So that's locations of construction waste producers, processors, and real users from the waste registry of the Netherlands. This is very important. This is PVL data. So data from plan Bureau fun, they've on paving. Yeah. And they recently did a study of they tried to predict the future construction and demolition sites for the whole of the Netherlands using simulation of different scenarios. So we have of course, this is not 100% accurate, but we have a map of where the buildings will be constructed and demolished for the next until 2050 Oh,

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**SUMMARY KEYWORDS**

logistics, construction, hub, question, area, materials, research, circular, municipalities, flows, spatial analysis, requirements, transportation, projects, city, location, inner city, view, analysis, mobility

**SPEAKERS**

Niels Sneek, Tanya Tsui

**Niels Sneek** 00:07

Hi, I like again, this channel, same guy.

**Tanya Tsui** 00:11

Yeah. Let me quickly go through what I was going through.

**Niels Sneek** 00:17

Yeah, it will show you just play with the data that will be used. Yeah.

**Tanya Tsui** 00:20

So yeah, so we know. So this is interesting with the PBL data, because then we can try to optimize the locations of circular hubs so that it's the most accessible to the construction and the demolition waste, then we know the street network, and we know some census data. So these are the spatial analysis methods that could be used. One is facility location analysis. So yeah, finding locations where you could get the most materials for the least amount of travel distance. So this is, for example, using the PBL map. And looking at different locations, you can see that different locations can have vastly different amounts of materials available, based on certain travel distance. Okay, we will skip through this, we can also look at the street network analysis. So this is a map of Vienna, the darker the color, the more red, the more accessible the street is. So if you're standing on this red Street, then you can access a lot more area with the same amount of travel distance versus like a little blue street like this. So we can also look at accessibility from that perspective. And then we can also do site selection analysis. So basically, we can throw a bunch of criteria for GIS say, oh, I need my location to be close to a train station, and it needs to be next to this. And that has to be on a certain type of land. And then you you know, based on these criteria, you select a site. And so these are the three main methods that I could be using. And this is the idea of taking these spatial requirements and then turning them into to, to, to quantitative analysis. So that's, that's the general idea. Yeah, so out of the top of your head, I, I'm curious to hear what kind of, from your perspective, what kind of research questions you would have, based on what you've just seen?

**Niels Sneek** 02:37

Well, what I'm particularly interesting is, is, of course, if you would, apart from the, let's say, the, the requirements side? Because that's definitely I understand an area of research, questions that relate to that, from, from our point of view, focus on what does that mean for the organization or to change an organization of the logistic flows? And the coordinate and their overall coordination, for example? So one of the topics I'm very interested in is to what extent can let's say part of your research help to to identify how you would like to organize future wise, let's say from optimal point of view, various flows in large city areas. So to what extent can your research actually pinpoint? Again, from a spatial analysis point of view, pinpointing the optimal I would say, from from from various requirements and optimal location, or area for the development of circle hubs? How does that impact the future logistics footprint of a larger area, such as, for example, Amsterdam? And how that does that influence the little bit of not only the physical movements of flows going in and out of an area, but as well? What does it mean in terms of overall coordination? So just to give you an example, one of the questions we currently have within our program is actually relating to that question of coordination and who is coordinating it? Is it the municipality or is it coming from the business? For example, an operator operating a city hub kind of business model or maybe it's it's it requires a new way of cooperating cooperation overall. But especially the larger area construction objective. To give you an example, for example, a city like Groningen up north, there are at least currently five projects, project construction projects, major construction projects within the same city area executed by the same construction company. So, from a logistics optimization point of view, you could argue, okay, what does it take to optimize, for example, by using some kind of construction hub, a single project? So one of the five, but from a municipality or a large area point of view, the argument is, what what does it mean, if you'd like to coordinate the overall logistics objective? And challenge, if you take all the projects, at the same time, you need to coordinate on all these projects of the flows going in? And going out? What does that require? And how do we do that? What kind of restrictions? So apart? And I'm not sure if we're, we're going backwards in reasoning, but if your analysis is taking requirements, and try to identify, I think from a supply and demand kind of approach, I think I saw capacity kind of data, that construction companies or sorry, waste waste companies versus I think the the the actual the demand for capacity in terms of waste management, I assume. So. But then again, I would imagine that you would also take, or maybe this question, do you also look into, for example, the, let's say, the future requirements of larger city areas or spatial areas, and in terms of redesign of landscape, or or urbanization effects in certain areas? Are these also factors taking that you take into account in your analysis and your calculations?

**Tanya Tsui** 07:26

Yeah, so yes, the answer is yes. I mean, it's based on the the PBL data set. Yeah, they base it on. Basically, they simulate, you know, we need to build 1 million homes by 2030. Okay, how, where will they be built, and what materials they will be built in? simulation. So we know what we don't know. But we can guess where the locations of construction will be and where the locations of demolition will be. So it's the future supply and demand, have secondary construction materials. And based on this, we can try to coordinate, you know, find a location that would be best suited for this kind of circular hub. And

**Niels Sneek** 08:16

you call it the future of supply and demand of second,

**Tanya Tsui** 08:20

secondary construction,

**Niels Sneek** 08:22

secondary, or secondary. Okay.

**Tanya Tsui** 08:25

And one thing that you said, something you said triggered me is, there's also the question of scale. So what is the right scale to coordinate these flows? Is it at the municipal level or regional level? Yeah, is it something you guys are considering as well,

**Niels Sneek** 08:47

it is currently, one of the dimensions that we put forward in one of one of the research areas, and that has to do with overall court the level of coordination. So taken from the premise that we can look into singular projects, built construction projects and ask ourselves the questions together with the municipality and or the building construction company. How do you optimize, let's say from the objective of reducing overall emissions, improving efficiency, but then again, specifically, let's say looking into the overall reduction of the environmental footprint as well as of course, one other aspects that is the overall reduce reduction in the overall level of discomfort in inner cities because of all these traffic flows, and specifically in terms of, of timely, sustainable and and and reducing your footprint, you can look into the way of optimizing it By coordinating one singular project, for example, and then ask yourself, What's the impact of using a construction hub. In order to realize some of these objectives, you can measure that you can test that they're actually examples, you can pick up empirical data and try to measure the impact. But at the same time, for the mute from a municipality point of view, they're not dealing with, let's say, more or less, especially in this in this in this somewhat more occupied area. What if you need that level of coordination over various construction projects, and that could be new build projects in their city. But for example, at the same time, it could also involve, as we see, for example, in a city like Amsterdam, they have several type of construction activities going on within the same city. So they're looking at housing, housing, they're looking at utility bills, they're looking at renovation projects, they're dealing with the whole renovation of their quay structure, quay structures in the inner city. From a construction logistics point of view, these are different supply chains, requiring different kinds of activities, dealing with different kinds of materials going in and going out. So the circle aspects are very interesting in that respect. But what if What does it take to coordinate the overall construction objective of a somewhat larger area? And what we found out so far, is, it's the most complex question. today. We don't have answers yet. Large municipalities are really in need of knowledge, are also talking to each other. For example, Amsterdam is talking with the Rotterdam and Utrecht and try to figure out how what, how do we do this? And what does it take from us? And how can we stimulate and facilitates from a municipality point of view, the markets, the companies, to what do we ask them more or less in the future, in order for them to be able from a kind of level playing field approach, to contribute and to innovate? The, let's say the singular project optimization seems to be somewhat more simpler. And there are new dimensions coming in, if you take it for that we'll take it from a larger, maybe even a more spatial point of view, over a large area. And there there are a lot of unknowns, how to coordinate who should do that? What kind of data what kind of tooling does it need, what kind of data exchange data exchange has an adult digital aspect comes? Personally, I feel that that's, that's, that's an a new frontier that we, we can address we can identify, but at the same time, we're trying to learn how to ride the bicycle by by using these living left kind of construction hub singer construction hub projects

**Niels Sneek** 13:21

as we know them today. So my thought there is a knowledge gap, ie a research question or multiple research questions, multiple tests and experimental questions, as we take a somewhat larger perspective in that and how and then coming back, what does it mean for the development of hub concepts, construction hub concepts or multiple hub concepts or blended hub concepts? That because I'm, I'm sure that we're moving in towards models where because of the lack of space specifically in the in the larger crowded areas can we actually afford multiple hubs around the same area for different type of activity? So can we can we have a construction hub or maybe even two construction hubs for a large area as well as a hub for let's say, the delivery of the retail the inner city retail kind of and or the, the, the kind of the holy cow the the restaurants the bars, and we see some experimentation there from let's say, a city hub concept development, take for example, city hub Utrecht, where they actually try to facilitate multiple flows by using the same hub concept towards the inner city of Utrecht. So and then coming back to your, your, your let's say main area of your main focus, is you're focusing on let's say the, the circular concepts within the hub construction hub. I think it's interesting from the point of view that it focuses on the return flow as well. Because there's a, there's a, there's a return flow coming from materials. But there's also again, the forward flow going back into, I assume some kind of application, and maybe back into the same construction or maybe other construction projects. So that triggers me. So the, the, let's say the return flow, as well as how do you organize? How do you organize? What does it take from a logistics point of view to organize them the return of these materials into the supply chain into the logistic chain back into the projects? That is typically a question that we will derive from, from let's say, this kind of analysis? Yeah. Another dimension, what I can actually identify here is, you're probably from that spatial analysis point of view, I would guess, if you translate it into the different type of flows, and the different types of modalities that can actually be used to organize that concepts. That's interesting, also, from a logistics point of view, because that would raise questions like, modal shift from one modality to using other modalities. Again, from the point of view, how does that impact your not only the organization of logistic activities and flows and movements? But also how does how can it contribute to the overall environmental impact? Which is a huge area of let's say, of constant research within the top sector logistic, as you can imagine, these are all related or I can, I will say, I will derive from what you initiate by asking yourself the question, okay, where will be the optimal locations future wise in the future? Of this circular type of pops? Yeah. So that's, that's, for me, let's say the interesting starting point, to come to these kinds of questions. So what does it mean? And what's the impact? What could be the impact? Or what is the impact? From let's say, organization point of view, from a circular supply chain point of view, from an overall coordination point of view? Even? And who should take, let's say, who should then take the lead to come up with these kinds of developers? Yeah. Because we don't know yet. We don't know yet. Yeah. And what will be then the future requirements in developing these new circular hub concepts in a way that they can actually also be beneficial in the overall optimization of supply chains and logistic activities? Yeah, I'm not sure if is that part of your line of reasoning and thinking? Are you are you looking at, let's say, these kinds of inputs to incorporate in your well, in the way you would like to conduct this research?

**Tanya Tsui** 18:21

I think the main things are something you said earlier on. So the environmental impact of the different modalities and you know, maybe different locations would result in different impacts, and sort of the also the nuisance, so the environmental impact and the nuisance, that would not be too difficult to incorporate. And that's something quite interesting that I've been thinking about as well. And I have colleagues who have done similar work, but with waste management. Yes. Yeah. How does all this transportation of waste affect the roads of the Netherlands? And then the other interesting thing is the is the mode of transport whether it's water or or road? Yeah, so that could be interesting as well. So is that just water just road or both? And how would that change the final map of the optimal locations?

**Niels Sneek** 19:22

Yeah, because I remember a discussion we, one of the first discussions I had with Ellen van Buren. She she more or less. That's what we were discussing a topic in terms of looking into a topic on the multi modal multi modality multi modal organizations of construction flows. Specifically looking into the potential of using transportation of water, for example, the inner city waterways for example, like I'm in Amsterdam, or even the regional waterways in a way you actually connect maybe suppliers from from another area, but via water towards, for example, a construction hub to deliver whatever. But specifically on the inner city or the city, inner city construction activities. She she more or less asked me, okay, we can look into optimizing the current situation. As far as ask ourselves, okay, we put a, it would develop some kind of construction logistics hub, in a forest in the area of a certain city. What's the maximum use of different modes of transportation, given the structure and the infrastructure as it is from that city? Yeah. But you could also turn it around, you can also ask yourself the question, if this is really a goal that we want to achieve, how should the future city look like? Or what kind of spatial development urban development in her case, urban development needs to take place in order to realize that kind of, I don't know, overall multimodal objective? And I find that very interesting. Because it's, it's, I think it's an it's an it's not an either, or it's an end end kind of development, we're looking at it and the question, how can we optimize construction logistics overall, as well is how can be spatial or urban development? What should it take into account? Or what should it incorporate? Or what do we need to incorporate? If you look at the future, development, urban development, in order to realize some of these overall environmental, ie related logistics? Objectives? And I've had the feeling that that last line of reasoning, more or less fits with the way you're looking at, in this particular case, the developments during the development of circular hub? Circular construction hubs? Yeah, am I? Am I wrong? In that line of reasoning?

**Tanya Tsui** 22:17

I would say that is the ideal case of what I'm looking for, I would say, because there's Okay, so there are these material flows through the city. And they are they're both limited by the shape of the city. So okay, okay. So my research looks into how the city, the shape of the city, affects material flows at the most fundamental level, and the shape of the city can affect material flows in two ways. One is it limits the movement of flows, because of the roads and where buildings are, and things like that. And then another is, if you change the shape of the city, it would change the shape of the flows. So it limits the flows, and it also could change the flows, I would say, I'm more focused on the first one, just because it's more practical, because the the change in the shape of the city is a very slow process. Whereas like, the change of flows of materials is very fast, right? It can be changed by a war with Russia, it can be changed by a broken Suez Canal. So it's, it's for me, it seems unreliable, to change the shape of the city just to change the movement of material flows. So it's kind of that's why the way my perspective is more like I'm seeing the city as a constraint. So the where the roads are, where the water is, that's a constraint. And within these constraints, what would be the best place to optimize whereas I would say the other perspective that Elon was saying is more like the city as a as a manipulating force, right, you can change the flows but I suppose like putting construction hubs sets up I suppose it's a sort of mix of both you know, you need to build something or maybe you need to change the the land requirements to that location if you needed a hub. So yeah, but indeed, it's also touching beginning to touch on urban design as well and I don't personally teach the studio but we have a masters studios that do this every every semester, all these baskets, students coming up with urban design solutions for circular economy which also touches a lot on the logistics they I've seen the projects and they they touch on Yeah, they they do research on on the spatial requirements. of logistics centers, they look at bow hub, they look at the London logistics center. Yep. So yeah, maybe someone I mean, it would be, if you're interested, it makes a lot of sense to talk to Alex. He's my, he's my supervisor, Alexandra vandal. Because he also teaches that course. And of course, he has more experience than me as well.

**Niels Sneek** 25:23

And he would be taking more from an urban design kind of view.

**Tanya Tsui** 25:29

Yeah, he would he has the spatial analysis expertise, and he also knows the urban design stuff.

**Niels Sneek** 25:36

Okay. But where do you feel your analysis relates to, let's say, logistics logistics impact? Or what kind of logistics inputs do take into account in order to come up with your spatial analysis? Maybe that's these are two different questions, I realized what I tried, I tried to do try to identify where this could actually relate to some of the logistics aspects as well.

**Tanya Tsui** 26:05

Yeah, yeah. Well, well, the most obvious one would be facility location. So it's, it's a very common problem that, you know, Amazon faces, you know, where do we put our warehouse so that the trucks move as little as possible. So it's just an optimization problem. And so I want to incorporate that will be the backbone of the research, right? So we know where buildings will be built in the future, where they will be demolished? Where's the location where the amount of travel would be minimized if you needed to transport materials between these sites, right. There are many different variations, but they all fall under facility location. So that would be the main logistics related problem. And also, the experimentation with the different modes. You know, what, what would the map the final map? What would it look like? If it was water? If it was road? Yeah, yeah. And also, because then, that's why I'm also very interested in questions of like, surface areas, and transportation limits, you know, companies like poker vessels, how far are they willing to travel? Is it does it make most business sense for them to do it at the scale of Utrecht, the city, it wrecked the province, or the whole of the middle of the Netherlands, right? So it's also that's why the question of scale is very interesting. And it's very limited by economic or business decisions, right. And I'm more familiar with the waste management limits of these transportation. So the general rule is, the cheaper the material, the shorter the distance, the company is willing to travel for it. And so with waste management companies, when they collect material, they collect from a very small radius, but once they processed it and added value to the material, they can send it very far away. So it's a small collection distance as a big supply distance, let's say distribution. And yeah, I'm curious to see. Yeah. What whether this is similar with with the circular building huts, do they have a small catchment area and then a large distribution area? Or is or is it something else? So that's why the scale thing is very, very interesting. And I suppose related to logistics, as well.

**Niels Sneek** 28:47

And your your reference, because that's interesting. You make a direct reference to some of the analysis and research you've done, let's say, the waste supply chain. And your ask yourself the question, could it also apply in a similar way with a small catchment area and a large distribution area? If we talk about circular construction up, developments development, does it does it does it determine in a similar way, the choice of locations as it does, apparently, and I haven't seen that research as apparently as it relates to waste management for the waste the waste supply chain. Hmm,

**Tanya Tsui** 29:37

yeah, that's that's,

**Niels Sneek** 29:38

that will be interesting. Do you? Do you incorporate that insight into your current? Do you take your waste research results as a starting point or as a reference in your research on circle health development?

**Tanya Tsui** 29:55

Yeah, so in this paper, it would be kind of that's the question of What's the what are these distances? Distance limits of these companies? So I'm trying to talk to them mostly demolition companies, like New Horizon and, you know, Fluss mine and stuff like that. And to understand the, what's the limitations of their? Yeah, spatial limitations? And yeah, yeah, I forgot. Oh, the thing about scale, the thing about scale is that that's the question that everyone is asking in the circular world is, at what scale? Should materials be reused? Should we reuse them at the municipal scale or the provincial scale or the national scale? And so what one way of maybe answering these questions is to understand that these sorts of business limits have a demolition companies. And so that's why scale is so important. Also interesting to us, also from the circular world.

**Niels Sneek** 31:04

Yeah. I think it's, I think it's definitely fair to say that that is very important, specifically, if you try to invite or incite businesses to to rebuild their own business models in that area. So one of the actual relevant questions we have, and we discuss, for example, within the steering committee, including, which includes, as you know, by now, the director of focal vessels, materials and logistics, this was a run explained to us why, why why is scaling up these, these built the construction hubs? Why is that not accelerating? So, why, and of course, then we get one side of the story explaining that it requires a municipality to really step into that process. Because what you see is that the construction hubs that are actually have been put into place so far, is because of, let's say, some kind of overall view from that municipality or city on future in a city mobility and logistics. So, there's also a clear connection with the overall mobility question. And then part of that is to deal with replenishment and and all kinds of transportation flows, next to mobility and transportation flows going in and out of inner city areas, which which municipalities are asking themselves currently, what those are mobility or or overall mobility view or vision or plan for the future should look like oh, by the way, we should also incorporate all kinds of circular concepts. And now specifically, knowing that approximately 30% of all movements going in and out of inner cities to a direct or indirect extent relate to construction logistics that nearly one thirds and these are there studies done by taking over sample which which, which which show the data? So within this overall inner city movement, transportation, question, future questions. We now see that construction logistics takes the takes of permanent share of let's say, the effort that that that municipalities really need to incorporate now into their thinking. So there's a certain momentum, there's a certain urgency coming up awareness, if you would like, but at the same time, what we see also is that a lot of municipalities have no clue whatsoever, what to look into and how and what kind of questions you need to ask yourself when dealing with construction logistics. So there's definitely a knowledge gap. Of course, the largest cities like Amsterdam, I mean, they have they have the ability to hire and all kinds of experts, etc, etc. But if you go beyond let's say, the top 30 municipalities in the Netherlands, I think it was somewhere and up with city of Rialto and maybe 40,000 inhabitants or something like that. But then again, there are a lot of them and they need to start yet in terms of thinking and and what role explains for them as a as a big building company construction company and be part of a big construction company. Of course they talk a lot with us. spellings all the time because of their construction projects. But in terms of construction logistics, it requires other people new thinking, for municipalities in order to incorporate the whole concept and understand the added value of using some kind of promoting even as a municipality, promoting the use of a construction hub, to local construction companies, suppliers. And I think it's fair to say that if you take the top three cities, or maybe two or three of maybe out of the five, if you take Amsterdam, rather than an eight over, for example, and I think that, for professionals has construction hubs in all of these three cities, you will find that these three municipalities take three different views and approaches as far as their overall future mobility and transportation.

**Niels Sneek** 36:04

developments. And in that end, that's playing field. Home is pushing his white label construction concepts. But one of the key question then is what does it take to accelerate the development? What would it take? What does it take to accelerate the overall development when it's for professionals or, or other construction, but the overall development of construction hubs in the Netherlands, if we feel there's certain added value, and definitely sort of the impact that construction hubs can actually have in the overall optimization in support of future developments, as well as in optimizing the overall construction logistics? Why does does does the overall development does not go faster than it goes to date. So we have another one. And it's a very slow pace of development. Maybe it's because it's, he's one of the early innovators could be Ruby, but everyone is positioning himself all these different stakeholders, municipalities, other construction companies, lower tier suppliers, to certain they will all be impacted. If this development really get some kind of face. And that's the other area where we're looking at and into how to facilitate the oval cooperation within this in this logistics chain where a lot of parties are involved in different stages of projects. We feel that cooperation can be stimulated and further developed by using digital tools, learning, learning the community, the construction community, how to use the data tools, to share data, share information, and start working together more effectively. Of course, that's a that's a long term approach. We, at the same time, try to incorporate the whole thinking process on how we would like to organize construction uses future wise, together with municipalities, because they have they are a very important stakeholder and overall process. And I think I could also imagine that they're a very important stakeholder for your analysis. Mm hm. Do you do you have interviews with representatives from municipalities as well?

**Tanya Tsui** 38:26

No, no, not yet. But I'm interested. I just, it's hard to find interviews at this time. But yeah, I have talked to the port of Amsterdam, which kind of is a is a is a hybrid, sort of right, like, heart, landlord municipality part, company. But yeah, indeed. It could be interesting to talk to you municipalities. Yeah, that's the problem of doing research. Academically, you have to kind of get a very narrow scope, and then dig very deep. But that's definitely something I'm thinking of, like, whether to talk to municipalities, and maybe provinces, because I've seen a lot of interesting research from the province of South Holland. hubs and like, the circular potential of Business Park, in the ports and yeah, so

**Niels Sneek** 39:34

what you what you could do, are you familiar with the mobility program that actually runs within the province of South Holland? I think no, I think it's called move. Okay. Or no, no, it's called. I can look it up. Okay, well, I thought it was moved. But for example, there's this program in the southern part of how Hello, it's called Smart ways.nl Smart Ways with a Z at the end. And really from a regional program point of view tries to, to incite and facilitate projects relating to, overall improve mobility. So let's say the first, if the first first view is from a mobility point of view, but some of the people that are actually working with that program or on behalf of the program, they are currently also involved in, in in, let's say, the more transportation logistics, kind of, because the other day becomes more and more blended, as it translates into the inner city type of questions, mobility and transportation. And that's all so in the southern part of homeschooled smart ways.nl. Or maybe the one is that hold is called the black bar. But like bars out hold, could also be the name

**Tanya Tsui** 41:10

like far south hold on your Sutherland brake bar. Oh, sorry, Holman eight bar, there you go. Yeah.

**Niels Sneek** 41:17

This will be a similar kind of program for within the province of sidewalls.

**Tanya Tsui** 41:26

Okay, okay. Well, maybe it

**Niels Sneek** 41:28

would be to try to get into contact with some of their program managers, or project leaders, or these would be independent people working on behalf of the program. Because you mentioned that definitely side hold is, well, he's doing a lot of things in the area of mobility. And and, again, I'm also aware of a lot of projects that they're aiming to initiate or try to organize as far as construction logistics.

**Tanya Tsui** 42:01

Okay, okay. So maybe

**Niels Sneek** 42:03

there could be a good entrance to try to get into contact with some of the more process level.

**Tanya Tsui** 42:09

Okay, okay. Thanks. Thanks. That's a tip.

**Niels Sneek** 42:13

Okay. Well, from from my, from my point of view, I would like I'm curious, what would what is your first let's say, your first intermediate or your next outcome of your research, you're currently conducting what it is that you're going to want to what's your, what's your next reporting, if you would like, or your first or your next deliverable based on your research are currently conducting?

**Tanya Tsui** 42:43

Yeah, so it would be a shopping list of data and requirements to throw into this GIS thing, this GIS analysis. So it's like, from mostly from the perspective of, of companies themselves. So the assumption is that these circular building hubs will be at a location that's very attractive to companies. And so I'm going around asking companies, what is attractive to you, in terms of asking circular construction companies? What is attractive location for you? And so, with all of these requirements that I got from the interviews, it would be a shopping list of data, and requirements to throw into this analysis in order to find good locations. So you could say it's a list of research questions from, from a quantitative perspective, quantitative spatial analysis perspective. So it's very much focused on this, this method of quantitative and spatial analysis, because that is a gap because there have been other studies on locations of circular hubs, but not from this perspective.

**Niels Sneek** 44:11

Can you make Can you can you provide me with one example of qualitative spatial analysis research on? I think circle hooks, you said?

**Tanya Tsui** 44:21

Yeah, so like to know, they just published a report on the potential of circular construction hubs in South Holland, taken up the potential of circular construction hubs in South Holland. And they they did something quite similar to me. So they went around interviewing people with these facial requirements.

**Niels Sneek** 44:50

Is that report already publicly available?

**Tanya Tsui** 44:54

I actually someone sent it to me, I can send it to you. I don't know if it's publicly available. Well, I couldn't find and online afterwards

**Niels Sneek** 45:01

probably says version XYZ date something. So if it's so low, it doesn't say concept or pretend reversion.

**Tanya Tsui** 45:11

Yeah, I'm not sure I can email it to you. I can't find it on their website. But yeah, they did a very similar thing. But, but then they sort of just, they had a list of 11 locations that the province said might be interesting. And out of these 11, they picked three, based on the interviews that they the insights that they got from the interviews. So it's more and more qualitative. They had like 12 criteria. And then for each of the sites, they they said, Oh, this is very good. Okay, and bad, you know, and then they picked the three sites that had the best that met most of the criteria.

**Niels Sneek** 45:53

Is it somewhere in your analysis, a starting point, as far as asking circular construction companies about their shopping list? Because some of these 1212 criteria, I think you said that they know will probably pinpoint you, too. Well, at least to what kind of direction you're you need to ask, or you should be looking, as far as let's say certain requirements or location requirements.

**Tanya Tsui** 46:20

Yeah, yeah. So it would be it is in for four main types of requirements. One is operations. So that's like, what we were talking about with the service areas, how far are you willing to travel? And then there's the transportation requirements. So what mode of transportation? And how accessible? Do you need to be like, at what scale? Do you need to be accessible at the city scale, the provincial scale, national scale? There's the business perspective, which is do you need to be close to high skilled labor? Or low skilled labor? Yeah, I think companies, does that matter to you? And then the final one is land. So land price, environmental requirements, environmental restrictions, you know, the level three for an opportunity to expand? Yeah, so these are the four main categories that sort of came out of reading different reports and also, right, also from the, from the, from the methods that are available, like the spatial analysis methods that are available.

**Niels Sneek** 47:32

Yeah, so. So ideally, if you would take their report as a starting point. Yeah, based on a qualitative analysis, I understand off criteria, and some kind of waiting, sort of putting some weight on some of these criteria when they come to produce a four or five. Yeah, hardly, potentially highly interesting. Blow up.

**Tanya Tsui** 47:55

Yeah.

**Niels Sneek** 47:57

Would you be able, ideally, theoretically, from your quantitative approach, to try to find the data? To actually quantify the potential of these four or five, or maybe even these? No, sorry, these four or five locations?

**Tanya Tsui** 48:21

Yeah. So in terms of quantify it would be the most obvious one would be the environmental impact and the transportation impact, right? Because you can assume, okay, if there's a hub here, then yeah, it would reduce the amount of trips by so many percent, and then, then there's less emissions and less trips and less nuisance, that would be relatively possible. And also the material impact, right? Because we, we have a estimate from the PBL data, of how much material would be available in each look in the different locations. So it's like how much? Yeah, yeah, so whether it would allow for the matching of the supply and demand materials, because that's also the main issue in the circular world is that, yes, we have waste, and we have the demand for waste, but they are never matching, then we need some storage in the middle for the materials to be temporarily stored before they move on. And so there's also that aspect to if we have a hub, how much more materials would be able to be matched. And we can also compare the different. That again, becomes the issue of scale, right? If it's a municipal hub, how much would be matched if it was a provincial hub, how much would be matched, etc. So yeah, those Other things I can think of.

**Niels Sneek** 50:01

Did you already look into the t know report? Because it's quite new, I assume?

**Tanya Tsui** 50:06

Yeah. I read it. Like last week or this week. All right.

**Niels Sneek** 50:10

Do you know who the main authors are the main researcher there?

**Tanya Tsui** 50:13

I can I can look it up.

**Niels Sneek** 50:17

Well, if you could send it, I can find it. But I'm just out of curiosity.

**Tanya Tsui** 50:21

Yeah, let me see. Let's see. Sim fun McGee and

**Niels Sneek** 50:30

simple Marian board. All right.

**Tanya Tsui** 50:33

Yeah, that's the main one.

**Niels Sneek** 50:35

Yes. Well, he's the lead scientist, research researcher. I'm not sure he's not. I think he's the lead researcher as far as far as construction logistics for surgery that day. No. Okay. So I've already met met him a couple of times, because again, the we already last year, let we Ste. We awarded them a project proposal, which is actually looking and then see most, let's say the the lead researcher in putting that proposal forward. So I met him, I talked to him several times. But here they're actually looking at let's say the, the conceptual and functional foundations of what we used to call the control tower, logistics control tower models in the construction industry. So control tower models are very well researched and known in the logistics industry. And they are more or less started the research from the question, what would a construction construction tower model look like? And what kind of impact would it have? If you will apply it to construction logistics? So I know, I know. I know. Seems so probably his name is on more or less every report, which relates to construction logistics. Yeah, probably.

**Tanya Tsui** 51:59

I also put the rest of the names in the chat. Telling the rest. Yeah, yeah. Could

**Niels Sneek** 52:09

he could or one of his researchers could could be again also of interest for you. Yeah. At a certain stage show. Okay. I'm looking at a time I think I might need to more or less close up. Close off this. This this coffee, but I really enjoyed it, too.

**Tanya Tsui** 52:29

Yeah, me too. Actually, my name is Tanya toes my last name.

**Niels Sneek** 52:34

Oh, of course. I should know that. I should know that. Tanya. Okay. Is it really your first name? Thank you. Yeah, I'm

**Tanya Tsui** 52:45

from Hong Kong. So everyone, I'm from English. So English.

**Niels Sneek** 52:50

Yeah. Okay. Okay. I used to, I used to visit Hong Kong several times in class. Yeah. So I really, really liked that. I really liked that. So what are you going to do when your research is done here? Out of curiosity,

**Tanya Tsui** 53:09

I want to stay in academia. I really like university life. Like research like teaching. Maybe in the Netherlands. I quite like the Netherlands. It's a very good hotspot for this kind of research. Circular Economy, urban design, urban planning. It makes a lot of sense to be here. Yeah, so that's me, maybe in a year, I hope.

**Niels Sneek** 53:41

All right. So how do we stay in context? What is important for you to, to know, or for me to know or follow or monitor or?

**Tanya Tsui** 53:56

I'm quite curious about the funding opportunities. I'm working with cuddle funding bear here. He's under works for Ellen. So in the same research group, he does. Can you repeat? Can you repeat his name? Yeah. Carl Vandenberg here are alternate. Que el gato. Yeah. Oh, sorry. I typed in the chat, cat paddle. London. They're here. Sister. Yeah, and we are also kind of looking around and we're very curious to yeah, do something with South Holland. They seem to be interested with this construction hub idea.

**Niels Sneek** 54:49

And he works. You worked within the department of LM. Yes. Whereas you are working in Department of REM? Yes.

**Tanya Tsui** 54:57

Yeah. We're in different departments. Yeah. You Yeah, so So I think that's what we would be most curious about. Yeah. Also also Alex, who's my my supervisor, Alex and REM, Alex vandal, Alexander, vandal? And REM.

**Niels Sneek** 55:18

Yeah, I got this. And are you an RN? Is? Professor or an electronics associate or?

**Tanya Tsui** 55:25

Yeah, that's correct. Yeah. So I think I'm curious to look more deeply in the, I will write you an email with a list of things I'm interested in, if that's okay with you, and then, okay,

**Niels Sneek** 55:40

that's okay. I'm not sure if I can answer all that. But no worries, hopefully, hopefully, this brought some new ideas or some some new insight or inputs or thoughts on hey, what if you need to talk to someone? Again, from your comments, I definitely try to contact cargo. Knowing that there's a direct link with Elon, knowing that he's working with you together. So he will be more on the urban development side.

**Tanya Tsui** 56:11

And he's very interested in scenario planning. So thinking of future scenarios, instead of strategic planning, which is what governments usually do. So scenario planning, like what Shell does? Yep. Just thinking yeah, so so so we were interested in combining his scenario planning stuff with my spatial stuff. You could come up with the scenarios, and I could come up with the spatial map, right? Yeah. So that's kind of what we're curious about. And we

**Niels Sneek** 56:45

would if we can blend in if we can blend in some logistics and that we would have a, a scenario identify spatial and urban development from a logistics point of view.

**Tanya Tsui** 56:57

Yep. Yeah. And it's very much a logistics issue. Yeah. Transportation. So this is very relevant. Yeah, and we're interested in doing something with South Holland. I don't know how that's going because cattle is doing the talking. Yeah, I'm very curious how things would

**Niels Sneek** 57:15

well, if you if you find out who he tries to talk with inside hold, and or, for example, representatives from black bars at holons. If you have a name, or are still a question, please let me know. Because we know various people within the overall program of Greg Marshall holons. So we'll be interested to find out if someone you would like to talk to is actually within our network.

**Tanya Tsui** 57:46

Okay, that would be very helpful.

**Niels Sneek** 57:47

Because then we can, for me, it would also be interesting, knowing that that interest is coming from you as well, for example, and I can I can try that to get into contact to see where we where we can facilitate or team up or whatever. So, if If college is coming up with a name. Okay. I tried to contact Mr. or Mrs. XYZ. Just let me know because I can at least verify whether that will be the right person.

**Tanya Tsui** 58:17

Okay. Okay. That's really helpful. Yeah, nice. Thank you so much. Niels. This was really interesting, both practically and academically,

**Niels Sneek** 58:27

practically, and academically. I think that's the best compliment for the weekend. I just received a watch

**Tanya Tsui** 58:38

you too. Thank you so much. Yep. And have a good weekend.

**Niels Sneek** 58:42

Can you see the reports too? You know, or do you already? Yes.

**Tanya Tsui** 58:44

I will send it to you now.

**Niels Sneek** 58:46

That's my very short list for you. Yeah. Okay. All right. Thank you very much. Yep.

**Tanya Tsui** 58:52

Thank you. Bye bye. Bye. You too

58:55

into

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

220520\_JamesHallworth\_portOfAmsterdam

Mon, 5/30 1:31PM • 46:37

**SUMMARY KEYWORDS**

amsterdam, port, circular, vessels, companies, location, goods, logistics, city, important, flows, transport, hub, system, people, electric vehicles, waste, area, moment, quickly

**SPEAKERS**

Tanya Tsui, James Hallworth

**Tanya Tsui** 00:00

We can start. Okay, it should be recording No. So yeah. What my let me introduce my research project very quickly, and then we can we can start with the questions. So the purpose of the interview is to find out where the future locations of circular hubs will be on a map, right, so the, the outcome of this research, ideally, is this big map of Amsterdam. And those are a Big Map of the Netherlands, with these areas circled out saying, Okay, this would be, you know, suitable for this kind of circular hub, this area would be certainly suitable for that kind. So it's basically a suitability map for circular economy in the building industry in the Netherlands. Yeah. And so by asking you, so by asking you questions about these location requirements, of, you know, what you care about when it comes to a location, I'm hoping to collect all of these requirements to understand what's important to existing companies, and sort of extrapolate to the future. Like, you know, if there were more of these companies, where would they will they be located?

**Tanya Tsui** 01:20

So, so the interview comes in three parts. The first would be just an introduction, trying to understand the role of the organization. The second would be your perspective on on location. So what you find important, and what you take into account when picking a location. And then finally is diving deeper into the spatial requirements, so maybe getting some numbers? And, again, ranking more specific requirements for location. So do you have any questions before we start? No, no, go for it. Okay, great, great. Um, I'm thinking maybe it might be, it would make sense for me to just share my screen because sometimes I have these options for you to pick from. So let's just share my screen. Okay, so can you see my screen?

**James Hallworth** 02:24

Yes, I can see. Yep. Okay, great. Great.

**Tanya Tsui** 02:27

So let's start with some opening questions. So, okay, now we're looking from the perspective of a circular hub related to the building industry. So let's say what do these circular hubs typically do? In the port of Amsterdam? Out of these?

**James Hallworth** 02:52

Yeah, okay. Yeah. Let's see. Storage. Yes. reverse logistics. Yes. Waste Collection? Yes. waste processing? Yes. Manufacturing? The Yes. But that's probably not their primary process. Physical showroom? Not really. Are there are one or two, which would have the physical shoulder research and development? No, it's not the primary operation? And matchmaking? Yeah, I think any any hook is part of the ecosystem. So they are they're all going to be matchmaking. Yeah.

**Tanya Tsui** 03:37

And are there any activities that haven't been listed?

**James Hallworth** 03:45

Yeah, office, office space as well. But I suppose that attached office spaces attached to whichever process that you're doing on the terminal?

**Tanya Tsui** 03:55

Yep. to true. Okay. Clear. Um, so, with the circular hubs that you typically work with, do you see that location is important to them?

**James Hallworth** 04:10

Yes. Yeah, absolutely. Absolutely. Yeah. They need they need to be as close to the market as possible. That's, that's primarily Yeah. Obviously, just just in time delivery that makes things easier if you're close to where your products need to be. And certainly when you're looking at bringing bringing waste flows back out of the city, and you don't want to be dragging that miles and miles.

**Tanya Tsui** 04:41

So would you say the market and the supplier is mainly in the municipality of Amsterdam, or is it beyond that?

**James Hallworth** 04:50

I think it could also be beyond that. At the moment, it's primarily the city of Amsterdam. So but I think in In the in the future, we'll see that the circular hubs in Amsterdam will also be serving a much bigger area that we're serving the Netherlands and maybe down into Germany, even if you if you look at the hinterland connections using inland waterways and rail, then I think there's going to be a role for certain certain circular activities, there's going to be a role which which is much further afield than Amsterdam.

**Tanya Tsui** 05:32

And what would these interest industries be?

**James Hallworth** 05:35

You have to imagine if you have a certain products, which which can be produced in a circular way, and there's a and you have a huge volume, you know, you need to have huge volumes to make it to make that circular system work, your you would bring it to one central hub. So just think about think of insulation material, I just just named something insulation material, there's a huge amount of being produced as a huge amount of being used, and there's a huge amount coming back in as a waste flow. And if you look at economies of scale, you don't want to have 25 Different circular hubs for insulation material through Western European ideally, you'd have one or two and if you look at Amsterdam and the connection location on the in the Rhine Delta, you could you could bring huge amounts to Amsterdam and then recycle that and then redistribute it from Amsterdam. So that's the one I'm thinking if you look at economies of scale, then then I'm saying would be serving a bigger area.

**Tanya Tsui** 06:48

And can you mention some examples of companies that have this more international network?

**James Hallworth** 07:00

I think the specifically around building Yeah, I think if you look at look at some of the companies which produce cement, prefab cement, so they will make prefab cement elements. So they could they can ship them deeper into Europe and then they can also take back cement concrete and have that recycled in Amsterdam and they use that as a secondary material in that in their process. So I think prefab prefab elements, prefab cement elements are an interesting one.

**Tanya Tsui** 07:45

I see. Sorry, go ahead.

**James Hallworth** 07:48

If you also look at things like wood, a lot of a lot of wood, which is which is collected in Amsterdam, and gets shipped through to Germany to make OSB (Oriented Strand Board) spanplaat. Huh.

**Tanya Tsui** 08:05

Yeah, yeah. So, um, okay, maybe we'll dive deeper into this. In the further questions. Are there any other location related things that people

**James Hallworth** 08:19

they want to, they want to, if you look at logistics, they want to be on the water. They're going to have a water connection, because if you're shipping large volumes and in a sustainable manner, then you want to do that using the water? Because that's, that's the cheapest and most environmentally friendly way of doing it. They want to be close to the city with regard to roads, so you can use electrical vehicles and use EV.

**Tanya Tsui** 08:51

Because they don't have a large range. Yeah, exactly. Do you do you have an idea of what's the range for the electric vehicles?

**James Hallworth** 09:02

No, because it depends a lot on the weight. You see, if you're, you're transporting feathers, then you've got a huge range. But if you're transporting concrete, then it's a lot a lot shorter. So it's very dependent on on what you're transporting.

**Tanya Tsui** 09:17

Okay, yeah, cuz that could be something interesting because, okay, in the future, if we want our mobility to be mostly electric, then suddenly there might be this. Yeah, distance limit when it comes to transportation that might change

**James Hallworth** 09:35

the way Well, yeah, sure. Because when you're using fossil fuels, and you can you can, you can, you can bunker, an inland waterways, vessel and sail all the way to Switzerland. But you couldn't do that with an electric vessel. You'd have to you'd have to have a different different way of doing that. That's quite true. I think they've developed development in, in energy sources around transport that's going to have Can't have an influence as well. But I think I think whichever way yeah, it just remains to be seen because at the moment the actual radius from from electric vehicles is quite small. But the development of new batteries there are new new kinds of batteries being produced, which can be used certainly in inland waterways vessels, which would allow them to sail much further. So it could have an influence. But if the technology develops more quickly, then things might stay the way they are now.

**Tanya Tsui** 10:37

Should Are there any more location factors?

**James Hallworth** 10:43

Well, yeah, I think still, we're still in in doing a lot of transport on the road. So they want to be close to the motorways within so that's why that's why Amsterdam is interesting as well. You've got the A10 and the A5 which connect you to the whole the whole Dutch system in the in the European hinterland.

**Tanya Tsui** 11:03

Yep. Yeah, exactly. Um, okay. What would you say are the strengths and weaknesses of the port of Amsterdam as a circular hub?

**James Hallworth** 11:16

Yeah, the strength. I think the strengths are certainly the the proximity to the city. The port is very, very close to the city. So that makes transport in and out of the city quite easy using other electric vehicles or waterways. The ecosystem, this is quite a strong, circular ecosystem developing. So it's not something that's completely new people. People are wanting to work together, the sort of logistics and production and the routine return flows are quite efficient. I mean, the city of Amsterdam is working towards a donut economy, the they've been quite clear that they want to become a donut city as quickly as possible. So that's that's a an advantage. The hinterlands connection, we just talked about it, you can use inland waterways and rail and roads to get into into the hole of Western Europe very quickly. And back from those customer markets, bringing waste flows, for example, or materials which need to be refurbished or reused, you can bring those back quite quickly. So those are the main advantages. It's a logistical hub, there's a very strong recycling cluster, there always has been. So that's a good basis for circularity. There's a lot of knowledge. It's a strong financial hub as well, which is which is good. So you've got the knowledge base from the universities, you've got the financial sector, which which helps. So those are the main the main advantages of some of the disadvantages are the lack of physical space, there's a definite lack of physical space at the moment, the port is nearly full. So it's very difficult to find a location on water, and certainly on deep water, but that plays a little bit less of a role in circular economy at the moment. Electricity, there's congestion in Amsterdam, so finding enough electricity to be able to run your process is difficult. Environmental space, the stick stuff. Discussion. The nitrogen deposition discussion is is a difficult one. So if you if you're doing any, any kind of large scale logistics using fossil fuels, or if you're using a process which uses combustion, then you're going to have problems getting your permits because of the national nitrogen deposition discussion. Yeah, so physical space, environmental space, electricity. Those are the biggest disadvantages at that at the moment.

**Tanya Tsui** 14:15

Great, great. That's very clear. Thanks. Um, okay, I think this part is there anything else you'd like to add? Before we move on to Location

**James Hallworth** 14:32

One of the advantages is that the building market is of course, huge in Amsterdam. And looking looking forward to sort of 2014 in 2014 2050 2060 there's going to be there are going to be 75,000 new homes built in the area between the city and the port. So the market is is huge. So if you if you do locate in Amsterdam, you are right next The future markets.

**Tanya Tsui** 15:03

Right, right near. Now, let's dive into the deeper perspectives on the spatial requirements or the location requirements. So let's start with a bit on the operations. This This ties back into what we were talking about right at the beginning about being close to suppliers and to customers to the market. From the companies, you've seen, how, how far are they willing to travel to suppliers versus customers is there a kind of a difference in terms of distance,

**James Hallworth** 15:49

it's very difficult to say it's, I think that's more determined by the product than the distance, if she knows something, if, if there's, if there's a waste flow somewhere, which is enormous ly valuable, then you're willing to transport it a long way. Or if you can get a good price for your product, you're willing to transport it for a great distance, or if transport is very cheap, then you can transport it a great distance. But I think in general, waste flows are of low value, so you want to get them you want to pick those up as quickly and as closely as possible. But it's very, it's very difficult to say I mean, every business case is different. So every logistical solution is dependent on the business case.

**James Hallworth** 16:42

I'm just trying to think of a of an example. They day to day as an example, if Yeah, I mean, if you have if you have something valuable you want to send to somebody, then you will, you will use a very good service, you'll use DHL, or those kinds of things, inspect it, especially packaging and you're willing to pay some more if you sell sending a laptop to somebody, but if you're sending a cuddly toy, it doesn't need to be there quickly. It doesn't need to be packaged very well. You know, if it gets lost, then yeah, there's not a huger problem. The financial the financial consequences aren't so Hi. So I mean, every way every waste flow on every product flow is different. So you can't just say, you can't just broadly say that it should be this or it should be that.

**Tanya Tsui** 17:37

Yeah, yeah. So actually, people choose the port of Amsterdam. Both because it's close to the city, but then it's also a global network.

**James Hallworth** 17:52

The interesting thing about a port, you see the port, the port just gives you all the options, and certainly a port like Amsterdam, because you're right next to the city, but you're also connected to the to the international logistical network, be it deep sea, air, freight, inland waterways, rail, road, bicycle, you can do everything from the port. So it's, you know, it's a really diverse and multi, multi modal hope. So that's, I think that's why the report is so interesting to so many different, different people trying to find me.

**Tanya Tsui** 18:30

Yeah, and there's not really would you say there's a tendency towards the international versus the local, or is it? Mostly, especially with circular companies?

**James Hallworth** 18:44

Yeah, exactly. The companies? I think at the moment, there's definitely a tendency towards national, local, local, I would say local, regional, national. Yeah. But I think it's only starting and we're only just getting started with the circular economy. So everything starts local. And of course, in Amsterdam, there's a huge amount being built and a huge amount being demolished. So the local market is sufficient at the moment, but I think slowly that will become regional and then national, and then probably also international for some for some, for some materials.

**Tanya Tsui** 19:20

So you'd say from what you've seen, it's the reason why it's small scale is not by choice. It's just that they've just started and then you see them

**James Hallworth** 19:31

it's, it's about the scale and the economics as well. You know, if you find if you find a market in southern Germany, and it's a profitable market, and you can do it using inland waterways, then companies will do that now but I think the market is still growing. So if you look at the demolition of buildings and the and the building of new buildings, the logistics which are being done on in a circular way? A mainly local?

**Tanya Tsui** 20:05

Yeah, yeah. It seems to me, it sounds to me that what the port of Amsterdam provides is, is actually flexibility. So it's not like one selling point. But actually it's yeah, it's a lot of options, options to expand and contract for different scales. And maybe if you're a small company, it's easy to scale up. You don't have to move when you scale up. And would you say that's accurate?

**James Hallworth** 20:33

Yeah, that's, that's, that's definitely true. You can it's, it's a location where you can you can go in all directions, be physically or with regard to growth. And that's why that's why it's so popular. Because imagine if you started a new company, a circular company, and you lived in Groningen, then you might try to do it for the first year in Groningen. But then as soon as you start growing, you want to be much better connected, you want to have a better, better connections to the markets, you want to have connections to different modalities. You want to have connections to international transport, by waterways and by air. So I think then, then you gravitate automatically towards the ports be it? Amsterdam, Rotterdam, Antwerp, and yeah, flowing the seaports as well, but they don't have the, the inland waterways connections. So much. So that's yeah, the West, the Western ports are more interesting. I see. I see. And also as because the, you know, you're closer to the population, because I mean, circular economy is, is being developed to serve people, and you want to be close to where people are. And if you look at, if you look at the Rand Stad, you know, Amsterdam, Rotterdam right down onto paper, you look into the German Ruhr area, that's where all the economic activity is. And that's where all the people live. So that's where the consumption and waste flows.

**Tanya Tsui** 22:05

Yeah. And other curiosity is, is the port of Amsterdam, looking to expand physically or looking at other locations? To expand since for the lack of space?

**James Hallworth** 22:18

Yeah, yeah, we we've already expanded to the north of the Norte canal. So we've also expand already expanded into into Zaanstad. I mean, we would love to expand further, but it's very difficult because we've reached the edges of our, of the city, the city limits have been reached. So then you have to start talking to your neighbors to ask you Can we can we have part of your garden to to build the new new ports? But I mean, those are those very difficult discussions, because, you know, space is just a premium in the whole of the Netherlands, really, and certainly in the West. So I think we look, we look, I mean, we would like to grow. But I think we look at efficiency as well. We want to become more space efficient.

**Tanya Tsui** 23:07

Clear, clear. Is there anything else you'd like to talk about with the operations before we move on to the next thing?

**James Hallworth** 23:15

The operations? Yeah, I think what what is useful in the port of Amsterdam is well is that because it's such it's already it's an existing port, so lots of different logistics, service providers, and stevedores, for example. So if you view start recycling, or a circular company, and you don't want to be operating cranes, or you don't want to be operating your own vessels, you don't have to, because the companies are already there. So you can use use those companies. So you don't have to do everything yourself, you can plug into an existing network.

**Tanya Tsui** 23:50

clear that that leads quite well to the next perspective, which is talking about the business perspective. So oh, I should share my screen again.

**Tanya Tsui** 24:10

So when it comes to the business perspective, the companies that you work with, when they choose a location, what is what do they typically consider with all of these do they consider? Well, okay, this is obvious, like they do consider proximity to harbors freight stations. This is what we were talking about. What about the amount and diversity of other companies you quickly mentioned that just now with the with the network?

**James Hallworth** 24:47

Yeah, I think I think in in a circular economy, the the number and the diversity of the other companies or better said the industrial ecosystem is, is very important. isn't because you want these companies realize now they have to work together. It's not like in the past where you had a linear system, now we have a circular system, which is why it's never really circular. It's an ecosystem. So you're always passing material and knowledge and value on to somebody else, somebody else or you're sharing it with somebody else, or you're trying to share energy production, or reuse waste energy or reuse waste flows. So so this has become really important in the past, in the linear world, companies really didn't know who the neighbors were, and they weren't really interested in who their neighbors are. But in a circular ecosystem, they're always looking to see what are the neighbors doing? And can I use something that they waste? Or can they use something that I, I have in surplus. So that's become a lot more important. Logistics is obviously very important. So that's why you're looking at a port. availability of labor. Yeah, that that is important. That's certainly at the moment. Because it's almost impossible to get people. Yeah. And Amsterdam is not always the easiest place. Yeah, because, yeah, there are a lot of different areas to work in and harbors and ports aren't always the sexiest places to work, or they don't have the image. That's that's, I mean, the work has changed in the port, that the work, the work that people do in the port is a lot different to 25 years ago, or 30 years ago, people don't really know that long price is obviously an issue. But yeah, what I do on a day to day verse basis is leased land, so I'm constantly talking about lunk price. And if I'm talking to a customer, then they find land Price extremely important, because they want it to be as low as possible. But I think it's it's not the highest of their priorities. Yeah,

**Tanya Tsui** 27:10

what would you say is their highest priority?

**James Hallworth** 27:13

I think environmental permitting and land use restrictions is a really, really important one. In what way? And can you get the permits? Come the process that you want to do? be permitted?

**Tanya Tsui** 27:29

Yeah. And is it the same does? Do all the plots of land in the port have the same restrictions?

**James Hallworth** 27:38

No, no, it's quite, it's quite diverse, you have different areas and the port, which which are to be used for different operations. So you have certain safety areas and risk areas, you have areas where you can produce more noise than others. You have different the the call that the ground is of a different different quality. So some some ground is really easy to build on and other ground is more difficult. So that's, that's, that's also an issue. Yeah, yeah. I think proximity to the city as well is how close the facility we think the first one, the how close would the facility be to harvest freight stations and multiple entries? That's important, but also to the markets.

**Tanya Tsui** 28:38

And how would you rank these factors? most important to least important,

**James Hallworth** 28:49

I think that land availability in local area, that's, that's number one. Because if you don't have that, then you can't go any further.

**Tanya Tsui** 28:59

opportunity to expand is really important.

**James Hallworth** 29:01

Yeah, that's important. Because if you if you start a company, you can if you can come to us and say, well, I need one hectare now but in the future, I need seven then and if we can say yeah, the doable, but if they come and they say we need one hectare now and seven and we say no, you can get one hectare now and maybe 1.2 hectares in 10 years time. Yeah, that's not really interesting for them.

**Tanya Tsui** 29:24

Yeah. So before we move on, when they say seven hectares, do they mean right next to the plot? Or it's okay. If it's within a certain

**James Hallworth** 29:36

Yeah, most companies, most companies want to be right next to the plot because otherwise you have to you make certain costs, then you have to make those costs again. Okay. They want to grow sort of organically and not not spring to different locations in the port. Some companies do that, but it's not always. I mean, don't think Because ever the first choice?

**Tanya Tsui** 30:01

Yeah, fair. Sure. Okay, what would be the second thing?

**James Hallworth** 30:06

How close the facility B would be to harvest freight stations, motorways and the market the environmental permits then Long Price employment I think that's it right?

**Tanya Tsui** 30:31

Was it? Inability then price? Oh, the amount and diversity of other companies?

**James Hallworth** 30:38

Oh, yeah. Sorry. Yeah, that's that's probably the third one. Yeah.

**Tanya Tsui** 30:48

Nice, clear, clear, clear. Okay, so we're gonna move on to the final perspective, which is just about accessibility. So, in transportation, planning, as accessibility, what I'm sure you already know, but from how I define it is accessibility is about how easy it is to reach destinations in one location. Right? So port of Amsterdam is very accessible, because within the same amount of time, you can reach a lot from the point of Amsterdam versus, you know, a random village. So that's what I mean by accessibility. What I okay. What I'm curious about is, we've already talked about this a little bit, but what is this kind of scale of accessibility that people are looking for? Right, because there are some locations where it's very accessible, let's say internationally, but not from a neighborhood scale, right, or some are more accessible at city scale, but they're not accessible at a national scale. So is there a certain range of accessibility that the port of Amsterdam kind of, is the selling point? Yeah, that's,

**James Hallworth** 32:22

that's my question. Well, yeah, I think the selling point of the port of Amsterdam is that you can do everything, you can go into the city, you know, right down to the smallest of canals in the city. Or you can bring a 500 meter long see the deep sea vessel into the port. So I mean, it COVID The only thing you can do is London aeroplane in the port, but that doesn't matter, because the Schiphol is only 515 kilometers away. So I think the USP of Amsterdam is that it's really is multimodal, you can just do anything. And if you wanted to, I mean, there are companies now in the port, which are going to be bringing goods into this into the city using electric bicycles. So you can use pretty much any modality, you know, from a skateboard to capesize vessel. Yeah, you can use anything in the port of Amsterdam. So yeah, yeah, I think we just we just cover all bases. Really?

**Tanya Tsui** 33:25

Yeah. Yeah, I think that's clear. That's clear. And do companies look for that, this, this flexibility in the skills are when they come in, they look for one scale?

**James Hallworth** 33:40

Yeah. Obviously, there are not many companies who transport things on a skateboard. And on a cape size vessel. Every company has its as its own sort of focus, or its own. modalities like terminals, which I used to work at a terminal and they would get c v c vessels, they would get short sea vessels coming in from Scandinavia. And they would get inland barges. And they will do a lot of trucking, and they will do rail, as well. So they were interested in a location where you had rail connection, close to the motorway, a key sign which could be used for inland vessels and deep enough for coasters. So they had sort of four modalities. And then another car terminal, for example. A grain terminal, they want to have a very big long key and indeed key because they get the largest vessels. But they're not really interested in taking an electric bicycle into the city because that's not a market they serve. So everybody has their own sort of list of requirements with regard to modalities. And then the the list of requirements with regard to modalities that sort of determines a your location and be the facilities on that location.

**Tanya Tsui** 35:01

Yeah, yeah,

**James Hallworth** 35:02

because if you have, if you don't serve the city of Amsterdam, vehicles, then it you don't need to be close to the city and you don't need to have parking space for our loading loading stations for electric vehicles. So every company is different. It's like, it's like having a hotel, you have small rooms, big rooms, simple rooms, luxury rooms, quiet rooms, rooms with a few rooms close to the restaurant rooms, your rooms high, high in the building low in the building, and everybody who comes to stay has a different requirements.

**Tanya Tsui** 35:38

Yeah, that's clear. That's clear.

**James Hallworth** 35:40

You try and cover all bases are you trying to try and you want to be able to accommodate everybody? As a port or as a hotel, you want to you want to open your doors and be able to get the clientele in?

**Tanya Tsui** 35:54

Yeah, yeah, that's clear. That's clear. Um, we've already covered this a bit. But is there a difference in importance of accessibility to the suppliers versus the customers? When it comes to circular building industry?

**James Hallworth** 36:20

Come? No, I don't I don't think so I think in the past, that was the in a linear world that was there was, well, there was a difference. But I think in a circular world, because you you're pushing materials and goods back and forth, then I think the, then it's more or less the same, because because it's circular system, you have to have the using the same sort of transport to move back and forth using returned logistics. So if you're bringing something to a customer, and you're also bringing something back from the customer, ideally, you use the same modality. But in a linear world, for example, if we look at a look at containers, you have these huge vessels with 20,000 containers on them. So they come in to the port, and then they go from the port through on inland barges to smaller terminals, and then they go on a truck to a company and then the company takes it to a DC and then from the DC, it goes in another truck to the supermarket, for example. And then from the supermarket goes in a little van to to the end customer. But nothing ever comes back from the end customer. So the terminal in the port, which receives the huge container vessel, they don't not need to have any infrastructure for small vans because they never see them. So it's anybody in a circular system. If you're if you're if you're bringing building material into the city of Amsterdam, then you want to use that same vessel, that small vessel to bring back waste flows. So if you follow what I'm saying

**Tanya Tsui** 37:59

Can't you imagine like a circular supply chain that's also very global with this huge barges? And yeah,

**James Hallworth** 38:09

sure, yeah, I can I can imagine. And I think when we move to, hopefully will move to a global circular system, and then you and then you have these economies of scale much in the same way as we have economies of scale in a linear linear system. But then much more efficient, I think, so that you lose using the using return logistics. And yeah, I think though, to be to be honest, I think that the the size of vessels will will become small and the frequent frequency of the vessels moving around will will increase. Why is that? Because Because Because you're pumped, you're pumping something around, you're pumping products around instead of just one way. So if you look at the current Yeah, the way we consume at the moment, there's a huge, huge amount of goods made in Asia and then brought with huge vessels here and then with smaller vessels and smaller modalities to the customer. But then it never goes back the other way. The only thing that goes back to Asia are empty containers. But in a circular system, if you have a circular system, which works you're you're you're moving goods around much faster things. Things are being reused. So they're being taken somewhere used and brought back in an efficient in an efficient way. So instead of waiting until you've got huge vessels, you're moving things more quickly, in a more efficient and sustainable manner.

**Tanya Tsui** 39:37

Yeah, I think you're getting at something I'm trying to understand it as well. Is it an issue of when thing it's it's more unpredictable your supply? Because you don't know when people are going to throw things away?

**James Hallworth** 39:53

I think no, I think it's the other way around. Actually I think I think you if you're sick your system is working Then you'll have goods which last longer. And so and so. And then so and I think that the goods will also stay in ownership of the producer. So you will be, you'll be using goods but not owning them. So then you will have the system whereby you know, when you have to send something back, because then it's reached the end of its usable life, and it needs to be refurbished. So then there, it's but what we have now in a linear system is we just, we were pumping huge amounts of single use material into a system. And then some people use it for a while, and some people use it for a long time. And some people use it just once. And then it's fluctuating constantly. And also, because of the time of the year around around Christmas, for example, you have huge waste flows, because people are consuming ridiculous amounts, and then, and then it drops off in January, and then it starts again, or something happens, you know, I mean, look what happened to supply chains during the COVID. Everything has completely gone to shit. So, so so so there's there's not any there's not any real predictability in the system. Calculus system, if you create a system, which is built on reuse, and thinking about instead of just consumption and sales, you're thinking about you having a system which is which is sustainable, then the way in which we use things and the way we which in which we return things for for for reuse or refurbishing. That has to be a lot, a lot more organized. So I think I think what you'll get is ever just a logistical system, which is a lot more stable. And a lot more efficient. Because the logistical system at the moment is just ridiculously inefficient. Containers, you have huge vessels coming from Asia full of goods and going back with nothing apart from an empty container. That's not efficient at all.

**Tanya Tsui** 42:04

Yeah. And your argument? I think you're getting at something like the local it will be also be more local. Yes, I

**James Hallworth** 42:13

think so. Skill. Yeah, I think local I think some things will be international, certainly within Europe, because you're quite small. So then automatically you go to what I think things will be a lot more more regional, local and regional.

**Tanya Tsui** 42:29

You say regional do you mean like the Netherlands or the Benelux area? Yeah.

**James Hallworth** 42:35

When I say regional I mean, like, Western Europe is regional. The US is a region. Yeah, yeah. I don't think in 25 years time, I don't think and I hope I hope we will be pumping huge volumes of of goods across the world like we are now because it's it's it's a silly system.

**Tanya Tsui** 43:00

Yeah, very cool. Very cool. I think that's all I have. Do you know anyone who could also participate in this interview? And when wouldn't make sense?

**James Hallworth** 43:19

Yeah, you could you could have a call with a guy called sweni Astra. And spending extra is the is the commercial manager of some logistics video. And that's a new Do you know Amsterdam logistics city hub?

**Tanya Tsui** 43:34

I've heard of it. It's a Yeah, so the website. So that's yesterday. So SW e n.

**James Hallworth** 43:47

Sven with V SVN. Yeah. And then yeah, ASTRA J O U S. T. R A.

**Tanya Tsui** 43:58

Yesterday, okay. Yeah. Clear? Okay, that would be helpful. Um, anyone else by any chance?

**James Hallworth** 44:07

You could also try let me think specifically building materials. Yeah. Yeah, you could try a guy called What's his name? Bart. Just let me I just have to look him up. Thanks

**James Hallworth** 44:40

Oh, yeah. But further Ryan is called and he works for pay carve out about which is the construction construction company and they do most of the things using water.

**Tanya Tsui** 44:54

Hmm, okay. Yeah, Bart Vai?

**James Hallworth** 44:58

Yeah. So that's Bart. b AR T and then for Ryan is V RWEIJE N.

**Tanya Tsui** 45:09

Okay. For VI. Okay. Nice. Thank you very much for the interview. And for your time. Is there anything else you'd like to discuss? You mentioned that this kind of location thing might be interesting. In what way that you know, can I help you or updated?

**James Hallworth** 45:32

I'm interested in the end result. I'm really interested to see what, what pops up. Do you know? Do you know about the initiative from Brussels from the architecture workroom in Brussels? They they've done a study a two year study looking at Circular port cities. So they've identified what circular port cities need to be to be able to become this this vital function for circular circular society.

**Tanya Tsui** 46:00

Okay, did you say open architecture route?

**James Hallworth** 46:04

No. Architecture work room

**Tanya Tsui** 46:06

work.

**James Hallworth** 46:08

If you Google circular city ports, then you will find the website and it's fantastic. I think you a huge amount of information. Which would be really interesting to you. Okay. Okay.

**Tanya Tsui** 46:24

Well, thanks for thanks for sharing. Yeah, no problem. Great. And thank you so much for your time.

**James Hallworth** 46:30

Okay. Yeah, have a good day.

**Tanya Tsui** 46:31

And you too. Thanks. Bye bye. All right. Bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_New Horizon\_Boaz Wasser

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**SUMMARY KEYWORDS**

materials, building, circular, hub, demolish, demolition, companies, concrete, moment, partners, trucks, big, locations, project, demand, storage, driven, transportation, product, dismantle

**SPEAKERS**

Boaz Wasser, Tanya Tsui

**Tanya Tsui** 00:03

Okay, so started recording. So, okay, so some first questions is I looked at the New Horizon website and I listened once or twice to like presentations by one of your founders, I think. But could you summarize? Oh, well, first, could you introduce yourself a bit and then summarize, like, the different operations of new horizon?

**Boaz Wasser** 00:34

Of course, I'm always watching, working at material, new rising material balance. So for like two and a half years now, I guess. And my main focus is on all the materials that we dismantle from the buildings and how we put them together in the circular building economy, with our partners from the urban mining collective, or just like one on one from New Horizon to a customer. But it is 100% business to business. So it's not a business to consumer. That's enough about me. And what I'm doing but for New Horizon Park, is that seven years ago, we started the company. And we started as a circular demolition company, but not to be like a normal demolition company, but to boost the circular building economy. So what we fundamentally do different than a traditional demolition company is that we dismantle in instead of that we demolish. So our slogan in Dutch is "we slopen niet we oogsten", the literal meaning is "we don't demolish we harvest". But in English, it's a little bit crazy to say we harvest buildings. But it is what we do. So we look at a building, and then we see all storage full of valuable materials, then we dismantle the whole building. And also we have a little bit traditional demolition thing. But that's yeah. Well, that's normal, because we don't, we can't reuse the 400% at the moment. But it's where we're working towards. And then with all those materials in the past, we became owner of a lot of materials, then we started the urban mining collective, within that urban mining collective, there are producers, distributors, knowledge partners, and a few other partners that accompany or supply the the other partners. And what would really different do is that we actually already were telling about chair clubs, but we would like to stay away from strip clubs. And that's why we have the Overmind collective because we shoot in the materials that they already have. So for, for example, with the concrete or bricks or gypsum, we dismantle it and we bring it to the partner; because they are the specialists, and they can give the guarantees of a new circular product. And we are not the specialist specialists of all those products. So if we, if you want to make this business case are like this business model work, you have to have all those partners. Also in the circular economy, you have to have more companies that are working together within a chain. So that's why we invented the urban mining collective - at the moment, there are 25 partners now. And well, that's like the whole little, you know, the whole business case, how we work. And in the end, what are efficient is that we would like to disrupt the demolition sector. Because at the moment, if you are, if you have like building, then you have to pay for a demolition party to to dimly demolish it. But we would like because we see so much value in the materials, we will we would like to earn so much of the sales of the new Schettler materials that we could buy the building, so that if you have a building that you don't have to pay us, but we pay you. So that's our vision, in the end, what's the end goal that we're we're heading towards?

**Tanya Tsui** 04:20

Very cool, very cool. And so do you guys have storage locations? Or do you immediately sell the materials from the demolition site?

**Boaz Wasser** 04:31

Our partners have the storage. So we have distributors that sell normal products, like Rexel, Steo, or Renza. And those three are all different, they include electrotechnical (products) for construction, and installations and air conditioners. So, but but they have storages so the materials that they sell are going on storage within those partners. But we mainly focus on two different groups. If you look at the 10-R model, you know that then the best way is to take it (the product) out, keep it as an element and put it in a new building as an element. But then you have transportation and also the storage costs. But for some materials, that is the best possible way. But the most Yeah. (We are) getting the most advantage when we're talking about the bulk (materials), so the concrete or the bricks, or gypsum, or bitumen, then we could shred it to... it's less sustainable, but you shred it to the raw materials, and you mix it up with with new primary materials. So if the secondary and primary, you make a new sugar product, so that's that's how we also work with the producers. So if we have concrete, we bring it to our concrete partner, they break it down to the raw materials, and they put it mix it up again and make new circular concrete. So you have storage. Yes, with the distributors, with the producers, we don't have storage, but they Yeah, they have a continuous flow on production. And they they break down to top raw materials and make the new products again.

**Tanya Tsui** 06:28

So basically, would you say that New Horizon, the operations is going to the Building Surveying it, and then immediately, all the materials from the building get distributed to your partners, there's no in between where you're, there's a new horizon storage, and then it goes somewhere else, it just directly goes from site.

**Boaz Wasser** 06:48

And that's that. And the reason we chose that business case is that if we work with a hub or storage on our own, then we would have a lot of costs. And unnecessarily because we also don't really believe in circular hubs. Because if you have a circular hub, then you could have materials laying there for maybe three years and nobody wants them. But if you distribute it, distribute them to the partners that are the specialists that give the new guarantees and they say here you have like a US product, but we sell it as a new one. And you have the same guarantees for like three to five years or maybe longer then the market is more willing to pay for their product or buy the product. Then you have like a storage like schedler hub and say okay, we can give the guarantee and here you have a product. So that's why we fundamentally think different about it. But I also believe in circular hubs but not within our business case. If you have circular hubs, that work with like the big five with Dura Vermeer, Bam, Heijmans, those big companies because they have more projects. They have project x where they are dismantling stuff, and they are project y where they want to use those materials, but you never have the right timing from dismantling and building. So then you could have a circular hub, and then you already know where you're going to use your stuff. So that's a big advantage for the bigger companies that have more projects of their own. And I'll see the advantages of a circular hub for them.

**Tanya Tsui** 08:33

Yeah, I've hear I heard this. Yeah. leaner way of of, of operating from a few of the demolition companies I've talked to. I mean, like, if I was a demolition company, I would do that too. Like it makes a lot of sense. Like, yeah, because there's already storage and there's really expertise, there's no need to do your own extra step. Um, so with the with the partners, you mentioned that there are 25 of them. Do what's the typical distance that you travel? Do you do find local partners for each site? Or is it the same partners wherever you are in the Netherlands and then the the place you transport to is the same?

**Boaz Wasser** 09:27

Understand? You have two ways for it. One is for the demolitions partners, because until this year, we didn't have our materials or we didn't demolish or dismantle the buildings ourselves. We were the, the we're like subcon contractors that work in the way that we want. So we are like, like a more like a, how do you call it? Really Sure. I'll just call it like a project leader, like some sort of that, that we have more project leaders. And then we have subcontractors that work in a way that we that we want. So we we teach them how to dismantle a building instead of demolish it. And then we have, indeed, in different positions in Holland, we have different subcontractors that work in our way. At the moment, we are buying some new cranes and doing some bigger works for ourself. Because that's, we, because of the market that at the moment, we are seeing that it's for us, it's more profitable to have some projects that we could do on our own. But in so if you're talking on the demolishing side, we have more subcontractors, if you connect it to the delivering to the partners in the herbal mining collective. So that's a whole different set of partners that are selling the products, we chose bigger companies. So for example, the Gyps goes to canal canal fish, an internationally known producer of the Gyps. So they have more locations, also within Holland. So they have more locations, and it's easier that you have like a bigger company that could distribute and produce or have more locations within the country, because otherwise you'd have to be limited to one location. For example, also for the concrete, we have one plant in Zaandam, and we are limited to like 50 kilometers within Zhan from Zaandam that we could deliver our concrete, but also we are limited to like maybe 50 or 70 kilometers from where we have to deliver the old concrete. Because otherwise, it's not profitable. Or, even worse, it's the sheer to you, you're gonna not get the shoe reduction that you want.

**Tanya Tsui** 12:00

And is this okay? So for concrete, it's for both, it's 50 to 70 kilometers? Or is it is there a difference between the supply and the demand?

**Boaz Wasser** 12:11

The, so if you're, if we have to sell it, so we are, then then we're limited to 50? If we can, can, we, if we're bringing it to the show the or concrete, we just wanted to Chandon, it could be a little bit further away, because, because that's only the transportation, but if we deliver it for a project that they have to build, that's also because it's a chemical reaction that's happening, then you have limitation of like one hour drive, and one hour drive within a mixture is like 50 kilometers. Because of the quality of the product.

**Tanya Tsui** 12:44

Okay, I see. And what about for other materials that you guys or products that you guys are working with? What are the approximate distances?

**Boaz Wasser** 12:55

Well, it depends, because if you keep it as an element, so for example, let's say, a toilet, we keep it... of course we clean it, but besides that, we take the toilet out, and our partner with that is Renza, and they're also a big distributor of in Holland. So they have a lot of transportation going on. So what we do is that we contact them, we tell them when and where they could pick up like a whole pallet or more pallets of of toilets or other materials. And they pick them up with their How do you call it return logistics? Or when they when they deliver new stuff somewhere else? They have an empty cargo coming back to there. So then they schedule it in and they pick it up. So sometimes it's a little bit further away. Sometimes it's closer we don't have Yeah, because of the CO2 reduction that you're realizing because of having a whole element instead of having a new production process, it's okay to drive a little bit further because then the transportation emissions are not that high in comparison with heavy materials like concrete or bricks.

**Tanya Tsui** 14:19

So for you guys the decision is environmental emissions. Yep. Okay, and that depends on Yeah, how far it travels, but also how heavy Yep. Or is it? How much volume?

**Boaz Wasser** 14:36

It depends again, on the product, because if you have a whole truckload of old concrete, then you have a much more powerful fuel that has a lot more emissions than you have like a normal truck where that's empty that you put a few toilets in. So it depends on the product, but mainly we focus on co2 emissions, that we don't want to drive a long way. Because like financially, if we have a break even point, it's also fine for us. Because the bigger thought is the environment.

**Tanya Tsui** 15:17

Okay. Okay, so the priority is optimizing between the emissions versus the Yeah, whether you you get a partner basically. Okay. Okay. Clear clear. Let me just take a look. Um, so do you guys have your own concrete processing plant? Or is that also with a partner?

**Boaz Wasser** 15:47

Well, it is with a partner. But we also call it I call it our own. So I'll have to explain a little bit, because all the other materials that we sell, are with partners and are their products. But concrete is the only one that we also sell directly from New Horizon. But the plant is from The Rutter Group. But why we have this construction is because we have a machine that's a smart liberator, that's the name of the machine. And it's the first in the world that could dismantle old concrete into the original raw materials. So not only granulate, but really like the gravel, the sand, the cement, and all the binding materials. And because of that, we are also we can also reuse, like, the cement again. And that innovation, that machine that was invented by coach Frank, it's a Dutch guy, who invented the machine and wanted to put it in the market went to traditional companies, and they put in like old concrete, and they say, Oh, the machine stopped working. It's not a good innovation. Let's stop it. So we almost went bankrupt. And then the CEO of neurosurgeon Misha Bosch, came into it. And he said, Well, we have to make this work. Because at the moment, and that was deficient, then already, we can reduce like 60, minimum of 63% in comparison with normal concrete, per cubic meter. So it's a huge reduction. And that was the main vision. So that's why the hood scoop and New Horizon together, but the smart Liberator and the whole concept. So that's why and because of in Holland, we that's the most most used building material is concrete. And that's why we're putting so much effort in in this and it's all accompanied innovation.

**Tanya Tsui** 17:49

Okay, I see I see. Um, so, for the let me let me just look through the questions do.

**Tanya Tsui** 18:13

So for the transportation, what is the main type of transportation that road or water rail

**Boaz Wasser** 18:21

for all the materials or only concrete? All the materials. Well, unfortunately, most are with trucks. But where we can do it, we do it by boat because our boats are electric. And we don't have electric trucks at the moment. For the raw new materials for the concrete, they come by boat, but that's a normal boat. But if we deliver our concrete somewhere, if we could reach it by boat, we do it with electric. And also the same with other materials. If we have a project that's that's near the water, then we could dismantle a building and do with electrical boats. But at the moment, the most I think, if I have to be honest, 90% goes with with trucks, I guess 10% with boats.

**Tanya Tsui** 19:20

And I guess that's because most of the sites are not next to the water. So it doesn't make sense to extract you knock it to the water and then do the water and then truck back. Yeah, that's fair. Um, is there a limitation to the water? Is it only for transporting concrete or is it for other materials and products?

**Boaz Wasser** 19:44

Well, because of the logistics, and I think financial costs almost every partner does with the truck. But at the moment, I see a lot of partners are looking into not electrical trucks because they have that I think you already know because like electro, the electrical devices can't handle that much cargo at the moment. But they're looking into how do you call it in English about the stuff? trucks that run on water? Water.

**Tanya Tsui** 20:16

What are the logistics? Water? Yeah, not water

**Boaz Wasser** 20:19

oxide but water.

**Tanya Tsui** 20:22

Water they call it. Oh, hydrogen.

**Boaz Wasser** 20:25

Hydrogen. Sorry. Yeah, hydrogen. Yeah. Endogenous modern stuff. Water, some like that. Hydrogen. Yeah. So we were looking into it. And we already bought one, like maybe a year ago, but it's still in production because of everything that's going on in, in the world. But I think maybe that has a future where you have trucks on hydrogen.

**Tanya Tsui** 20:47

Okay, okay. But with the so far the water transport that you guys are using now, is it just for transporting concrete or other products as well? Because I asked some other interviewees and some of them say, it only makes sense to transport bulk materials with water because it's only profitable, financially possible. Is that the case with you guys as well? It depends,

**Boaz Wasser** 21:17

because, what you're saying is correct. But if you have, like, unique project that we're having, at the moment, can talk much about it, but it's pomps Island, I don't know if you know, it, it's in it's an evil little island. And, and we are transporting concrete there, but also a lot of building materials, because it's a little island. And then it was better to combine all the all the building materials in one place, and transport it one time with, with with water transport or by boat, then doing it on in different way. So yes, if you have the more the bulk materials, that's more profitable, and also better for the environment to go by water. But if you have like the toilet or maybe other stuff like wood, it's more profitable to do by truck. Because of the distances and yeah, I think maybe like the transportation costs of boat are, are higher if you use elements, I guess. For bulk it's very easy.

**Tanya Tsui** 22:30

Yeah, yeah. Okay. Okay. Um, I wanted to ask a question, but I forgot. Just give me Oh, yeah. Um, do you see in the future New Horizon going towards hydrogen trucks or water transport? Which direction do you think you will you guys will take in the future?

**Boaz Wasser** 22:54

I think a bit of both depends really on the partner that we're working with. So we're with a concrete we're already using water transport. But there I was telling you like maybe 80 to 90% of the of all the transportation goes by truck. So we have to have to find a different way because at the moment, we are using diesel, but we have like a comparison model that you comparison now. Recall it that that you the diesel that we buy, that they have like co2 projects, different other locations, that they reduce co2,

**Tanya Tsui** 23:44

so they plan like carbon compensation

**Boaz Wasser** 23:47

compensation, let's look for that word. Sorry. So the carbon compensation that's what they are doing at the moment for digital that we are using, but I were not a fan and I don't like the compensation projects because it's always like, maybe we're in us is the same if you if you buy a plane ticket for like 200 euros in the show, if you if you do the extra 50 cents and you have comparison yet. It's not true. So but that's the best that we could do at the moment, but I think that hydrogen would have the future.

**Tanya Tsui** 24:20

So you would say would you say that the 80% of concrete that's being transported by truck now by diesel truck now, it will become hydrogen truck. I think like part of it also goes to water it will make the trip will stay with the truck and the water stays with water.

**Boaz Wasser** 24:40

I think it will because Because also in the future. It's not that that like some cities are next to water.

**Tanya Tsui** 24:49

Yeah, well, you never know.

**Boaz Wasser** 24:52

You'll never know you never know. So so that's why we have to look into that that kind of solution but if you take it away from only the logistics are our whole plant. There are like 25,000 solar panels on top of it. So the whole plant is already self sufficient. And we already have all the other machines at our plant are all electric, except for some of the bigger ones that that need a little bit extra power. So they have a little bit dish or that kind of stuff. But most of the most of the big machines that don't like every machine that doesn't drive is powered by electricity that we are self sufficient and on top of the

**Tanya Tsui** 25:38

roof. That's really cool. Yeah, very, very cool. Nice. Nice. Um, let's see. Let me see. Let me see. Ah, what kind of projects do you guys mainly work for, like in terms of demolition is? Yeah, I wonder if you could give me sort of a rough percentage of like, how much of is it in offices or housing or something like that, I

**Boaz Wasser** 26:16

think the main focus for demolition is housing. Because those have the most valuable materials for us, like the bricks and the concrete, because we are mainly focused on the bulk materials, because those have the biggest CO2 reduction I was telling you about. Because when we do like, also offices, also goods offices and housing, but if we do for example a big production hall, then there's more steel in it, and we don't do anything with steel other than normal recycling. And also, there's no high valuable materials in it for us with our partners. So I think if you have to roughly say, I think maybe like 50% housing, 30% offices, and the other 20% is a mix of production halls, but also like health care. At the moment, it's (healthcare)our biggest project of the year. So that's different from the percentages just started. And it's the old hospital of Breda. It's like 60,000 square meters. So it has and also because of health care, all the buildings are regularly checked, everything has to be in top quality condition. So all the materials that are in the building are also top quality condition for for us to reuse again. So that's why we would also like to do more health care. But in the end, there are not a lot of hospitals or that kind of stuff that has to be demolished every year. So yeah, but that's that's one of the biggest projects we're doing this year.

**Tanya Tsui** 28:02

And when you say housing, do you mean? Like row houses or apartment buildings? Like what is the client? Is it? Uh? Oh, okay.

**Boaz Wasser** 28:13

I'll understand. Yeah, like, like, our clients are mainly housing corporations, but also investors, and developers. Because those three are also like the owners of all the buildings. And that's why we want to be on around the table with them, instead of the constructor. Because the constructor is lower within the heirarchy. do you call it?

**Tanya Tsui** 28:48

Like hierarchy?

**Boaz Wasser** 28:50

Yeah, like the hierarchy, they are lower in hierarchy. And they have like a, a limited budget that they could spend on different materials and that kind of stuff. So we're higher up in the hierarchy. And you have like the investor or the housing company, or corporation or the developer, then they are willing to pay a little bit extra, because some of the materials at the moment are still a little bit more expensive. But those are our three main type of clients.

**Tanya Tsui** 29:22

So it's is it the process? Is it something like let's say I'm a developer, I pick a site and there happens to be like five buildings on this site that I need to demolish, then I contact you to demolish it. I mean, deconstruct it.

**Boaz Wasser** 29:44

Yeah, it's fine. You might also find

**Tanya Tsui** 29:48

something like that.

**Boaz Wasser** 29:49

Yeah. And then and then they because they, that's the ideal vision, because then you have buildings that have to be demolished. Then we could dismantle the smart demolish them what you want to call it, then we can reuse those materials again at the same place because they have to build new houses or other stuff.

**Tanya Tsui** 30:08

Hmm. So that's ideally what you're looking for a round

**Boaz Wasser** 30:13

circle again.

**Tanya Tsui** 30:14

Yep. Yeah, yeah. And how do you pick the clients? I can imagine it kind of makes sense to have like one client with an enormous building, like the hospital, you talked about. Is there like a preference for that kind of client?

**Boaz Wasser** 30:38

We don't work with really small companies, because we reuse in bulk. And we also have partners that are really big. So sometimes we have to have a lot of volume instead of only little projects. So if there's a small construction company that has one house that they want to demolish, that that's too small for us. So, at the minimum of five houses, but also like apartment complexes, and that kind of stuff that's interesting for us. So in the seven years, we developed our construction company, as the top 5% of Holland. And that's the and how we we developed into to such a high volume of demolishing or dismantling buildings, is because of that we work with the subcontractors. So for us, no, no project is too big. If you understand what I'm saying.

**Tanya Tsui** 31:38

Yeah, yeah. So actually, when you guys started off, you were really the the middleman and then you didn't actually do the demolishing it was you. For each project, you just you gathered a group of partners around, and then they did

**Boaz Wasser** 31:55

we have one, one project leader at that site, coordinates everything. Okay. So then we have, so also, at the moment, some of those subcontractors are applying this, this way of thinking in this way of doing their work on their own works. And that's, that's also something that we really love is that, to come from the traditional economy to the circular economy, you have to work together and share a lot of knowledge. So we had the knowledge and, and then now the subcontractors also are applying that knowledge of dismantling buildings on their own project. So that's, that's how we are expanding the, the way of thinking or the way of working towards the circular economy. So that's, that's also kind of cool.

**Tanya Tsui** 32:47

Yeah, super cool. Yeah, that's really, really nice. And it's really impressive that you guys grew so quickly, and, you know, can really do it at a huge scale. So that's really cool. Let me see. Doo doo doo doo. I think that I'm pretty much covered most stuff

**Tanya Tsui** 33:19

maybe a more vague question. Like, are you familiar with with GIS and spatial analysis and stuff like that? A little bit. Okay. So, from your perspective, if you could invent any tool or like, create any kind of mapping or spatial analysis, what kind of thing would you want, or need as a as a company?

**Boaz Wasser** 33:57

Specific on, like locations or kind of stuff or for, for for demolition, or for building

**Tanya Tsui** 34:05

for anything, as long as it's to do with like, mapping and locations. Like if I said, like, I can make a map of anything map of the most accessible locations and wetlands or, I know,

**Boaz Wasser** 34:18

I know, a very thing that we're looking into that will be the, that will be the future that we're working on on our shelves, but it's really something that we need and also not only that we need but everybody needs is to know where and when will there will be buildings that are going to be demolished, and where and when are their buildings going to be built. So that you could connect the dots and because the moment we are building an urban mining database, because when you order a product, at new horizon, it's not like the normal traditional way where you order it today and get the next day delivered, we have to look into it. So we have like an expected volume. So we have to look into our project for the upcoming year, and know what's in those buildings. So we have to do surveys, we have to do taxation models. So we gather a lot of data, and putting it into a model that we're building on our own at the moment. So that we know, in the future, like in 20 years, there, like the whole region, not only one building, but like maybe a whole village is going or the half of the village or a small part of it is going to be demolished. But like maybe 10 or 20 kilometers away from that they're going to build a new village or a few buildings that we could apply all those materials to. So that's something that would be really valuable in the future. So not only that, it also connects the circular hub with your research, because in the end, if you have the expected volume of when something has to be demolished and built, then you could also use a circular hub at a different place or a mobile circular hub that could already be used for other projects. And I think that that would be really, really valuable.

**Tanya Tsui** 36:26

So for you guys, that tool or that map, or that model is useful, because then it allows you to pick clients easier. Is that the case? So like, you can apply and comes to you? And they say, Yeah, we want you to work for us. You can look at your map and say, Ah, you No,

**Boaz Wasser** 36:48

no, no, no, it's I mean it for the more sustainable way. So at the moment, for example, I'm not this is not the correct numbers I'm going to mention. But for example, we have a building at the moment that we can demolish or dismantle. And we have like, maybe 40%, we could reuse. If we know already, where we could use those materials, then maybe it goes to 80%, maybe we could double it, because of the fact that we know in which place, which company needs those products. So because of it now at the moment, everybody's like, Oh, we want to be sustainable. But when it costs a little bit more or, or they also have like different kinds of models, or they have the same supplier every time today. So there are a lot of hiccups in the future. Everybody has to use secondary materials. So the vision has to be, "where are those materials?" instead of having them (demolition materials) only come to us. So we have to have a broader vision of where the materials are that we could already connect them to different partners or different companies. Maybe it should be like an open database. You also have like Mudassar, you know, Modasa maybe, yeah, we're not like a big fan of Mudassar because of the high costs of Modasa. And, and also, I think there should be an independent company or maybe government driven, that developed something like this, that would be information, not only for us, but for everybody. So everybody knows where those materials are coming from, so you make it transparent. But that would be a really variable map that we are also building on our own, but we can only do it on our own. So we need other companies to also or deliver data or a company that would build something like this.

**Tanya Tsui** 38:52

Is it is it about predicting the future? Locations? Yeah, yeah. So the the reason

**Boaz Wasser** 39:01

Oh, sorry, my this someone calling? Yeah, I'm sorry Yep, fix it.

**Tanya Tsui** 39:27

Okay. Um, so the I'm still trying to understand like the, how the tool will help you guys. So like I understand like the, let's say the matching elements like oh, if we knew where things will be built and not will be built and demolished then it's easier to match. Is that the main?

**Boaz Wasser** 39:53

Yeah, it's easier to match. But also if you would connect it to your circular hubs because I don't believe in a supply driven hub. So, for example, people are putting in circular hubs at the moment, demolition companies are putting in materials, but they lay there for maybe three years, and they're going to be thrown away, because there's no demand. So if you have this model where you know where the buildings are going to be built, you could apply a demand driven circular hub. So you know already what kind what of buildings are they're going to build, then you know, and within the data, you could mention that they will need like 10% concrete 30% woord, for example, then then they could already put in like orders, like demand orders within the circular hub, then other companies, the bigger or also smaller regional demolition companies could put in their effort to supply that check, Rob, and the developers or the construction companies or the Housing Corporation, they could use, and they could say, Okay, I want to make some sort of reservation on those materials, because I know that I need them next year, and then you could work like a circular business model within different companies. And everybody benefits from it's also the smaller demolition companies, the bigger demolition companies, but also the, the smaller and bigger construction companies that have to build new buildings. And this map would give so much insights, that if you have all those, those, all that information about those different locations, that you could combine them, and then you could apply the circular hub. And if that would be like a different like an independent company, that will be the best because if that person or that company would not be independent, then it will be like a short Monopoly with with the data that they have. And that will not be good.

**Tanya Tsui** 42:03

I mean, yeah, yeah. Okay. I mean, I think something that might be interesting to share is, like, I'm working with the PBL. So planning bureau for life on craving. They made a map like that. So they use like simulation to sort of predict the future supply and demand. And so that's also why I asked this question. So like, for me, for sure the circular hubs will be determined by the by the, this two maps created by the pay bail.

**Boaz Wasser** 42:44

They already have it. Yeah. Because I've seen some of them not from the ABL, but from other companies. They were all like, one sided. So do you have the name of it? Or maybe you could send it because I wouldn't be very interesting to look

**Tanya Tsui** 43:02

into it. Yeah, I will, I will send you so they just published it, like a few months ago. And yeah, they work with the University of Leiden to make it. And, yeah, because that the cool thing about it is, indeed, all the maps are always one sided. So you know, where things will be demolished. But of course, you don't know where things will be constructed? That's way harder to predict. Yeah. They just predict based on like scenarios, so like how the Netherlands will develop in the future, whether it's like, the existing cities will densify or it will sprawl or spread. So there's three different scenarios. And then based on that, and then based on like, I don't know, like the different location because conditions like whether it's suitable for housing or office, they sort of make a simulation to predict kind of where the where the buildings are going to be built. So yeah, that is that is quite cool. So I can I can share that with you.

**Boaz Wasser** 44:15

Very nice.

**Tanya Tsui** 44:15

Yeah, I can share the report with you. So yeah, so So for you guys as as a as a consumer demolition company, you guys would be interested for the for the matching element, and then also the demand to kind of know where the demand is in the future. Yeah. Okay. Okay. That's clear.

**Boaz Wasser** 44:44

Yeah, that will be a very good insight or not, but I was telling you, not only for us, but it is valuable for us because we are, I think, not to brag but one of the biggest at the moment for the circular building materials, but in the future We also encourage other demolition companies to be like us and to, to change the whole way of thinking. And then everybody should should benefit from it. But not only the demolition companies, but also the construction companies, because everybody could find each other in a in a good way and knows where the materials come from the transparency about it, so I think it will benefit for everybody.

**Tanya Tsui** 45:25

Okay, nice. Nice. This clear? Well, thanks. Thanks for your time. Do you have do you have any other things you'd like to mention? There's something I didn't cover that you were

**Boaz Wasser** 45:36

the only thing that I was also telling related to this to this plan. But like, but you're ready, because you're researching everything. So I think you already know it. There are also companies at the moment that already have demand driven circular hubs. So to stick with the circular hubs for your research, just a tip from me is to look into the demand driven. Because that would add, we think, on the island, we would think that would be a much better way. Because you don't have a lot of waste. Because I was, for example, two weeks ago, I had a session with little construction companies that were telling me, "yeah, I have like 20 doors, where do I put them as some sort of marketplace?" I was telling them you maybe work together with two or three other little constructors, and you should buy a little storage. Then you know, from each other, which materials you demolish, and which materials you can reuse, again. Because you have some sort of demand driven circular hub with four or five small companies. And he was looking into it, he was like, Oh, damn, that will be a very great idea. So now he's looking into other companies to set up a little storage together. But that's a small example. But you also have a bigger construction company. Not a really big one, but a medium sized construction company, the Nijs en Zonen. So D and i j s, Dinesh, and then endzone and so and and

**Tanya Tsui** 47:30

link ally for quote, Amsterdam, is that yeah,

**Boaz Wasser** 47:33

okay. And he was telling me that they already have a strong cross selling hub, like a demand driven one, that they have with all their suppliers. So they have traditional suppliers, that's fine, but the traditional suppliers they have, but they have like maybe five different projects at the moment going on in Amsterdam, but instead of that, they let every because because sometimes logistics are very hard. And then you have like 20 or 30 or 40 different suppliers that have to come to the construction site and all those movements. But they say "okay, we have a demand driven (hub), so everybody has their project, they put in all their demands at the demand hub, and then all the suppliers just deliver to the hub.” So, you have only just one location you have to go to it's very easy to locate very easy to get to go there, sorry for my English, but to reach to the hub and then they have like their own on logistics from there. So, they have like a compounded delivery. So, also the benefit of that is that the trucks are fully loaded and not half empty. So, that kind of stuff has already been applied at the moment. So they have less transportation costs, but also less emissions - they reduce 50% of their CO2 emissions on transport only. So, only because of that demand driven hope that they have. So maybe that would work in the future also for circular hubs.

**Tanya Tsui** 49:12

So, when you say demand driven, you do mean? So, do you mean sort of the people who start hubs and start storage sites should be the people who are demanding the materials, the secondary materials,

**Boaz Wasser** 49:29

The hub should be like a sort of middleman, it stays like a middleman. But normally if it's supply driven then you have the demolition companies that they store a lot of materials and then sometimes somebody walks through the storage or the shape of the hub and says okay, I want this material that material, but not Yeah, so, but if you could say the construction company say I have a project and I want this material, this material, this material, they put in that request at the circular hub Shahab could say to the demolition companies, I need 20 doors of this kind of type, I need this, I need this. And then the demolition companies could say, oh, so if you then not only us, but you have like five or six or maybe 10 Different demolition companies, then there surely will be one that has that demand that they're needing

**Tanya Tsui** 50:20

to be a middleman like the government or some other middlemen neither the Yeah, yeah.

**Boaz Wasser** 50:28

Or maybe it should be not only an independent one, this kind of hub could also be not an independent one. Because yeah, if you make a little bit percentage (profit), maybe one or two percentage of everything you sell, it's also fine. But then you have the, you have this circular thought about it, and then all the companies will also benefit from it. Because they could use secondary materials, and the demolishing companies don't have to waste a lot of materials.

**Tanya Tsui** 51:06

Okay, I'm really glad you you emphasize on that, because that's quite helpful, because I'm trying to locate the circular hubs based on the supply and demand of materials. But then you're talking about this sort of demand driven? Yeah, yeah, it's, yeah, I will think about that more, kind of how that will translate to the GIS stuff that I do. Yeah, it could be, yeah, it could be that it's closer to the demand, or it's more, the location, cares more about the demand and the supply. Something like,

**Boaz Wasser** 51:47

for example, take Amsterdam, we have last year, we had new regulations that we can get in some types of streets in Amsterdam, because, you know, Amsterdam is built on water. And the underlayment is very soft. So if you have heavy trucks, then sometimes it just dissolves the under layer of the ground. So it's hard to reach some particular parts of Amsterdam with different kinds of transport. So if you maybe have like one circular hub, a little bit outside of Amsterdam, or a little bit outside of Rotterdam, or outside of big city, and you make it a demand driven process, then the demolition that's going on in the city could go only the distance a little bit out of the city. And there are other construction companies could could deliver it, they could they could put in their order at that hub, and it can be delivered back into the city. And it's only a short transportation distance. I think that would also maybe maybe help if you have a big one within just in a quiet short range without within a big city. Because that would also help because otherwise you have a lot of transplantation going on inside big cities. And at the moment, we are just are we but like the government is using everything they they have the power to, to get cars out of the city. So you also have to think about that in the future, that cities will be like careless, and also no no trucks and that kind of stuff. How are you going to apply that into this kind of business models? I think then a circular hub would really be helpful instead of 20 or 30 transportations per building project.

**Tanya Tsui** 53:41

Yeah, yeah. Okay, this is really helpful. Nice. Thanks a lot.

**Boaz Wasser** 53:48

I have one more question for you. If you're, if you're done with your research, could you send your report maybe?

**Tanya Tsui** 53:55

Yeah, for sure. For sure, I will, I will update you. So two things will come out of this. One is it's more like I'm summarizing everything with the interviews, so no data stuff. And then the second one is applying all this, that I learned from the interviews into some kind of data science thing resulting in like three or four maps showing these are the suitable locations for circular hubs. So I will share both of them them with you. Okay, and also the PBL thing. Oh, yeah. Yeah. Thank

**Boaz Wasser** 54:26

you. Thank you very much.

**Tanya Tsui** 54:28

All right. Thank you very much for your time, and I'll keep you updated. Thank you. Cool, cool. Bye. Bye Bye, YouTube.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_material bank leuven\_Sam Van den Berghe

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**SUMMARY KEYWORDS**

location, material, big, city, wood, building, people, waterways, square meters, located, waste, building materials, circular, buys, atelier, companies, work, circular economy, easy, requirements

**SPEAKERS**

Tanya Tsui, Sam van den Berghe

**Tanya Tsui** 00:00

Go work at.

**Sam van den Berghe** 00:05

So people can come work at or actually at a very low budget. It's most of them are starting independence or people are doing DIY their own kitchen or furniture and something to make guitars, things like that. So also the main focus there is wood. We also have steel workshop for welding, cutting and things like that. We also have a space for electronics. So solving the 3d printer as well, that people can use three times in a week during the day. So mostly focused on independence. And then we also do projects and recreation material with the material from the material bank, for other nonprofit organizations, just regular people and government. And then we also do the material Bank, which we sell exploration materials with the focus on woods, but we also do (building) insulation. Sometimes, radiators and things like that, it really depends on what we find. Because we have a wood workshop, we focus on wood, it's more easy to read handle. And also, because of the weather, we can get rid of it. We can use it in our own projects, to things like that. It's not too heavy as well. And also, for regulation purposes, wood is very easy. Because there are very little restrictions on it. Concerning Belgian law surrounding

**Tanya Tsui** 01:47

waste. Yeah, so do you. How do you collect these materials? Do do contractors contact you? Or do you guys go out and

**Sam van den Berghe** 02:01

well, we started out at a roundtable meeting together with the city and a few other nonprofit organizations to see how we could start a material banking loom. And from that, we already got a few contacts. So we got spirit, which is a secondhand store. So from them, we mostly get bed planks. So like all beds that were made of full oak, or beech. And those are something we get in regularly also dams, table tops, things like that. Everything that's food that comes from an old furniture comes to us. From ecowerf, which is the waste management for the city of Leuven, it's an afval intercomminar (?) it's called in, in Dutch, not sure if it's also just in hold the same way, but it's a mix of government. profit. So it's like, in between. We also bought material from there, but that's like a very low influence. Most materials we get we get from or the city itself. So the waste products has come from the city from their building operations or from their cleaning out our old warehouses and things like that. Or they come from just regular people, we have online form people can fill in and they can bring it to us or we go pick it up. Also University in Leuven is one of our main thing and the cultural houses, like the Museum, the arts platforms was based also come to us, we find it more easy to work with regular people and like the local government and the art houses because they also have the idea of circularity and to be environmentally friendly, it's also within their own goals and on their own narratives with building constructors, we find it more difficult because for them, it's always about the profit. And we are not big enough to provide a service in which for them, it's economically viable to work with us. We now try to work together with imic, for instance, which is one of the bigger companies in Florida, actually, they make semiconductor chips and things like that. They also have a lot of waste streams, also with waste streams actually. But if it's way more difficult to get things done, because there are costs involved with circular economy and this should not be expected that we as a nonprofit organization, carry all the costs and sometimes difficult to bring this across. There is understanding of course because they understand what costs and things are as a company, but does not mean that they are themselves willing to do it. It's a slow process we try to do to work on step by step.

**Tanya Tsui** 05:02

Yeah. Okay. Yeah. And what is your role? Actually,

**Sam van den Berghe** 05:09

my role is I'm the project coordinator. So I started up the nonprofit organization together with a friend. Okay. I'm just rolled, started as a volunteer. And I rolled into this actually an hour. My main focus, the material bank, and the booking, bookkeeping and things like that. Fund funds, fundings, funding, fundings and things like that.

**Tanya Tsui** 05:35

Yeah. Okay. Very, very cool. Okay, I think we can go into the interview now. So maybe I can introduce my own research a little bit. So for some context. So I'm actually a PhD in the Faculty of Architecture in TU Delft in urbanism. So what we're trying to understand is, we do research on the circular economy, but from the urbanism city perspective. So what we're trying to ask is, we noticed that there are lots of policy documents and strategic documents from the Dutch government talking about circular hubs. So these are locations where there will be lots of circular companies, and there's some kind of, you know, collaboration, and it's an ideal location for circular. But then we noticed that there's not a lot of understanding with the location. So there's a lot of understanding with the networks and how to collaborate, but we don't know where they should be. And what's the criteria for these locations? what do what do places like material bank logon care about when picking a location, because the assumption is, if we know what you guys care about, then we can use different analysis methods to pick locations that would be ideal for for companies like you. So you know, these kinds of methods are used by, you know, Amazon to pick like the perfect location for their warehouse or Starbucks or Lidl to pick their perfect location. So we can use the same kind of logic for circular material banks or companies like that. So the idea of this research is, I've been interviewing people like you to understand what you care about in terms of location. And the goal at the end, is to have a map, unfortunately, for now of the Netherlands, but maybe it can expand to Belgium, you never know. Yeah, showing the ideal, you know, locations for circular hubs and probably different kinds, because there are some that are, you know, you more small scale, not for profit, not for profit, and there's bigger, like for profit ones. So that's the context of the interview. And so the interview will mainly come in, in three parts. So firstly, I'll just ask some questions about the operations, like the size of the facility, and how much material you deal with, we already covered that a little bit. And then I will ask you, just what you care about with the locations. And then the third part will be diving in much deeper with the requirements. So if it's possible to, to know, you know, very specific requirements, like, what do you care about in terms of land use or transportation and things like that? So basically, that's the interview. I think we can get it done in half an hour. Yeah, we'll see. And, yeah, so let's, let's start. Let's start with the operations. So how many facilities do you guys have?

**Sam van den Berghe** 09:05

For the moment, we've got three facilities. So one facility is our atelier, where we have the machine Park. So we have a professional wood work space. And it's located at the station of Leuven, so very accessible for people, especially private individuals. It's an old building from the land so it's like antique rack in a bit. It's provided by the city. The it's not ideal, the current location, because we are located behind the skate park. So every time we have to load and dock and undock we have to like tear apart the skatepark a bit and have to go through the skaters to get to Our Place. Another space we have is for a social economy we work together with, we do this dismantling of boxes. They're called this old foods crates, and they're made of full oak, and we dismantle them with the social economy. We are trying to set up multiple other things the social economy can assist with. It's like the nail, pulling out nails of blanks and things like that. And that's located a bit further at the waterways. In fact, it's called in, again, an old building provided by the city, it's in the Seelos, it's, again, not an ideal place, not ideal to load and unload, is located just outside of the ring. So just outside of the city center, actually, it's actually just inside of the ring. It's a temporary building this one, we will have it until December. The first one is also a temporary building, by the way, but we don't know when we have to get out, we have a year contract, and they're trying to some parts of the city wants us out. But they cannot put us out just so it's also there. Then our third location is a bit further from the center, I think 10 minutes, bicycle rides from the center. It's also not an ideal location. It's way it's located behind the zone actually, sort of different - there's a gym, there are some hippies living in a tree house there and post apocalyptic sphere that's hanging about place very old. We don't have heating, we don't have toilets anymore, because it took away our toilets. But it's like 300 square meters, this place, that's where the material bank is located. So warehouse, where we store the building materials. So to be short, we got three spaces. In total, I think that 1200 square meters. But the the way, it's because it's in three different locations. And the nature of these locations make it very difficult to operate. Because lack of heating, lack of toilets, all those kinds of things and a temporary nature of all those sites, because they're all very old places that we want to renovate luminous one of the most expensive cities in Belgium to live and to buy and rent this for individuals or for companies. So we're now looking at a new space in Herend, which is the county next to Leuven, to rent there a space of 1500 square meters, it's a bit further, but it's next to the bike highway, and very close to the Heren station and accessible by car quite easily with lots of parking opportunities. The only problem there is that it's not located in the industrial zone. It's located in the living area for regular housing. But it's always our problem because we also do workshops for children or people who have disabilities and things like that. So we also have a social aspect in our working so we do not really belong in the industrial zone. So when we go to the industrial zone, we always have the problem that we've got a lot of people who are just normal people coming by, and it's not business to business, per se. And our workshops are educational. So we don't belong in that sense in the industrial site. But we also don't fit into the cultural sites, because in our machine Park is category three of environmental department things are different in Holland tigers, but it's makes things more difficult. So we always have to ask exceptions, exceptions wherever we go.

**Sam van den Berghe** 13:57

We're trying to move now to one big place of 1500 square meters to bring those three things together. Because to be able for us to make the project of material bank work, you need to have the material bank next to the atelier (studio). And also the social economy needs to be also there. So they have an efficiency in the way you work. So this is here in the new place, places here, which got an option on the on the place. But I'm waiting on the government, local government to give me permission to do the things I want to do there and nobody knows if it's allowed to because we got so many levels of government in Belgium, we got provincial regards local, we got Flemish we got federal. So that's four levels. And I think I cleared one level now I've got two more levels to clear. Then I'm working on it on the promise with government government always works very slowly. And they take their time and it's just before the summer holidays. So I'm praying and praying I've never get my answer before normally should be fine. So that's, in a nutshell the accommodations we now have. And nature of those accommodations, and we work in places with no heating, only one place has heating and only 15 square meters over 300 square meters has heated.

**Tanya Tsui** 15:20

Yep. And these are all existing buildings? Yes. Yeah, you wouldn't want to open like a new building?

**Sam van den Berghe** 15:30

build our own? We'd love to. But it's the question of money always. We think they're within circular economy, certain business. Ideas in which you can make profit, and it's possible to refuse especially when you scale up and you have a lot of startup money, then you can actually do something. With us. We are nonprofit organization that actually came from an open atelier, and just doing small projects in a corporation material from the ID not as we're going to change the world. But we want to do something, a project in which we ourselves have no or very little impact on the environment, and also a social impact as well on the local community. So we think more locally, but also because we don't have the money to invest and to draw investments and things like that. It's different, completely different scope. I forgot where I was going with it. But concerning the location, it also has the effect that we don't have a big budget to get a huge space and we can't accelerate as fast as normal company or people with startup money would have. The benefit is that we do target some wastes, flows that a bigger companies would never target. So like governmental waste flows, small planks, wood, things like that. I think that also has its beneficiary benefits for society, I guess. Yeah,

**Tanya Tsui** 17:15

for sure. For sure. Okay, so we've actually covered a lot from what you just said. Okay, well, you're you're you're trying to look for new location and hear hearing hearing. And what, what were the main requirements that you were considering?

**Sam van den Berghe** 17:40

Well, we need our store outdoor storage, as well as indoor storage. I think that's very important, especially for like fire hazards and things like that. It's way easier to get your permits for this to case to case location, or the location of building materials when it's outside for instance, which is not inflammable but it does burn. So the bigger quantities, you have more requirements for bigger quantities when you store inside and outside. Also, when you get a got a big pallet of aggression with that cause big comes in like a big shipment. Sometimes it's not good. So there is infestations when it would warm fungus, things like that. You don't want to bring this insight in, in the main part. Also dust dirt that's on the wood. That's the thing with recuperation material, it's sometimes not very clean. So you have to. So that's very easy also to unload trucks. Because sometimes we also work together with trucking companies to bring big loads, also circumstantial economy there. So we need to unload those things. And it's way easier to store things outside, and then bring them in. And they're sorted, then to do this inside because inside is piles of more easily, but also forgot to say that we also do like trees. So when trees blow over from the wind, we cut them into planks instead of firewood, which is often done now. So we also need a place where we can dry those because it takes two to three years before wood dries properly to make furnitures with it. So we let it dry for three years. We have a different location for that it's even more far forgot to say just the field where we put the locks to dry. But the last year we bring them closer to our utterly because we have to look for again infestation and things like that. And they need to dry outside before they come in. So that's also an important aspect. So outdoor outdoor storage, it's very important for us. Also stone and things like that. They can stand outside everything you can store outside you must store outside, it's also cheaper outside storage inside have storage. Then the other requirements were 3000 core three phase electricity. Because our machines, they run on higher power, they need certain power that comes in, which the building also has. And then we need a huge hall. Actually, when we do a union, we need at least 600 square meters. Which ideally is one big hall because our workshop is an open atelier. So you have to enroll also, because we work together with the social economy, you have to be able to keep your eyes on the entire facility, because we work with dangerous machinery and machinery, gather our stops, and even your arm or your leg is inside the machine will stop, it's still better to see beforehand is not using the machine in the correct way, then also you have to have an oversight vision. So one because you can make different locations in it and make it modular in when necessary. So I think that's very important as well, then high ceilings, also very important because wood production, it's you have suction for it, I like big suction to get the dust the way, you also got dust rooms that you build. So like for heavy shooting, like when you like to flatten the woods, it's in a different location, because it's so much just a different section within it. But still, you need high ceiling to get room for the dust. On the same way, you don't want too much edges, because the dust will collect on top of closets it will collect and you have to clean it, you need a lot of suction and you need as high up as possible for fire restrictions and things like that. Also, our welding should be in a different location than our main woodworking because steel requires burning and the dust from the wood could in ideal situation generates like spontaneous combustion. It's a different section that we also built with different suction as well for steel. But it's better that we have like an empty hall. So we can locate these things in the way that it can be easily cleaned. And easily. Like the air flow is also easily things. So those are all in our requirements.

**Sam van den Berghe** 22:35

So I think, you know, this needs four meters high. And then we also need parking. Because the material bank is open two times a week, I mean, from two to 1730 because for a different location with open up more it was combined together. But when you have clients and we are mostly selling to DIY community, so because we also open up to you, and so you have a lot need to have a lot of parking. So parking is another thing which is also present in here. So, yeah, yeah.

**Tanya Tsui** 23:15

So we, let's talk about the operations. So you mentioned all your suppliers, are they so there was the government there's cultural things, there's people like just regular citizens

**Sam van den Berghe** 23:32

I forgot one actually, we also work together with Recerput (?) in Limburg, which is the closer to the on the border actually. And he buys up wood from time to time, so like recreation wood and things like that. So we can you can also lead them to come from him and we sell it in gone. Because association we call it like, like regular store, we sell it and a percentage goes to us and a percentage goes to his but we take no risk when buying it from him. So another thing we're looking into right now

**Tanya Tsui** 24:08

what what is this company and then make up for it? What kind of company are they?

**Sam van den Berghe** 24:15

They are profit company. They're located in Limburg and he also buys woods in Limburg in Holland actually the border and he buys like food cases from the lessons we dismantle the social economy. He buys them from farmers all around. And also he buys trees that are on bow capitals like when they building when they're going to build a building. They often have to cut trees so he buys those trees and it goes into planks instead of firewood again. So we also buys things from the seaside and in our density also buys business of buying that oh otherwise would not get worked at in Belgium because they're too small, like a top of a tree is it's not interesting for woodworkers here to work with this too small and once fitting the machinery and too much work for the profits you can gain from. And he tries to make a profit from it because the wood prices are so high and he was by selling it to individuals instead of companies.

**Tanya Tsui** 25:30

Okay. Okay. And so would you say most of your suppliers are in living? And the furthest is limber? Yes. Okay. And the customers?

**Sam van den Berghe** 25:41

Local, mostly, radius of 20 kilometers max. Yeah, most of them live in a radius of 10 kilometers.

**Tanya Tsui** 25:51

Okay. Okay. And who is responsible for for the logistics? So when you're getting stuff from the supplier? Do you pick it up from them? Or do they deliver it to you

**Sam van den Berghe** 26:09

depends from supplier to supplier, we mostly pick it up ourselves. But when it's an individual with three blanks, there, bring it to us pick it up there. When it's the local government, they often bring it themselves. Depending on from where it comes in which department it is physically different departments from the city, and some are more collaborative than others. So if you want to save the material, you often have to go get ourselves, we now work together with Woon en Werk (?), the social economy, and they are starting to do more and more of our picking up. So we try to outsource this. It's also not very easy to because it's social economy. And so it is a slow process in which you have to learn how and where.

**Tanya Tsui** 27:02

And how far are you willing to travel or the suppliers versus the customers?

**Sam van den Berghe** 27:11

Well, the customers come to us anyways. So it doesn't matter for us. for you matter for for us happens, it does sometimes come from Antwerp which is not that far, I feel so for if you want to if you would have the location or would have the services, then I would not have a problem to work in region within the Benelux even. if you look at building materials and the normal process they go through. It's still to my understanding circular and environmentally friendly. If you work within the Benelux of like in a radius like that even France, its northern France. Because most of our work comes now from Scandinavian America, and before that Russia, which are way bigger distances and to not even talk about the process that's involved. The only thing is, and that's also why I'm I sometimes think it's better to do bigger quantities and have a bigger radius, because we can organize your logistics more easy and environmentally friendly as well. It's better to fill a complete carion (truck) and drive it once to the material bank than to have one carion (truck) that picks it up from one place, one place one place and one place in one place, which is what we have to do now to make it work. And sometimes you do wonder, are we transmitting more co2 than we are saving because it's good. On the other hand, it's a waste product. So they would anyways, dump it somewhere. So somebody will drive the product from one place to another place, it can be done very much more efficiently. And we're looking into that with the social economy to do like a route, which is more efficient, once a week, twice a month, something like that. Again, it costs money. It's actually waste management, you're doing that and the local wastes department is not very compliant in the idea of making more separation because there's more money. And then you got again, the friction between what is good for the environment and what's economically valuable. I think we need to me that's a different question. Of course, it does matter because of logistics, of course. I think if you want to get you want to diminish the waste of the city itself. It needs to be done by a nonprofit organization, everything that's profit, and that's profitable. And it's circular people will jump on that and it will get done because there is profit in it. And if you as a government created facilities, where they got a head start it will It will work if we then go to the industrial sites, use clear some land for circular economy, the fine what circular economy is, of course, because it's very broad in many people consider it differently. But then when you have to look at Waste Management and diminishing the waste, and that circular economy is not just recuperation of materials, it's also like sustainable cycle. But what we're focused on is reuse of materials builders otherwise will go to waste. And they need to promote the proximity of the city itself as to need the logistics to gather the things. You have to work together with the local Waste Department. And it's very difficult to get in their heads, because they're all people from their 60s 50s. And all I call them resources. Better, we all know better. But oh, yes. But no, it always will be based on two slides.

**Tanya Tsui** 31:00

Yeah. So there's kind of a yeah, there's a tension of you can be small scale local, and then you can actually make use of all of the smaller waste streams that might be missed out. Or you can be a larger scale, material bank working in the Benelux area. Yeah, we're very efficient logistics, but probably less of these residue waste, we'll be we'll be

**Sam van den Berghe** 31:30

taking focused on huge waste streams and be highly like, I think people will be focused, you know, it's now like a rotor in Brussels, they are more focused on design. Sometimes they do like a huge quantity of one product, and things like that. But my interests for our organization would be to make building in circular building in the city more plausible, and all the waste streams that are recuperatable, that you can recuperate, that they come to a certain central place. And from that central place, it goes to another destination, be it in the Benelux be it very local, but we have to start to get a place where those things are stored. And to my understanding, you need at least 40 acres near the city where those building materials can be brought to and then remarked over a bigger scale or very locally, but you have to have a place where things are stored. And I do think that this is not something that you can leave in private hands because it will always go for the more profitable side and not the most ecological or most environmentally friendly.

**Tanya Tsui** 32:50

Yeah, yeah. You know what I mean? Yeah, so actually what you're seeing what you're saying, if I understand is the collection radius is small. But then the supply radius the selling radius is much bigger?

**Sam van den Berghe** 33:06

Yeah.

**Tanya Tsui** 33:06

Why do you think it's that way and not not the other way around, say like collecting very vague and then think small.

**Sam van den Berghe** 33:13

It's depends of course from city to city. The collection is in Leuven, Leuven is not a very big city that 100,000 people living in Leuven. So, and there people built here as well. But it's not like we have huge building projects that come up. We don't have we're mostly University City. So it's not like we got very much heavy industry here. So mostly it's woodworking small companies that do some projects, but nothing big. So but there is a huge waste stream sometimes comes out because I think in Leuven, the brewery, InBev, the city itself, and the university together with the hospital, they own 80% of all land within the city. And when they do building projects, then all of a sudden have huge building projects. Right now I have like 940 square meters of rock wool, new, that I need to store somewhere, where I can't store anywhere so I have to let it go and it's gonna go into a container. So it's once in a little while you get like this huge quantity like we had like natural bluestone 150 square meters of it and then a second period now they're on the fence 50 Does witness square they were breaking off and try to I do with such a quantity of bluestone? whilst I think for a bigger market, it can be huge radiators - they ordered the wrong kinds at university, new, in the package and all 50 of them a second time again. 120 radiators of a big building project wrong wrong fitting that's perfectly usable, but they don't have the place to store them. And that's the problem, you need to have a place where you can store them temporarily to get them out. And then there are a few months that I get very little, like almost all these little waste streams. And then we got like been, like, in few months, there's going to be I think it was 50 pallets, pallets of bricks.

**Tanya Tsui** 35:24

Yeah, yeah,

**Sam van den Berghe** 35:25

everything. So these are the wastes. impulses for sometimes gets very low feet. And then you got this pack this pic of one product, one specific product that goes up. Yeah.

**Tanya Tsui** 35:37

And for these kinds of storage locations with what do you think is most important? Is it the accessibility or being close to the suppliers or land price would be,

**Sam van den Berghe** 35:58

I think it's necessary to be close to the, to the city itself to the where the suppliers are. Because it's very costly to mine materials, it's if we really have to convince people to to break it out a bit nicer or to put it aside and not putting in the container directly, it's really a lot of work for them, for us to convince them to put a little bit extra work. So we can come and collect it or they can come and bring it we also want to give them some money, some love. So the cases that they bring to us, so that it doesn't need has to be far because the further you are from your suppliers, the more difficult it is. The customer is often willing to make longer distance to get a cheap product, a cheaper product, then the supplier is to get rid of it. Because they work with container services. And they calculate their waste product to the customer. So they break off a building and the waste and the waste products ... the person they work for is going to pay the waste anyways, so they have no stimulation of diminishing their waste, perhaps they can make real profit because their container is full. And they don't tell us to their provider of work. So but it's so small margins that it is really from the goodness of their hearts that they do it. and the city in Leuven itself. So like when it comes to public public spending and public buildings or same thing with with university, they are willing to put this in the open bar and the stating records. So like when they send out like a building program, the constructors can sign into it, and then one which the lowest they win, but they can also put in councils into the contract that says like I have to Circular Economy and you have to be able to, but needs to be possible also for the contractors to do it. And for me, it those the university, the city and the brewery, they should actually provide a space where their building materials can go to. And that's something I tried to convince the city of which case for long as Yeah, if they want to be a circular city, if they want to be around for a mentally neutral city, they have to provide a space where building materials can go to otherwise it will never work. It's impossible to do logistically wise, sometimes people try to do it from one place directly to another space, like construction zone to construction zone. But I've never seen that work. Because it delays before it starts.

**Tanya Tsui** 38:53

Yeah, yeah. Okay, I see. Interesting. So the main issue is being close to the city. And what about like land requirements or accessibility.

**Sam van den Berghe** 39:07

Accessibility is if you have a close connection to the highway, or the port is very interesting, especially if you are on the low. We are very close to vaart (port) we're looking at a place very close to the vaart , I'm lobbying the best I can to get a place next to the vaart which has waterway that goes to Mechelen. And from that waterway, you can actually get to the sea and also get to a lot of other places. So it would be interesting, I think to use the canal, okay, it's also very close to the highway, and also very close to the station. There's river station. So we got these three different kinds of waterways. You got the highway and you got the train station. So that's actually brilliant if we could be located there.

**Tanya Tsui** 39:56

Yeah, yeah. And you're mostly now using the road network but interested in water and rail.

**Sam van den Berghe** 40:03

Yeah. Because I think especially if you go for bigger quantities and because our main focus would be getting recuperation materials, save them from the container and get them to a destination, because there's no production involved anymore. So if we can resell it to as far as the Benelux it's fine, but it needs to get out and get out efficiently. So in that sense, train is the most environmental friendly, I think, to work with drugs when needed. And if we could work with workers who under use our waterways at the moment, actually, and it's more easy to work on with electrification, when you work with waterways than that, we'll see on that it's so dreamy. But to also keep in mind that we only been open since 2020, with material bank started in 2017, with our OPA to you, so we're also very young company and we'll see where we land.

**Tanya Tsui** 41:09

Yeah, it's really cool. Good luck with your, you know, search for the hair and then place thank you now with the requirements. But I have to go to my next meeting now. Thank you very much for your time,

**Sam van den Berghe** 41:24

no problem. I hope it was useful for you. It was super interesting,

**Tanya Tsui** 41:27

very useful, especially your idea with the you know, the temporary space and then how it's collecting radius is very small. And then with a large and all these requirements, this is what I'm looking for. So you know, looking for locations that have multimodal transport, and then can also be accessible at the city scale, but also at the banner looks scale. So all of these things are very helpful for me to come up with some parameters and do some analysis for it.

**Sam van den Berghe** 41:57

I'm very interested also in the in the results, because suddenly,

**Tanya Tsui** 42:01

yeah, I will. I will. Thank you very much for your time.

**Sam van den Berghe** 42:05

No problem. Nice to you to

**Tanya Tsui** 42:08

see you. I

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_kplusv\_Neils Ahsman

Wed, 6/29 7:57AM • 42:39

**SUMMARY KEYWORDS**

hubs, municipality, project, construction, hardware stores, products, building materials, circular, bulking, thrift shop, materials, netherlands, building, called, organizations, pilot projects, leftovers, stakeholders, people, working

**SPEAKERS**

Tanya Tsui, Niels Ahsman

**Tanya Tsui** 00:00

It's one second. Okay, so it's recording now. Can I Can I introduce myself and my topic? And then I can start to ask you some questions. And I'm also curious to hear about coptis fe? Because yeah, yeah, I don't know much about you guys. I look through your website and stuff. But yeah, I would be curious. Okay,

**Niels Ahsman** 00:24

so really interested? Yes.

**Tanya Tsui** 00:26

Yeah. So let me let me introduce myself and my project. So I am Tanya, I am doing a PhD at TU Delft in the department of urbanism. And we're looking into circular economy in cities and regions. And what we're interested in is, we noticed that there's already some research on for circular cities, there's already some research on on governance, and stakeholder management and business models and things like that. But there's less research on on spatial analysis and urban design perspective. So we might know how to organize stakeholders, but we don't know sort of the locations of things and accessibility and things like that. So we think that's a gap because all of these circular activities, whether it's storing things, recycling, reusing things, they require a location, they require space. So it's worth looking at this perspective. So that's, that's what my PhD is about. And more specifically, I'm trying to find out where circular hubs, circular construction hubs will be in the future, because we noticed that, you know, quite a few municipalities and provinces of the Netherlands have have been interested in this idea of of a circular construction hub, where, you know, building materials might be stored or reused or processed in some way. So we thought, yeah, we might know the business model for it, but But where will they be located? So that's why I'm doing these interviews now to ask different companies and also experts like you to sort of understand where they could be. So what are the spatial requirements of these circular hubs. And the idea is that once I collected all these requirements, I can do spatial data analysis, to sort of see GIS analysis to find out, yeah, to pinpoint the locations where circular hubs could be located. And then the final outcome is, yeah, is a map of the Netherlands with these, with some areas highlighted that these areas are potentially suitable for, for circular construction hubs because of a, b, and c. So that's, that's my idea. And so what I'm talking to you and I'm curious to hear also, you know, what your role is at CalPERS fair and, and whether, you know, some of it rings a bell to you like this construction hub stuff. Yeah. Okay,

**Niels Ahsman** 03:36

interesting. And for how long? Have you been doing your PhD at the moment? Longer you have to go?

**Tanya Tsui** 03:44

Yeah, it's been it's been three years and then to Delft as a four year PhD. So I have one more year

**Niels Ahsman** 03:49

to go. Okay. So almost in the final stage of Europe.

**Tanya Tsui** 03:54

Yes. Yes.

**Niels Ahsman** 03:57

Okay. Interesting.

**Tanya Tsui** 04:01

Yeah. Do you mind introducing yourself and, you know, your work in capitalise fee?

**Niels Ahsman** 04:08

Yeah, sure. Yeah. Yeah, so my name is Neil sourcecon. I have a background in build department at TCU I Tobin and I did the master structure management engineering, maybe it does ring a bell for you. And six years ago, I started working at K plushy at various projects, concerning the fiscal environment and on on recycling, of waste streams, managing waste streams, and working towards towards a circular economy. Of the last couple of years, I think three years we have Been working on a larger horizon Europe horizon project which focuses on the business models within the construction industry. So, when you have a waste stream, how can you upgrade it upcycle it towards a secondary resource and make a building product out of it and bring it back into the construction industry and its restrictions and our focus of capers fee and that whole project is the business modeling side. So, we are looking at how can you summarize these these information gathered throughout the project. But yeah, k plus three is consultancy firm, with 6070 consultants and researchers working there, focusing on the sustainable economy circular circularity topics, biodiversity topics, energy transition, all these kinds of topics and we're also we're always trying to connect several organizations, several worlds with each other. Where there's a lag between when one organization cannot manage it on its own, if the business case doesn't come around, sometimes when 234 organizations work together, the business case does does work out. So we are always trying to figure out where are these opportunities and we deal with on various various sectors, various topics, but also in circularity within the construction industry.

**Tanya Tsui** 07:03

Okay, okay. Clear, clear. Guys. I'm sorry. Oh, no, no, sorry. I thought yeah,

**Niels Ahsman** 07:13

if nothing else, oh, no, no, no, no. So that's it for my introduction, I think. Yeah.

**Tanya Tsui** 07:20

Yeah. So for the horizon project with the circular construction business models, is there a case? Sorry, is there a is there a case

**Niels Ahsman** 07:35

which you can read? Or some some?

**Tanya Tsui** 07:37

I mean, is there like a, like a pilot project? Or is there something?

**Niels Ahsman** 07:42

Yeah. Within the project, there are three demo pilot projects in Madrid in Maribor, Slovenia, I believe in Macedonia. And to Delta actually is also partner in this project. Oh, really? Yeah. I know. It's Saba and ion from Tim McGraw. I often timidness a professor.

**Tanya Tsui** 08:12

Yeah. Wait, what is this project called?

**Niels Ahsman** 08:17

It's called Cinderella. Oh, Cinderella.

**Tanya Tsui** 08:19

Okay, yeah, okay. Yeah, yeah, I know. I mean, I and I and as my as my supervisor for my Okay, syndrome. Okay, cool. Cool. Cool. Although, I don't know Cinderella very well. I hear about it. But so is that in Cinderella, is there are these pilot projects? What are they? Are they like a material depot? Or is it something else? No,

**Niels Ahsman** 08:50

no, it's a demonstration of how you can make a new construction products out of recycled materials. So I believe it's yeah, it's not really enough a diff for us but it's granulates concrete granular that is been put within the asphalt of a road construction. It's building composite blocks made up of waste streams, also a granulates. And another one. Yeah. What what they what they do is they make a pilot factory. And within his pilot factory, they make these products and these products they are demonstrated in a project. Okay, I see around it is much more in Cinderella price. So it's those three sweet pilot projects are? Yeah, I think maybe 1/10 of the entire project. So there's also some various more r&d projects, focusing on phosphor extraction, and all these kinds of innovative projects, but there's also in modeling. Fart. So there's just much more than just these three pilot projects.

**Tanya Tsui** 10:27

Yeah, yeah, that's clear. That's clear. Um, in terms of in terms of circular hubs, I'm, I'm trying to make this interview more, just have something for us both to grab onto. Is there a particular hub that you've worked with that you'd want to discuss? Or would you rather kind of talk about in general, from your experience? You know, the locations of circular hubs?

**Niels Ahsman** 10:58

Yeah. Yeah, I have been in touch with some of some pilot projects within Ireland. So caper see works most of the time within the Netherlands, and sometimes it works internationally with these Arizer projects, but this horizon project does not have anything to do with these hubs, as she described. But for the municipality of arms fourth, within, in the middle of the Netherlands, we did a project where part of it there was a research on the waste streams in the construction sector, and whether or not is a possibility for a hub function. And eventually, it didn't didn't get off the ground. But on but we conducted the research on that something else I've been working with is called bulking load, which is freely translated to construction thrift shop

**Tanya Tsui** 12:20

Yeah, I've heard of them is that the name of the organization BouwKringloop?

**Niels Ahsman** 12:25

Yeah, we establish very we have a cooperation with him with them. And the first one is realized in Amersfoort which is scale, which is so And over there, they collect the leftovers from larger projects, but also from private persons that have spare parts or they have leftovers and they bring it together and from there on, they sell it to to smaller enterprises or to private persons that can build their own projects. And this concept that was first initiated in our sport, we're trying to initiate it on several other places in the Netherlands. So we have been talking with province of flavor lands where we've been talking with some municipalities in the region of item a nightmare gets with municipality in north of Poland. So there are several places that we are trying to figure out whether or not there is possibility for such an network of organizations to to Yeah, focus on the smaller streams of construction products. Secondary construction products. Okay,

**Tanya Tsui** 14:08

super interesting. Okay, I think this is the thing we can grab onto and discuss. Yeah.

**Niels Ahsman** 14:17

When I look, when I zoom out a little bit, and I look at what's happening in the Netherlands on this, this phenomenon, I think you can you can distinguish maybe three types of hubs. So there's there's the hubs that focus on the more infrastructural resources, so road construction, etc, but also we have to soil ground banks. Then there are some initiatives that most of them are initiated by a one company. So for instance, Hijmans or BAM or Volk Wessell. So these larger construction firms, they have their own up, and they bring their own leftovers there. And from there on, they dispatch it again. Yeah, but it's on more larger projects. Also, utility projects, offices, office buildings, larger apartment buildings. And then there's this third type which is more or less the BouwKringloop. Which is yeah, all these small parts, like a leftover stack of roof tiles. As a larger company, you cannot do anything with it. But 100 roof tiles are interesting for a smaller construction firm or a private person that knows how to deal with it.

**Tanya Tsui** 16:12

Yeah, yeah. What is can you think distinguish between the first two you mentioned? So you said one was the more infrastructural so it's the soil and the sand and stuff? And the the second one is? Like, like for for,

**Niels Ahsman** 16:28

you know, more for for buildings? Yeah.

**Tanya Tsui** 16:31

Okay. Okay. So one is sort of like more like materials, soil, sand,

**Niels Ahsman** 16:39

concrete, asphalt, and also lantern. So how do you call them at the lights at the highway? These barriers on the side of the highway? Road signs, so dose products and materials are often li reused again. Right? furbished.

**Tanya Tsui** 17:06

Okay. And a lot of times these hubs are different. The infrastructural hubs are different from the like focal vessels. But okay, yeah, that's true, like the bow hub and stuff, it's more construction,

**Niels Ahsman** 17:20

because the add the infrastructure, all that that's it's more economically feasible. So you see that more often. And because it's, I don't know, 90% of the of the of the of the products are based on asphalt, concrete, metal, light posts, and roadsides. And then you have 90% of the projects. But in a in a building, there are so much more different objects, materials, etc. So if the entire installation, your source, your flooring, the ceilings, the construction, the surface, the roofing, there's so much more difference when you will look into buildings. Yeah. And that's why that's less economically feasible at the moment. I see many organizations trying and now because they see the the trend, you see. It's there.

**Tanya Tsui** 18:33

Yeah, yeah. That's clear the fear. I'm sure. Shall we dive in to the bulking loops? Yeah, yeah. Yeah. So from your experience with the bulking loops, let's see, what can I ask? What what kind of activities do they do? Do they in terms of collecting, storing, reselling? What do they do?

**Niels Ahsman** 19:03

Yeah, so in essence, it's that so but it's quite complicated. You have to do the collecting side. Which, yeah, not every person knows how to how to estimate the value of a leftover product. Some, some people might say like, Okay, well, so someone can use it, but others won't, won't use it. So when it has a scratch or when it's a little broken, yeah, probably it won't be used again. So it's very hard to to estimate what what it's worth and if it's worth bringing it back into a lifecycle are in the into the loop. So, it’s not centralized, but decentralized. So There's one person who is reconstructing his bathroom. There is a Housing Corporation that's renovating 10 houses in a certain area, certain neighborhoods, so there's all these very little small parts of leftovers that you have to collect. So it's a very difficult logistics operation to bring all these materials to one. Yeah, to to one place to centralize it in an economically feasible way. So that's its own difficulty. The second one is okay, if you have these products do they need to be refurbished or not? Or can they be sold immediately? So, in the BouwKringloop in Amersfoort for instance, there are people working there with a little distance from a labor market. And they have a little bit more time to upgrade these products that have, for example, a little scratch. Yeah, that need to be sorted out or something like that, which is quite consumed time consuming. And so that's also done as an activity on these places. And then, yeah, then you need to price it. So how much is a roof tile worth? And how much is a front door worth? And you also have to know a lot about these, these things? So yeah, that's also quite, quite difficult.

**Tanya Tsui** 21:51

Okay, and And what about the clients? Do they do they pick up these building products or materials? Or does the bow kringla also do the delivery?

**Niels Ahsman** 22:06

No, it's a it's like a shop, just like GAMMA or Praxis (hardware / home improvement stores), or you know, I don't know if you notice. But but you have to go there and then you have to buy these things and bring it back to your home or to your working sites. So yeah, that's I would say ominous for it. But but yet it's also imaginable that in other place, you can do it a little bit differently. Okay,

**Tanya Tsui** 22:34

okay. Clear, clear. Um,

**Niels Ahsman** 22:38

and that's also the difficulty but that's most of the times well in Amersfoort for instance. It's connected to the thrift shop. And thrift shop is located in a in a city. That is logical for thrift shop, but not logical for a shop like GAMMA or Praxis. Yeah. How do you call these shops where you buy your building materials? Sorry, hardware store hardware store? Yeah. Because hardware stores are mostly often the located on on on the the edges of the city, on the edge of a municipality. While Meanwhile our thrift shop is most of the time located more than a shopping area, or something. So that's also something you have to look into.

**Tanya Tsui** 23:35

And why is it next to a thrift store? Sorry, why is it connected to a thrift store?

**Niels Ahsman** 23:42

Because yeah, in atmosphere it absolutely. It has been this way because the the owner of the store, wander to to pick this up. And he says she knows how to work with people who have a little bit more. They need a little bit more assistance in working. Yeah, yeah. And she had a little space left on her on her blog. So that's why in Amersfoort she thought like, well, I want to do this.

**Tanya Tsui** 24:18

Okay, I see

**Niels Ahsman** 24:20

in the Beeld, which is a rather small municipality, a hardware store called Hubo made a small corner within their shop available for the secondary materials, secondary products, and then it's located within a hardware store. So that's, that's a little difference, but we're always looking into what's most logical, most feasible in this specific municipality or specific region.

**Tanya Tsui** 24:56

So the same was the bulking loop is you You go to the city and you find existing organizations or people that don't make sense to pick it up.

**Niels Ahsman** 25:09

Yeah, yeah. So our first step in exploring this is, one, how much materials are most likely to be in that area to become available? And second is which stakeholders are there and are in the region that are likely to participate in this in this network?

**Tanya Tsui** 25:37

Yeah, yeah. And what typically, what kind of stakeholders pick up the job? So you mentioned that it's a hardware store or this existing thrift store? Or are there other types?

**Niels Ahsman** 25:51

Sometimes it's a construction company, which is quite locally oriented. Sometimes it's the waste manager of the municipality. I think in Delft, it's called Alpha next. Oh, yeah. Yeah. So sometimes it's these types of organizations. So yeah, I think those three four types of organizations are most often the ones that are taking up this

**Tanya Tsui** 26:28

concept. Okay, and what is the scale of their operations? So where are the suppliers and customers? Are they within the same city or the same province? Or does it not really matter for them? You?

**Niels Ahsman** 26:46

Yeah, I think it's up bit on. It also depends on the amount of inhabitants. So I think you need to have about somewhere around 1000 people in a region for a feasible business case, in order to collect enough building materials as well as to have enough customers that buy it.

**Tanya Tsui** 27:17

Okay, so the scale for collecting and buying is similar.

**Niels Ahsman** 27:25

Yeah, good question. We assumed it always assumed it, but it might it might differ. I don't know.

**Tanya Tsui** 27:34

Okay, okay. And you said, what was it? 100k

**Niels Ahsman** 27:37

and habitasse. Somewhere around? It's

**Tanya Tsui** 27:41

just like Venlo, something like that.

**Niels Ahsman** 27:43

Yeah.

**Tanya Tsui** 27:45

You can go. Okay. Okay. Interesting. How did you guys sort of come up with this estimate?

**Niels Ahsman** 27:53

Based on experience, yeah. Okay.

**Tanya Tsui** 27:55

Okay. That's fair. Yeah. Let me see. Let's talk a bit about transportation. What's the main mode of transportation that these bulking loops use?

**Niels Ahsman** 28:12

What do you mean by main load?

**Tanya Tsui** 28:14

main type of transportation? Is it road or water or rail?

**Niels Ahsman** 28:19

Those roads? Yeah,

**Tanya Tsui** 28:21

okay. Okay. Not bikes. No, no, no, I

**Niels Ahsman** 28:28

think there's a no,

**Tanya Tsui** 28:31

no, no. Okay. Okay. Um,

**Niels Ahsman** 28:35

small trucks, I think. Yeah. Price could be interesting. Yeah, yeah. I haven't seen it.

**Tanya Tsui** 28:44

Okay. Okay. Because this this, I suppose it relates to the scale. So you say, okay, these bulk notes should be are in in a region that has around 100k inhabitants. So that nice sort of, would you say they operate in within one city? They rarely have partners or suppliers or, or customers that are beyond their city?

**Niels Ahsman** 29:13

Yeah, exactly.

**Tanya Tsui** 29:15

Okay. Okay. Yeah, that's good to know. So it's kind of when it comes to, I suppose accessibility, it only needs to be accessible for the city and not for the whole province or the country.

**Niels Ahsman** 29:29

No, yeah. Yeah. And then in the province of flav lands, you have two larger municipalities, which is Amir and Lady start. And when you look into amount of inhabitants, and you have for smaller municipalities, and right now we are looking at how to spread a network of hubs of BouwKringloopen in order to have an optimal situation.

**Tanya Tsui** 30:01

Yeah, yeah. And is accessibility, something that's important for about Korean local? Or is it just because the scale is smaller? It's not so important.

**Niels Ahsman** 30:16

You mean, in terms of if it's close to a highway or? Yeah, I don't think that's so important. Whether or not people will go there, or are walking by there when buying materials? Yeah, I think that's a rather important criteria. So I don't know how to say, bone Bulevar. It's

**Tanya Tsui** 30:52

a bone Boulevard, like a boulevard.

**Niels Ahsman** 30:56

Yeah. Where you can buy your kitchens and, and all kinds of furniture, maybe that's a logical place. Because people will go there to start shopping. And maybe they can also go there. Often, these hardware stores are also located next to each other.

**Tanya Tsui** 31:21

So it's more about foot traffic and less about sort of the logistics.

**Niels Ahsman** 31:28

Yeah, I think so.

**Tanya Tsui** 31:31

And the main main customers of bulking, Lopa, are they everyday people going to hardware stores? Or are they companies?

**Niels Ahsman** 31:41

I think a little bit of both. So it's the the people that have "two right hands" we should say. So they can build a construct on their own wooden shaft in their garden or renovate their roof. These kind of things. And I think it's the smaller construction firms that do housing renovations and smaller renovating projects.

**Tanya Tsui** 32:21

Yeah, yeah, that's true. Yeah. If they're a small company, they would be doing more kind of renovation interiors. Okay, that's interesting to know. That's good to know. Huh? Okay. Okay. Um, let me see my questions. Hmm. I think we've covered almost everything. In terms of land requirements. Are there any? Does there need to be any environmental permit? Or? It's the operations are so small scale, you don't really need a permit? Because, you know, some, some, let's say, if you're like a concrete factory, then you need a environmental How do you call it went to level like, you know, level 234? I suppose this doesn't really does it require this?

**Niels Ahsman** 33:28

No, I don't think so either. Yeah.

**Tanya Tsui** 33:30

Yeah. And what are the other concerns when picking the piece of land? Is, is the price of land a concern or an opportunity to expand within the plant? Are these things important?

**Niels Ahsman** 34:00

I think I think the possibility to expand is I think it's quite nice to have. Because I think most of the these initiatives will start ran a small then to figure out if it's feasible if it's if it's working. And when it's working. I assume that they want to scale it up. Yeah. Then it's easy when you have some some lands you can expand.

**Tanya Tsui** 34:30

Yeah. And what about land price? Is that a barrier?

**Niels Ahsman** 34:37

I don't know. I don't know. The initiatives that I know of did it on already existing land or places that the initiative initiator already has.

**Tanya Tsui** 34:57

Yeah, that's true. That's true. Okay. Okay, and I have a lot less set of less one or two questions about sort of the more business related stuff. So we already mentioned that it would be helpful in a place where there's more foot traffic, or it's next to a lot of other hardware stores, which is also related to foot traffic. And a lot of these is part of the model, always working with people with distance from the labor market, or is it near one?

**Niels Ahsman** 35:30

No, no, no, it's, it's this one, and I'm a sports. But other other ones? aren't specifically with people with a distance?

**Tanya Tsui** 35:42

Yeah, yeah.

**Niels Ahsman** 35:43

It's totally depends on the policy of the municipality, how they, how they want to do that. And if they have subsidies for it or not.

**Tanya Tsui** 35:53Bou

Yeah, I actually quite like the perspective that you guys are taking with BouwKringloop, which is like, instead of starting something new, let's see, you know, the existing industry or existing stakeholders that are willing to pick it up. So that's kind of when I'm thinking of it, from what you just said, from a sort of spatial analysis perspective, it would be so interesting to because we have data on on location of companies just from the cafe card, data set, Caravan Club handle data set, so it won't be so difficult to be like, where are all the hardware stores, you know, and be able to see, oh, these are the places where hardware stores really exist. So this is where, yeah, so that's quite interesting. That's not thought of. So more of the stakeholder stakeholder centered way of thinking rather than about sort of the urban form, like roads and environmental requirements and stuff like that. So that's quite,

**Niels Ahsman** 36:56

I think that's I think that's, that's less relevant than than the EDD. Yeah. The partnerships and the dynamic in a certain area.

**Tanya Tsui** 37:09

Hmm, yeah. Yeah. Do you notice? Different types of stakeholders using different materials? Maybe? Kind of? Yeah, or what kind of materials? Do they usually work with?

**Niels Ahsman** 37:27

Building Materials who meet? Yeah, like,

**Tanya Tsui** 37:29

what, what type of building materials? Do different stakeholders tend to work with? Or is it sort of a mix?

**Niels Ahsman** 37:38

Yeah, I don't know. That's well, yeah, I don't know if there's a difference and if there's a difference, but the differences so I can kind of really answer that question. Okay. Okay. That's fine. We'll also be interesting to find out what our thrift shops are more interested on a specific set of products and hardware stores are more interested in other set of products?

**Tanya Tsui** 38:01

Yeah, yeah. That'd be kind of interesting. Um, what about the availability of sort of skilled or unskilled name labor in the neighborhood? Is that something that bow Creek notes are concerned about?

**Niels Ahsman** 38:25

Yeah, well, it's all red are small at the moment. So it's not like there's huge amounts of products, a huge amount of labor is needed and required. Because it's economically, yeah. Not very feasible. So if you look hard enough, you can you can get a business case. You can get a business case out of it. But it's not really profitable. That way, that's all organizations jump onto it and try to get human capital. But yeah, and I think you don't have to be that skilled. There could be some trainings and workshops for personnel in order to better know what what building products are good and what building products are not worth selling anymore. How to price it, how to refurbish it, upcycle it, all these kinds of things, but that can also be done in workshops and trainings.

**Tanya Tsui** 39:50

Okay, okay. That's clear. That's clear. I think I've answered all my questions. Do you have anything else you'd like to mention? Maybe we didn't touch on.

**Niels Ahsman** 40:06

Yeah, well, I was wondering how to figure out my name. Well figure out my name. But how did you get in touch with me? I'm just curious.

**Tanya Tsui** 40:18

Great question, because I posted this post on LinkedIn. And that was call for these interviews. And maybe you had a colleague who saw it and tagged you or something, or they shared your contact with. Yeah, I actually have no idea actually. Okay. Yeah. But thank you very much for your time.

**Niels Ahsman** 40:43

Yeah. And my second question was, I think I, your study also looks into these other types of building materials. So also from the infrastructural and larger buildings, I assume.

**Tanya Tsui** 41:00

Yeah. Yeah. So the, I would say we also, for now, I sort of distinguish also in three types of hubs, but slightly different from yours. So there's the sort of small scale there build crane, nope. And then there's the building products. So doors, windows, all the all the products. And then finally is the building materials. So the concrete and sand and stuff. So pretty similar to what how you distinct? Right, so I notice these three, there's not really a point of, of putting them all in the same place. And they have very different spatial requirements. And so yeah, those are the three for now. But it also depends on what I hear from the interviews, what I read and stuff, but for now, it's these three.

**Niels Ahsman** 41:48

Okay. Well, I'm quite curious towards the end results and conclusions of your of your thesis. If I can get some, some results, send it to me, by the end, I would certainly like to.

**Tanya Tsui** 42:09

Yeah, definitely. I'll definitely keep you updated. I think the upcoming paper will be done maybe in the fall, at least the first draft and I can share it with you and everyone else I interviewed. And yeah, so I will definitely keep you updated.

**Niels Ahsman** 42:26

Perfect. Okay, thank you very much, and best of luck with your bigger the rest of your remainder of your PhD. Yeah,

**Tanya Tsui** 42:33

thank you very much. Thanks for you. Okay, bye bye. All right. Bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_insert\_Peter Kreukniet

Wed, 6/29 7:56AM • 56:32

**SUMMARY KEYWORDS**

building, materials, hub, circular, netherlands, reuse, location, area, architects, circularity, projects, company, marketplace, demolition, contractor, instance, obligation, buildings, amsterdam, houses

**SPEAKERS**

Peter Kreukniet, Tanya Tsui

**Tanya Tsui** 00:00

or? Yeah, well, thank you very much for your time. I really appreciate it. Shall I introduce myself a bit, and then project and then I'd like to hear more from you. So, yeah, my name is Tanya, I am doing a PhD at TU Delft. I'm in my final year. And I'm in the department of urbanism. And we're looking at Circular Economy, for the construction industry and our group in general. We are quite interested in how, yeah, the spatial consequences of circular economy, right. So people are looking at when people are studying circular cities, we see that it's a lot about governance. So how the municipality deals with stakeholders or business models and things like that. But we noticed that there's not so much talk about space and location. And we think that that is a gap because all the activities to do with circular activity, they have a location in space, right? They whether it's storage, or recycling. And so that's where my research question came up, which is, where will circular construction hubs be in the future. And that's why I'm doing these interviews now. Because I actually have a spatial analysis, background, well, some skills and spatial analysis in GIS. And so I'd be very interested to use GIS methods to find locations of circular hubs. And so the final outcome of the research would be this map of the Netherlands, where certain parts are highlighted, saying these places could be a good location for circular hub. And so in order to get to that map, and in order to do this spatial analysis, I need to know what to throw in to, to the analysis. And so that's why I'm interviewing experts like you to find the spatial requirements for locations and circular hubs. And so with this interview, it's not a very strict interview, I have some things I want to cover. Mainly, I would like to hear about, well, of course, about insert first, and then about, you know, what you think the location requirements are? And then we might dive into some specific topics like the transportation infrastructure, land related stuff, you know, like environmental requirements or land prices, business requirements, and such. And so yeah, that's that's basically it. Yeah, thank you very much for your time.

**Peter Kreukniet** 03:02

So bucket. It's a complete bucket. Yeah. To fulfill. Yeah. Well, first of all, Peter Clark needs. My My background is I'm a marketeer. By the way. I have a marketing background or was worked for chemical companies like the oxen Nobel Henkel. I don't know if you know the company, Henkel divergence, amongst others, cosmetics, but also like Schwarzkopf, or FDA, I don't know if you know the brands but the brand has company, more than 141 of the 50 countries in the world. 2 billion in sales. So, yeah, I was the marketing director for building chemical materials like these just peel firms, ceilings, etc. The last six years before working at insert, I worked at a demolition company and the BREEAM Forestar militia projects, one of the factors there is reusability of materials at the highest level and you have to show where the materials are put in the new area. That is that is one of the 10 points for the bream and we build the co2 co2 better in this company, the basis for Level Three in the co2 after six years, I wanted to also work again on a national scale From the role as a manufacturer, this is not manufacturing what we do. But you understand that if you if you work with the idea from an umbrella, you work for the whole country, then you are more useful than if you only work for a specific area or a specific part of demolition in this case. So I talked to engineering company, both invader Dow, which was in my network, something called sacred stocks in the Netherlands, perhaps you've heard of an economic board, also, also from circularity, and I knew the director of bolts, and I try to talk with him within edge network to get all the high level. So we had two conversations, and then he said, I think I have something for you. And that was into it yet. And my obligation was to build a website and a marketplace, together with 12 demolition companies that that was that was the contract. And I got a year for that. Or after that, that was completed in let's say, April 2018, I started first of February and then we are 12 demolition companies and started to write and build the platform. During the year we also integrated greenery, so we also did something for the trees - to replant them to give them a new location if necessary. For the public areas so the outer space, the streets, the bars, etc. And we thought that that was a let's say a complete complete sell that we see buildings public space and trees as one whole. And if you look at the areas where they built then you understand that if you come to an area where they will build new houses or new apartments or whatever, then it's it's it's only sense you see there and nothing is left anymore. So everything is is out there the starts to build again become new trees to come new streets to come new houses, etc etc. And the starting of the of the marketplace was actually one step further than we needed. So what is the the key factor?

**Peter Kreukniet** 07:46

For reusability of materials is visibility. So you need to know what you have (material-wise) and how you put it in the 10-R ladder so it's reusable, can be recycled. Do we need to refurbish well, all these kinds of things now we we build a system which is an app so we go into a building or into a public area and we

**Tanya Tsui** 08:24

Oh Pater it, your sound is gone. Can you try talking again? It's sort of like it got softer and softer and then it's gone. Is it like your, your your thing is like not plugged in? Or

**Peter Kreukniet** 08:43

is it better now? Oh, yeah, yeah, okay. Okay. Yeah, I touched it with my arm. So perhaps that was the trigger.

**Tanya Tsui** 08:50

Okay. Okay. You were talking about the most important thing was visit in the Netherlands you

**Peter Kreukniet** 08:57

have let's say architects and building companies, they use texts. So there are standardized texts which they use in their prescriptions say for the for the build an apartment complex or to install a public area, etc, etc. So, that was the basis that we were from and that you can also see on our public marketplace, which is called "Stabu", which are which are numbered, chapter 38 For instance, doors, frames, Windows. And for everything you have a chapter and a number. And then the public area we use out of a system system ethic which strictly for the public areas. So we can inventory digitally by this app find that we can put it on the marketplace as a project. So then we have of course, also, the people who have a contract with us, or contract is a hard word, but they have a prescription or and subscription sorry for to publish on the marketplace with their materials for their from their projects. So there was the inventory tool, then we have the marketplace. And then we need space to put materials in because of the demand and supply the of the of the materials was not alined, let's say, so if you have, if you need materials, and you say, "Yeah, well, I need them in a half a year", then probably the material is now available, and you have you have to bridge a gap for half a year. So we created with the demolition companies eight hub locations, where contractors or architects, or whoever can pledge their materials waiting for the placement in their new area or their new environment. Then we also

**Tanya Tsui** 11:28

Sorry, can I ask you a question about this? So so the, actually the process is, the architect or the contractor has to make a request, and then it gets stored. So it's not that all everything that's demolished gets stored somewhere, it's that we know there will be a demand in the future and it will be is that yeah.

**Peter Kreukniet** 11:52

The problem is if you don't have a contractor, so the guy with the money and he is he's willing to invest in circularity and reusability of materials. If he is not willing to pay for that. Nothing happens. Because the architect has no leverage there. I mean, he's not the decision maker has got the money. So he wishes he could, but the problem is, he can't. Because he's not a decision maker. So he needs a decision maker. And our government is the biggest contractor in the Netherlands. Every country is the government is the biggest contractor, I think. Yeah. So if they, if they let's say lead by example. And say okay, we have the obligation 50 percents certainly around the percentage 50, then we need to set to set the benchmark. And that is not exactly what they do yet. Hmm. Okay. So, we have we have a new legislation next year, which says that all contracts put in the market needs to have a circular part in the in the purchase of materials or the use of materials, but they did not say in this bill, how much the percentage should be

**Tanya Tsui** 13:27

very sneaky.

**Peter Kreukniet** 13:28

So if you have five percents then you have you have fulfilled the obligation in the middle. Yeah. 5%. If I present you you put in circularity, yeah, yeah. So but yeah, that is that is actually the main problem. So if you have projects ownership, so project investors, let's say, these guys are the worst case, because they say I have this amount of growth of area. I have five other people where we have to put in the building. This is the budget. And give me a design.

**Tanya Tsui** 14:24

the contractors that use typically use the Insert service? Or maybe better question, what kind of building typically uses the insert service? Is there a chance? There's a typical type that I'm asking because I have this database of from the PBL, the environmental and just agency for the predicted the future construction locations in the Netherlands until 2050. And I'm trying to use this data to To predict the future locations, so they have like, for example, building type residential office blah, blah. I wonder is, can you say, if there's a certain type?

**Peter Kreukniet** 15:30

There's a better I guess. Yes. Yeah. Okay, then we… housing corporations are likely to use our platform, because they have an obligation (to build circular). So we work closely together with a lot of corporations to make an inventory of their existing housing and material amounts. And then, in a year's time, or in three years, when we need to demolish an apartment complex or build new homes, they can use their own materials. So coming out of their own houses for the most part.

**Tanya Tsui** 16:22

Yeah, that makes sense.

**Peter Kreukniet** 16:23

Yeah. Also offices. So let's say offices, we see a lot of reuse materials. Industry, not so much.

**Tanya Tsui** 16:36

offices use is it because they're the office buildings are pretty standardized or something.

**Peter Kreukniet** 16:41

Oh, you need to come to available supply. Why? We integrate, shall we have a building with two, two floors, about a hunderd guys work there. And we integrated at present circularity. So there was nothing in this building. And we are integrated ceiling plates for instance, in the walls for acoustic character we had. I don't know how it was called in English. I know. If you want to separate certain areas in your building, then you have these walls, you can build and slide things Romblon

**Tanya Tsui** 17:38

is it for the fire?

**Peter Kreukniet** 17:40

No, no, no fire? No you if we have, let's say, but you could also remove them again. the officers. Okay. Let's fix those. Oh, yeah. Gypsum, glass and stainless steel or with root or? So we reuse a lot of open old open High School, which had to be demoed demolitions. We reuse them from a hospital, in Rotterdam. Erasmus offers all a lot of them, that we get a lot of materials from our renovation projects, from our partners. And we reuse them to actually build a new office. So the outer scale was there. So that was existing. But internally, it was completely empty. We actually do better with reuse materials.

**Tanya Tsui** 18:45

Yeah. It seems like yeah, now that I think of it offices have are not so strict. You have more freedom with offices,

**Peter Kreukniet** 18:57

and a COVID. Give us give everybody more other ideas, because before we go it, nobody worked at home. Now it's normal to work at home. And debtors try to regain the staff into the buildings. What they need to do is still to make a mindset change in how does the building internally look like? Google is a fantastic example for our breaths. A lot of trees and green in the buildings. They have an Area Medical, they have a game room. And so you need to do other stuff to please your staff, your your, your your the people who work in the building anymore. Say well, I can work at home. I've done this for two years and the verge fantastically. Yeah, we ever see that that the fear of For the CEOs was was unnecessary because the output was actually better than when they went into the in the building, because they talk with colleagues and there's more inefficient time than if they were alone. Yeah. offices and buildings. And normally a building is restyled every 15 years or so.

**Tanya Tsui** 20:25

That's true. And it's like, if it's an office building, it's a huge amount of material versus what else? Yes. Yeah. Okay.

**Peter Kreukniet** 20:34

If you, I probably know that you have heard of the BAG viewer. Fewer bar, our musician component. But it's called the bar viewer, which is the developer by day Oh,

**Peter Kreukniet** 21:03

So they investigated decades of houses, for instance, if you have houses coming out of the 60s, then they can tell me what is reusable in the house, approximately. So they can give us an estimation what comes out of the house? Yep, yeah. And the 70s were different areas, different decades, with other materials, and the 80s, and the 90s, etc. So that helps us to get insights in how much material comes out of these houses, what can be approximately reuse, and then we do, let's say, an overview survey. If you have one other houses, we take about 10 to 15%. And if everything fits, according to the bar, fewer than we extra polite, and then we have let's say the complete project visible, that we may find out, etc, etc. So that is what we do.

**Tanya Tsui** 21:59

Have another question before we move on as so you mentioned, okay, the contractor says I need this material in the future. So then you take it and you store it somewhere? What's what's the time line? Like? How long in the future? Do they usually request?

**Peter Kreukniet** 22:21

That differs a lot? Because it depends on what phase you are, if you have AVR to deal with. How do you call the robots for instance, like complete discussion about interaction hours, so you have these these certain areas where you actually cannot build or you can get difficult, because it's a nature environment. That is That is why we also focus on the trees, because trees have an ecosystem which helps to get your permits, because you have co2 as a as a as a leverage as a money. changer. Yeah. So the ecosystem of a tree helps you if you're 50 or 60 degrees in the area where you want to leave them or you're rebranding, which is also possible in the area, then that is your leverage to get your permits for to build a new building, for instance, nowadays, it helps you so it depends, let's say, between three months and two years.

**Tanya Tsui** 23:39

Okay. And it depends actually not on the contractor, but on the permit process.

**Peter Kreukniet** 23:46

Process to, let's say, make the first two beers. Yeah, yeah.

**Tanya Tsui** 23:57

So typically, I mean, when, when do they make that request, though? I mean, I guess it's not right in the beginning, because you don't know what the building is gonna

**Peter Kreukniet** 24:10

build. The whole problem is that if an architect suggests certain reusable, reusable materials, then he needs to be sure that he gets him. So what we are doing at the moment, and that has to do with question and demand. So we have a lot of demand (for use of the platform). We have 250 projects on the marketplace at the moment, which are not the hard-earning products like wood or steel, because the demolition companies already sell them via their network, which are built up in decades, so they know where they can put it. It is the less sexier materials and the slow moving materials which are on the marketplace, on the market (of Insert).

**Tanya Tsui** 25:14

So, the hub of insert as sort of deals with the materials that are less sexy that the demolition companies kind of yes, the residue, yeah, the residues,

**Peter Kreukniet** 25:30

what give me a moment I need to put up a get outside so what what we are what we are trying to do now with the architects and interior design architects and also the constructive architects that we we are giving out in bureaus where we will work with them together in the building team during the in the team to watch a project. Your obligation from your contractor is 40%, circularity or 30% or 50%. And we will help them in the process of gaining these products out of the market out of demolition projects. And we show this for logical people area where we also earn money. Yeah.

**Tanya Tsui** 26:40

So, the architects say we need this list of materials and then you go look, no,

**Peter Kreukniet** 26:45

no, it is a little bit different. Interior Design is actually different than the design of the frame of the building, because then you have constructive issues. If you want to use these (floor) plates to come out of a building, you need to have a construction company, which helps you to get to get them out. Because they are structurally connected to the poles (columns). That is more difficult than talking about a door or a window frame, for instance. Yeah. So interior designers, we say most interior designers, make a basic map of how many people are coming into the building, how many people you have on this part of the floor? Give a little bit of color estimation. So what what What feeling do you want to have in the in the building? And the basic material choice? Should it be metal? Should it be wood? Should it be PVC or well. And what most architects have done so far is they made up their mind and said okay, this is the color we want, this is the material and we order it, and it comes in, and we build it in and that is not done anymore. Yeah. So you need you need to it's a complete mindset shift which you are doing. And Construction wise, it is even more difficult because we are now participating in the removal of it (building materials). So we take down piece by piece, a building on one side and we rebuild is a lot on the sides. But it depends on on the age of the building. Is is is the goal of steel was actually bolted or is it well with the we need to do other other stuff. So other Construction wise is different. Then interior design.

**Tanya Tsui** 29:13

Okay, I see. I see. It's easier. It's easier. Yeah, for sure. For sure. Yeah.

**Peter Kreukniet** 29:20

So so if we can help them and they can make a basic plan towards the owner of the building. Then you can search for them together to the right materials they want to have and it changes also. For instance, we had some some booths made where people could sit down and speak with each other. And these booths were designed and were drawn, then the bicycle track in Amsterdam, the phonogram which which was a Boolean racetrack floor 73. And when we we changed a complete plan, we took out the hard wood of therefore, because otherwise it would have been burned in the in the oven in Amsterdam and we made a completely new design. So, that was already from a fixed design, which we have changed to another brand. So, also that also happens. So you need to have shorter flexibility also.

**Tanya Tsui** 30:36

Yeah, yeah. Okay.

**Peter Kreukniet** 30:40

Now, then, then we see that buildings are also reused on other locations. So you have some examples or putting stuff on hold, for example, in online in Ireland, which is completely taken down and rebuilt on another location again, also, the concrete patch.

**Tanya Tsui** 31:04

Yeah, yeah, I see. I see. I know, I have some questions about the location. So you mentioned that insert, you also have a hub? Yeah. Yeah. What are some pros and cons of the existing locations? What do you like and dislike?

**Peter Kreukniet** 31:24

You need you need to make a split in let's say, what do we need a physical hub for material coming out of buildings? Or do you need a digital hub for the public area? And there's a difference, because if you are in the public area, which is a little bit less difficult than material coming out of buildings, because you have the pavement, you have which is almost all concrete. So, you have the pavement, we walk on, you have the triggers, which are in the street, where the cars drive over the street furniture, you have the lampposts the all these materials are in the street. So, what we do is we go with a 360 degrees camera, we drive through that area, then we have other which is putting fish in our case and then our engineers go into the streets and they define the quality of the levers or the street furniture or whatever, then take photos, and they give some additional details of the material lying industry it's on that specific point. So, an engineering company can actually develop these materials already its new location without taking it out of the streets

**Tanya Tsui** 32:59

for a hub for these public street no

**Peter Kreukniet** 33:02

no. And these projects, they have a running time over three to five years in preparation to fail do an execution. So, that takes that takes some time. Before that, that actually happens. In Amsterdam, we do already in backlog ROM for instance, which is the most circular area, we have we have a temporary hub location for reusability of wood for instance, and the wood is reworked by people from the social network (receiving social benefits), they would take out the screws and they sand it again. So that is one they have a hub where all the hard stone comes in which is which is cleaned by a robot and developed his eyes. Again, so you're for the reduced 400 square meters per day for reuse industries and that's actually a digital upward physical next in that area. Let's say if you if you talk about building materials, then it is more difficult because the building materials because when a building is demolished, it needs to go in a certain time. Whereas in a public area, where the government or the gemeente (municipality) or the province is the owner, we take it out as we need it - in two or three or four years. Building a building needs to go before you can you can rebuild something else.

**Tanya Tsui** 35:04

Yeah yeah.

**Peter Kreukniet** 35:06

That is difficult that is that's a challenge you have. So, if you if you say where do we need the physical hub for? actually for material coming out of buildings, it is a necessity. And I will say work in an area of about maximum 50 kilometers

**Tanya Tsui** 35:35

so, between supply and demand

**Peter Kreukniet** 35:37

yeah because if you have to run further then you have the environmental issues like co2 production because you will drive the car truck which also produces it Yeah, environmental issues and you don't transport one door from Groningen to Maastrict. Although, if there's a truck a truck full of doors, that can be done. So, depends also on the amount of materials you are

**Tanya Tsui** 36:13

one moment Get the door

**Tanya Tsui** 36:57

but also last time? Okay, sorry, no, no, we were talking about what we're talking about building materials, it's harder to match the supply and demand compared to

**Peter Kreukniet** 38:11

so you need a physical load for that. Which I? Yeah, max, maximum maximum maximum.

**Tanya Tsui** 38:20

also depends on the material. If it's a truck full of doors, then go really far.

**Peter Kreukniet** 38:25

Yeah, yeah. And you can also think about which we did in Hilversum. Built open. Arms, I'm short. Over seven cities. So yeah. Villages. And so there are seven villages, okay, we need one physical hub. That's somewhere in the middle of 250,000 inhabitants are this big area from left to right, it was about 30-35 kilometers. So if we have a physical hub in the center, where we put all materials coming out of our our villages, or cities in that hub, and we do that as a as a community, then we can reuse all the materials, actually, in a better way than if we do it individually. Yeah, yeah. You can also put cities together like MRA (metropolican region of amsterdam) in Amsterdam, we are now working in Amsterdam note which are huge obligations 6500 new houses or 1000 new houses. But if you if you take the 32 cities as a whole within the MRA and you put somewhere in the middle of a physical hub, you put a good governance on that and then I think you can you can start the wheel running

**Tanya Tsui** 40:00

Yeah, the MRA is probably around 50. Right? 4050?

**Peter Kreukniet** 40:07

Something like that. So yeah, yeah, it's two provinces. Actually. 32. Cities villages. Yeah, yeah, it's about it's about 50. Yeah. Okay. Okay. Amsterdam, Amira is also included. Yeah, I think so.

**Tanya Tsui** 40:27

Yeah. Yeah. And why? So you said if it's, that's a good scale, because if it's bigger than there's too much environmental or transportation costs, and if it's too small, then there's not enough sort of demand supply matching.

**Peter Kreukniet** 40:43

Yeah, it's the same with our marketplace. We are, at the moment, the biggest, independent marketplace because we are a foundation. So we work with no profit. Actually. We're the only one in mammals because the rest is all commercial. But everybody, we have two other marketplaces now in the Netherlands, and everybody does it from its own perspective and its own view. And then they have three doors and two toilet pots, and, you know, okay, so you need scale. Yeah. If you have scale, then then you will, then there's acceptance, to reuse the materials. Because the contractor now orders three of the doors in 15 minutes. And do you think he will research 50 marketplaces to find three on those doors? Yeah, no way, you're not going to do that. So we say we need one marketplace. And we are trying to connect the other 200 marketplaces to our platform, which is possible without damaging their what they what they're built in finding them in the name and etc. We are an oversaturation that goes with an interface so that we can we can connect them with a, which is called the widget. And this is what we try to do. But everybody thinks we are a competition, and we are no competition. Everybody thinks that we say

**Tanya Tsui** 42:24

like a Google Flights. Yeah. Yeah. Yeah. Not a competition. No, no.

**Peter Kreukniet** 42:31

So but we need to go to the Netherlands to in order to, to, to help the question out of the market to to build up that in Spiegel doubles?

**Tanya Tsui** 42:49

Well, if you think there needs to be a centralized platform, does that also need to be centralized hub? Or do you see kind of this already existing hubs, right?

**Peter Kreukniet** 42:59

You see, you see a lot of things exploding at the moment. So usually private initiatives, like we have three contractors, a builder merchant, city, racers, and in very built together a physical was over to the Malaysian company. So seven companies included now and we help them with with over the group page within the marketplace. So we also have an in a kind of internet. So now you've got your own platform. And again, so, let's say you bring your visibility because the materials which are put in there, you can also put on that internal internal platform. And if you have the connection with lots of companies, such as demolition companies, and building merchants, and the city, then you can connect them with each other within the central physical hub. And then there is visibility, and they can reuse (building materials) in a certain area. So that that is what we see happening. We see also that housing housing groups are connecting with each other. So for instance, the In Transit you have eight housing companies which connected to each other, so I bet we'll reuse the materials from each other, which come out of demolition projects or renovation projects. You'll see area initiatives. So for instance, we have circular, West Friesland, which is in the north of the Netherlands, Netherlands, but the left note a lot about Omar. And there are this kind of an industrial symbiosis. So you have multiple Different companies. Let's say you have a garage, you have a packaging company we have company who makes own just the skin of the oranges. They don't use them, but another one uses the skins for other products. So you see also the change of raw materials connected with each other. There are a lot of different initiatives starting up at the moment.

**Tanya Tsui** 45:27

Yeah, yeah, for sure. And when you mentioned that there are eight, you guys have eight hubs. Is that? Are those the hubs that you mentioned? So these people are grouped together? And then

**Peter Kreukniet** 45:38

the shipper because we own hubs? Yeah, that is hubs are the co founders, so they helped us build the platform. They are still connected with us. The other partners, particular, private initiatives, sorry.

**Tanya Tsui** 46:02

Okay, I see why then why was there a need to build these eight hubs, if there are already so many hubs and initiatives around? Why was there a need for this extra central sort of centralized storage?

**Peter Kreukniet** 46:16

Because you have a lot of materials, and the areas are the largest, the largest facility we have is 8000 square meters. And if you see how much material there already is stored, then then we have lack of room lack of space, actually. Yeah. It's always spacious. If you have big window frames. 50 window frames in the in the garage.

**Tanya Tsui** 46:47

Yeah, I also heard that you can't really stack these things, because they're so fragile. So you have to spread them out. Yeah. Yeah.

**Peter Kreukniet** 46:57

Yeah. To give you an example, we have laminated western red cedar, four centimeters thick, which is not, you cannot buy it anymore. And they're coming out of a gemeentehuis (municipality building). Yeah. And they were four meters long. So four meters long?. Yeah. Yeah, that's, you need three panels? Because otherwise you bend them. And that cannot be done. Because then they, they cannot be installed anymore in the new in the new builds. To make that?

**Tanya Tsui** 47:42

Yeah. So there's kind of a lot of excess, actually, even with all this existing access.

**Peter Kreukniet** 47:53

So what we want to do with the intro platform is to if apps are built, we all want to hear from them. And that we can make a map in the answer platform. Because like I am in the in the region of Amsterdam, and I can see but there are four hubs. And I click on that, and then I see exactly the material available in the hub.

**Tanya Tsui** 48:18

Yeah, that'd be amazing.

**Peter Kreukniet** 48:20

So that was that is our goal, already.

**Tanya Tsui** 48:24

Yeah, that's really helpful. Indeed, the Google Flights have circular hubs.

**Peter Kreukniet** 48:29

Yep. Yep. Yep. Actually, what we want to do and then we want to build also in the platform usage of the NRA, National Environmental database, which is the ACA and we are now in discussion with them to wreak calculate form a new LCA. So you have a door let's say to 11 and a half, which is your train door, we have a lot of renovation we have an entire marketplace 20 doors same same amount of material and then you have recalculation program which then calculates your MPI off from the from the SEO of the game material into the end of the reused material MPI MPI factor and then you can also be measure MPG of your building. So, the Muriatic was started about and they can also they can they can show that also to the contractor to the owner of the building, okay. We can diminish that to 0.5 for instance, or 0.6. Instead of the zero product which we know and that helps in with gaining access to the to the payments press a fiscal advantage subsidizing it You name it. Yeah.

**Tanya Tsui** 50:03

Really cool. I think this is very important. I Yeah.

**Peter Kreukniet** 50:07

Because we are Foundation. We believe that my belief if you ever foundation, then we have no competition. We can work with everybody in the market. That's true. Yeah. And that is exactly what you are trying to do.

**Tanya Tsui** 50:22

Yeah. Are there any similar inserts? Or are you guys the only ones?

**Peter Kreukniet** 50:26

We are at the moment? Okay. Okay.

**Tanya Tsui** 50:29

Very cool. Very cool. Nice. Is there anything else you'd like to mention to do with location or?

**Peter Kreukniet** 50:39

Location depends on money, availability of land. I mean, the land on the west side of our country are very expensive. So what is urbanized? That is that is expensive. And if it's an initiative from our government, then they can pay it or they can subsidize it or whatever. But if it's private, private initiatives, then there's always a question of money, because they want to earn money. With the materials.

**Tanya Tsui** 51:17

I'm guessing the profit margins are not huge. Oh, yeah. Okay.

**Peter Kreukniet** 51:22

We there we go those in qualitative, which is, most of the times for free.

**Tanya Tsui** 51:33

Yeah.

**Peter Kreukniet** 51:36

We get we get nice, nice. contracts. Also, because we build, we try to build, let's say, the, the basis of the car. So if you want to go from the linear to circular model, a process and we say, okay, these are the steps and this is what is necessary to to come to that point. And then an engineering company or whatever another company says, okay, then we would endorse, and we put on the lights and the rooftop, etc, etc. But we build the basis.

**Tanya Tsui** 52:09

Yeah, yeah. Yeah. Very cool. Wow. Very exciting. Because I was interviewing someone two days ago, who was looking for exactly this. I wonder if she knows about insert then. She works. Yeah, she works for fiction factory. And she was trying to start something like, insert. We actually said like, oh, that's why I said, it's like Google Flights before circular hubs. I thought, yeah, I will. I will let her know about insert. This is very cool. Yeah, nice.

**Peter Kreukniet** 52:44

To inform her of the possibilities. And but we also need money, then we are foundation. So we live by contributions. We live by subsidizing projects. So that is how we work and how we built. Yeah,

**Tanya Tsui** 53:01

yeah. And you see you guys becoming a commercial company in the future? No, no, you want to stay foundation? Oh,

**Peter Kreukniet** 53:09

there's really our bases that we want to offer services to the market, which helps the market in a growing towards a circular economy and a better world. So British

**Tanya Tsui** 53:26

government, like do you imagine being absorbed by the government? Oh, I Oh, so. Yeah, that's the idea.

**Peter Kreukniet** 53:34

I really hope so. Yeah. Yeah. I was talking to last week to cooperate Cecile, and yeah. And she said, Well, it could be that in five years time, we are we are not necessary anymore. Because then the market knows how to do circular branches. How do you know? So? I don't know. It's weird. That's also the case. But if that would be the case, then we have fulfilled our obligation.

**Tanya Tsui** 54:09

Yeah, yeah. Well, you will always, well, if we go towards circular economy, you will be there and you will just expand because you're not a consultancy. A consultant will run out of business because you're providing the infrastructure.

**Peter Kreukniet** 54:26

We'll see also new circles are popping up or stopping or railroad. So we will go to the next level. But

**Tanya Tsui** 54:35

yeah, I am sure. For sure. Okay. Cool. And thank you. Thanks a lot for your time. I've been a little bit helpful. Moving your project. Yeah. Yeah.

**Peter Kreukniet** 54:51

If you have questions or other questions, don't hesitate to contact me. Okay, okay. positional information or whatever.

**Tanya Tsui** 55:00

Yeah, I think the most useful for me, one of the most useful thing was knowing what kind of buildings typically asked for circular materials, because that would help with the, and then also the distance, and then the rough timespan, three months to two years. Those stuff was really helpful. Yeah. So why there still necessarily needs to be a hub. So it was very useful for us

**Peter Kreukniet** 55:27

to do is to decrease the gap we have between question and demand. Exactly, exactly. And we tried to do that with the brush rendering, which is also the b&e, for instance, the group of interior architects or the group of conservative architects, which have a lot of members in this group. And we try to use that group to gain information of what what do they need

**Tanya Tsui** 55:58

to make their job better? Yeah, yeah, exactly.

**Peter Kreukniet** 56:02

That is different, more different than for a designer or for somebody who is an architect on the construction side or for the interior side. So there are a lot of different areas of tickle.

**Tanya Tsui** 56:14

Yeah, yeah, very true. Very true. Nice. Thanks a lot for your time, Peter.

**Peter Kreukniet** 56:19

Yeah, you're welcome. And good luck with the ending. finalization of your project?

**Tanya Tsui** 56:25

Yeah, thank you very much. Okay. You too. Bye bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_fiction factory\_Marije Remigus

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**SUMMARY KEYWORDS**

building, materials, factory, circular, amsterdam, clients, people, interior, logistics, companies, netherlands, square meter, wood, bit, location, showroom, space, hub, place, pick

**SPEAKERS**

Marije Remigus, Tanya Tsui

**Tanya Tsui** 00:00

You record on this? Okay, um, yeah. So shall I introduce myself and my project a little bit? And then I can, I can ask you some questions. Yeah, so I will. So I'm doing a PhD at TU Delft, I'm in my final year, I have one more year to go. I'm doing it in the department of urbanism. So we're really interested in locations and cities and how, how they're, you know, shaped and stuff like that. I'm, I have a background in architecture, actually. But then now, I'm looking at them in design. The research group that we are in, we are mostly interested in in circular economy. And something that we noticed about circular economy is that there is a lot of existing research about governance and people already when it comes to Circular Economy in cities. So we know how well well, there's already people looking at how municipalities deal with stakeholders and business models and things like that. But there isn't so much research on space and circular economy. So you know, where should things be located? How is this limited by the existing shape and size of our cities. And this, we think, is a problem because all of these circular activities, especially in the built environment, they have a location and they require space, you know, like storing things, recycling things, all of these things require space, they have a location, there are limitations to where they can be, they can't be, you know, you can't have a concrete plant right in the middle of Delft, for example. So there's these location factors that people are not really looking at yet. So my research is looking at the potential future locations of circular construction hubs in the Netherlands. So So where should these hubs be where construction materials are stored or processed? And so what I'm doing now is I'm interviewing a bunch of companies, like you guys like demolition companies, to ask you guys, what are the limitations and requirements? When it comes to location? Do you want to be close to the water or close to a road? How accessible doesn't have to be environmental requirements, price, things like that. And by collecting these requirements, the point is to use these requirements to create a map of the Netherlands. So do to do spatial data analysis to map out on the Netherlands where the potential locations for circular hubs can be? Yeah, so not exact locations, but sort of areas where it would be suitable. That's the final goal of all of this work that I'm doing. Yeah, so I thought it would be I looked a little bit into fiction factory, which I think we are sitting at, I guess. Yeah, yeah, I recognize the interior because I was just at your website. And also circular a little bit. And so I thought that's quite interesting. Because you guys are the only interior company so the company doing sort of interior stuff and and that's

**Marije Remigus** 04:02

very new are interviewing, right?

**Tanya Tsui** 04:04

Yeah, yeah. That I'm yeah, not the only one in the world. No, the only ones I managed to get into. So yeah, I'm very curious to hear what you guys have to say. What you have to say. Yeah, yeah, yeah.

**Marije Remigus** 04:20

So you know a little bit about us and she will explain a little bit more maybe the interview right away or

**Tanya Tsui** 04:29

No, I would I'd be very curious to hear because also I couldn't access the circulation website.

**Marije Remigus** 04:34

No, no. Something is wrong bear in this loop with a computer automatic response system.

**Tanya Tsui** 04:41

Okay, okay.

**Marije Remigus** 04:42

I think is wrong Yeah. You say something is wrong. Yes, we've noticed this and that number working on it, but and so I work part time for fiction factory and here I tried to close this circle. So we produce a business to business interiors, we do not design, we build the designs of our clients. And sometimes our clients, they hire architects and designers to do that for them, or sometimes they have in their cells in your house. And that everything that we build is very temporary. So I think 80% of the work doesn't last longer than a year, because they have an exhibition. So booths or events or Windows, you know, window shopping, retail stuff. So yeah, knowing this, right, and I think retails less for five years, or hotel or something like that, as well maybe then depends on the money that they have. So we already know for big part of the job that we do that is going to be thrown away. So I work in here now for more than 23 years. And I decided that I'm not going to create wastes anymore. So I'm changing our way of building in a circular way. And also to take the responsibility of taking things back. So at this moment, we are not producing 100% in a circular way, we are not taking everything back, because we are just setting up the whole system. And and it's what we are doing now is that we already had a warehouse, and we are based in Amsterdam, next to the water, so very Yeah, I think I think you can now say this is an industrial area, but it's assumed to be residential areas. In 2050, people will live here and there will be no factories anymore. And we have a warehouse in Zamdaam that's very nearby, it's sort of like, yeah, it's a bit of a longer drive. And if you go directly on in the air to it, it's very nearby. Let's say we have a warehouse there because it's really cheap. So in the warehouse, we have this already for many years. And we used to do this to store the booths of one of our clients, and also from other clients there. And also some rental stuff that we have. So I cleaned up the whole space there. And so I think this is this warehouse cost us I think the selling price, whatever I have is at five euros per square meters per year. And I think if I would have have it over here, in this area where I am now I think it would be 125 Renting it not leasing it to leasing price is 85 euros per square meter. So we earn a bit of money on it. So I think officially understand Dominic leukosis flexibility euros per square meter play. So it's not nearby, which is not really handy. Of course for the price it is. And yeah, so we're taking things back, of course, you get a logistic stuff when there's logistics going on. And the thing is, is that I because I already know that things are going to be a waste. I have time during like, say an exhibition of three months or no, the windowsill in the back or for a few months. I know it's going to be there as DSD, I know exactly when it's going to be taken away. So I can make a plan. And so the plan is, is that I'm I created an ecosystem of people, businesses that are open for some pieces of the materials. But of course, I look at it first. So first, my priority is me. And then a species are too small, it was not on my interest, I go to my ecosystem, and I asked them, Do you want to have it? And then I say, Well, you can pick it up for free at that date on that area. And then they say, I'm not gonna be able to come then. So and then I say, okay, then I take it back to my factory, here in Amsterdam, because we are here 24/7, right five days a week, we will they Someone is here, and there's a Nam, it's we have to drive over there to be there. So there's not a person there. So and then I have to hope that they really come pick it up. It was not I have to throw it away. So but of course I'm creating a better, better ecosystem. And also, some people just pick stuff up anyways, doesn't matter what it is, but that's good, too. So with this, we are making big steps. And so the only thing is, is that we are not a big big company, we have 50 to 80 people, but we have a lot of waste.

**Marije Remigus** 09:41

And I see that other companies also have a lot of waste. And I also see a lot of potential of taking things back. But the thing is, is that we have a little bit and another interior building company also has a little bit so I'm really wondering now in in conference Asian with two other building companies, in theory building companies, how we can manage this digitally, like St create the platform together, but also physically how do we stories. And so one of the two other companies is already making room in their own warehouse as I did, because I've cleaned up the whole warehouse, and they've made some really special parts for the circular stuff. And they are doing this as well, because there is business potential in it. It's not that you make a lot of money, absolutely not. But it's sort of like offering a service to our clients, that is really what they want. And, and the sort of, like, I sort of like, like to play break even in it by saying that, okay, I take back the materials, you pay a bit for that, to me doing this, taking it down and bring it back. But I sell this material, again to another client by selling the same material another time, and maybe another time, then I think after seven times, I might earn some money on it. This is done with chairs, I've seen research about leasing chairs, and then taking them back and, you know, leasing them again and again. And again. It's sort of like a seventh time system. So right, the okay, maybe I earn more money quicker, but yeah, materials cheap. So, and with reusing materials, I found out that it's nice to have a digital system, like, you can look like shopping, you know, like Mark class or whatever. The people here are very lazy. And they come over to me and say, man I ever do you have. And it's also a lot of work to build this database. And also a lot of work to maintain it to update it to. It's sort of like you start your own shop, right. And now having a shop here in the factory, we're selling that content materials. So I've got a new business there. And yeah, this was not the idea, right? That that I am an expensive project manager, being a shop owner of secondhand materials. So how do we make it work? And what does work is putting stuff under people's noses. So they see it and they take it. So having a warehouse in Zandam, they don't see it right? It's in this warehouse, which is like a mysterious place. We always try to put stuff there, but stuff never comes back somehow. So my my logistic team is complaining now it's Paul, it's

**Tanya Tsui** 12:28

one moment, I think I'm getting a package

**Tanya Tsui** 12:49

was for the neighbor. Sorry, okay. Okay. You're seeing some dumb, it's like they send it there and it never goes back comes back?

**Marije Remigus** 12:57

Well, sort of right? You have this feeling of it. So and when I put stuff here, like in the backdoor as they okay, this is leftover sheets, you can use this for whatever you want. It's gone within two days. So this is my, you know, I need to I need a bigger place here to sort of like show the pieces and stuff. But yeah, place for stuff is always a bit of a problem. We are fighting here for every every little of square meter of space to make stuff to put stuff. And so and it's also very expensive here. So I rather work and make money here instead of putting stock. So yeah, so a better logistic place where I can put stuff label stuff put clearcoats on it, that could be nice. But of course, you were also talking about not so much money. It's not like I'm putting enough somewhere, right? Which cost millions is just that I put stuff there that is sort of like 30 euros per sheet, hopefully. So this is a bit of a thing. And well, and the other thing is, is that you know, if you're talking in big scale, but if you're talking in smaller scale, I think it's also very good that people see that you can do this kind of thing. So for example, a company like Burma, I don't know if you know them, but yeah. And this, these places need to be in an environment where they are in a community where people live, right, because they go for consumers. I go for businesses, but they go for consumers. But it's I think it's also really, if you don't know how many times I have people over here in our company with a booth workshop and welding shop. When people come in here and they say, Oh, you're making stuff. And I say, Yeah, we do. That's why you're here a client, right? You want something to be built? is that we are very far all the way the foods that we produce our own stuff here. It's not everything is not everything is coming from China. Right. And I think also that it I don't know how you said ombre craft the craft. Yeah, the craftsmanship is not really it's not really something that you do, right you go study, you can become a lawyer or a doctor or whatever, right? You don't become a carpenter. No. So it's sort of an I think that what we do and and I think that showing that this is done a nice job and a really creative job and really sort of inspiring thing and that you work with your hands. And at the end of the day, you see what you've done, we should show more. So it's really sad that we are hidden away in an industrial place.

**Tanya Tsui** 15:57

So there seems to be this tension between you need space for storage, and it needs to be very cheap. And also you want to be close to clients and closer to the city center. The interesting thing for me is also that it also being closer. So kind of having a showroom also allows the materials to flow faster. Yeah, you could. Yeah, yeah.

**Marije Remigus** 16:26

Yeah. And so one of the, because we are doing interiors, right. But we also sometimes step a little bit out of the box, we're building pavilions, and we did those. A lot of them on the floor era. And one of them was for Decimator, Amsterdam, and Amira. And there, we decided to not use numerous new goods with only reclaimed wood. So we've been harvesting that. And, and there I saw sort of, because I needed like five trucks of wood, in certain sizes. And there I found out that there is not one shop for this. I have to go to many other construction companies, they also have their demolishing companies, demolishing, breaking down and demolishing, yes. Correct. Monitoring companies. Yeah. So the building companies don't have demolishing companies as well as a different name. But these demolishing companies, they all start now their own website, which stuff you can buy. And we have this to rugby club this year. Plus, it's really small. It's just for internal use. But they have it sort of like online. So we have contracts about materiality, what's going on? New Verizon now has a postcard dashboard. Oh, Scott, I think they're gonna release a new one. Soon. I heard. And but I have sort of like a big Excel of 100 of these.

**Tanya Tsui** 17:57

Yeah, so all these little Marktplatz tiny martlets for

**Marije Remigus** 18:01

the big all the little tiny places where they store stuff, right?

**Tanya Tsui** 18:05

Yeah. And also very small amounts. Yeah. Yeah. Okay.

**Marije Remigus** 18:10

That's, you know, and I have been going now for some funding to see us to find a solution for this, because I think this is all digital, right? They already put it in a database, like so we have, how can we connect all these little ones and then see if at least I can find them easier? Or maybe we should make, like an Amsterdam hub, or like a province of the Netherlands have or you know, like, these kinds of things? Really, really good.

**Tanya Tsui** 18:43

Yeah, at least at least at least the digital thing. That's not that hard. That's like, no, it

**Marije Remigus** 18:49

should not be that hard. But the thing is, is that discriminates. You're right. So of course, we're doing we're being circular with it. Now. This is super, super marketing, that people have been investing in their own business. Right. And the collaboration together. Open Source. Not this is the construction world really hard. Hmm. Okay.

**Tanya Tsui** 19:13

Interesting. Interesting. Yeah. I mean, technically, it's, it would be like a Google Flights for for construction materials, in a way. Yeah. Yeah. Interesting.

**Marije Remigus** 19:28

That was sort of about me, but also sort of. So yeah, start with your questions.

**Tanya Tsui** 19:35

Yeah. Well, the interview is, yeah, I have a bunch of questions, but I don't have to ask all of them. So it's sort of more like a conversation. I was curious about what you think. with the, with the scale of the hub, right, so right now you notice that it's a lot of very small hubs with individual companies, and you're talking with other interior companies as well. Is there an end interest in making at least a hub for all three of you. What skill would that be?

**Marije Remigus** 20:05

Well, the funny thing is, is that just across the street there, the gemeente (municipality) Amsterdam was working with the idea of making a circular craft center (circulaire ambacht centrum)

**Tanya Tsui** 20:27

center. Circular unbox syndrome. Yes, yeah.

**Marije Remigus** 20:30

So you have this already in many municipalities, also in Almere. And they also wanted to make one here just across the street. So when I heard about that one, I was like, yes, that's cool. Right. So what is going to be? And, but then I found out that it's really hard, what they are working on, because the normal secondhand store things are not interested because there's no parking spots. There's no the consumers industrial area, right. So the first houses nearby, but it's sort of like, separated. And so it's not really coming over it. And then I said to them, Well, maybe you should not go for consumers, but you should go for business. Because I'm longing for secondhand wood. And so then I had many stakeholders. So I had Hunter. Hunter is the social is a company who works with people who are have a distance to the labor market, and they make bicycles and whatever, they also making sheet material out of old wood. But on the small scale, if I want to order like 20 sheets now I have to wait four years. Yeah. So and they really want to make one line which is this, right? Just a simple line, everyone can, you know, people can sort of like hook on in some part of this line of production line, and then make a sheet of wood. So they are looking for a place to do this. Ham said how to meubel college. So this is the wood, cabinet making school here in Sloterdijk. They have now pre containers where they supply circular material. So reclaimed wood, from businesses, and but they are now saying that the old one and two year students first first year and second year students are gonna have to use we use wood for their project. So this means that they have to do five projects a year or something with at least one square meter. And this is like I don't know, few 100 of the students and like a lot and I said to calculate that. There's not enough space in your containers. So they need to help too. And then I also talked to how funny stuff would from your city needs another workspace to store trees, trunk, the trunk trees, so people can look at them and sort of select them. But he also knew place for his workshop to install the trunk and add a Buurman offset down next to it right we have the whole story complete all the wood there the wood is already collected back already, so it's a no brainer.

**Tanya Tsui** 23:29

Yeah.

**Marije Remigus** 23:33

Nowadays, they asked, I think 150 euros per square meter so people can't afford it.

**Tanya Tsui** 23:40

Huh? Yeah. Because of it's quite where is this? Where are you guys located? Backups. Okay, okay, so this is quite near the. It's in Amsterdam. Yeah. If

**Marije Remigus** 23:52

it tends to them. It's near to Cujo. Okay.

**Tanya Tsui** 23:56

Yeah, I see. I see. And what, how do you envision like the, the scale of, let's say there's a wooden construction hub.

**Marije Remigus** 24:11

And a happy hour also wants to make a robot lab. So they can sort the route, test it, scan it, take the skill out and then there are medically designed furniture.

**Tanya Tsui** 24:23

Okay. Okay. And as what would be the skill so as in how far with the would be collected from? Do you do have objects Amsterdam? Yeah. So it'd be Amsterdam scale. And then also the clients also, would you say,

**Marije Remigus** 24:41

oh, no, the clients can be oh, you know, yeah, I can be your client. Could be next door, but my clients are everywhere around the world. So. Yeah.

**Tanya Tsui** 24:49

Around the World. Yeah. Okay. Okay.

**Marije Remigus** 24:54

But mostly the Netherlands but yeah.

**Tanya Tsui** 24:57

Okay. And would you say why? Why? I do you say that the sort of collection distance is just Amsterdam and then the clients all over the world is it an issue with the price of the materials or

**Marije Remigus** 25:13

Oh no no no we we build stuff. We build stuff. We buy the woods there across the street and then we built are not going to say I'm going to transport everything we do transport a lot of stuff. I hope to produce more stuff locally. Yeah. So So I buy the wood. I make a table and sell the table.

**Tanya Tsui** 25:38

Yeah, yeah. Okay. Yeah, yeah. Um, okay,

**Marije Remigus** 25:43

I think so I think I think Amsterdam already has enough wood or this little place (circular craft center) because it's not so big. This place where they wanted to make a circular craft center. If you then talk and so if you then talk about like a bigger version of it making making like from boot like a CLT factory, you know what CLT is? So, yeah, then talking about big factories and I think they are only building them now like in the north of the Netherlands. Cheap ground. Yeah.

**Tanya Tsui** 26:22

Yeah, yeah, I see. I see. Um, okay, I think we can start looking at some of the questions let's see so what are the operators so we're now we're talking about fiction factory Yeah. What What activities do you guys do? So the storage do you transport your raw materials? You collect

**Marije Remigus** 26:57

so we order materials right so supplies the delivery that are placed on the structure driving here in here around Yes. So daily got trucks coming in and out? And of course we pick up stuff and we bring our interiors around.

**Tanya Tsui** 27:18

Yeah, yeah. Yeah. Okay. And then also you know, with the with the waste, you know, that you know, in three months this material will be available and then you guys also do the logistics for that. Okay. Yeah. And then you make the stuff you have a showroom is that correct? No, no, okay. But you kind of the clients get to see a little bit like the making.

**Marije Remigus** 27:48

Yes, well, I can show you too. So you get into the

**Tanya Tsui** 27:55

factory right? Okay, okay, I see this see

**Marije Remigus** 27:59

there's no big plant got made out of oak wood. So and here is more wood behind the workshop here as well it's easier with the phone to do a tour. Yeah, here is the upholstery area. So your lien is now showing a lot of stuff.

**Tanya Tsui** 28:29

Yeah, yes.

**Marije Remigus** 28:32

So this is sort of like living showroom right.

**Tanya Tsui** 28:36

Yeah, exactly.

**Marije Remigus** 28:40

And here now is the setup of a decor guy sort of like looking at something is wrong maybe they weren't working on it but also now because I can take you that's in here. I show you the outside so you see the logistic place that we have

**Marije Remigus** 29:13

so here is one of our trucks. There's now another one I don't know it is not our so I think they have been loading or unloading stuff. So the green building is a glass factory also buildings which is sort of like a showroom area for waco house that has tiny houses that we make out of like the whole parking logistic stuff. So they're circling on the Centrum spot.

**Tanya Tsui** 29:42

Nice Yeah, really across.

**Marije Remigus** 29:46

I thought it was a no brainer to have on there. Yeah. And there's also the water and that will be cool. You know, like cram into the water. Yeah,

**Tanya Tsui** 30:03

yeah, yeah, exactly. And so with your current

**Marije Remigus** 30:09

new workshop, so very, this is our showroom.

**Tanya Tsui** 30:16

Yeah, yes. So living showroom. Yeah.

**Marije Remigus** 30:20

I go back to my place.

**Tanya Tsui** 30:21

Yeah. Yeah. Yeah. It's really beautiful interior. Of course.

**Marije Remigus** 30:30

That's what we do. Right? Yes. Yes. Continue?

**Tanya Tsui** 30:39

Yeah. So, so with the current location, what are the pros and cons?

**Marije Remigus** 30:44

There, I think I already said sort of like, it is. Especially now, it's expensive here, too. And it's an industrial area now. But in 2050, you have to live here, because the city of Amsterdam is growing. Because this is a long time from now. That's, yeah. Yeah. Before the ground will be very expensive. So it's not really good to sell stuff. Right, then at some point, right? Because I think in 2030, they will already change. permits from now it's just industrial. And until today with changes from industrial to also living. Yeah, yeah. Then prices go up as well. Yep. Exactly.

**Tanya Tsui** 31:47

Yeah. And if you got a chance to cheat a bit

**Marije Remigus** 31:52

thing here is, of course, that we are next to the Ij (river). Just, you don't have any relationship with this by transporting stuff by boat. But it's the best you ever.

**Tanya Tsui** 32:03

Yeah. Yeah, that helps.

**Marije Remigus** 32:06

Yeah. I would also say that this is of course, like, if you go to Asia, right? If you walk around there, you can see people making stuff. They have the doors open, and you can see things clean. Things happening right now here in the Netherlands, you have to go through an industrial area. And things may.

**Tanya Tsui** 32:29

Yeah, yeah. So if, if you if you so you guys will have to move at some point. Where Where are you guys looking for? What are the requirements you are considering?

**Marije Remigus** 32:44

Well, we need workers to cycle to work, we want them to be able to. And we want to be of course in the neighborhood of our client. Good logistics. Now, the highway up here, it's not very far. So this was a good logistics.

**Marije Remigus** 33:24

I think, because we have been spending a lot of energy on it is, is is our energy. Right? I think next time if we go to another place, we will start over maybe start a bigger collaborations (for energy production / consumption). In combination of like, we have a glass factory now that's renting place, and we've been praying, because they use a lot of gas, which is a good problem now. But of course, the heat up a whole can heat up like almost completely here, the whole living behind there. Because the the ovens they created to make the glass to them and produce a lot of heat, but they're still not using it anymore. Right. So for this heat into this sort of people.

**Tanya Tsui** 34:15

Yeah.

**Marije Remigus** 34:16

So I think this is sort of like would be a better thing if we speak or think or figure out better energy systems in the industrial area. So we have all our roofs covered with solar panels. But of course, maybe we knew better. We made a roof a bit differently, because now we have these roofs. You can only put them on this side.

**Tanya Tsui** 34:35

Yeah, yeah. Yeah, exactly. It's

**Marije Remigus** 34:39

a nice building, but it's not too good for solar panels.

**Tanya Tsui** 34:42

Yeah, unfortunately. Yeah. Yeah, so energy.

**Marije Remigus** 34:46

Energy. Yeah. So there's also a windmill here next to the factory, which is not enough for us alone. But I think you know, all these kinds of things. I think this this could be better I tell you from the start, I think that's really dumb, that sort of proper display. So the next time, we will look at this more carefully. Yeah,

**Tanya Tsui** 35:09

yeah. And so you meant you also mentioned being close to clients. Is that something important? Because do they have to travel to you in order to? To meet? Oh,

**Marije Remigus** 35:21

yeah, yeah. Yeah, of course they do. COVID time we we learned not to do this, but our biggest selling point is our factory.

**Tanya Tsui** 35:31

Yeah, yeah. The fact that they get to see all the processes and yeah, it's really fun. You making Yeah. And these clients are you said? Shops, exhibition Museum.

**Marije Remigus** 35:50

Yeah, yeah. Yeah. Yeah. Okay. If you want to know now, you know, brands like Nike. Bijenkorf for different sorts, and also, more artists as well.

**Tanya Tsui** 36:08

Okay, so it would be kind of close to commercial a commercial center then because most of the time, okay. Interesting. Good to know. Um,

**Marije Remigus** 36:18

debit? Of course, we don't talk to the shop owner itself. Right. We are talking to Nike head office. Yeah. Yeah. But if we were in pretty slump, I don't think they would come up to us.

**Tanya Tsui** 36:29

No, yeah. Okay. So it's actually not talking to the shops, but talking to us as we close to a place that has a lot of headquarters like Amsterdam, maybe? Yeah, yeah. Hmm. Interesting. Because what do they do? Do they do they decide the interiors that say Nike, they decided to interiors for all their shops? Is that?

**Marije Remigus** 36:51

Yeah. Well, no, they do it for

**Tanya Tsui** 36:54

Europe. Okay, okay. Wow.

**Marije Remigus** 36:57

You're in? I think Europe is a bit bigger than that. But yeah.

**Tanya Tsui** 37:01

Okay. Yeah. Okay. That's good to know. So it's not actually where the materials will be used. It's just where the clients headquarters. Yeah. Okay. Interesting. Um, okay. So we can now look more into operations.

**Marije Remigus** 37:21

I think sort of what also could be interesting in the difference of interior building and building buildings that we produce here. We make all everything designed for dis-assembly. And then we put stuff together in the building. Unlike the building construction works, where, you know, this truck with the concrete comes to the building site. Here, all the materials are brought over here (the fiction factory), and then we make it. We call it a solid prefab. It can go on vacation. Yeah. It's it's hardly that we sort of like bring a whole package of sheet by our supplier to the museum. Yeah, yeah. Never know. There's always something in a way. Yeah. Yeah. That's the difference. It always goes through the factory. Yeah. So it's

**Tanya Tsui** 38:07

everything is prefab, which is the model of the building industry in the future? I mean, a lot

**Marije Remigus** 38:13

of good, right. Sorry. It should, because if you're building outside in the rain, you can say I love my job. At some point. Actually, you will hate it.

**Tanya Tsui** 38:22

Yeah, exactly.

**Marije Remigus** 38:24

And of course, you will be in the rain, but let's keep it as short as possible.

**Tanya Tsui** 38:28

Yeah, yeah. Right. So building

**Marije Remigus** 38:30

prefab, yeah. Is that That's plumbing is the way to go. Yeah, if you see how quick location time machines and stuff you need over there. It's a no brainer.

**Tanya Tsui** 38:45

And so let's talk about the project that you're doing, where you're taking these installations that will be demolished, and then you're sort of finding a new client for these installations. So Where where are they located? And what's the furthest you would be willing to travel for this? Something to be demolished? Like an interior to be demolished and resold?

**Marije Remigus** 39:20

Well, that's that's a funny question. I would say just the Netherlands. And but now we are asked to come back years ago, we'll get to sort of like, hang on Nike. So five years ago, we made the whole show up in London house of innovation school, and now they want us to redo it in a whole circular way. So then the stuff is in London, right and we are okay with ringing Just don't call for taking back. Always a thing, right? It's more expensive. Why is it more expensive, more expensive to transport the handling is more expensive. Have lunches to throw it away and buy new.

**Tanya Tsui** 40:01

Oh, yeah. Yeah, for sure. Yeah. So But is this is the logistics something you arrange yourself? Like, for example, if you, even if you go to London, you're going to pick it up with your own trucks?

**Marije Remigus** 40:17

Well, I've never taken something back from London yet. But now we are asked to do it. Right? Yeah. Who? I don't know. So we have to, I really want to sort of like think about it with them as well, to say, okay, you know what we can, because the thing is, is that there's not so many interior builders are working in a sustainable way. So. And, of course, we built the interior, so we know everything about it. I think it would be nice to collaborate, and with local partner as well. I need to find I think I need to create another ecosystem and UK products to help me out to make it more sustainable.

**Tanya Tsui** 41:00

Yeah, yeah. Okay. Because for the

**Marije Remigus** 41:03

for the big pavilion, where I got all the goods from, like, 100, but like, 25 suppliers. I don't think all these transports really do this know how co2 neutral we've been with using the route, right? Yeah, yeah. All these transports.

**Tanya Tsui** 41:22

And so all of these things, even with the with secondhand wood, you guys picked it up yourself with your own trucks. Okay. Oh, well,

**Marije Remigus** 41:29

no, no, no, no, it's also good that they delivered it, it was all special delivery, right? It was like, like a quarter of a truck. And then I needed to order 20 More of them, but at different places. You can maybe if I could find them in the same time in the same place, I could say, You know what, I arrange one truck and it will drive around and then it will be sort of like this way that this? This is not happening now at this moment. Yeah. Next thing connecting Logistics is really hard.

**Tanya Tsui** 41:57

Yeah. And that surprises me that would show you wouldn't, let's say travel to Maastricht to pick up some material. Okay, okay. So the sort of the travel cost is...

**Marije Remigus** 42:11

The client pays.

**Tanya Tsui** 42:13

Okay, that's okay. The Oh, that's true. Ah, so it doesn't really matter that much. It's just sort of time then rather than cost. You went drive to Poland to go pick something up, but okay.

**Marije Remigus** 42:27

Yeah, we've been, we've been for years, we've been building booths all over the world. And then we would drive over there like with a trucks. And then, of course, we knew we were going to throw stuff away. So we will be back with the six trucks.

**Tanya Tsui** 42:41

Okay, interesting. Okay, good to know.

**Marije Remigus** 42:44

foxtail had to drive back. Yeah, yeah. But then it was just the only it was going back earlier. So we only pay for 60.

**Tanya Tsui** 42:53

Okay, I see I see. Interesting. And with the customers. So these are people who would buy these secondhand materials? They where are they usually located? And do they pick up? They pick up your material? Right? So you don't you don't send it to them? So let's say you have two old pieces of plywood, you kind of talk to your ecosystem and they come pick it up. You don't deliver to them?

**Marije Remigus** 43:22

No, no, no, no, no, no.

**Tanya Tsui** 43:25

So in a way you don't care.

**Marije Remigus** 43:28

Or sometimes, you know, if it's that much, you know, I'm just sort of like passing by when the thing is, is that my client wants to have the space empty as soon as possible. So I'm facilitating this to be that I'm taking the stuff to my place, then I take it away from the place Museum, for example. This is my place and I can pick it up there when when it's pizza, you know, cannot do it on Tuesday, two o'clock, because that's the time slot in the museum. And then they can have it on Wednesday, whatever time they want.

**Tanya Tsui** 44:01

Okay, okay. And in theory, you don't you don't really care how far they are because they pick it up. They can be from China doesn't matter. Well within the network, for

**Marije Remigus** 44:17

example, there's no pavilion in this movie out of from China and launch of bamboo. Fantastic, right? Yeah, not taking it out. taking you home.

**Tanya Tsui** 44:29

No, no, for sure. Yeah.

**Marije Remigus** 44:33

Yeah, right. Who is taking responsibility for that one?

**Tanya Tsui** 44:39

Yeah, yeah. tu tu, tu tu tu the customers are in your ecosystem. Where Where abouts? Are they? Are they around Amsterdam or even larger in Amsterdam?

**Marije Remigus** 44:50

Yeah. And so I take sort of like if she does two square meters, I take it if it's one square meter I have to have saved for the school. and also volume of water down. They come and pick it up. They drive around the Netherlands with piece of wood. And then I have some designers and they want the latest stuff, they can even sort of like, look in a bin, for example. Then I also have some squatters. We call them squatters, whether or not they are making festivals. Right. Now what they are making festivals

**Tanya Tsui** 45:30

are okay, yeah, they are only

**Marije Remigus** 45:35

this time would be. I could I could give them everything I have.

**Tanya Tsui** 45:39

Yeah, yeah. Okay.

**Marije Remigus** 45:41

I see wintertime. I don't have them.

**Tanya Tsui** 45:44

Yeah, yeah. It would be very sad. A winter festival? Yeah. Let's see. Do you think these could this this could change in the future? Like the location of suppliers and customers and how far you're willing to travel?

**Marije Remigus** 46:05

But, you know, for me, it would have been so perfectly if it was just across the street, right? Because there I could also then have my external warehouses were stuff that my colleagues would just walk in. And, but also, other people in other businesses could order stuff from. And so that would be like the best thing. And the fact that there isn't a Buurman in Amsterdam totally amazes me. So I'm now there's one woman working on it, but it's so hard for her to find the place to do this.

**Tanya Tsui** 46:37

Huh? Yeah. Because of the price. too, too. And okay, so in terms of transportation, you guys use road? Yeah. So no water? No real? No. Okay. Okay. And in terms of accessibility, you want to be wanting to be location to be accessible to the whole country? Yeah. Because yeah, okay. Okay. And do you think this could change in the future? Would you be thinking of using water or rail?

**Marije Remigus** 47:14

Well, I, there is this sort of like, I think there is a hub here in Amsterdam, and they are transporting also by boat. I think they are working on this one. It's just that we are too ad hoc. Right. We don't have something (a regular material stream) every week. I think they are now focusing on these parties so that they have sort of like, the waste collection or whatever. Right. So yeah, so yeah, I really would love it. That would have to be happening, right? Because I'm also for example, I'm building also stuff in artists. Yeah, they're both there next to the water, right?

**Tanya Tsui** 47:52

Yeah. Yeah. Water, water is more for large scale sort of regular material. Yeah.

**Marije Remigus** 48:01

Yeah. You're very

**Tanya Tsui** 48:04

irregular. Yeah. Yeah. Let's talk a bit about the land related stuff. Do you guys have requirements for environmental permits and land use for your activities? Like the manufacturer, not manufacturing, but like the making that you guys are doing? Is their environmental permit? Like level three? Level two? Okay, yeah, I Yeah.

**Marije Remigus** 48:31

Okay. Yeah. But of course, we are. I think we have regulations also with fire stuff, and all these kinds of things. And the gas bottles, and there are regulations, because we are a company and we don't produce that much pollution in that way.

**Tanya Tsui** 48:51

Yeah. So probably the requirements are not so strict, especially with environmental permits. So what about the opportunity to expand? Is that something important to you in terms of location, now we're always running out

**Marije Remigus** 49:07

of space. And this moment, we are sort of because we have been so into making tiny houses that we call houses and they are expanding big time and we already started making there's already another factory in Islam or in this province door. And so there we build a new factory that also because we are growing our own installation there so we are growing our own flax

**Tanya Tsui** 49:43

flex, flex, like the plant. Yeah. Okay. Very cool. Very cool. Yeah. And okay, so,

**Marije Remigus** 49:53

I've been expanding but then to the Netherlands. Yeah.

**Tanya Tsui** 49:59

I see. I see. So out of these other three things, the land price, the size of the land, and sort of the land use restrictions, what do you think is the most important? Size price and like environmental restrictions? Actually, let's just go size and price. Would you rather have a small piece of land that's really expensive or like a large piece of land? That's really cheap.

**Marije Remigus** 50:36

So the last thing Yeah.

**Tanya Tsui** 50:39

But usually these these locations are kind of further away from, like, city center. And

**Marije Remigus** 50:48

yeah, yeah. Yeah, I think that what we have now, so you can look it up on Google, right? So we started with just the fiction factory. So the building, then we were able to build the two other plots, just across the street. And there we wanted to build our warehouse. But it never became our warehouse. We can swim a little houses. Yeah, we had a we expended some of the production of some pieces for our efforts, for example, and all these things happen. So it never has been a real warehouse. It's just a small warehouse. Now, at the end, when Elaine became a factory, and then he also expanded, but it's sort of like investing as well. We also bought the other piece of land and where we built the factory put a glass blowing company. That's growing the company, but investing in land and building.

**Tanya Tsui** 51:44

Yeah. Okay. Very cool. Very cool. And you also mentioned, finally that you wanted the staff to be able to cycle to work is the client.

**Marije Remigus** 51:56

Yeah, yeah. That's a bit of a different term. And my my colleagues then yeah, yeah,

**Tanya Tsui** 52:01

yeah. So this is, are your colleagues highly skilled, as is it the highly skilled labor or the sort of UNbacked?

**Marije Remigus** 52:09

Labor? They are highly skilled? Yeah. In craftsmanship,

**Tanya Tsui** 52:13

and craftsmanship. Yeah. So it's more Yeah, the craftsmanship. People. And also you say

**Marije Remigus** 52:20

craftsmanship is low, then, then it is, but I don't say it's no,

**Tanya Tsui** 52:24

no, yeah, you're right. You're right. Maybe that's the wrong word.

**Marije Remigus** 52:29

Everyone talks about it, but it should not be.

**Tanya Tsui** 52:32

Yeah, yeah, that's true. That's true. And so is the craftsman who should be able to cycle to work.

**Marije Remigus** 52:42

Yeah, but it's this this is. So if you're talking in levels of education, we have, we have everything here. We have people from the Pew Dell. We have people who have been studying

**Marije Remigus** 53:00

whatever wants to work for it. But we also have people who have been studying just for cabinet making, for example. Yeah.

**Tanya Tsui** 53:08

Yeah. Okay. Okay.

**Marije Remigus** 53:11

Well, someone has two brains, and someone else has two hands.

**Tanya Tsui** 53:16

Yeah, that's true. That's true. And is it important for you to be close to other companies? In a similar industry?

**Marije Remigus** 53:32

No, I don't look at it like that. No, no, no, no, no. It's our clients who like that they can easily access us and that we are accessible during the day. Yeah.

**Tanya Tsui** 53:44

Okay, that's clear.

**Marije Remigus** 53:45

I also, because of sustainability, I also know when there is a project that is in Amsterdam, I really would like you know, I'd rather have that one then one in Japan, for example. Yeah,

**Tanya Tsui** 53:57

yeah, I can imagine. Yeah, yeah. Okay. Okay. Very cool. Um, I think these are the I've asked all my questions. Is there anything else you'd like to mention that you think is important with location?

**Marije Remigus** 54:16

I think what I said that there is a difference between interior building and building building that sort of like for you to understand that it's different. And

**Tanya Tsui** 54:28

by that you mean that there's this prefab element and also a shorter lifetime? Yeah.

**Marije Remigus** 54:33

Yeah. And and maybe, with me growing into, like a material in the interior world, you don't have a lot of problems with certification of reusing materials. Hmm, yeah. So, you know, if you build something out of wood, we need to sort of like certification that the wood is strong enough bricks. sample material building doesn't really matter. Yes. Yeah. Yeah. That's also makes it easier for us to reuse

**Tanya Tsui** 55:12

wood. Yeah, indeed. It is a good yeah. A good starting point for US economy start with the interior stuff. That's why I was interested in this interview. Yeah.

**Marije Remigus** 55:26

Are you surprised by my answers?

**Tanya Tsui** 55:27

Oh, one thing that surprised me was, you know, you're willing to go to Maastricht, you know, to pick up stuff. I would have thought that there was a transportation limit. But actually, it's because you don't pay for the transportation. That's why it's more about time than about money. And that's a much larger distance. So that that's surprising. Yeah, and it seems really exciting what you're doing with the with the network, and yeah, I really good luck with the unbox Centrum as well, I hope that really Oh, well. I

**Marije Remigus** 56:03

gave up on the because of, and I've been in many talks with them. And I gave up so it's, Oh, that's too bad. Yeah, well, you know, maybe too impatient. But they are making decisions and spending a lot of money thinking about it. Yeah.

**Tanya Tsui** 56:23

Yeah, I guess that's a government.

**Marije Remigus** 56:26

Yeah. So can I follow your research some way? Or do you keep me posted? Because?

**Tanya Tsui** 56:31

Oh, definitely, I'll keep you posted. As soon as I write this paper. I hope by fall, it will be submitted. But not it takes a long time for things to publish. But I will if I have a draft, I will send it to you and and everyone else I interviewed. Yeah. Yeah. And

**Marije Remigus** 56:48

we are you still in need of other companies? Or do you now have enough response during your

**Tanya Tsui** 56:54

call? I would be interested to hear some other company names. Can I send you an email to just ask for like a list if you have time? Yeah. Yeah. Okay. Okay. Great. Nice. Thank you so much. And

**Marije Remigus** 57:13

sort of like write down the names like this, this one or this one, this one, and then you can say, Oh, I really would like to have this one. Right and give you more details. Okay.

**Tanya Tsui** 57:21

Yeah, that makes sense. That makes sense. Okay, thank you very much.

**Marije Remigus** 57:25

Have a good day. And I keep on folding.

**Tanya Tsui** 57:30

Thank you very much. You're welcome. Bye bye. Bye. Bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_DHK Kozijnen\_Mustafa Karabacak

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**SUMMARY KEYWORDS**

netherlands, customers, people, windows, factory, expand, big, difficult, window frames, company, delivery, location, logistics, products, sell, poland, requirements, clear, business, stock

**SPEAKERS**

Tanya Tsui, Mustafa Karabacak

**Tanya Tsui** 00:01

This meeting is being recorded. Okay. So let me introduce the interview a bit and yeah, we can get started. Thank you so much. Okay. Okay. Let me make it bigger. Okay. So, yeah, my research looks at, you know, what the Netherlands could look like in the future in terms of, you know, circular economy, you know, if we had more of these activities like you guys do at the outlet, you know, what would the Netherlands look like physically on a map? And so that's why I'm curious to know about your location requirements. So when you pick a location for your facility, what do you care about? Is it the accessibility? Is it? Is it the people nearby? Is it water transport, or rail transport? So the idea is, once I get these location requirements from you, then we can make a map of the Netherlands to show Yeah, where's a good location for companies like you in the future? So the interview will come in three parts. So first, it's just the introduction to ask you some questions. Basic questions about de haka, Khazanah. And then hearing a little bit about your perspective with the facility, what you like and dislike about your current address, what you might be looking for. And then the third part is more detailed. So asking really some some numbers, like how far away are your customers or suppliers and stuff like that? Yeah, so the interview is going to be recorded. Okay, so I will stop sharing my screen, because it might be better if I would like to see your face. So just some introduction, questions. So what is your role actually at the day hochkar?

**Mustafa Karabacak** 02:31

Because actually, the founder together with my friend, we started like, four years ago.

**Tanya Tsui** 02:38

Oh, really? Cool.

**Mustafa Karabacak** 02:41

So, four years now, and my role currently is more on the marketing, side administration. And just a little bit of management.

**Tanya Tsui** 02:53

Okay, very cool. Very cool. So I assume that you were okay. So how many facilities do you guys have in the Netherlands? And where are they?

**Mustafa Karabacak** 03:01

We have only one facility. That's one of our strict. Yeah, that's the only one we have.

**Tanya Tsui** 03:10

Okay. And do you mind giving me the address?

**Mustafa Karabacak** 03:16

No, of course, it's clip away.

**Tanya Tsui** 03:20

Do you mind typing it? Yeah. There you go. Sweet. Thanks.

**Tanya Tsui** 03:38

Okay, so Wow, this is really cool. Actually, I didn't know you were the founder. Happy because you will know a lot more about the occupations I really happy you said yes to this interview. So approximately how much material does your company process each month? Like how much goes through approximately?

**Mustafa Karabacak** 04:05

I think around. We get deliveries each week, but we also deliver to our customers each each every day. If I had to guess how many pieces I think it would be around 2000 pieces

**Tanya Tsui** 04:24

pieces per month. And is it all window frames or is there other products as well?

**Mustafa Karabacak** 04:32

It mostly is window frames, but also doorframes sliding windows entrance doors. So it really depends on what the customer orders we have a lot of windows and doors on stock that we can just immediately deliver to the client. But we also have measure made windows and doors and sliding windows. The processing time for that as If the client or is it, it takes around four weeks to we receive it, and then we send it to the customer. So they takes around five weeks before they receive it once they order it. But also, it is possible for us if we have big orders to dropship the windows from the factory in Poland, immediately to the customer in the Netherlands. Okay, so enter our warehouse, but straight, go straight to the customer.

**Tanya Tsui** 05:26

And you work with one factory in Poland?

**Mustafa Karabacak** 05:30

Yes, only one factory. But our windows from stock a big part of it also comes from Ukraine. Yeah, that's, that's also what we do.

**Tanya Tsui** 05:43

Okay, okay. I see. I see. And approximately how big is your facility?

**Mustafa Karabacak** 05:51

2100 square meter.

**Tanya Tsui** 05:55

Okay, and now I will share my screen again. So let me zoom in. So which of these activities do you guys participate in? I this I will talk specifically about the plastic window frames outlet you said with the incorrectly measured window frames you send it? So

**Mustafa Karabacak** 06:23

there's storage? Does it mean like storage if the customer doesn't pick it up? Or more for the windows from stock? Because they're also in storage?

**Tanya Tsui** 06:31

Oh, yeah, for sure. Yeah, I would say yes, for storage.

**Mustafa Karabacak** 06:34

It's a very big part of our company, actually, that we have storage because we have also a lot of stock that we need to be able to send quickly to the client. Also to temporarily keep the stock I mean, the windows for the customers who ordered for measure, mate, sometimes they wait like a week or two weeks before they pick it up or before they need it. So we have like, temporarily in our stock. So it's a very big part actually. Logistics is also a very big part. Because once we receive the windows from our factory in Poland, we need to have plenty you know, we need to unload it here. We need to have the time for the guys in the warehouse for them to be able to sort it to know when it comes so we don't make soft customers coming with the with the factory. So what does reverse logistics mean?

**Tanya Tsui** 07:31

Oh, reverse logistics would be if after you've sold something to the client, it comes back. So broken or whatever.

**Mustafa Karabacak** 07:42

Yeah, it's sometimes mistakes happen that or logistic partner breaks it or it just arrives broken by personnel. We also need to bring it back. Waste Collection. I think that is more for like a factory. Right? If if they have like, if they are manufacturing something and they have like rescue?

**Tanya Tsui** 08:05

Yeah. Well, actually for the incorrectly measured window frames. Where do they come from? Also from Poland?

**Mustafa Karabacak** 08:14

Yeah, that is mostly if we order wrong, or if the client orders it wrong or something breaks off. We just put it on the side of the like we have a big warehouse. But on the side. We also have a little bit room outside. We just put it there. So waste collection. I think we also have Yeah.

**Tanya Tsui** 08:38

I'm processing? I don't think so manufacturing No. showroom.

**Mustafa Karabacak** 08:43

Yes. We have a showroom as well. Okay.

**Tanya Tsui** 08:48

r&d.

**Mustafa Karabacak** 08:50

Not as much as for the products more for marketing, but I don't think that's that's the same, right?

**Tanya Tsui** 08:57

Yeah, no, no, no, it's not the same. Okay. Blah, blah. Okay. Are there any other activities that you want to mention?

**Mustafa Karabacak** 09:05

installation of Windows? Okay.

**Tanya Tsui** 09:09

Yeah. So you also so the service that you provide is the whole like storage and you do the logistics and installation?

**Mustafa Karabacak** 09:20

Yeah, installation is a different branch. We try to build it down. We try to start with installation, but we have a lot of customers in the region that wanted also installed. So that's something we do now as well, but not we will not do any more in the future. Okay.

**Tanya Tsui** 09:43

And why not?

**Mustafa Karabacak** 09:45

We want to focus on just selling to so you know, the the storage the logistics is a very heavy process that we went to streamline it and we just think having installation next With makes it very difficult to put your time and energy effectively in one process. So we just want to quit installation to focus more on the other ones.

**Tanya Tsui** 10:11

Okay. Okay, I see. Yeah, that makes sense. That makes sense. Okay. So the next part is. So that was the introduction. The next part is your view on the location. So okay, what do you like and dislike about the current location that you have?

**Mustafa Karabacak** 10:30

The biggest, biggest upside, the positive side is that we're very close to the border with Belgium. So we also are able to get a few Belgian customers with the German border, but we don't get so much customers from there because there are a lot of window companies in Germany as well. Okay. Also, it's very close to our hometown. So that I think that is the biggest, biggest thing why we're here. Also, this place in particular is very easy to reach from the from the highway, or from different cities.

**Tanya Tsui** 11:15

Okay. Yeah.

**Mustafa Karabacak** 11:17

We previous location, it was in the city center. Not so far from the city center, but it was very difficult for trucks, or customers to come there and unload or load because you were still in like, in Vegas, have you called suburban

**Tanya Tsui** 11:36

neighborhood? Yeah. Yeah. So

**Mustafa Karabacak** 11:39

people were it. It could get stressed sometimes. And here, you just have the space and the time to do everything easily and which are on your own? Your own time.

**Tanya Tsui** 11:50

Okay. Okay. So are you now in an industrial area? Yep. Okay, I see. I see.

**Mustafa Karabacak** 11:56

So we're next to another building. Material shop market. Yoga nail is very big in the Netherlands. So also people going to buy something there. They drive past our company. So it's also free advertising?

**Tanya Tsui** 12:12

Yeah, yeah, for sure. What about dislikes,

**Mustafa Karabacak** 12:18

it's not very central to Netherlands, it's very south. So if people want to pick up things, or come to see things very much of the times, many, many times they're not able to because it's too far for them.

**Tanya Tsui** 12:37

Yeah. merciless. Yeah, it's like, another country? I don't know. I'm just kidding. Sorry.

**Mustafa Karabacak** 12:43

That's how people didn't wanna see it. Exactly. I'm sure if you were, like more central in the Netherlands, we could be able to earn more money have more revenue, because also a lot of the buildings. Constructions happen up in the Netherlands. Yeah, that's true. Yeah. Yeah, yeah. But it's still you know, I'm not very sure about that. Because we also have a webshop. So we sell a lot of online. So it's still, you could say, like, we can sell to the whole Netherlands, but still people sometimes want to be close to the company. They're buying windows from? Yeah, that is the biggest, biggest negative side. Yeah, I see. Is I don't think there's any other negative side.

**Tanya Tsui** 13:30

Okay. Okay. And if you could choose a location for your facility again, what what would you consider?

**Mustafa Karabacak** 13:41

Probably a 12. Sorry, I went over

**Tanya Tsui** 13:47

and over, okay. And why

**Mustafa Karabacak** 13:51

it's still close to the Belgian border, but also closer to the to the upper side of the Netherlands.

**Tanya Tsui** 13:58

Okay, okay. Are there any requirements that you would also look for when, let's say if you had to pick a location again, and you had to ask a real estate agent, okay. I need like places like this, this and this. What would you ask?

**Mustafa Karabacak** 14:15

A good place for a showroom. A good office that can house at least 50 men and at least 5000 square metre of warehouse.

**Tanya Tsui** 14:29

Yeah. So looking to looking to expand?

**Mustafa Karabacak** 14:34

Yeah, actually, this place is starting to get too small so

**Tanya Tsui** 14:40

and there's no space for you to expand where you are now?

**Mustafa Karabacak** 14:43

Nope. There's very heavy and big products. So you're limited in your, in your options to stack them. So they have to be all always on the ground because they're very heavy and it's very difficult to move. them around because you also need a forklift most of the times. And the forklift also needs a lot of space to turn and make maneuvers. So you're very limited. I can send you some pictures later on the mill how it looks. So you have like an idea.

**Tanya Tsui** 15:15

Oh, wow. Yeah. Thank you. Thanks a lot. So actually everything is stored on the ground. It's not like on Okay, yeah, then you need a lot of space indeed. As it because also because it's a glass. So it's very fragile. So you don't want to put it high up, or is it? The weight?

**Mustafa Karabacak** 15:34

It's, it's the glass is not very much the problem because you have the frame around it. So it's still protected. It's just it's very difficult to move around. It's very heavy, because two people have to put it off. It needs to be in such a position that they can easily put it on a pallet.

**Tanya Tsui** 15:53

Okay, yeah, that makes sense. Okay, clear. Um, are there any other requirements?

**Mustafa Karabacak** 16:03

Here? Did you hear what I say? No. Okay. Yeah, that's my the other founder if I miss something, he was the focus. Or proper? Good. It needs to have a good styling. How do you say it is?

**Tanya Tsui** 16:25

An action or out straggling out? Shining?

**Mustafa Karabacak** 16:28

Yeah, it needs if customers see it, it needs

**Tanya Tsui** 16:34

to show. Okay, okay. Yeah.

**Mustafa Karabacak** 16:38

You know, you can put some banners or nice building that's clean and kept. Okay,

**Tanya Tsui** 16:44

Spoken like a real CMO. Okay, great. So let's move on to the more detailed numbers. The requirements. So let's start with the operations. So you mentioned so this is about the suppliers and your customers. So you mentioned the supplier is from Poland, there's one supplier? Yes. Supply.

**Tanya Tsui** 17:18

And why that supplier? Are there a few been considering others?

**Mustafa Karabacak** 17:25

We have been considering others with this supplier, we have very good account manager. Also, they speak Dutch. And yeah. And they speak Dutch and just Polish people speaking Dutch. They can deliver very fast and they have good prices. So actually, they're like the perfect mix of a factory The only thing lacking from them, sometimes as a service. Like if something goes wrong. They they are very difficult in fixing it. Because they're so big. They're they they don't care as much about their customers as maybe a small factory.

**Tanya Tsui** 18:04

Yeah, yeah. Um, and okay, so then the windows they get sent to you, but they they are responsible for that leg right from Poland to you.

**Mustafa Karabacak** 18:19

Exactly. They have their own fleet of trucks. So every week they come here to deliver it, but it's also included in the price. Yeah, yeah.

**Tanya Tsui** 18:30

And is this typical? So usually the manufacturer is responsible for the final delivery. Okay.

**Mustafa Karabacak** 18:40

A lot of factories in Poland, they have like that, because it's much easier for the customer.

**Tanya Tsui** 18:46

Yeah, that makes sense. Okay. And so with the customers, your customers who are there typically and where are they usually located?

**Mustafa Karabacak** 18:57

They're located usually in the region, or more on the opposite side of the Netherlands, think about like Amsterdam, Rotterdam. And it's a mix between business clients, you know, just people do as two as their job to do construction. So they call them construction workers. Contractors. Yeah, contractors Exactly. Also just private customers just buying one window or one door for their house or for their shed and replacing it.

**Tanya Tsui** 19:37

And how far are you willing to travel to customers?

**Mustafa Karabacak** 19:46

We have a logistic partners so they can deliver it for us. And they can deliver through like the whole world. So for us there is actually no limit because we don't have to do it ourselves.

**Tanya Tsui** 19:59

Okay, I see. And so there is no, I mean, there must be a price difference, right? If you're delivering next door versus another country. I mean, is it the delivery cost is so low that it doesn't make a difference with the window. Price for.

**Mustafa Karabacak** 20:18

For the Netherlands, it doesn't matter for the Netherlands, it's just one fixed price. Depending on the loading, loading space, the delivery takes only exception is to Belgium and the Wild Island on the north of the analogy of the small islands. Those costs more but we also communicate this with the client.

**Tanya Tsui** 20:45

Okay, okay, so the cost is placed onto the client. Exactly. That actually doesn't matter to you. Neither someone from the US can, can order but they can just pay a lot more.

**Mustafa Karabacak** 20:59

In theory has.

**Tanya Tsui** 21:00

Yeah, yeah. Okay. Okay. And so the furthest customers you have is in Belgium. Are there any other countries other than Belgium?

**Mustafa Karabacak** 21:10

Like the customers themselves are Dutch or Belgian but the furthest delivery ever had was to France. Okay. Italia, obviously, oh, yeah, we also one time put a delivery to Aruba.

**Tanya Tsui** 21:31

Aruba Rupa is that

**Mustafa Karabacak** 21:34

it's close to the Caribbean's

**Tanya Tsui** 21:36

what? Really? Wow.

**Mustafa Karabacak** 21:40

We just put it on a transport pallet. Yeah. And then put it on a logistic partner. They brought it to the the cargo company that would bring it with the boat to them. Okay. Wow.

**Tanya Tsui** 21:57

And on average, would you say where? What's the average distance from you and the customer? From all orders? Yeah, like on average?

**Mustafa Karabacak** 22:07

I think it will be around 100 100 Kilometer

**Tanya Tsui** 22:11

100 kilometer. Okay. This is really helpful. These numbers. Are there other partners that you need to work with that have like a distance requirement that I don't know about?

**Mustafa Karabacak** 22:33

Or a partner's know really are only like the factory, they can drop ship it to the client. That's one partner. And the other partner is our regular logistics partner that just picks up the goods like today and delivers it to the customer tomorrow. These two parties that do that for us?

**Tanya Tsui** 22:59

Yeah. Okay. That's clear. That's clear. Oh, no, sorry, I'm

**Mustafa Karabacak** 23:02

seeing it wrong. We also have for the smaller windows, we put them in seal and bubble foil, and we leave them in a post and our bigger place and they deliver it for us as well.

**Tanya Tsui** 23:19

Okay. Clear, clear? I'm important. Do you think that, you know, what we just talked about with the suppliers and the customers? Do you think it could change in the future? Like, I don't know, was? Was there issues with like, during COVID? Or, you know, now with the war? Does that change how you see, you know, your suppliers and customers and where you want them to be?

**Mustafa Karabacak** 23:55

Not really that much, because when the war broke out, and Ukraine, we were also concerned about, you know, not getting our deliveries. But they're located more on the western side of Ukraine. And so for the only downside was the prices rose up and delivery times went a little bit up. But that was to be expected. That was everywhere. So for us, we didn't we didn't consider that we would no change the manufacturing or the factories depending on the war, because we thought it would be good, you know? All went well.

**Tanya Tsui** 24:33

Yeah, yeah. Okay. That's clear. And what about the customers? Are you interested in, you know, selling to the Netherlands or beyond? What what do you think of in the future?

**Mustafa Karabacak** 24:46

We're mostly interested in keep selling to Belgian people and the nettle, the Dutch people. We could try to expand to Germany or other countries, but we're mostly selling The company so we first want to position ourselves as a market leader here. Before we expand to other markets, the only thing that we that we are trying to do is expand our products. So we can

**Mustafa Karabacak** 25:22

so we can offer more products to our customers like, we will also want to sell interior doors. facade, things that you can put on your facade, aluminium windows, so we just want to expand our assortment so people will be able to buy more, so we become more like the brand name for a lot more products and only windows.

**Tanya Tsui** 25:49

Yeah, I see. I see. Okay, so the next part is the transportation parts. So the main What is the main mode of transportation? Is it road water? Rail? It's road. Okay. And, and why road?

**Mustafa Karabacak** 26:12

We have we did it in the past with sea sea cargo. But it takes a very long time before it arrives. With the truck. It's much faster.

**Tanya Tsui** 26:26

Yeah. Okay, so I just missed you. But you said you tried a while for a sea cargo or not?

**Mustafa Karabacak** 26:32

Yeah, we tried it once. But it took a very long time. For us delivery times are very important. So we need to have a really quick also with with the sea, it's a lot more trouble with, with with the how do you call it?

**Tanya Tsui** 26:50

The customs? Yeah,

**Mustafa Karabacak** 26:53

I see. At least on the factory, it goes to the customs and they will receive it from COVID. It's just leave some factory and come straight to the company without going to customs because it's it's from the European Union. So any type of transport would actually be not efficient for us.

**Tanya Tsui** 27:14

Okay, I see I see. And you mentioned. So there's kind of different kinds of accessibility, right. So you can be in a location that's very accessible for the whole of the Netherlands, or you can be in a location that's very accessible to just the province or the city. So what kind of, of scale are you looking for, in terms of accessibility,

**Mustafa Karabacak** 27:49

because we have a webshop, we actually want to be accessible for the whole of the Netherlands. And we're most

**Tanya Tsui** 28:01

men,

**Mustafa Karabacak** 28:02

mostly trying to put also on too much strength, so we put away that, that, that idea of them, which we want to give as much of as much information as we can on the website on the webshop. So people don't feel the need to visit us so we can be accessible online.

**Tanya Tsui** 28:26

Yeah, yeah. So it's mainly the country. Yes. Okay. Clear. And do you think this would change in the future for the transportation like the road, you know, losing the road network, and then being accessible at the country scale? You know, would you maybe want to expand to, you know, northeast Europe or use another kind of transportation in the future?

**Mustafa Karabacak** 28:53

And no, the only idea we have in our mind that we entertained a little bit is that you see a trend that a lot of factories make it very easy and accessible for people to order from them. That means also like our customers might be able to order from the from the factory in 10 years. I hope not because a lot of factories still protect their their dealers. But there's also a lot of factories that make it very easy to order. So we entertain the thought of maybe maybe a starting your own factory in a cheaper country like Turkey or Eastern Europe, but that's something that's like only been entertained as a thought nothing really, that we worked on or worked out.

**Tanya Tsui** 29:46

Okay, yeah, that makes sense. Okay, so we can move on to the land requirements. Okay, let me let me share my screen again. So out of these requirements, let me zoom in. So out of these requirements, you know, price opportunity to explain, can you rank from the most important to least important? So actually, it's just three, the price, the ability to expand and land use restrictions. And if you think can think of something else, you're free to mention that as well.

**Mustafa Karabacak** 30:32

I think this is for like the storage, right? Yeah. The first one would be environmental permit or land use restrictions. And that's mostly for the land use restrictions, because you, you need to have some kind of forgetting for a land to be able to run your business there. The second would be land price. Oh, no, sorry, the next one will be opportunity to expand in the local area. And the third one will be land price. The second one, because the opposite these two, the land price is not very important, because it needs to be cheap. That's definitely something we look at. But you can, you don't have to be in a high land price location for a storage. So it really doesn't matter. As long as a little bit of like in a village or maybe outside of the city. You have the room. So the opportunity to expand in the local area will be a lot more. A lot better. Because as we grow. As we've seen in the past four years, we've seen that every time one of our points was, we need to expand but we cannot expand in the current location and moving everything all the time is very difficult. So if you have the opportunity to expand in your current area, that would be the best for us.

**Tanya Tsui** 32:09

Yeah, yeah. Because yeah, I guess when you expand, what's the difference between expanding in your own location and just making another branch somewhere else?

**Mustafa Karabacak** 32:22

Especially, especially since you're still a very young company, for us, it's important that everything stays together, just you know, you know, what happens? A lot of company?

**Tanya Tsui** 32:32

Yeah, that's true. That's true. Okay, that's clear pool. That surprises me, because I always always thought land price is the most important, but it's actually good to know. And finally, this business requirements out of these factors, again, it's three. So there's skilled labor in the neighborhood, or the companies in the neighborhood and unskilled labor. So skilled labor is like, you know, I don't know how they Oh, and above. And then unskilled is habitable, below habitable. So out of these three, what would you care about the most and least

**Mustafa Karabacak** 33:12

most about unskilled labor, because it's a lot of just lifting. And people, you know, picking up the phone, and you don't need to have hobby or for it can just be thought like you can be it's easily thought you know, so, yeah. The second one will be the amount of skilled labor in the neighborhood. So still people in the neighborhood that can mean something of value for the company as just on a strategic and tactical level. And the third one is amount of other companies in the neighborhood because it it's not really something we actually need is as our customers can find us. For us. For us. It's good like that.

**Tanya Tsui** 34:04

Yeah. And so do your staff live and how far away do they live?

**Mustafa Karabacak** 34:12

We have three people living in like 20 minutes from us. So most are one is living like 35 minutes. And the other ones are like 10 minutes.

**Tanya Tsui** 34:27

Okay. Yeah. So really in the neighborhood? Yeah. Yeah. And did you? Was it easy or difficult to hire people?

**Mustafa Karabacak** 34:38

Well, we hired them, but it was still easy, but now it's very hard. Yeah,

**Tanya Tsui** 34:42

I can imagine. Yeah. Good luck. Yeah. Lucky, you guys. Yeah. Okay. Clear, clear. Okay, so we're getting to the end. So if you remember, we actually talked about four things, right. We talked about the operations, which is like how how close you are to suppliers and customers, which seems to be it doesn't really matter to you because it's a internet business. There's the transportation, so accessibility on the road network. So within, you know, one hour you can get everywhere in the Netherlands, what not possible. But imagine there's the business factors. So, you know, the labor and the companies and the land factors, which is the price and land use. So out of these four factors, can you also rank? Which one is more important?

**Mustafa Karabacak** 35:36

Yeah, I think this is our business factors. Labor is number one, because we're growing, we need people quick, you know, not only for lifting heavy things, but also as we grow, we need to make processes more efficient. So we can work with the limited space we have.

**Tanya Tsui** 35:59

So that would be habitable people or above that.

**Mustafa Karabacak** 36:04

Second one will be land factors. Third, one will be transportation factors is actually we only need to be accessible, accessible to the road. I think that is everywhere. In the Netherlands, it's accessible. So and the last one will be operations?

**Tanya Tsui** 36:26

Yeah. Can you explain a bit why land is so important?

**Mustafa Karabacak** 36:33

Yeah, because we have a very big warehouse, we are mostly like a warehouse driven company, we need to have a lot on stock. That's why it's very important for us.

**Tanya Tsui** 36:46

So it's the it's the actually the amount of land that really matters.

**Mustafa Karabacak** 36:51

Exactly. Because, as I said, we also want to sell other products. And if we want to be able to also expand on those products and put products in stock. We would need bigger land.

**Tanya Tsui** 37:05

Yeah. And and also, I didn't ask, but is there an alternative? Like, why? Why have such a big stock? Is it possible to make it you know, let's say more efficient or something so that the stock becomes smaller? And then

**Mustafa Karabacak** 37:20

yes, this also one of the things we're trying to do now put minimum and maximum amount of products, we need to have every product, and then see how much we have and see how many? What products sell the most? And what products sell the least? And then change the stock depending on that. But it's still a very Yes, still something we are trying to figure out how to do right now.

**Tanya Tsui** 37:47

Yeah, so ideally, in the future, it would be a smaller stock.

**Mustafa Karabacak** 37:52

Yeah, also more efficient. And but we would also have like, every week or every day, we will be able to know what we need to order. So for us, it's very important to be able to do that to have the right processes the right systems to be able to do it.

**Tanya Tsui** 38:12

So would you say that maybe in the future, it's, you know, right now as a big stock, but then in the future? It would be smaller stock, and then more efficient logistics? Or is it something else that would make the stock smaller?

**Mustafa Karabacak** 38:28

Yeah, exactly. The first one, just, you know, depending on the revenue, of course, we cannot have the same stock of the same product if you have a revenue of 5 million or a revenue of 10 million, but we just want to be able to forecast how much we need and always have like a minimal amount of it. Sometimes you have these orders that somebody suddenly orders like 20 windows from the same product. And they happen sometimes. But it's not it's not something we we want the company to be fixated on. So just just see the trends, like we sell these a lot on these days. And we mostly need five of it because they don't sell a lot. Just analyzes of Yeah, how much we need.

**Tanya Tsui** 39:19

Yeah, yeah, true. True. Okay, I think we're pretty much done. Do Do you have any other space required related? So location related factors that we didn't mention?

**Mustafa Karabacak** 39:39

Maybe one more because right now oh warehouse is like a just like a big shop. It can get very warm and very cold in the winter or in the summer. So something that I insulates or that makes working conditions better for the guys that work in the warehouse.

**Tanya Tsui** 40:01

Yeah. So a better quality warehouse. Okay. Clear? And also do you know anyone else who might be able to participate, especially people with kind of circular economy related stuff? So we use or, or that kind of stuff we use? Let me think let me think reuse Oh, in the building industry, so like, you know, people selling secondhand building products or something like that.

**Mustafa Karabacak** 40:40

Sorry, I don't know. I don't know anyone who does. Does it like circular economy?

**Tanya Tsui** 40:47

Yeah, no, it doesn't. You don't have to?

**Mustafa Karabacak** 40:52

You could try our competitors, but I'm not sure if they're, if they if they're open to do it. Okay, okay. Ultra Dutchman. I'm not even sure if they speak English.

**Tanya Tsui** 41:07

Yeah, I'm amazed that you? i Yeah, I wrote a lot of emails. And very little people replied. And you're the one of the little people. Very few. Yeah.

**Mustafa Karabacak** 41:21

And it's my thesis as well, it's very difficult to find the interviews.

**Tanya Tsui** 41:26

Yeah. It's so hard. Yeah, yeah. Thank you so much. Is there anything else you'd like to mention that we didn't get to?

**Mustafa Karabacak** 41:41

Not very much only with like, the outlet we have. Sometimes you also just if you do the installations, we bring the old window from the customers, and then try to sell to a different customer. So that's the only thing that maybe also is like information that you need to know.

**Tanya Tsui** 41:59

Yeah. Okay. So with the outlet, it's how does it work? So the badly measured Windows is it, you take the window to the customer, the client, and they say, oh, no, it doesn't fit, and then you have to bring it back.

**Mustafa Karabacak** 42:16

No, it's if you have installations, sometimes it happens like that, we go to the customer and our installer guy, he took the wrong measurements, and then the window was too big. So he cannot place it, and we bring it to our place, and we tried to sell it. And then we ordered a new one for the customer. Of course, sometimes, the customer just ordered the wrong one. But that is without installation, they just order it wrong on the website. And then we ordered a new one for them. But we also have their old windows. So we also tried to sell those. Sometimes also, if we like install a window, and we take the old one out, and we are able to take it out without damaging it. Which is mostly only possible if they have like PVC windows, because wood, it's very difficult to get out without damaging it. But if you get it out, like the PVC or aluminium windows with no damages, we also tried to sell it. And that's just put on the measurements on the website, all the details specifications. And coincidentally, if somebody has a window needs a window that that fits it, then he buys it

**Tanya Tsui** 43:34

is this kind of thing where you you pull out an old window and resell it is that something that could be expanded, that you're thinking of expanding or not, is not something you focus on?

**Mustafa Karabacak** 43:50

It could be expanded, because a lot of Dutch people are very cheap. So they try to get the best buy. But it's not our core business. It's mostly it's actually more consumer energy consuming for us. We rather not have outlet, but where people were their mistakes are made so but we fought mostly focus on the new products.

**Tanya Tsui** 44:21

Okay, that's clear. Well, thank you very, very, very much for this interview. I'll keep you updated. If you're curious. I'll just you don't have to reply or anything. But thank you very much for the for your time.

**Mustafa Karabacak** 44:36

No problem. I hope you had something with this information.

**Tanya Tsui** 44:40

Yeah, it was really helpful. Some things. They were surprising for me, it's really good to know the distance, right? Because that's what I'm interested in, like how far are people willing to travel? And it really seems like it's a continent scale. You know, it doesn't matter if it's in Poland or Ukraine. You know, as long as it's not In Africa, actually, did you consider other countries like like China? Or? Well, mainly it's China. Right? But it didn't, to buy from? Yeah.

**Mustafa Karabacak** 45:14

I saw it on Alibaba. But you know, with Windows, it's very difficult to. to, because we want to as cheap as possible, but also needs to be as good as possible. But it's very difficult to maintain the quality if it's very far away, or if they don't speak your language.

**Tanya Tsui** 45:38

Yeah, I think that might be a big thing is a Polish people speaking Dutch? If they didn't speak Dutch, it would be hard to

**Mustafa Karabacak** 45:46

Yeah. Also with China, I think there it would be a logistics problem, because that will be too far to buy from

**Tanya Tsui** 45:55

you. Yeah, yeah. Yeah, it takes forever to get something from Alibaba is like, four months. And it's still not there. Like I've just ordered some like phone case. And it's never coming.

**Mustafa Karabacak** 46:08

It's mostly a trust base base issue. I think, because the guys we buy from an upgrade in Poland, we have very good relationship chips with them. If you call them we know, we can ask for everything. Or that we know we know what the quality will be. But with a like a company in China or Africa or even Turkey, it's very difficult to communicate what you want. And if something goes bad, it's also very difficult to fix it. Because I'm, I'm Turkish but I rather not do business with Turkey because they're also very, it's very difficult to expect what you you don't know what you're getting, because it's just difficult to do business with with faraway countries.

**Tanya Tsui** 46:56

Yeah, it's more of a cultural thing. Or not,

**Mustafa Karabacak** 47:00

as well, I think. Yeah. Okay,

**Tanya Tsui** 47:03

that's clear. Cool. Good to know. This is really helpful. And thank you very much for your time.

**Mustafa Karabacak** 47:10

No problem is if if you need anything else, just send me an email and I'll try to help you out with

**Tanya Tsui** 47:15

it. Yeah, as possible. If you have time, like snapping a few pictures that would be helpful

**Mustafa Karabacak** 47:20

for me. I will do that straight away for you. Oh, thank

**Tanya Tsui** 47:24

you, Mustafa. And have a good weekend.

**Mustafa Karabacak** 47:27

You today. Yeah.

**Tanya Tsui** 47:28

Okay, see you. Bye.

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_buurman\_Liv Kooijmans

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**SUMMARY KEYWORDS**

business, people, bit, building, materials, big, rotterdam, question, place, circular, space, founder, area, wood, optimize, workshop, pioneering, leonard, netherlands, explained

**SPEAKERS**

Tanya Tsui, Appel, Liv Kooijmans

**Appel** 00:00

The recording Yeah, afterwards otherwise we have to go through it. Yeah. Or do you want to do it just

**Tanya Tsui** 00:04

in case because I always have to

**Appel** 00:08

know, the court

**Tanya Tsui** 00:09

on Zoom and on this

**Appel** 00:11

part. Because this is one thing I've been struggling with in doing research and going places and just talking to people, I have to officially record things even though I just run into people and they talk to me. I have no way to use this because it's not valid for research, even though it's very, your knowledge. Yeah, it's good stuff. But so do I'm happy we can do this. Yeah, it's cool. Yeah, I

**Liv Kooijmans** 00:36

actually get, well, I was a bit with joven waves. So we get questions like yours a lot. from all different kinds of Education's like, elementary school MBO having a PhD University, whatever, and they're not not all the same. But similar. Yeah. Yeah. So and I'm struggling a little bit because yes, we do want to share. But time is money. Yeah.

**Appel** 01:08

You want to get something in return? Yeah, I

**Liv Kooijmans** 01:10

was. I was I was thinking, that's why I propose to you. Please think with me to get something in return. And I'm still struggling with it. So maybe, after this, but we do want to share Yeah, no, of course. But if I can do an interview, once a week, almost too much. And that's too much.

**Appel** 01:35

Your colleague was really surprised because I came in and was like, Hey, you're you have an interview? Right? Yeah. I said, Yes. Lift told me that a lot of people come in here and ask anything. Really? That's amazing. I don't think she feels that way. Because it's just a lot. And of course, a lot of repetition. So I think your idea is really legit, to get, you know, some news, some, some information, like a document with the basics. If somebody has a specific question, then you can always answer it, but it saves you a lot of time to

**Liv Kooijmans** 02:02

get through all the Yeah, and maybe, maybe this is not the way it works best, but we'll just figure it out. Figure it

**Appel** 02:09

out. Yeah, I asked about 10 students or six or something you send me. But I think we were too late because a lot of them asked way before and their projects have finished. Yeah, yeah. Couldn't.

**Liv Kooijmans** 02:19

So maybe this is just a for, for this. For my problem. This is just a start. And maybe, because they just a wave of allegations. And now it's no more. So it's, and I think maybe in the fall, there will be one again, and then we'll just see. Yeah.

**Appel** 02:40

Make sense? Yeah. Well, if we if I can ever help out or something after, because I didn't do anything in return. Now with this. I can fully understand it. It's fun to be here. So don't worry, bother. Don't worry asking.

**Liv Kooijmans** 02:51

Oh, cool. Yeah. Because we're actually so now we have we're now in a project. We have two main 'doelgroepen', target groups - particuleren, the people who come here to buy wood and do a workshop, or maybe donate a piece of wood, but we also have a business target group, which are the people or organizations who actually donate their materials, who have a really different motivation to work with us. Yeah. So we're now thinking of making two websites. Well, actually one website we'd like like a one that is for the premier. anguish, and one who's for the business,

**Appel** 03:49

consumer and business. Yeah.

**Liv Kooijmans** 03:51

Yeah. And also, and I want in the business side, I want to include the Bhd. The knowledge, yeah. Yeah. Every app more but yeah, I don't know how. It's just an idea. Just give it a place. Yeah. So maybe if you have thoughts on it, you're most welcome.

**Appel** 04:13

Okay, thank you. We take it with us.

**Tanya Tsui** 04:16

What kind of research are you looking for?

**Liv Kooijmans** 04:18

Well, I'm not sure. No, but we just get a lot of questions. Okay. I think, because I always have visited English. I really been using English for years, and well, it doesn't

**Tanya Tsui** 04:35

improve that way. It's very good. Don't worry. Your English is very good.

**Liv Kooijmans** 04:43

We're actually an example of how the circular economy or whatever how you go, it should work. Yeah. And that's because we're actually doing it. We're investigating or we're just doing practicing. Yep. Right. Seeing it. And that's also why we get a lot of questions from, of course students but also from the government. Because you're so interesting. And we know we're interesting. Because sure, actually what we're doing is not legal. Because we're actually are an 'afvalverwerker' (waste processor). And for that you need a registration. But actually, we want to be a stage in between.

**Appel** 05:43

this is not what you are does not exist. Yeah. So to say,

**Liv Kooijmans** 05:46

yeah, the law. Yeah, no, there's no law. It doesn't exist. But of course, the commanded. One says, we're allowed to do it. But strictly by law, surely, we're not supposed to. We're not allowed to do this. Yeah. But of course, no one. And also the domain really knows. And all of the majors in the Netherlands come to us and like, Oh, you're, you're we want something like that. Can we come and ask your questions? And then how do you do this? And then they try to copy it. Yeah, well, actually, we are expanding. Yeah, there are two more beermann, then there will be a lot more. So that's actually we do want it. And of course, we do want to share, we want to grow

**Appel** 06:37

your initiative. Yeah.

**Liv Kooijmans** 06:41

I have to feed the monster. But why was he telling this?

**Appel** 06:49

About the research that we might do for you?

**Liv Kooijmans** 06:51

Yeah. So maybe there is, of course, so there's a lot of people or institutions that want our knowledge? And actually, we want to give it but there must be some Yeah, in return, and it doesn't have to be money. But you know, and I haven't figured it out yet. How to do it. I don't have time to figure it. Yeah, I'm actually busy. Yeah, practice doing it. Yeah. Exactly. So that's, that's my question to you. Yeah. So

**Tanya Tsui** 07:25

good to know. Keep that in

**Liv Kooijmans** 07:27

mind. Yeah. So if you have an idea or see something, or?

**Appel** 07:31

Yeah. Yeah. Because in your case, you are actually studying a specific aspect of circular, material use and a certain circular city, as you briefly explained. So that could be really relevant also for providing more knowledge or something, or at least maybe an article or a you know, it'd be of any form? Me I am actually not. So researching circularity, I am in an entrepreneurship study. Yeah. And I want to have a place like this or work at a place like this, or at least be involved somehow. So I'm going around the country asking different places, how do you guys do it? You know, what is? What works? And what could I contribute to this, so find my own place in it, but also see how they balance feeding their miles? Yeah, and having like actually practicing this, and also leaving space for maybe creative expression, or artists doing crazy stuff. And this is how I ended up at scale where for the first place, because they found a really interesting way to do it. And if you look around here, it's kind of inspiring for a lot of people, you know, it's good to be here. Yeah. People are making tiny tree houses for implants as a business. You know, and there's place for that, and they're happy and it works.

**Liv Kooijmans** 08:45

Yeah. And this should actually ask Elaine and boss for them. I know,

**Appel** 08:51

I know. I know. Don't worry, you don't have to apologize for them at all. This is why I just want to talk to everybody who said how involved and also you guys because you are kind of also doing this on a smaller scale, even though you're part of kind of if you also have your own way to balance these things. Yeah. So I still think

**Liv Kooijmans** 09:06

I actually took the bus. Yeah. On a weekly basis. So maybe I can tell you something. Okay. That was what he wasn't. He was on maternity leave.

**Appel** 09:14

Yeah. So he's actually the only reply. I got. Yeah, that he and

**Liv Kooijmans** 09:18

Lena is just really hard to Yeah, I also, he's one of the founders of women also. And I only talked to him if I bump into

**Appel** 09:29

people told me you can't catch him. You just have to find him where he finds you. mystical.

**Liv Kooijmans** 09:38

So maybe, but Yeah, who knows? Yeah.

**Tanya Tsui** 09:41

Shall we do roughly half and half? Yeah, you ask you. Exactly.

**Appel** 09:45

We're not a lot of overlap. So I also want you to give you the space to give ask everything you need as well.

**Tanya Tsui** 09:52

Yeah. And I think it makes sense for you to go first because you talk about the operations. Yeah, and I'm more about the spatial require minutes. So then, yeah, maybe you didn't go. But maybe before we start, I can also introduce my research. So I do research on circular economy and cities and finishing my PhD. And what we're interested in is, we know that in the future in a circular economy, when you know, waste is being reused,

**Tanya Tsui** 10:23

we will need space to do this, we need space to store it, to distribute it, to transport it. So it will change the way our cities look in the future. And so the question of my PhD is, well, where will these locations be? So the outcome of the PhD is like one big map of the Netherlands that highlights a where could be Romandie in the future, so there are different types of, we call them circular hubs in the future, some are large scale, some are small scale. And so we will have this as my vision for my PhD is in the future, there will be like two or three maps of the Netherlands that show Okay, circular hubs that are like Buurman, they could be located here. So highlighted on the map. Yeah, circular hubs, like, other hubs will be so. So that's the outcome. So what I'm doing now is I'm interviewing circular hubs like you guys, but also other types to come up with some spatial requirements. So you know, do you need to be close to certain type of people? Or what kind of infrastructure are you looking for? What's the scale of the materials? And with this information, I can translate it into kind of data analysis stuff, and you can throw it in there make this map. So that's, that's amazing. Really. Yeah, context. So So I mean, one thing that would be maybe helpful, not super helpful, but maybe helpful for Biermann. Is this map? Yes. Yeah, here might be,

**Liv Kooijmans** 11:55

I guess, because I don't know if you Google there. But Lola is also one of the founders of beermann. She actually is. Now she's on vacation or four weeks with? She's working on. It's been working but Stichting Buurvrouw. Yeah, I don't know if it's real, the real name, but that's how we call it now. It's definitely Buurvrouw. And actually, what Stiching Buurvrouw is doing is trying to make more Buurmannetijes.

**Appel** 12:22

She is the mother~ Yeah.

**Liv Kooijmans** 12:25

I guess he's a really fun thing. Because all of the the, the hope the the host mother that had men, they're all women. Actually, I have a theory about it. But because I think like, if you block slacker, it's, it's women and people have not a Dutch background or not a navy, Navy background don't have so much to lose. So they're easier. It's for them. It's easier to be innovative to be in the circular. Because it is, you know, I mean, there's no marble here, you know, yeah, you don't work here to be to come to be fancy. Fancy rich. That's, but that's my theory. I'm not. I didn't. But I actually I think that that's why you see a lot of women in your some hate and in care and yeah, because there's no, there's no money. There's no marked no, like, power power in this world. Yeah. So this place for women and disabled people.

**Liv Kooijmans** 13:54

Yeah, but I laugh about it. But I do think, a new thing. That's why. Yeah,

**Tanya Tsui** 14:01

I also have a theory with the I also noticed a lot of women in sustainability. Yeah, I think it's because sustainability is really complex. And it's really requires systems thinking, yeah, which is more feminine. Whereas masculine is about like optimizing something, you know, I want to make the car as fast as possible, or as light as possible. So So with women, women are kind of more Clegg's. Yeah. Yeah. So I think that makes a lot of salmon a bit. Yeah. Yeah. Not saying men. But generally, yeah,

14:38

I was looking for the word generally. Yeah. Yeah, that

**Appel** 14:41

makes both makes a lot of sense. Yeah. Cool. Thanks. This is actually also the first thing I wanted to ask is usually what kind of philosophy is behind your mom? You know, how can you what is the passion behind it?

**Liv Kooijmans** 14:55

It depends a little bit on who you ask. If you ask a boss, yeah. One of the founders also plays based, he will say to open Guardian apps, optimize, optimize. Optimize value materials and people. Yeah. So we're actually not as we're a buffet, we're, we're not social, nothing. But we are really sociable. We're just we're not on a company yet. But we are very social. And if you I think if you ask Lauer when she is, like the greenest? She really wants to. It's actually over there is really still there from to the 2020. Oh, we don't use this board. Very often. I didn't leave work here. So

**Appel** 16:00

sweet wording because well. Yeah, the materials? Yeah.

**Liv Kooijmans** 16:07

Actually, it's really, really cute. And we're actually we're the same project. As we told you to make a new website for business. We're actually try to incorporate some more corporate language. Yeah, but still, we're not really if you come here, and I'm wearing short pants, and I made my own coffee. Yeah, that's pretty much all we're not. And that's also our character, like real rather than don't need a little Mr. Bucha. Just do it. The I before I worked in offshore, I didn't use this is was my free time voting. And I don't I don't wear my business suits. I don't know. Just doesn't actually everything gets dirty. Yeah, but it's just not the environment. And that's just not your mom. Do you like that? I like both. I am cool with the business suits also. Yeah. But it's just yeah, in the beginning, I was a little bit more dressed up. But now I'm here for small two years. And actually go I just wear sports. Yeah.

**Appel** 17:18

Oh, you did you come here. How did you end up here?

**Liv Kooijmans** 17:23

I was a row rowing, rowing. And one of my I was a coach and one of my rowers actually worked here. And I was looking for a job. But actually, I was just in between jobs. And I was not really looking to work here. But I just went for coffee and that coffee was an application. Yeah, so I ended up here.

**Appel** 17:48

And now what is your responsibility here?

**Liv Kooijmans** 17:50

I'm a director. You're the director. I also find it very funny because she I feel like there are seven people still. And that slipped. It's not seven FTE. But yeah. Responsible for almost everything. Yeah, exactly. Yeah. But still a lot louder. And both are really involved. So I'm not. I'm not. Yeah, so Logan.

**Appel** 18:19

Both are founders. Your mom. Yes. Is also founder of Gala. Where? Along with Leonard's Yeah, that is also founder of confusing. Can you explain?

**Liv Kooijmans** 18:28

I think actually, because I am not really 100% Sure. But I think Bas and Leonard started developing, working on their business "place-based", to create spaces like this for people in the making industry. Yeah, for creative people. And also finding spots in buildings who are some like anti crack. Yeah, to upgrade. That's the word was looking for upgrading. upgrading these these areas. So there's a mixed motivation. Yeah, exactly. And actually, they met louder because she was studying Delft architects here has a subject on she wanted to build something completely out of local reused materials. This was her studying area. So I think they met Yeah, and they actually accidentally just started Burma. Yeah. And then the first few years they did it with the three of them and then Boston they were a bit more in the background and louder. Really? Yeah. Was Managing Director of founder of boomanji. So she did most of the work. Yeah, but they're really boss was really involved in laner does a bit more on the background yet still. This is also an office day. Weekly. Our Yeah.

**Appel** 19:57

Fair because Did I hear a lot of the I think both of them are also in to you, or Delft, or at least architecture city planning. Building,

**Liv Kooijmans** 20:12

not only lower, was studied something economical in business something. And Lena actually I don't know, no,

**Appel** 20:23

fair enough, because when it was last year and I think lovest friend told me it's just a bunch of people from Boca. And that's kind of explained it who wants to build? So circular? Yeah, once it makes space for creative people, but then exactly. And you see this in a lot of places - city planning wants a place for creativity and artists, and making and stuff like that. So for this building in this area, is this the end goal? Or is the goal to upgrade the building and make it into something else? Do you know that

**Liv Kooijmans** 21:03

I think for this building, we have a lease extension until 2023. is on the window. But it's there. It's over there. The yellow is successful. Yeah. It (the lease) will be ending, and then they'll just try and find a new building. Yeah.

**Appel** 21:24

So the idea is to that this is temporary. It's upgrading the building, and then you go somewhere else and you upgrade that place.

**Liv Kooijmans** 21:30

Yeah. And you also upgrade the area. Yeah, exactly. Yeah. So area around it gets Yeah, yeah. And I'm not sure if like the code. Looks a bit more finished. Yes. One. So but it's not, but I'm not. I don't actually know if it's like permanent or for like, no, no. Yeah. I don't know. No, I think it's not permanent. Yeah, exactly. Yeah. I don't think it is permanent - it's actually using buildings, and giving people the opportunity to actually build a business. Yeah. And, and also upgrading the area, because they also do a lot of events, they also paint the outside of the building...etc. and to really and they Yeah, they actually do events and things.

**Appel** 22:25

Is this a cooperation with city?

**Liv Kooijmans** 22:30

There's not real cooperation. I do think they do know each other very yeah, there's no, I don't think there's

**Appel** 22:39

no, exactly No.

**Tanya Tsui** 22:40

Is this something you prefer? Having been having temporary buildings, and then moving and upgrading different neighborhoods? Or if it's

**Liv Kooijmans** 22:48

some boom? Yeah, yeah. It's not something we prefer. But it's the reality. Yeah. Yeah. This

**Appel** 22:55

is why it was asking a lot of people's see, like, if you have creative space, especially for artists or makers is usually temporary. Because you get a cheap space so that you can make it a better space. And that way you add the value you can really pay for Yeah, and then you have to go.

**Liv Kooijmans** 23:10

But there's also another benefit because we're not an official place. We also get to play with the rules a bit more. For example we also we share a forklift, and that's not regulated and not checked, not when you share what has to be a forklift. Forklift. Forklift. Yeah, forklift. And also, there's no Ouroboros. There's we don't, that is a good point. You know. So I think and that's not... maybe that's not what we as Buurman thought of in the beginning, but I do think it helps us. Because we get the pioneering space. Yeah,

**Appel** 23:54

nothing has happened before. So there's no rules yet. There's no system yet. Yeah, you get to invent it.

**Liv Kooijmans** 23:59

Yeah. And also, there's no like, you don't have to have a of course, we do have to have a because a couple of months or weeks ago, we got a controle van de gemeente (a check from the municipality) for electricity and brandveiligheid (fire safety) and construction and construction and electricity. Of course, there was a lot wrong. Yeah, you don't have to look at her, you know, there's a lot wrong. But if we had all those restrictions from the start, we could never start this, you know, because it's because I don't know if it's somewheres I think in the Netherlands, there's a lot regulated. Yeah, and I don't I don't think it's a bad thing. But it does make it hard to actually well start something new and start something that is a little bit off grid or like like we actually aren't officially legally not allowed to do this. Yeah. Even though the government wants us to do it and support it. Yeah, there's just no but you need a little bit like room. Pioneering, of course and I do think that places like this are needed. Yeah to actually

**Appel** 25:15

exactly for sure they do for sure they do. But it's a shame if you're a year and then after two years, you have to go away because somebody wants to make a fancy building and you've served your purpose. You know, the perks of this free space are very, very important.

**Liv Kooijmans** 25:28

Yeah, but yeah, I think so. Usually short Yeah, some more and because it's funny because the Gemmente (municipality of) Rotterdam is now working on a upcycle mall for like years. Years... and they actually are trying to make a Gemmentelijke (municipal) Buurman Yeah, but there's there's actually there was a tender and Buurman actually wrote like voorstel (proposal) but there this club from Amsterdam who actually won it you don't get Laura are even more mad

**Liv Kooijmans** 26:15

to make something like Buurman, which was founded in Rotterdam! And we were talking and like in brainstorms and everything. And actually don't, we're not going to be in that. Because they only want the upcycle mall to function like us, but then only from the Milleau Parken (recycling park). But we already told you there is not enough materials coming from the Milleau Parken to to make a business. Yeah,

**Appel** 26:50

it's not reality. It's not

**Tanya Tsui** 26:52

reality. Now milleu park is the recycler Yeah, okay, yeah, there's not enough material for Buurman?

**Liv Kooijmans** 26:59

No, it's, it's about 10 to 20%. Maybe if you can optimize it, it may be 30%.

**Tanya Tsui** 27:05

Okay, what a waste is not properly separated? Is that why it is not enough?

**Liv Kooijmans** 27:12

For you could optimize and then it's more properly separated, you could use some more, but it's also just not enough. So and of course, you could optimize it a bit more that more people are bringing their stuff through them. You go back, of course, there's also something but still, it's maybe if you do that, you get 50%. But still you don't have a business. Yes, then But then you have a different kind of business, then you have like you have to add social. You know? Yeah. So but actually these are really?

**Tanya Tsui** 27:46

Yeah, okay, good. And then

**Appel** 27:47

what is the other 50%?

**Liv Kooijmans** 27:50

I think it's for us, the milleau parken is only 10%, and particuleren (private individuals) is also the same (10%), and then also businesses - big ones, and small ones (80%)

**Tanya Tsui** 28:06

So 80% businesses?

**Liv Kooijmans** 28:08

Yeah. And I think last year, we started also buying wood. And it's all it's all b-keuze (b-choice wood) and restmaterial. But actually we don't want to do it. But we do it so our assortment is a little bit more stable. Yeah. So actually, for our consumers that already kind of know what, yeah, kind of know what to expect. And also the store is always full. And so yeah, but actually, we don't want to do it. It's, it's okay for like 10-20%, but not too much. So it's like, aannemers (contractors), builders, museums, theaters, whatever.

**Appel** 28:55

And what did they get out of it? If you don't by size, the fact that they are happy that they help the planet? Yeah.

**Liv Kooijmans** 29:03

They help the planet? Yeah, actually, that's awesome. We don't actually give anything in return. Because our challenge is the arbeid (labor). Yeah, the work because we have to (separate and process to waste). Of course, they have to also separate it. And then we have to pick it up. You (the businesses) don't have to do anything. Yeah, sometimes they even bring it depends a bit on how much it is and how valuable it is. And if they haven't on transports, we also have partners who bring it. Yeah, because it's faster. Yeah. So they can bring okay to give it Yeah. Because otherwise if we are collecting it, they have to wait a couple of days or a week. Or sometimes we used to say no, it's not enough to pick it up. So maybe sometimes they donate it but it's actually on there. nation and our work because you, you have to handle it literally with your hands. So it is a lot of work put into the materials. And that's one thing. If you talk about let's hazing it would be because if you buy something secondhand, you don't have to pay taxes. Re re because you'll be using it or re Yeah. You don't have to pay tax but actually with labor you do. And it would be really, really nice if we don't have to pay as much tax on the labor to reuse. Yeah, but that's but they do it in I think Sweden or Denmark, but not here. So. But that's our that's why it's expensive to Well, that's why I'm doing aren't for free. You just pay for the

**Appel** 29:03

labor. Yeah. Makes makes a lot of sense. And storage. And

**Liv Kooijmans** 29:35

you know, yeah, also, but I think the labor is Yeah, yeah.

**Appel** 30:18

Because you have quite a lot of room here. Which part of the gallery is yours? I can you show me later. Are you free? Is it like very dedicated area? Or freedom do you have in this?

**Liv Kooijmans** 31:20

Oh, we have we do all of the other renters have a? Yeah, is that real section? And we actually don't have a section, we just have lines on the ground. So and we're a bit of a funny one in the whole gallery stuff. Because we're the only one who doesn't really make something ourselves. Yeah. And we also have a publieke-functie (public function), because we just can come in. Yeah. And for the rest (the other businesses sharing this space), you just have to make an appointment. So we're a bit off. And they not everyone really likes it. When you have different problems, but also I think because we have a this public. Yeah. Should they also get work from it? So it's a bit long. Hey, yeah, we also we have a we they have a store inside there. Yeah. So if they, of course, you cannot buy everything. But if you need one little piece of wood, you can get it. Yeah, no, that is like they only have to write something down. And so it's also

**Appel** 32:23

Yeah, so the people who rent here also sometimes buy stuff from you guys.

**Liv Kooijmans** 32:28

And also vice versa. If we have problems we have, for instance, we have a metal rack to stash wood. And it was too high. We got it from someone and actually, it was too high. And we asked a neighbor, can you cut off the part? And bout make some wheels on it? Yeah, he just did it. In return, he got some, or we pay or whatever. But that's, I think, I think maybe the next step for beer money is as a solo business. And it will it also gives, I think, because our we cannot close our shop. It's always there's no doors, so it's open. And I think not everyone pays what they get.

**Appel** 33:20

They You really suck. You go to a place

**Liv Kooijmans** 33:23

and I don't think I don't think maybe they're not even on purpose. Do it later. Yeah. And sometimes they do and but it's we cannot do anything about it. No, no, no. We're still we are we benefits. Yeah. And also we oh yeah, if our next building is a solo work, we have to buy our own fcwc Yeah. Which is pretty, pretty expensive. And this hashtag is standing on for me, it's public area, common area and also the South Bay which is the big soul we can use it is a call. Yeah, shared space shared space. So we're gonna miss that. Yeah,

**Appel** 34:13

the neighbors are also you you have these these I forgot the word these resources together, you know, and you they have certain skills that are useful for you, which is of course very, very nice. Yeah. So I can imagine it's nice to have these neighbors you know, you have actual beer moments. If you copy soccer

**Liv Kooijmans** 34:33

Yeah, yeah.

**Appel** 34:35

Yeah. So fair enough. Yeah. I was gonna ask something and I forgot let me think about it.

**Appel** 34:46

Right, I started asking what your yeah what your place is in the in this group? Yeah. And just for a very brief second very technical, what is the construction so you rent from place based guide to where for house to tree You know,

**Liv Kooijmans** 35:03

I hear I think place based rents from maybe the gemeente. Yeah, I don't actually know.

**Appel** 35:10

There's always the question. Is there a big political victory there was big plans with an owner

**Liv Kooijmans** 35:14

because actually place based is a vastgoed (real estate)

**Appel** 35:18

play space, is a vastgoed bedrijf. And they have these this entire haven (port) space, which is of course, very fancy, and it's time and they want to gentrify it, I think, to make it expensive. And so there's Keilewerf 1 and 2 these different buildings that are on this area. Yeah. And I think Leonard's both founded a lot of these places. Yeah. So multiple of them, right. Yeah. And they also have place based. So this is like, yeah, play

**Liv Kooijmans** 35:50

The organization is called "place based". And what they do is they find places to create co-creation buildings, and this is one of them. And this is one of them. Yeah, yeah. So technically, I don't know. I can look it up. Yeah. My rent. But actually, I pay to Leonard. Yeah. Yes. What

**Appel** 36:11

I want to know is who was actually like, where's the core? Motive? You know, if the place that is that is why ask, is there the municipality who has plans to the commencement? Or is it a big wheeled vehicle out? Or is it maybe just a social entrepreneurship that once gift to give artists places? Or is it all right, you know, there's no

**Liv Kooijmans** 36:31

one map to the left. What is happening here? It's Boston. laner. They really just want to do this. Yeah. That's, yeah, that's a force that make a lever now. But it's Yeah, yeah.

36:44

They that's what it's the end about? Yeah. And let's see.

**Tanya Tsui** 36:55

Maybe I have a question? How far are your partners who are giving you materials? Usually? How far

**Liv Kooijmans** 37:05

We prefer for them to be within Rotterdam. But I think the furthest is somewhere... Oh, we also had one in Amsterdam... and Utrecht, but we also have Buurman Utrecht. For example, there's one partner that's in between Rotterdam and Utrecht, so sometimes it goes to Rotterdam and sometimes it goes to Utrecht. Yeah. Why would they give us so but yeah, it's bends. In its thinking. Last week, we get some bamboo from Hillego. So it's quite far away. But that's following. But I think, but I'm also very curious what will happen then when there's also a Buurman Den Haag. And what, how big a difference it would make, would it make a big difference in a bad way or a good way? Because if there's also every month and half, a lot more people know that you exist. And actually also we share some of our donations, because sometimes just too much to handle. So we actually say oh, we asked Utrecht and Antwerp, "okay, we were offered this Do you also want to take apart?" Yeah, but mainly we do that with not donation, but with buying second, "b-kueze materiaal".

**Liv Kooijmans** 37:05

B-kueze is wood that is "b-choice", that's the literal translation. So either it was wrongly cut or bent...

**Tanya Tsui** 38:53

Yeah, got it. Yeah. And how much are your partners or customers in the construction industry? In the building industry? Yeah. I was how how much of the wood comes from the building industry or goes to the building industry?

**Liv Kooijmans** 39:15

Doesn't it only goes to consumers, so from the biggest buyer makes a tiny house.

**Tanya Tsui** 39:27

So it's mostly private people, not companies. So it's the companies providing the wood, most of it, then it goes to people.

**Liv Kooijmans** 39:35

Yeah. Some guys, I think maybe 30%, are small, like ZZP-ers, like one man businesses. Yeah. So not big ones. Like it's very cute.

**Tanya Tsui** 39:48

Yeah. Out of the people providing the woods of the company....

**Liv Kooijmans** 39:51

That's more business.

**Tanya Tsui** 39:52

Are they people in the building industry?

**Liv Kooijmans** 39:56

Yeah.

**Tanya Tsui** 39:57

Like, could you sort of estimate how much...

**Liv Kooijmans** 40:00

I think that around 50%.

**Tanya Tsui** 40:03

And is this from like furniture? Or wooden structures or...?

**Liv Kooijmans** 40:08

No, buildings.

**Tanya Tsui** 40:11

And did they come to you? Or did you go look for them?

**Liv Kooijmans** 40:16

Both. Okay, this morning there was a sloper (demolisher). Yeah, who actually found us. And asked, Can we work with you because we just want to do it. And so they find us but we also, that's actually part of this project that was talking about with the two websites were actually to be a little bit more active on spreading spreading the news and actually telling how you can work with us because it's not so transparent for everyone. And actually, we do really know very well how telling in explaining it and yeah, it's second thing.

**Appel** 41:36

You guys also do workshops, right? Yeah. Is that just for fun, to make extra money?

**Liv Kooijmans** 41:44

Its half of our business. Yeah, it was not just for fun. Yeah. And it's actually there's also a Fiji after because we want to actually teach people and we do it on a consumer base. But all those people do also work. To their Yes. To actually teach them teach him a how to repair and fix and make something themselves to make them self. Yeah. And teach them to not think why the material driven design? So you get some, you don't think of like the other way around? Yeah, you just don't you don't think of I want to make this and then choose your materials, but. And then like, learn a little bit of fun. Okay, I want to make this but I have these materials. How can I match it? Yeah. So that's actually but we're if you are here for a garage or workshop, you will not you will not really hear that? Hear that? But it's the thought behind? Yeah. Yeah. Because if you're here on a workshop, it's just fun. Yeah. And actually use you. You get to pick wood from the shop. And so yeah, everything is also it's already used. So you're just actually doing it. Yeah, we're not selling it. Actually.

**Tanya Tsui** 43:18

So financially, is it also 50-50 with the workshops?

**Liv Kooijmans** 43:23

Yeah, roughly.

**Tanya Tsui** 43:25

Yeah. Yeah, like, you would makerspaces a lot of times. Turns out, it's the workshop that makes most of them. Yeah, and the other stuff is, but here, it's really 50-50 because I guess there's enough flow of materials? It's sort of big enough.

**Liv Kooijmans** 43:44

Yeah. Because I think actually should really we're actually kind of calculating and because I don't know, but I think, I don't know, I don't know should ask, how much is sold and how much is used within our company, because all the workshops and all the courses are using them the material that is in the shop. Yeah. So not everything is sold. No. Why so but then, yeah, exactly the courses you give and we also have Rotterdam Stadhoud (city wood). Yeah. Which are trees who are taken down from the city because they're building something or there's disease or a fire or whatever. And they are normally put into the shredder. But we save the trees and we get them gezagd (sanded), and then we let them dry and then we sell them, and that is very valuable. Wood of course it can only Yes, really nice wood. We cannot handle all the trees from Rotterdam. We're actually there's loud buzzing laners are real intrapreneurs Yeah, because they also the balcony, which isn't good enough today is also a spray spinoff from Vermont. That's a social business. Yeah. And now we're, there's a second spin of stiffening shut out or something.

**Appel** 45:32

I saw a sign in the room downstairs with all the little companies on it. And I saw a lot of weird things. So I was already wondering, are they all connected? So they're all spin offs from your mom? These two?

**Liv Kooijmans** 45:42

Yes, that's how there's a there was a LinkedIn. But if you could find it on our you have the names.

**Appel** 45:54

Yeah, of course. Yeah, sure. Oh, fun. Let's because you have too much to process.

**Liv Kooijmans** 45:59

Yeah. Yes. Too much. We decided. It's too big for the moment. Yeah, that's it. We do really want to have it because it's very, it's our luxury department. Yeah.

**Appel** 46:12

But it's like chunk of.

**Liv Kooijmans** 46:14

Yeah, but I think for Biermann, who actually the, the mission of Romani is to reuse the wood. Yeah. It's started out was getting so big. Yeah, it can like was like, okay, is this still Bruma? Or is this something else we actually decided to? We don't We do want to have holding themselves out. But not the whole business? Yeah, yeah. We do want to sell it, if not the whole. Yeah. I think I have a think I'll give you some more time.

**Tanya Tsui** 46:50

Yeah, exactly. I think. Well, I actually got pretty much everything I need.

**Liv Kooijmans** 46:59

I do sometimes. Yeah.

**Tanya Tsui** 47:01

What? What kind of do wait, so do you pick up the material?

**Liv Kooijmans** 47:09

Sometimes.

**Tanya Tsui** 47:09

Yeah, and sometimes they give it?

**Liv Kooijmans** 47:11

Yeah. Mainly, we pick that up. Yeah.

**Tanya Tsui** 47:12

And this is all road... by truck?

**Liv Kooijmans** 47:15

Yeah.

**Tanya Tsui** 47:23

Is there any kind of environmental restrictions to the land use? So it doesn't have to be environmental category? Two or three because of this? Because of the making activities? I have no idea where to? Oh, like, you know, how some like to buy to do certain activities on a piece of land. You can't just do anything you want. Oh, yeah. But like, there has to be pieces of land that oh, this is for industry? For housing.

**Liv Kooijmans** 47:53

Yeah. But I think we're I kind of like, that's what I was explaining. We're pioneering and actually what we do is legally not allowed. So

**Appel** 48:04

what is the official purpose of the area? Do you know? I think might be operations, you know, like a factory or something like because it used to be there were boats, you know, verify square boats, get out the water and fix them. The purpose usually even city planning for that would be you know, operations just

**Tanya Tsui** 48:25

yeah, probably some kind of industrial industrial

**Appel** 48:27

law. So I think you might be still hung up on those rules, officially, but they don't really matter.

**Liv Kooijmans** 48:37

That you just don't even know about actually defying it. Yeah, but it's really, I find it because I am the first director who's not founder. So actually, we're kind of like struggling with it too. Because on a smaller level, I was introduced in to this group of businesses, but they are all owners, and I am the only one who doesn't own the company, but is responsible. Yeah,

**Appel** 49:11

it's not your idea.

**Liv Kooijmans** 49:14

And actually, I do technically a beta rent, but it's not my money. No. Yeah. So I think that's also a bit funny. And I think maybe my interest is also not really into that part. I'm more interested in like optimizing the process of Pyrmont. Yeah. But I do allow that we does know all these things, but it's also just how she got got here. Yeah, I just have for this place. I have a bit of a funny starting position. Yeah. And I struggled and sometimes I do not know a lot of things. Yeah. Yeah. I also know a lot of things.

**Tanya Tsui** 50:06

I mean, this was really helpful. Just looking at the time, I think I really have everything I need. Because from the conversation about,

**Appel** 50:15

yeah. So there was more overlap than we thought. Yeah.

**Tanya Tsui** 50:20

Because it's not really about asking very specific things like, square meters or things, but it's translating the things that you talked about, like, how the the gentrification story. Yeah, and, and how far the clients are and things like that,

**Appel** 50:35

but it's very similar. Yeah, just very different topic.

**Tanya Tsui** 50:39

I guess one last question would be if you could find another location, another Buurmannetje, what would you have in mind with picking the new location?

**Liv Kooijmans** 50:52

Well, I think I'm not sure about the location, probably, we also thought of making some kind of a hub in the city center to have like a pop up stores where it can show(case our work), but it's way back in my mind. But you do need easy access with a truck and like the large holder and the height in the building because in Antwerp, it's really not so high, it's only three meters, maybe, and they actually struggle. Yeah. And they also if they didn't have a have to get it didn't have the big and you struggle. And also the upcycle mall in Rotterdam, they didn't want to give us the height. Or the point is we could only get materials from the millio Park and we could not receive donations from outside or like other so we said well, no, then we cannot function over there. Yeah, because then I only can hire one it doesn't work. So

**Appel** 52:09

you're in the end dependent on a lot of different variables for it to work.

**Tanya Tsui** 52:13

Yeah, yeah. And I suppose it has to be a big enough city there to be enough materials to come I guess. Yeah, let

**Liv Kooijmans** 52:21

me think I think yeah, otherwise you have to drive further. So yeah, does it I think but because our clients are consumers you cannot be in a remote place. Yep. So not for them. But yeah, of course we could also choose to be a 'loods met Polen' (shed with Polish), like a really big area with cheap personnel to drive into stash everything like because that's an option - you can just collect a lot of materials and just keep them. and then there's Oh, we actually changed our 'deurbeleid' which is a Dutch 'grappje' (joke). 'Deurbeleid' like means that in the door you say "you can come in, you cannot come in, because whatever", but actually we get doors a lot, so our 'deurbeleid' is we only take really nice doors. (Meaning we choose quality over quantity). we good I think you make a business from secondhand door doors Yeah, yeah, we chose to only have a couple of square meters with door for meeting nice ones. But you get because you can get the cheap doors like

**Appel** 53:54

like coaches How does everybody get rid of their coaches and their doors?

**Liv Kooijmans** 53:57

Yeah. We said no to the worst only reason but we choose to be small and we choose to be local and we choose to be to have a consumer target group so we do need to be near a city I think, probably on the outskirts, because you don't know when your materials are coming. You can't say, like the Albert Heijn (supermarket), "only deliver between seven and eight." It comes when it comes so yeah, of course we can manage a little bit yeah, it would only be like seven o'clock in the morning. Yeah,

**Appel** 54:49

it's not so the people that work here Do you sometimes call them say you have to come out we got a bunch of trees coming in help.

**Liv Kooijmans** 54:56

Yeah, wow. Yeah, there's there's always new find a way Even Yes, boy is working here. He's the shop manager. And he's working three days a week but sometimes Yeah, if you went him once you don't forget it. But sometimes he comes on a Monday or an A because he can pick something up. So yeah, yeah, we wanted to open almost 24/7 Really well it's only closed on Mondays and at night so you can imagine I will use a lot of WhatsApp. Yeah.

**Appel** 55:34

Get some free time.

55:36

So let's show you around. Yeah. Oh me nice. I think I'll stop the thing. Yes, we do. Bye

Land perspective - land use, land price, environmental permits

Business perspective - labor, company network, financial backing

Accessibility perspective - scale of accessibility, type of transportation

Operations perspective - transportation distance limit, material type, access to suppliers vs customers

recording\_Baukarussell\_Thomas Romm

Wed, 6/29 7:55AM • 55:38

**SUMMARY KEYWORDS**

site, construction, hubs, material, logistics, demolition, building, circular, soil, transportation, kilometers, vienna, reuse, locations, requirements, excavation, point, demolished, important, circular economy

**SPEAKERS**

Thomas Romm, Tanya Tsui

**Thomas Romm** 00:05

So, I'm trying to architects, I have an architecture office here a practice in Vienna since quite a while, I've finished my studies at the Technical University in Vienna, on a subject on a diploma subject. It was recyclable housing 25 years ago, almost. So I'm really involved in circular economy and building and construction since quite a while. We actually I come from from housing, social housing was my main topic. And it still is, in a way, I'm very involved. Also, I always have been in issues of research, like logistics, especially building logistics. So in the mid, so, at the beginning of the year 2000, we had a huge research project, and Dianna PPP project on construction logistics, and we discovered that a huge amount of heavy load traffic and in the city is due to construction. So we were thinking about that. It's always as 20 years ago that we started to think about sustainable construction logistics, and also in demolition processes, because social housing happens either on the green field or on the brown field. And so I got involved in many demolition and dismantling projects. And later on, I discovered that there is so many values are lost in these projects that in 2015, I decided to be a founder of bulk and sell to save these objects and these values in demolition and dismantling projects. And, and here we are today, talking about reuse, and recovering building components to create new new buildings. So that's quite advanced, the whole thing, but it still is at the beginning.

**Tanya Tsui** 02:14

Very cool, very cool. Maybe I can also introduce myself and also my research project, and then we can we can start the interview. So my name is Tanya, I grew up in Hong Kong. But I'm doing a PhD now here in Delft in the Netherlands. And I'm in the Faculty of Architecture, Department of urbanism, and looking at Circular Economy in cities. And so what we're interested in, in our research group is there's a lot of talk about circular economy in cities, but a lot of it is about governance, and stakeholders. And these things are very important, you know, Policy Governance, but we noticed that there's not much research or understanding of space of urban planning, urban design, mainly urban design. So all of these circular activities, whether it's a material bank, or you know, demolition, all of these circular activities require space, they have a location. So what we want to know is, yeah, have a better spatial understanding of circular economy. And so my specific topic is looking at Circular hubs. So there's a lot of interest in the idea of having a kind of hotspot location in the Netherlands, that attracts a lot of circular companies. But there's not a lot of specification of where these hubs could be. What are the spatial requirements? Is it accessibility? Is it close to the city or not? Is it? What kind of infrastructure does it use? Does it have to be close to other kinds of companies? So all of these spatial related I mean, of course, you will understand because you're an architect, I also have background in architecture. So you understand, you know, all these spatial requirements, not they have not been specified. And then there also hasn't been any kind of analysis that's really pinpointing locations in the Netherlands that could be suitable for these kinds of hubs. And so my research is, this is the first step I will do interviews with people like you and also other companies that are in a similar field in the building industry to identify these requirements. And then once I have this list, we can use this list to do spatial analysis to identify locations that using GIS and yeah, just open data with with road and land use and things like that. So that's the plan. The interview is, comes in, basically three parts. The first is just asking about the operations, basic questions about about ourselves, and then asking about your location requirements for now and also for the future. And then finally, going deeper into the spatial requirements, the spatial requirements, we've identified those four types, one is land related. So then us land price, environmental requirements, one is more operational. So how far are you willing to travel to suppliers and customers? Transportation, so what kind of transportation infrastructure accessibility, and also kind of more like business? So being closer to customers or, or knowledge partners or things like that? So that's kind of the overview of the interview. So if there's any, do you have any questions or if you'd like to clarify something?

**Thomas Romm** 06:15

Yes, maybe it's useful. Before entering the subject of a bow search, I mentioned that we're also planning a kind of “BodenKarussell”, which means circular soil, because excavation materials are three times more than construction demolition waste, and considering secondary material pools, as you are asked to say, when you talk about circular construction, it's more or less basically as as you already said, a question of logistics because all these materials are kind of available, but not on the right place and the most most of the time and when you use a stationary facilities spread through the land, you have a lots of monetary loss, just by transportation and by by by storing these materials and processing it, instead of doing it on the site. And this is our approach, we try to maximize the amount of materials and building components being processed and refurbished on site and this is including also the question of soil and excavation materials, because soil is really the major part and it's such a such an important resource also, also in terms of is considered as a sink for co2 for example. So soil and all over Europe got an all over the world of course, get lost every day, at least in Austria, we are losing 11 hectares per day, which are used land use in Austria is 11 hectare per day and the amount of sealed surface is about five hectares per day and the seal surface of course, is soil getting lost. So, there are many interventions all over the planet. Like for example, in New York, the New York soil bank, clean soil bank as a call or other facilities, like in Helsinki, there is a mass flow coordinator trying to cope with this with this excavation materials going through the city and going out of the city, just to keep it in and to do in a land gaining projects and and and the harbour of Helsinki and so on. So, do not think only about hubs when you do this work on logistic facilities, but also try to use the site itself first of all, and then use a kind of a network dealing with these resources from one site to the other and not using a hub. I don't I don't want to intervene in your in your work. But of course we have always used hubs since we are talking about inner city logistics, starting with the London construction resort, the CCC construction project. But, but later on, we discovered that that the on-site use is crucial for any kind of circular impact. And this is what we saw pointed out and be recycling manual, I don't know if you know book. It's, it's quite important in that is your i show you

**Tanya Tsui** 10:07

okay

**Tanya Tsui** 10:14

Okay, interesting.

**Thomas Romm** 10:18

It has been published in English in the year 2019, I guess.

**Tanya Tsui** 10:23

Okay, interesting. Thanks.

**Thomas Romm** 10:25

And we have published an article about eco..., I send it to you afterwards I have this article in English. So this is onsite, logistic, Indiana using excavation material to construct 3000 housing units. Okay, one example. Yeah, I send you this article afterwards.

**Tanya Tsui** 10:53

Yeah. So isn't what do you? This is a good, good starting point. Because what do you see in the futures? Because right now the issue is, a lot of times you need a storage space or temporary storage space to match the supply and demand. So often, something gets demolished, but the construction only starts like three months later. So there needs to be a place to do you see in the future, kind of no hubs anymore. But like, let's say ideally, right, ideally, in the future, no hubs anymore. And just this nice coordination of exchange, is that what you're thinking in your head?

**Thomas Romm** 11:32

No, that would be exaggerated, but it's a combination of all these issues, I mean, one, on one side, you're going to have a lot of construction industry 4.0 means prefabrication and pre fabricated element going to the site. But on the other hand, you will have to use hubs also to accelerate construction, and especially pre precast elements and pre fabricated elements, which could not be stored at the site. So hubs will always be important. And also on the back side, on the other side in the other direction. I mean, more and more construction, demolition, waste, and construction, waste has to go to the, to the producer back to the producer. So we have a lot of cut offs going no matter what material we are using, ending up as a construction waste. And this actually is not a waste. A secondary material to the producer, like for example Gypsum, is almost clean as it has been delivered. And it could be sent back to the producer. This is one example of using these hubs. But on the other hand, as I have pointed out, we have to learn again, like our anchor stores, that we have to use the site and exploit the site where we are working on, in the dimension of its resources. It has almost always been the case in traditional building, transportation was far too expensive. And every traditional way of construction has used the material on site. And this is something we have to learn again. And from my point of view, it's also important when you consider that in the dimension of building, so you cannot build a high rise with the excavation material for sure. That's that's the point I mean, you should always consider the feasibility also within the reach of the construction material available. This has also an impact on urbanism. So we are about to develop urbanistic schemes just to have 100% Zero violence, balancing the materials on site and the feasibility of construction and urban dimension resulting out of this mess balancing things.

**Tanya Tsui** 14:23

This is Yeah, so Oh, this is something you're actually working on this

**Thomas Romm** 14:29

urban we did several urban computations, showing that we of course can have co2 neutral co2 neutral energy balance, but we can also have 100% co2 neutral material balance just by using the material on site and including the soil, the upper soil, as a vegetation. A substrate for for I'm for roof, a greenery and also for for parks and the surrounding of our housings.

**Tanya Tsui** 15:08

When you say use material on site, are you imagining? Like there's a building site and a building is being demolished, and a new building will be built? The idea is in the same site, the building that's been demolished and materials will be used

**Thomas Romm** 15:26

for the condo percent. Yes,

**Tanya Tsui** 15:29

I see. I see. So like sort of hyperlocal, circular, local, even neighborhood but the actual site,

**Thomas Romm** 15:37

even an even on the green field, not just on the brown field. Yeah. So, so one, once you're considering the capacities of a Greenfield, you have the topsoil, and the gravel and the sand beneath, and maybe also clay going under it. And then you have the Brownfield with construction demolition waste. And and these two cases should be designed to use 100% of these available materials.

**Tanya Tsui** 16:17

So is it kind of you're envisioning, so there's this hyperlocal kind of circular economy, but then it doesn't fulfill, you know, the new building requirements. So then the role of hubs would be to kind of supplement what can't be done on site. Correct. Okay, interesting. Yeah, that's really interesting. I'm really looking forward to read your article that you will send me that's really cool. Thank you. And I if you don't send I'll I will email you and I might buy the book. It looks interesting. It's published by detail.

**Thomas Romm** 16:55

Yes. Oh, publication actually, is, has been awarded with several awards. And I think it's a key issue for my colleagues are mostly women, by the way, are talking about urban mining design, as a new approach to to architectural construction. So we have to consider also to construct our houses from now on, either to densify them later on, or to dismantling them and as you said, use several parts of it, which are still still valuable and still usable, but others are should be recycled. And, and, and joined in the process later on.

**Tanya Tsui** 17:50

Okay, very cool. Very cool. I think I will. Okay, it's very expensive, but I will at least three

**Thomas Romm** 17:58

the article you get for free.

**Tanya Tsui** 18:03

Okay, so I think we're ready covering some of the interview questions, I realized that doesn't have to be very structured. Now that I've done a few it's we will cover everything eventually.

**Thomas Romm** 18:15

But you may notice a bell curve. So it was just a final adding point to all these concepts. Because in a way all these processes are implementing new logistics and this might end at a certain point because the demolition contractor is not willing and is not able to recover reuse components and in in a number of ways he's he's under pressure on the time pressure mostly and yes, execute his job as fast as possible to and then to get started with the new construction because any investor will wait till till it's possible to join the new construction immediately after the demolition work. So in many ways, or in many cases, there are these demolition buildings are waiting to be demolished for years. And they got to devise that and and all these values in it got stolen or or been been devastated, and so on. So we have developed this idea of BauKarussell to have a third player who's who's delivering a new dimension a new perspective for this for these buildings waiting for the demolition, yeah. And actually BauKarussell is made to recover values in the building like copper, like aluminium and these kinds of materials to pay or to have a revenue and the budget to pay social work in dismantling or pre demolition work. Yeah, so these our BauKarussell people are dismantling or doing dismantling work for these budgets getting out of the copper or the aluminium. And then parallel to this, we are recovering reusable building components. The reuse is just the third column of these first two columns of first are they at the revenues of copper and aluminium paying the social work, the work of dismantling as a pre demolition process to get it faster done the job afterwards. And And thirdly, last but not least, we are doing our reuse from one site to the other, if possible, I see your initial idea of BauKarussell.

**Tanya Tsui** 21:00

Okay, very clear. Um, that's a good segue to the to the operations then. So, how many facilities do you guys have and whereabouts are they located?

**Thomas Romm** 21:16

We have no facility at all we are working with local social enterprises either if there aren't you roll or up Austria or here in Vienna, this doesn't matter, we are just working with local people to dismantling these buildings and recover the the metals and then we are selling out of the object the reuse components, we have no store we have no storage at all we don't we just sell it online or or from the site itself.

**Tanya Tsui** 21:52

Ah okay. So things So, you you work with a local social organization, they go to site they take all the valuable things they store it on site, and then you use

**Thomas Romm** 22:07

it from the site, we sell it from the site directly and you will be quite astounded when you discover that these objects are available for years in most cases Yeah, before a project got developed and an investor has been found and and so on. So in most cases, we can we can save these objects from devastation or with bulk ourselves and offer a social urban mining intersection or in a social urban mining concept to to preserve these objects from from devastation and to create an additional value which would not exist without BauKarussell.

**Tanya Tsui** 22:54

So kind of the the a lot of sites are just building buildings waiting to be demolished for years. And so then you could just actually just save the materials in that site that's being demolished. It's like a free storage space for years.

**Thomas Romm** 23:15

Is that correct? Correct. Yeah.

**Tanya Tsui** 23:17

Okay. Very interesting. That's so interesting. Yeah, I can see why in the beginning. You were like, huh, doesn't have to be hubs. It can just be it's a

**Thomas Romm** 23:27

point Yeah, I But nevertheless, I mean, the idea of perhaps we've been dealing with that for years but these are more or less professional logistics who were asking us how can we have a hub How can we support a logistic initiative logistic intercity construction logistics because it's such a major major part of the intercity traffic as I pointed out in my in my in my first introduction, so about three thirds 67% of all inner city heavy load traffic is due to construction. So hubs are a good idea in a way and especially when you when you can combine it with with using rail or or or other alternatives to heavy load traffic's

**Tanya Tsui** 24:28

Okay. Okay. Very clear. Um, let's see. How much can you give a rough estimate of how much material you guys processed per month or per

**Thomas Romm** 24:43

year? Oh, yeah, I have such a fact sheet here. Oh, nice 30 or 30,000 of our working hours and 1300 tons since we exist five years now. And about Half of it. So it's about almost 600 times in reuse. That's the violence for 2022.

**Tanya Tsui** 25:12

Okay, and these, so so we can basically say the storage facilities that you have is actually at each demolition site. And are these sites where are they located? Are they kind of in the city or Peri urban area or

**Thomas Romm** 25:35

both. So, as I said, mostly that we're working with, since we've found the BauKarussell here, but more and more we're going to Styria also to Gratz but also on the countryside, we have sites and and as as long as we find a local partners, this is no problem with us. So they are traveling to the site like in Terolia, they had to travel to the site from different spots of Giro but this is not the problem.

**Tanya Tsui** 26:11

Okay, I see. I see. Okay, so the in terms of the actual operations, so do you does bow carousel, do the logistics? Taking the demolished material and put it going sending it to the new site? No, it's just the matchmaking.

**Thomas Romm** 26:34

Yes, these are professionals.

**Tanya Tsui** 26:37

Okay, so the role of carousel is to demolish, like dismantle, put it in the site and then say you go you can go pick it up. Okay. Okay. Nice. Let's see. And how far usually is the distance between the two exchanges? Very close.

**Thomas Romm** 27:05

I mean, this is we haven't transferred yet something from Gratz to Vienna which is about 200 kilometers not a single thing. So it's the matches are always made in the closest surrounding

**Tanya Tsui** 27:22

what about how many kilometers is that

**Thomas Romm** 27:25

when I would say 15 kilometers one 515 15? Yes.

**Tanya Tsui** 27:30

Okay. Okay. And most of these materials you said were copper aluminium soil.

**Thomas Romm** 27:37

Yes, anything but also excavation materials. As I said, this is not about BauKarussell. But the material we're dealing on site, which stays on site and will be transferred to other sites is always in the within the range of 50 kilometers, but BauKarussell also is acting as a local as a local partner for also for resellers. So we have b2b business to business corporations for selling tires, for example, but these are also always local sellers. Yeah, no woods. Yeah. Wood timber, timber is nice and important, a sustainable resource when it comes as a reach reusable timber, because this is really sustainable then, but there are a lot of resellers of timber have reused timber also on a local base.

**Tanya Tsui** 28:36

Okay, okay. And so, mainly do you, who are your customers?

**Thomas Romm** 28:44

Well, as I said, we prefer B to B, but because they are established sellers or resellers for building materials, and why not use them, there is no need to found (create) a re-use or a Super Hub. Because there are a lot of business partners from our point of view, who are professional in these niches like, like tiles, for example we have with or timber, they're just dealing with timber or tiles not both, and refurbishing it and they're passionate about it also, and this is important. So we're not really keen to, to sell to private persons, because this is a lot of administration a lot of a lot of work to do which is work, which could not be done by social but social enterprises. Although we are more or less moving to apps now and to to digital tools, of course because you have to also in the b2b world, and our final goal for software for sure is to find more developers as a b2b relation. So we are started with started to collect. carpet floor for example, a pocket floor for example, for, for developers of social housing. Recently, we won a competition, where we promised to equip 65 housing units with reuse carpet floor, which we haven't gathered yet. But this is a good business model, because now we we've sold it already, so we can start to collect it, and give it to the developer and he will store it. It's his problem.

**Tanya Tsui** 30:42

I see. Okay, yeah, very interesting. Business model. Let's see,

**Thomas Romm** 30:50

see a lot of energy and a lot of money get lost by transportation. And by storing it and by administrating our reuse components, I see this. This is a major concern for our colleagues like material, no modern, and others say that really, they do some money with some of these objects, but others they cannot sell. So this is a problem we want to avoid. And especially when you deal with social enterprises, this base not much capital behind it. So we we are really sensitive to these issues of transportation and storage.

**Tanya Tsui** 31:33

Yeah, yeah. I see. I see. Um, let's see. Let's see. So, the everything is within 15 kilometers. The sellers and yeah, and the demolition. Um, let me see. Do you are there any requirements when you're picking locations to do the demolition in terms of the location for me, so, are there any requirements that you have when it comes to choosing like a demolition project

**Thomas Romm** 32:24

or yard a lot of requirements of course, I mean, first you have to do a pre demolition audit and you have to make safe that these people are not exposed to any harmful substances and there are a lot of requirements to go on first, before before you can even enter such an such and demolition objects. And of course, our job here is to try to plan this and to we using BIM models and we are clearly analyzing all these objects, demolition objects before we enter it which bulk of cell will have a clear idea what they do in the building and we and how to proceed we have a lot of plans to be done and also to the plans to say okay, and in what story what should be done and what is what is the final result and when we when we finished social urban mining, so this is has to be absolutely clear. And there are a lot of regulations in terms of floors and standards to be fulfilled within this process. And this is where we stand in for that's that's actually the basic idea of parkour so they have some professional planner, doing demolition work, which is not of course very seldom the case. So we are planning demolition in terms of dismantling and including social urban mining.

**Tanya Tsui** 33:57

I see I see. Yeah, I'm wondering how to bring this back to location is it me think

**Tanya Tsui** 34:14

you mentioned that your your customers are all within 15 kilometers of you of the of the demolition site. Is that a is that a characteristic of Vienna? Because it's, you know, one of the biggest or is it the biggest city in Austria? Or is it just would it be the same in other cities and Austria as well? You think?

**Thomas Romm** 34:44

No, you're right. I mean, when I take the Netherlands, with such a short distances between these urban agglomerations I remember that my Nijmegen is so very close to Arnhem and And this is, I think about 18 kilometers, and they're equal in size. So this the result would be probably different. I guess. And maybe you're right, because Vienna is such a such a huge capital and the others are so much smaller. But But nevertheless, I, I think in Gratz also, which is considerably smaller than Vienna, it's about it's kind of the same thing. Because you're acting you're working in demolition process you're working with local partners, and even a stationary (recycling?) facilities are not too far away from from the cities, because it doesn't pay out to transfer recycling materials for miles. Big. When you go beyond 20 kilometres, it wouldn't be it wouldn't be a business, it does not pay off. And even within that distance range, it's hard as a business, because transportation is really expensive in construction. US you say it's about I mean yet. Now, more but we did always calculate sixty euro per per hour for for transportation. So 60 Euro, you can calculate for a one hour transportation. So you see how, when you in the Coca Cola facility, our first project with BauKarussell, we have 60,000 tons of material being processed on site. So you can imagine how much you have to pay for quotation.

**Tanya Tsui** 36:45

Can you explain a bit more why transportation is so expensive.

**Thomas Romm** 36:50

And more expensive now with with this energy crisis and Ukrainian war, of course, and this is making it obvious, we are we are not really focused on on these issues of transportation. But in the life cycle of a building, for the transportation costs, and also the co2 emissions, it's 10% (of total costs). And it could be much less, this is our theory, if we reuse materials site. And that means also that you don't have to buy them. These, these materials you already have and you consider it as a waste is it's actually a resource that you don't have to buy further on. And this is this is the business model of on site use of resources. So you profit from one's like not not to pay for the landfill, but also not for buying them, even if it's just the replacing gravel or sand. So, transportation is a major deficit also, of any idea of creating hubs and in kind of networks for secondary material. Also, you reuse materials, because transportation is always inherent. Yeah, don't take it personally. Don't take it personally, but it's a inherent deficit an inherent deficit to any kind of, of hubs.

**Tanya Tsui** 38:31

Yeah, yeah, Indeed, indeed. And it seems like the construction network is sort of city by city. So there will be a tile reseller in grads another one in Vienna another one and so they kind of operate would you say within the same city they don't have like have country wide operations?

**Thomas Romm** 39:06

Well, at least for for timber, I'm quite sure that this is really a resource which is used locally or reused also locally, you find easily someone in Gratz (in the same city) who's whose news paying for for reusable timber, which you have on site. So you don't have to wait for something coming from Vienna. But with tiles? I'm not sure because when you have got a beautiful tie, I would buy them even from Morocco. So I don't mind actually but but as a procedure, I would say you easily find local partners.

**Tanya Tsui** 39:46

Does it have to do with the like how common the material is. So it feels like Okay, so the sort of the more common the material, the more Local, it could be okay. Okay, good to know.

**Tanya Tsui** 40:13

Yeah, I'm wondering, because I sort of these questions are very much designed for like a circular hub like material bank. I think I misunderstood the carousel a little bit. So I'm trying to change the question so that they still, you know, touch upon.

**Thomas Romm** 40:33

I hope I can, I hope, again, inspire you. I don't want to spoil your work, but

**Tanya Tsui** 40:39

this is a good Yeah, I mean, it's a good alternative view of of hubs. And I still think, you know, in the end, I'm very interested in doing spatial analysis on any kind of circular economy within the the building industry. So I wonder,

**Thomas Romm** 41:03

actually, this was also our approach where because when I started my research projects and resulting from this huge PPP project with city of Vienna, we just measured during the construction of 900,000 unit units. We took a measure of what is done logistically, yeah, and we used a Leno's BauLogistic who did the Potsdamer Platz at that time, you know, Potsdamer Platz in Berlin was the first major logistic intervention in construction. So, we are we engaged in that Xenos logistics to count each and every motion on the side. Yeah, I mean, in terms of logistics, and they produce a huge database for us, and my job was to analogize this, and the outcome was that the strategies of construction enterprises is exactly that, see, they are acting in a circular economy way using the material as much as they can. But this is more or less dependent to hazards or to to, to, to certain Luxy Hair they have when you have a extraction side nearby, or this is this is not a system working, it's a pure, arbitrary, randomly selected that's going along with the calculation of the calculator or the contractor, but it's not the basic of construction in Indiana for example, yeah. So, we decided to change this and to, to use circular strategies, before we do a tendering or or a process of tendering now by offering for example, certain certain some certain areas for for storing soil and bringing it back to the, to the site in order to do the filling after the seller is finished, and things like that, to avoid transportation. And we discovered quite easily that you can save a lot of money with that just providing a certain circular, let's say infrastructure, yeah. In terms of spatial issues, yeah, because somewhere you have to store the soil nearby the construction side. And in one case, we even rented a site from the city of Vienna, and it turned out to be less expensive than bringing all these excavation materials to landfill, storing it nearby the site and then bringing it back to the site just for the filling after finishing the building. And and these strategies, including also mobile concrete units on site using or not using excavation materials is a certain surplus. Also in terms of economics, and then for ecology purposes. That's for sure. Avoiding transportation is has always been mainly an interest of ecology from our point of view, but we could prove very easily that's also very cost efficient.

**Tanya Tsui** 44:51

And when you say nearby the site, do you mean

**Thomas Romm** 44:56

that is very close then this is less than five kilometers. So it's really next to the site, using the construction site of your neighbor, for example. Yeah, we did. We dressed up schemes for for housing area for 1000 housing units. And we pointed out that we could do this in three phases. And the first phase, were using all the other sites for your for this circular purposes, this worked out. And then the final, the final third phase could only use Sites nearby the construction site, but this also paid off. So that was very efficient.

**Tanya Tsui** 45:41

Yeah, it's kind of the the view is much more. It's not like a permanent circular hub. But it's sort of like temporary storage sites that are very changed, changing all the time. And then sort of very well coordinated. Now very organically.

**Thomas Romm** 46:03

Oh, yes, I would, I would, I would do it like this when you're talking about hubs.

**Tanya Tsui** 46:08

Yeah, yeah. That's very interesting. I mean, it's a it's still very, yeah, I think it's very relevant. Kind of, yes, thinking less, permanently. And, yeah. So then these storage spaces would be extremely close to the construction area

**Thomas Romm** 46:35

as close as possible. Yeah, I mean, maybe first of all, for the time being, it's also depending on what you like to store, like, it's like, for example, the upper top soil is very sensitive to be installed beyond two meter high. So you need a lot of surface to store soil, when you want to reuse soil on your site, because two meter height is just nothing. So you need you need really a lot of square meters. But actually we are doing that right now on a major construction development site with 1500 units, and the First phase only. So the result will be 5000 housing units. And we have different sites to reuse and this first in the first construction period, but then we discovered it's simply too much soil because we are working on a grant Greenfield so we have started a kind of a BauKarussell. So to enhance and to improve the architecture and agricultural services nearby. So we are offering this kind of land use our soil, which is highly welcomed in the surrounding of our site. And this is also new for us. So you don't need any hub for to soil this soil. Because you have got a lot of agricultural use of which is really, we they are so happy to get the soil from us. And for us from for my developers is just waste. But obviously it isn't because soil is a really an important resource for us humans.

**Tanya Tsui** 46:35

Yeah, yeah. Hmm. Maybe for a bit of context is I'm also working on the dataset with done by the Dutch environmental agency. And they basically have a prediction of when and where buildings will be demolished. And when and where buildings will be built, based on the demolishing is based on the age and type of building. And then yeah, go ahead.

**Thomas Romm** 48:58

Actually, no building will be demolished without a project going after it. Yeah. So actually, it's easy. And you don't have to map all these all these cases. Because, you know, no one will demolish a building when he has not the intention to build a new one afterwards.

**Tanya Tsui** 49:24

Huh? Yeah, yeah. So it's more when, when and where buildings will be built? Let's say

**Thomas Romm** 49:33

absolutely. And you have to focus on these two cases on the Greenfield and on the Brownfield.

**Tanya Tsui** 49:44

Yeah, because when it's a Brownfield, then there's like the potential for like on site.

**Thomas Romm** 49:51

Construction demolition waste being processed, and on the other side, its soil and excavation material being processed.

**Tanya Tsui** 49:59

Yeah. Oh, yeah. Okay, very interesting. And then it's sort of it's too, if it gets transported beyond five kilometers. It's too much, basically. So actually, what would be interesting to look for, like from our conversation would be locations where there will be new buildings being built. And within five kilometers, there's life, outside, or even even on site, though,

**Thomas Romm** 50:37

they are not built all at once. You can easily use the site for certain for for first phase, I'm sure any site and then secondly, for the other for the second phase, you have to look after in the cloud surrounding, it's available.

**Tanya Tsui** 50:58

Hmm, yeah. And definitely, I think if you look, you know, it might be quite homogenous within, let's say, a city like Vienna, but then if you look at it from a national scale, then suddenly there will be locations, not necessarily hubs, but like locations where there will be a lot of this kind of activity. So that is another perspective that can be taken.

**Thomas Romm** 51:28

Would there be an English - swarm intelligence? You know what that is smart, intelligent swarm swarm and swarm intelligence. So yeah,

**Tanya Tsui** 51:37

yeah, kind of like bees. Right. Like, yeah, perfect. Yeah.

**Thomas Romm** 51:45

Sorry. For ants.

**Tanya Tsui** 51:47

Yeah, it's a very modern kind of way of thinking. Rather than having things be centralized. It's all decentralized. And like, yeah, it's very, very, very interesting. Very cool. Is there anything you'd like to add in the last five minutes?

**Thomas Romm** 52:08

One thing I think it's really important to include or to be inclusive in that process. This is why we have involved this social businesses. And it's, it's also question of a social cultural change. You know, in the last demolition object, we start to establish an exhibition, exhibiting the only 20 years building, it was only 20 years old, in the building, so we expose the building and the building to expose this the circumstances of circularity, and, and in the, in that case, was an inner city hospital. So it was really interesting. And to have this attention, we, we invited street artists, you know, normally demolition objects that got devastated by by sprayers and by street artists and but in that case, we then invited them and there was a was a huge bulk of young people really doing beautiful spray work and Street Arts. And then we discovered that is a couple of artists who are doing so called Mind mining projects, they work with demolition houses. So we invited them also in the the developer did pay all this because they really appreciated the approach of a social, for social, cultural change of a need for social cultural change. You know, this, this circularity is not something which is only purely technical, this is also something going around in our head. And we have to talk about it and to communicate that and to process it in our minds. And this is really important. We are as architects and engineers, we have the technical approach, but actually the social cultural change the need of social cultural change with which we have to, which we have to face and to tackle. Hmm, very cool. Good, good word to end with.

**Tanya Tsui** 54:28

Yeah, absolutely. This is this is really interesting talk. I have a different view of circular hubs. And I'm quite excited about this kind of, you know, because the outcome of my research will be a map, multiple maps. So be one map is a very kind of circular hub, you know, classical idea. The other map is a swarm intelligence,

**Thomas Romm** 54:56

how swarm intelligence be.

**Tanya Tsui** 54:58

Yeah, they will still have have locations. I wonder where they will be, but it will be very, very interesting. So this is a this was very fun for me. I appreciate it was a bit scary, but now it's fun.

**Thomas Romm** 55:17

I like it. Thank you. Yeah.

**Tanya Tsui** 55:19

Yeah. And if you can send that article. That'd be really well. Yeah. Thank you very much. And I'll keep you updated if you're interested.

**Thomas Romm** 55:30

Yes. You're welcome. All right. Thank you.

**Tanya Tsui** 55:33

Bye.