**Session 2 – Team 3**

**E) Use of the method**

00:06:13 Speaker 1 - J

Anyway, yeah, thank you for bearing with me. Thank you for coming up and showing up for this second session. Yeah. Hopefully this will be also a little bit more insightful to you than the last session. So now I'm going to share a little bit of what I've been doing.

00:06:36 Speaker 1 - J

So yeah, this session is really about you criticizing my work. So it that that's going to be very valuable to me to hear from you.

00:07:07 Speaker 1 - J

So that's what we're going to do today. Yeah. Welcome to the session, blah, blah. I'm going to present the overview of the of the method that I sent you.

00:07:17 Speaker 1 - J

And then we're going to go through a case together, which is a case of PFAS in food packaging. The one I also sent.

00:07:24 Speaker 1 - J

And yeah, we're going to go through the method using that case as an excuse, but again, the focus of the session is criticizing the method, improving the method, but not necessarily, yeah, solve the in packaging problem.

00:08:26 Speaker 1 - J

Yeah, we're going to 1st talk about the well. I called the safe and circular design method. I use the word method because.

00:08:36 Speaker 1 - J

Because that's how it started. But it doesn't necessarily need to be a method like. We can also deconstruct it. We can. We can do all kinds of things with it.

00:08:46 Speaker 1 - J

Thing that I made is based on theory alone, so I I went through five case studies and I looked into how they have solved the problem of substance of concern in those particular products. And then I tried to extract all of those pieces of information and then I said, well, I think this is what's important for designers to know in order to take action.

00:09:23 Speaker 1 - J

And the overall goal of the method is that I want to be able to support designers in just developing these strategies to mitigate the risks.

00:09:33 Speaker 1 - J

That substance of concern, generate throughout the life cycle of product.

00:10:15 Speaker 1 - J

So right now I'm only going to go through the overview of the of the steps.

00:10:20 Speaker 1 - J

And then we're going to go and dive into each one of the steps, and then we're gonna, I'm going to give you time to go through it.

00:10:24 Speaker 1 - J

With the case and then we're going to reflect. (Proceeds to explain the overview of the steps).

00:13:21 Speaker 1 - J

UM, let's, let's quickly talk about Step 0, which is identifying the substance of concern in the in the in the product.

00:13:34 Speaker 2 - JE

Can I ask a question?

00:13:47 Speaker 2 - JE

What is the context of this method? do you already know what technology you are using and the materials and then you start improving on this? I just want to make it clear because they are very different.

00:14:19 Speaker 1 - J

The other scenario is just just have a product that you are. Yeah, you are now avoiding substance of concern as your normal design process. So you scan your product and then you do things like bomb check and like all I provide all kinds of resources. So you can have like your bill of materials and then you can go 1 by 1.

00:15:06 Speaker 1 - J

when developing new concepts the it will depend on how much data you count with because at a concept level, maybe you have some functionalities defined. Maybe you have some of the materials defined, but not everything, right? So.

00:15:20 Speaker 2 - JE

step 0 here could also be step three in the bigger process, but you're like the first concept you came up with someone that say I need I need PVC and they only know they know very little details. They only know like, OK we want this PVC but we don’t know a lot.

00:15:56 Speaker 2 - JE

Just more of a remark that.

00:15:58 Speaker 2 - JE

This could all, not necessarily. You start with this, but you do exploration you land at the point you might need need this material, you dont have all the details...

00:16:06 Speaker 2 - JE

You don't have a BOM, you don't even know if a requirements asks for some kind of copper and thats the only thing we know and we think ok, then we should not use it. And at that point, can we not, in a more viable, thinking of time wise, we explore everything that can be an alternative?

00:16:32 Speaker 1 - J

Yeah, yeah. So some of the things that came up in other sessions was like, OK, But what happens if we have like, this perfect database where we just go like, I want a certain functionality and.

00:16:44 Speaker 1 - J

And and say OK, I I want a soft material and then this database goes like OK yeah. But soft materials are usually plasticized something. So be careful with that. In a perfect world, maybe that exists.

00:16:57 Speaker 1 - J

But here. Yeah. What? What? Yeah, it's it's really just about reflecting a little bit. So of course like that level of analysis and like the level of depth is only going to increase throughout the development process, right? So if you're a little bit further in the in the development process.

00:17:15 Speaker 1 - J

Maybe then you have more details and then maybe you find out things.

00:17:20 Speaker 1 - J

That are not necessarily going to allow you to go back to and come up with a completely new concept. You're just going to realize things at a point where you cannot change a lot of things in the design or whatnot. But then maybe you can still make modifications to deal with those things that you that you.

00:17:38 Speaker 3 -TA

I think it's also a matter of of building.

00:17:41 Speaker 3 -TA

Experience like probably as you mentioned like.

00:17:44 Speaker 3 -TA

My my knowledge of of materials and the substance concerns is is quite limited to be honest. So probably if I would get more education or more more knowledge then first time I I might see some opportunities and probably do it wrong or or integrate the sort of material or like come to conclusions too late in the process. But the next time I'll learn a little bit better.

00:18:06 Speaker 3 -TA

I'll have more options and along the way I I gain knowledge and and become more aware of of what's a go and what's a no go.

00:18:18 Speaker 3 -TA

Yeah, I think that's that's also something that just needs to develop.

00:18:22 Speaker 3 -TA

Like in the ideal world, you indeed, you would just select and say like give me this and this.

00:18:25 Speaker 3 -TA

Or maybe you could just like it's a bit tricky, but you can just use chat gpt and like see like what comes out there and then use it as his 1st check to then dive deeper and to at least get a bit of a direction of what you want to achieve.

00:18:40 Speaker 1 - J

Indeed, indeed I I think that that, that would be in my eyes a good approach, because if you have very little bit of data then that means that you also going to do a lot of research but you can do some exploration, some quick searches. Am I doing this? Am I doing that?

00:18:58 Speaker 1 - J

And then inform yourself and already prevent that maybe that PVC that you selected is going to be problematic.

00:19:05 Speaker 1 - J

And and then I I also provide I try to provide tools to say like, OK, so you you do have a substance of concern you have to use it because the client says so or because there's no other alternative or whatever. What else can you do to have some form of control over the risks that it generates so.

00:20:09 Speaker 3 -TA

You need some kind of quick check at least. It's good to be aware, to ask yourself the question every time because it's something we, at least for myself, didn't pay attention to as much as needed during the design process. And I think also the earlier in the process, you ask yourself the question, the more flexibility or you still have to incorporate so.

(Explanation of step 0)

00:21:58 Speaker 1 - J

Yeah, definitely. OK. So we are going to go through each of these steps of a method using a case.

(Explanation of case PFAS in food packaging)

00:25:52 Speaker 3 -TA

It's also interesting. I'm. I'm just thinking about it. I know that in the UK for a while they have like fish and chips in news papers.

00:25:59 Speaker 3 -TA

You know, and this was a big debate because of all the ink...

00:26:03 Speaker 3 -TA

It was, I think it was forbidden. I'm not sure, makes sense. So, but that was a really, really, really clear cue that people understand. Like this is printed going into my food doesn't feel right. So yeah, it's interesting because I never, never looked at this in my packaging before...

00:26:21 Speaker 3 -TA

But yeah, there's also it's hard to detect or to know.

00:26:48 Speaker 3 -TA

It is ridiculous that PFAS are not regulated in food packaging. But on the other hand, I'm also not surprised, like I mean the packaging world, they say like, yeah, the convenience. If the convenience is better for the competition, it will sell better. If people don't get greasy hands, I don't care about the PFAS.

00:27:03 Speaker 3 -TA

But this will come at some point, I'm sure.

00:28:20 Speaker 1 - J

Ok, so now I will give you a task.

00:28:22 Speaker 1 - J

Now we're going to imagine that I give you this case. We're going to focus on burger wrappers just to have some focus, and you have to use this method to to go through the, to to, to deal with the substance of concern for each of the steps, I'm going to spend like less than 5 minutes o explain the step in detail and then as a team you're going to go through the step.

00:28:49 Speaker 1 - J

And then we're going to pause a little bit and then we're going to discuss and you can provide feedback and say like I didn't understand this, I didn't like this.

00:28:58 Speaker 1 - J

Please use the information that is on the case. I'm going to give you a copy of the case.

00:29:03 Speaker 1 - J

And uh, just discuss out loud everything that you can and again just go through the through the method, think about the method, what you like, what you don't like, what would be applicable to your practice or not.

00:30:13 Speaker 1 - J

so, these are the templates for step 1.

00:30:14 Speaker 1 - J

So the first bit of step one is just really asking you information about the substance. So it's just a moment where I provide you with questions. This is the basic information that you would need to understand what the substance is and how it may behave.

00:31:16 Speaker 1 - J

Then we have a step where we analyze the substance and the product together throughout the life cycle. And here we want to identify emission and exposure scenarios. So emission is that the substance is just emitted somewhere when it escapes the products somehow.

00:31:32 Speaker 1 - J

That could be in air, in water, in soil, or even migrate into your food, etcetera, etcetera. And then exposure is when it goes into a person. So this can be a person who is working, for example, in occupational exposure or it could be your user.

00:33:32 Speaker 4 - SO

But so, if we're talking about transport. I was thinking like if you have no information then you also cannot make conclusion.

00:32:24 Speaker 1 - J

Once you're done with that, I do a step where you prioritize where you define which of the scenarios are most or least concerning using a qualitative scale.

00:33:32 Speaker 4 - SO

But for example, if we're talking about transport. I was thinking like if you have no information then you also cannot make conclusion.

00:33:42 Speaker 3 -TA

Yeah, so probably you can just mark that you do not have enough information.

00:33:58 Speaker 3 -TA

This is more like missing information.

00:34:00 Speaker 3 -TA

Or, I'm not sure if the information is correct.

00:34:03 Speaker 4 - SO

Yeah, because I would more say like, OK, if it's not applicable, it's because you.

00:34:07 Speaker 4 - SO

Don't need that step in the process if I think of maybe very local production with no transport, then that's where we'd say not applicable.

00:34:39 Speaker 1 - J

So that's this is more of like a check of what applies to the case and what doesn't but also a check on what you know and what you don't know.

00:34:45 Speaker 4 - SO

Yes, but, if you don't know then that's also a problem.

00:34:45 Speaker 1 - J

Yeah exactly.

00:34:53 Speaker 1 - J

I will give you 15 minutes for all three parts of step 1.

00:40:31 Speaker 3 -TA

I think most of the information is in here (points at case document)

00:40:34 Speaker 3 -TA

So I think what is the name is PFAS

00:40:44 Speaker 4 - SO

What is the function? It's somewhere in here?

00:40:46 Speaker 3 - TA

Yeah, it's like a barrier for, yeah, I think.

00:41:01 Speaker 3 - TA

Water and grease repellency

00:41:16 Speaker 3 -TA

What is the kind of hazards? Yeah, there's a whole list. Yeah. Yeah. Should we? Can we just say check the list?

00:41:27 Speaker 3 -TA

How is the substance regulated or banned. So this we need to check because some are banned and some aren't.

00:41:45 Speaker 4 - SO

I think highly resistant (long chain) are banned and the other ones are not yet?

00:42:18 Speaker 2 - JE

I see here PFOS are also mentioned.

00:42:28 Speaker 2 - JE

Is this also dependent on manufacturing or is it specifically about the substance?

00:42:40 Speaker 4 - SO

This is about the the substance itself.

00:42:46 Speaker 4 - SO

And then here you have labels for some of them.

00:42:52 Speaker 3 -TA

But we don't know which of the PFAS groups is used in packaging.

00:43:07 Speaker 3 -TA

But the ones used in packaging are not banned yet right? so, now how much substance is in the product?

00:43:09 Speaker 3 -TA

That's, I think, information we're missing. Yeah, but then we can say how much substance we put in market. OK, how many? Well..... a lot? 00:43:17 Speaker 2 - JE

But, the thing is, you mentioned. .... yeah a lot is probably a good guess.

00:43:21 Speaker 2 - JE

However, in theory is like in the the the paper company. They buy these chemicals, right? So they know how much they buy and how much they spill so in theory, it is traceable, on the big scale.

00:43:28 Speaker 3 - TA

So then we can say, ask the manufacturer?

00:43:37 Speaker 2 - JE

That's going to be a tough question to to get to the right person. Yeah. Yeah. Also not completely transparent on this. But it could be....

00:43:48 Speaker 3 -TA

You could also do of course a rough estimation. If this is for McDonald's and you said, OK, how many McDonald's are in the world, how many burgers? How? What if there are like 100 hamburgers sold a day? etc etc...

00:44:16 Speaker 3 -TA

So here we go to the the journey. Should we just start?

00:44:23 Speaker 3

Production, it's the most logical one to start. So emission?

00:44:28 Speaker 4 - SO

Wait, we have the different steps here.

00:44:31 Speaker 4 - SO

Right. So it says wastewater streams.

00:44:36 Speaker 4 - SO

Contamination surface and ground waters also emitted into air and dust.

00:44:55 Speaker 3 -TA

Exposure is like the people working there...

00:45:10 Speaker 4 - SO

And then of course, if it's in the environment, then it's that everyone else.

00:45:28 Speaker 3 - TA

Then on transport.

00:45:33 Speaker 4 - SO

Do you have anything on transport?

00:45:34 Speaker 4 - SO

No

00:45:38 Speaker 3 -TA

But in transport is also I don't know how much it's. It's also in contact with air and and surroundings, of course so.

00:45:47 Speaker 3 -TA

You need to put it in a truck. You need to unload it. 00:45:51 Speaker 4 - SO

Yeah, but how much of the does it emit?

00:45:59 Speaker 4 - SO

I would say that this is something we don't really know right?

00:46:02 Speaker 2 - JE

Yeah, but yeah, yeah, you you don't know. But I can imagine emissions, maybe a little exposure exposure. I don't know if there is at some point, someone just constantly carrying these rolls...

00:46:15 Speaker 3 -TA

And this is like this is the production of only the paper, right?

00:46:24 Speaker 1 - J

Yeah, it's just the production of the packaging, yeah.

00:46:30 Speaker 2 - JE

Then here I see a potential risk but we are not sure.

00:46:35 Speaker 2 - JE

Yeah, the people touching it, the workers.

00:46:40 Speaker 4 - SO

yes, during transport.

00:46:53 Speaker 4 - SO

Then use, in use we have......

00:47:01 Speaker 4 - SO

Aggravated with fatty foods.

00:47:03 Speaker 3 -TA

But use can be split up into many things I guess..... right?

00:47:07 Speaker 3 -TA

Being used by the people putting it around the hamburger or used by the consumer, is all that under use?

00:47:15 Speaker 2 - JE

OK, so in theory it is from the kitchen till the cleaning staff that pick up this stuff.

00:47:22 Speaker 3 -TA

Yeah, there's a lot of people right?

00:47:27 Speaker 3 -TA

So if we think about emission then that is food for sure?

00:47:33 Speaker 4 - SO

Yeah.

00:47:36 Speaker 3 -TA

Is it also? If you throw it away then it's also in the bin? or is that part of collection?

00:47:45 Speaker 2 - JE

Oh yeah.

00:47:49 Speaker 3 -TA

Then then it's. That's for sure food...

00:47:54 Speaker 3 -TA

Other ways that people that people touch it with their hands, yeah.

00:47:57 Speaker 4 - SO

Yeah. Here it's also, I think if you think of this as a possibility, then I would say it's the same here, right. If you touch it is it going to harm someone?

00:48:12 Speaker 3 - TA

Workers, but also consumers, and maybe cleaning workers.

00:48:34 Speaker 4 - SO

I feel like here it would be interesting to identify the different people. Yeah, exactly. That are gonna be in touch with this thing.

00:48:43 Speaker 3 -TA

Yeah, because they have a different connection to it.

00:48:45 Speaker 3 -TA

And also I can imagine it from the labor conditions, those might be easier to control or something

00:48:58 Speaker 4 - SO

Yeah, maybe they just use gloves and then they don't actually. are in touch with it.

00:49:02 Speaker 1 - J

Yeah, yeah, it could be, yeah. But then this kind of information, you would only know if you go probably to the field no? and you you have to do more research, yeah.

00:49:21 Speaker 3 -TA

Do we miss anything here?

00:49:26 Speaker 2 - JE

Yeah. So you have collection but what if the wastes end up on the ground during use and and animals eat it or something.

00:49:42 Speaker 2 - JE

It seems small, but probably on the bigger. scale a lot of trash end up on the ground and maybe damage...

00:49:48 Speaker 3 -TA

But it's interesting though, but if you, if you think of something like this on a festival where people throw a lot of stuff in a bin, but also on the ground and the wind blows everywhere. So lets just put it in there....

00:50:13 Speaker 3 -TA

Then emissions during collection... Yeah, I don't know. Air? That's something that needs needs further investigation.

00:50:29 Speaker 3 -TA

I suppose it's exposure to the cleaning workers who are picking up the trash?

00:50:44 Speaker 2 - JE

They also contaminate the collection trucks that are used for other uses as well?

00:50:48 Speaker 4 - SO

Yeah, yeah. I'm wondering if you also contaminate, like, all the stuff that are in the bin.

00:51:18 Speaker 1 - J

Incineration. Yeah. So in the case I I give you, like, what happens if it's incinerated or landfilled or recycled? But if you want for the sake of time, we can just do one choose, choose one that you would like to think about.

00:51:32 Speaker 3 - TA

Which one do you find more interesting? Maybe recycle or landfill?

00:51:35 Speaker 4 - SO

Yeah, let's go for it.

00:51:46 Speaker 3 -TA

If we do landfill it for sure contaminates the ground... probably also water...

00:51:48 Speaker 4 - SO

Air as well.

00:51:54 Speaker 4 - SO

Yeah, it says inappropriate treatment of waste can cause volatilization.

00:52:09 Speaker 3 -TA

Exposure could be anyone.

00:52:13 Speaker 4 - SO

And then yeah, again, it's indirect.

00:52:19 Speaker 1 - J

No. OK. Should we go to the next? So now the idea here is to rate them, which of these scenarios is the most severe?

00:52:31 Speaker 3 -TA

Maybe start again with production and just saying.

00:52:34 Speaker 4 - SO

But how do we know which one is high?

00:52:44 Speaker 2 - JE

Yeah, there's no scale.

00:52:47 Speaker 3 -TA

Yeah, it's a difficult one because we don't know exactly what the effect will be and for now it's an assumption.

00:52:54 Speaker 2 - JE

Yeah, we have no reference. So we can think like this is the worst one. So we say this is bad, but maybe regulations say, oh, that's totally fine because it's still under the threshold .... so something to quantify could help......

00:53:13 Speaker 3 -TA

I can imagine, like the more emission it has and the more it gets exposed to people.

00:53:20 Speaker 3 -TA

Then you could say the higher the concern, but it is not always the case.

00:53:25 Speaker 4 - SO

But I think this is also an interesting one, right? So thinking of preventing mechanisms is there anything we can do in those stages?

00:53:35 Speaker 1 - J

Yeah. So the, the, the high level, the way it's described there, it's indeed a very qualitative assessment. It's just a, a feeling. So right now if you have very high emissions, for example in the case of landfill, you have all of the emissions, you have emissions into air, water everywhere. Yeah. And it's for everyone, but.

00:53:51 Speaker 3 - TA

That's for sure. And then for everyone.

00:53:55 Speaker 1 - J

Also during the use phase you can assume like, Oh yeah, but actually this part of the population eats hamburgers every day. So in our own context, that's a very risky scenario.

00:54:10 Speaker 3 -TA

Then for sure, landfill is like very high.

00:54:14 Speaker 4 - SO

And also production.

00:54:27 Speaker 4 - SO

And I would, I would say that the use stage is also...

00:54:35 Speaker 3 -TA

Yeah, it's then probably this one moderate then?

00:54:42 Speaker 2 - JE

Well, here it says higher is if there are no prevention mechanisms in place.

00:54:47 Speaker 4 - SO

Yeah, if it is prevented in the current system.

00:54:51 Speaker 2 - JE

Then I assume that if you have opportunities to prevent, for example, you start wearing gloves, etc...

00:54:57 Speaker 2 - JE

Then then this will be moderate, even though it could still contaminate....

00:55:06 Speaker 4 - SO

Yeah exactly, because for food.... You cannot. If you're just using the substance, there is nothing you can do to prevent it right?

00:55:09 Speaker 2 - JE

So you're assessing an existing situation and we start looking into that. And then you already start ideating and that's maybe something you want to separate.

00:55:18 Speaker 1 - J

Yeah. Yeah. So right now we're assessing, it's very difficult because you're assessing something that you don't know completely right now. But indeed this this would be the sorry, the assessment of the current situation. So for now, it's OK if you only pick a couple. If you only say like, well, this landfill was really bad or production is really bad.

00:55:39 Speaker 1 - J

And you would assess, for example, the the preventive mechanisms is that you would.

00:55:44 Speaker 1 - J

Perhaps look at who your supplier is and where are they manufacturing and if that plant you know, like protects their workers or not. And if workers are not protected, then maybe it's time to change manufacture or things like that so.

00:55:58 Speaker 4 - SO

But in the end it still ends up in the water as well, so...

00:56:05 Speaker 1 - J

Yeah, and usually this information. Well, right now I'm providing you with this very quick summary. But usually if a substance has already, you know is under under research for being hazardous, you have reports of risk assessment on this substance. And then those reports will tell you.

00:56:25 Speaker 1 - J

Watch out here. Watch out there and whatnot.

00:56:35 Speaker 3 -TA

It makes sense to think like if it's something you can prevent.

00:56:38 Speaker 3 -TA

Relatively easy then.

00:56:42 Speaker 3 -TA

It could still be a high concern, but it could be solved maybe easily. I've almost see it as separate things and even but, but I think for the use indeed at least moderate or high.

00:56:54 Speaker 3 -TA

Because if it touches the food, you cannot get it out anymore. Like yeah, it's in the food. So you're gonna eat it.

00:57:07 Speaker 3 -TA

And collection is where we are missing information, so we can just for now mark it as question mark.

00:57:15 Speaker 4 - SO

I don't expect it to be worse than these other three...

00:57:25 Speaker 1 - J

But but this is good. This was I think this is this is as far as you can go for now.

00:57:34 Speaker 1 - J

Do you should we spend like just a couple of minutes, do you have any comments so far? I know this was very quick so I just threw you into it.

**Comments step 1**

00:57:47 Speaker 2 - JE

Yeah well, the rating thing is a bit... like you have to know, of course. OK, we we now discuss it out loud and we say OK, that's how you should to do it. But then again, you do this and I don't know you give it to your colleagues and then right, so so maybe some some yeah reference to know when do you color what?

00:58:14 Speaker 2 - JE

Yeah like indicators... OK, if this is occurring, then you're definitely high. And now I kind of understand. But at least you should say like possible mechanisms, right?

00:58:30 Speaker 4 - SO

Yeah. Also thinking of OK, if you are emitting basically everywhere, then this is probably high. Or like I think there are still some stuff that we can use from the previous part that can be guidance for this part.

00:58:40 Speaker 3 -TA

But still I find it hard because you could be emitting all on a small scale or have like one thing like polluting the air like crazy.... so it's hard to judge.

00:58:58 Speaker 2 - JE

But in that sense, if if you find that here, it's definitely bad, then you mark it as high and that's the goal, right? Something is wrong. And then in the end, maybe some chemist can help out to find this out...

00:59:10 Speaker 3 -TA

Hmm. And maybe also the high concern is is when there are more emission types and more than one group exposed, that's harder to tackle...

00:59:21 Speaker 3 -TA

So when it's only like one group and maybe 1 emission and it's, it might be easier to come up with a solution than if it's multiple groups in one stage.

00:59:31 Speaker 3 -TA

Multiple users.

00:59:34 Speaker 4 - SO

Yeah, I I also see your point. If you don’t, you know what it touches but you don;t know the quantity or the full impact.

00:59:44 Speaker 1 - J

Yeah, yeah, yeah. But yeah, so definitely I I think I think this is a very interesting point because I myself don't know how to rate it because between I don't know how to generalize it. So it applies to all products and all substances that you.

01:00:00 Speaker 1 - J

And think about these things in my case or in my opinion, I would say that landfill is a very concerning one. And the reason is because this this packaging is usually just tossed or incinerated because it's contaminated with food. So it's not interesting for recyclers anyway.

01:00:20 Speaker 1 - J

Or most of the time. So in most places it's just going to end up in landfills. So that just means that the most of the production volume is just going to go into the landfill. So that's already.

01:00:35 Speaker 4 - SO

But I think this is maybe something you're missing here, because you have like the four steps, but we don't understand yet how much goes into what.

01:00:46 Speaker 3 -TA

If you would have that division, yeah.

01:00:48 Speaker 3 -TA

But I'm also thinking that because In an ideal world, you could quantify this and you could say that to your client...

01:00:55 Speaker 3 -TA

20% of this, like really good argumentation... but that’s super difficult..

01:01:01 Speaker 3 -TA

But what if you flip it around and do this together with the client because also last time we said regulation will be later than so we should actually be proactive...

01:01:10 Speaker 3 -TA

So if you do this together with the client, maybe it's of high concern for the clients. So it doesn't matter what the data is. If the client thinks it's a high concern, it's something they should tackle. Yeah. Yeah. So it's more within their strategy. Is it a high concern or not?

01:01:26 Speaker 1 - J

Yeah. So it could. It could be in collaboration with the client. I can also imagine that you could do this.

01:01:30 Speaker 1 - J

In collaboration with the with the risk assessment experts. Yeah. Or with the. Yeah. The toxicologist.

01:01:41 Speaker 2 - JE

This exercise is more to give ... or just to say OK concern yes or no. Basically. Yeah. And then after this comes some extra work, so maybe it doesn't really matter.

01:01:59 Speaker 2 - JE

if you do it together or on your own...

01:02:00 Speaker 2 - JE

and you think it's a risk or the client thinks it's a risk, then there's a risk...

01:02:05 Speaker 4 - SO

Yeah, I'm also. I was. I was about to say I'm wondering whether in some situation you need to go through all of that, because if you already know there is a risk, then maybe the strategy is like, OK, we're not gonna use it anymore. What do we do? And then you don't actually need to do this because it doesn't matter anymore.

01:02:26 Speaker 3 -TA

What I do find interesting is that if you go through this journey, and you look at the...

01:02:31 Speaker 3 -TA

exposure and emission that it it has more effect on the environment than you than I I at least see at first. I see this hamburger backing I think damn that's in my food. But then I don't think of hey, wait a minute. It's being produced. It's being touched. It's like workers like cleaning people. So it shows the full spectrum of the SoC, so I think that's interesting.

01:02:55 Speaker 4 - SO

But I think if you start the process saying like OK we have PFAS and we want to get rid of them...

01:03:00 Speaker 4 - SO

Then you don't need to go through this whole process I think.

01:03:01 Speaker 3 -TA

Sure, sure. Yeah. And you don't have to convince them of the concern because they already know there is concern at that stage, yeah.

01:03:09 Speaker 1 - J

Yeah. Another aspect that I was trying to explore here, but I don't think it happened was during the use phase. I think designers have a lot of control over this particular phase of the life cycle and also in others.

01:03:25 Speaker 1 - J

But then this one is very interesting how you start relating it.

01:03:27 Speaker 1 - J

To. OK, who's going to be?

01:03:29 Speaker 1 - J

Interacting with your product, but also where is your product going to live. So in this example for for example you have PVC flooring and then in the case of PVC flooring you have the plasticizer and that's emitted into the air, but those emissions are aggravated if you increase temperature or if you increase humidity so.

01:03:49 Speaker 1 - J

What I was trying to push here was like OK, can I also make designers realize what kind of things are aggravating those missions?

01:03:57 Speaker 1 - J

So designers do something about those things.

01:04:00 Speaker 1 - J

So you at least either come up with a.

01:04:03 Speaker 1 - J

that this is never installed in a heated floor or a way that....

01:04:09 Speaker 4 - SO

But I think then you would need to dive deep into this because I think that's what you felt as well when we started there. It's like, OK, are we considering the use and I think as designers we would like detail on those steps a little bit further.

01:04:24 Speaker 3 -TA

I think that's where the difference will be made. Yeah, because, I mean, I know for sure that.

01:04:30 Speaker 3 -TA

They probably did user research and one of the aspects was like I don't want my packaging to be like wet so and therefore they use PFAS because it's like hey, this works, this tackles the problem. But then you introduce a new thing yeah so.

**Step 2**

01:04:46 Speaker 1 - J

OK. Yeah. Let's jump into the next step. So now we're going to talk about step 2.

01:04:57 Speaker 1 - J

So Step 2, you have already identified or proposed for now, what are the most concerning emission exposure scenarios? You already know how this product behaves throughout the life cycle, etcetera, etcetera. So now it's time to.

01:05:15 Speaker 1 - J

Decide what kind of strategies you want to you want to use. So I'm going to give you this template with the strategies I found from the cases.

01:07:41 Speaker 1 - J

If you can really quickly discuss which one of these strategies or or, or a combination of these strategies would fit your scenarios better and just have a quick ideation exercise of what could be alternatives that you can propose. Please draft a very simple concept on how your would approach this.

01:08:07 Speaker 4 - SO

No, I'm just thinking that for me, it would make sense to first before doing this checking like OK, can you avoid it?

01:08:21 Speaker 4 - SO

Filling those in, basically while if you can avoid it, that's probably the best scenario. So starting from there and then if that's not possible, then you go into this to figure out where can you reduce where to control, etc.

01:08:39 Speaker 3 -TA

Yeah. And I think avoiding it.

01:08:41 Speaker 3 -TA

Also, is very much linked to this use case, so.

01:08:45 Speaker 3 -TA

I could easily say like, OK, just get, just eliminate this whole paper wrap, but then people get greasy hands, so we need to understand like, what are the specs that we need to incorporate that are really important to still have? And if this thing like grease free or how you want to call it is mandatory from the client's side...

01:09:09 Speaker 3 -TA

Then we should see like can we avoid it?

01:09:19 Speaker 2 - JE

yeah, but that's on the first page right? like why are PFAS in there to begin with? right?

01:09:23 Speaker 3 -TA

Yeah, yeah, yeah. OK. But that's so that's that's just clear spec here. So that's OK, that's cool.

01:09:32 Speaker 1 - J

No but I understand what you mean. So if you you. You can't have shortcuts. If you then you don't have to do all of this about your current state. You already know that you can avoid it, so you can just focus on how to develop that.

01:09:35 Speaker 4 - SO

Yeah. And for me it feels like this in the best case scenario, right? You can avoid it then. Just avoid it. So that's also why I'm thinking that would make sense to have it as a starting point.

01:09:54 Speaker 2 - JE

You know, also there in the exercise it's like it's high risk, you know, and someone else says no, it's not because you can avoid it. It's OK. What are you going to fill in then?

01:10:02 Speaker 2 - JE

But if you say first do this exercise. Then you agree on something, OK, you cannot avoid it, And then you go there...

01:10:16 Speaker 3 -TA

As you introduce the use of gloves for the people working with it, you can avoid.

01:10:20 Speaker 4 - SO

But then this is more control....

01:10:29 Speaker 4 - SO

Yeah so these are like avoiding the substance and then these are reducing the impact and these are controlling the impact, right.

01:10:55 Speaker 3 -TA

Ok then, can we avoid the packaging?

01:10:59 Speaker 4 - SO

Can we use different type of material? Can we use maybe natural things that are water and grease repellent?

01:11:07 Speaker 2 - JE

Yeah, I'm just. I'm just thinking, that if you avoid something during production then for the rest you avoid it everywhere... so ...

01:11:20 Speaker 3 -TA

I mean the spec that we need to have is a water and grease repellent property. Are there materials that are not in the yeah. Or could it be something reusable packaging?

01:11:35 Speaker 3 -TA

Yeah, a reusable box or a plates. Yeah, yeah. But then the transportation, the plate might be difficult...

01:11:45 Speaker 4 - SO

We could design a plate that you can close ...

01:11:48 Speaker 3 -TA

Yeah, but something that. So I think the starting point is that something that is not on the list of the SoC...

01:11:56 Speaker 4 - SO

Yeah so it's either a different material or different way to yeah, use it...

01:12:02 Speaker 3 -TA

Yeah. So it could either be going around this whole grease problem by maybe not even touching it. So it's on a stick or like, whatever. Or you look for....

01:12:17 Speaker 3 -TA

for like a material that is not on the list of SoC but still has the same properties.

01:12:25 Speaker 3 -TA

And that and that could be indeed either like a leaf or something natural, or it could be something which might be plastic, or a tupperware thing that can be reused or metal.

01:12:47 Speaker 3 -TA

Yeah, but I think in that case then we... it's a matter of of looking at the different materials and how they affect other steps from different, so it's not so much on SoC, but more like is it cost, price and production price...

01:13:01 Speaker 4 - SO

I'm also thinking that if we want to go on that route, so as you're saying, so either you do.

01:13:06 Speaker 4 - SO

The exact same scenario with a different or with an alternative material, or you need to rethink the whole system.

01:13:20 Speaker 3 -TA

And then also if you think of a different system, so I'm saying like, OK, let's put this hamburger on a stick, then I solve only one part which is the use part bit then...

01:13:28 Speaker 3 -TA

I have not solved the transportation and the production, so I think that's a pretty hard one to.

01:13:35 Speaker 3 -TA

To solve if we rethink the interaction.

01:13:41 Speaker 3 -TA

on all of those, because if we only do the use part, then it's reducing, it's not the avoid strategy.

01:13:45 Speaker 2 - JE

Yeah, OK. But the concept and all these steps are part of the concept. So you have to the assess it, for production, user, etc.

01:13:58 Speaker 2 - JE

recycling or whatever. Maybe you maybe you change from recycling to another disposable srategy and then you only reduce it.

01:14:10 Speaker 2 - JE

So it's not like you choose avoid, and the you avoid everything.

01:14:17 Speaker 3 -TA

No, but I think it's interesting, as you said to be here like if you start with a avoid, and you try to solve for all....

01:14:24 Speaker 3 -TA

You might not crack it, but if you solve it as much as possible then you get it to reduce and the more you can reduce the better of course....

01:14:35 Speaker 4 - SO

Yeah, but I also think that if you start just thinking of solving the problem in a different way, then you have a completely different overview.

01:14:57 Speaker 3 -TA

Yeah, because if you would start... now we're starting with avoid. But if you would start with reduce, how would we tackle that?

01:15:04 Speaker 3 -TA

Then we then just go step by step and see how you could reduce it?

01:15:06 Speaker 2 - JE

But the question is, are you going to do it like that or are you going to think of of of a different concept? And then compare a bit how much did we reduce?

01:15:24 Speaker 3 -TA

It feel like we are getting to this holistic approach, that's ideally what you want to do in avoid, but then you need to look at in the the bigger scale and all the different steps and like.

01:15:32 Speaker 3 -TA

The big system, which is a pretty big project or you can say next year we can when it comes to sustainability, we can reduce 2% of plastic or we can go for... which is like marginal but and you can get to reduce and you can still do some stuff, but if you go for the reduced strategy you can only win so much...

01:15:48 Speaker 3 -TA

You're still left with this packaging and maybe maybe you reduce 5%, but then in the ideal world, you would. Like to go for avoid and go for a completely new approach which is really huge improvement.

01:16:05 Speaker 1 - J

Yeah, but that that makes sense in the in the sense of like you have like a road map as well, right? Yeah. You could choose like, OK, what is the the most attainable solution at the moment with the, I don't know, with the budget that we have like then you make certain design decisions and then you just road map into into this big change of the system.

01:16:31 Speaker 4 - SO

Yeah. I think overall if you want to avoid it, you are going to have more impact.

01:16:39 Speaker 4 - SO

On the manufacturing, on the the use probably on all the steps, while if you do reduce maybe it's a smaller impact on the lifecycle.

01:16:48 Speaker 3 -TA

Ideally, if you go for reduce you want to go for these pieces of the pie chart that are marked as high concern?

01:16:58 Speaker 3 -TA

Yeah I think control as well.

01:17:02 Speaker 3 -TA

But I still feel that if you indeed go for reduce or control and it might be the best you can get within the project or the timeframe... it's still not enough.

01:17:23 Speaker 2 - JE

It's also meant to like maybe guide designers right into making the right choices right? But if you think on avoiding ...

01:17:31 Speaker 2 - JE

And then you realize you cannot avoid it at all. Then you think like how do we apply this assessment... then you start to look back. But maybe these strategies are holding you back from taking a step back?

01:18:06 Speaker 2 - JE

I don't know how to explain it, i feel a bit restraint. Like these are the three things you can do, but there's a lot happening and I'm not sure to follow the method and document the thinking of the new product or maybe just improvements. I don't know how to do all that within the method.

01:18:23 Speaker 3 -TA

And I think, It was also hard, when I think about avoid,

01:18:25 Speaker 3 -TA

Especially on this product.

01:18:27 Speaker 3 -TA

I know for sure when we get a briefing of a client...

01:18:29 Speaker 3 -TA

they say like, yeah, (same with sustainability) let's do this, do this thing. But at the same time make it stand out. Like, make it colorful, make it ergonomically very pleasing. So there is also alot of other criteria.

01:18:44 Speaker 3 -TA

And you don't want to by avoiding this substance to disregard all of this criteria.

01:18:50 Speaker 3 -TA

So I think that's a big challenge, but that's also what design is about. So in the end it's it's making that puzzle so.

01:19:01 Speaker 1 - J

But I I understand why you also feel restricted because it's it's right now it's even more difficult because all of this is hypothetical. We don't come with any data. We don't, we don't come with the actual product, we cannot touch it. We cannot see it. We don't have the client, etcetera, etcetera. So it becomes even harder. But yeah, right now I again, I called it a method and I just though of a process where you follow steps a-z. .

01:19:23 Speaker 1 - J

But then this is like not at all integrated into your normal design process. So that would be the next step. That's the next step for the development of this thing. Can I just break it into parts that integrates better into the normal natural design process because this is indeed not looking at the whole picture like you are suggesting.

01:19:47 Speaker 3 -TA

I think it can be integrated quite easily in the design process actually.

01:19:53 Speaker 3 -TA

This is a bit like a design process. We do a lot of these journeys, not so much always from production side or more from like a consumer point of view. And we try to see the pains and gains and see the opportunities to make a difference because a lot of times they're already many products on the market.

01:20:10 Speaker 3 -TA

And and I think we do have influence on materials, of course we we produce and it costs money, but a lot of times we have influence on it.

01:20:23 Speaker 3 -TA

The only concern I have is that.

01:20:27 Speaker 3 -TA

I feel that.

01:20:28 Speaker 3 -TA

Looking at the projects where I think.

01:20:31 Speaker 3 -TA

There was a material of of substance of concern like dishwasher tabs. I don't feel I'm the person making these decisions...

01:20:40 Speaker 3 -TA

or having enough force to change that, because it's such a big part of this dishwasher tab, but we could we could sort of wake them up and shake them a bit but its definitely internal....

01:20:54 Speaker 4 - SO

But I think on the dishwasher tab that it's also a lot about the composition of the tab itself, right?

01:21:01 Speaker 4 - SO

So it's not like we're designing that part. So if you think of the example of the what was it, the jacket or the raincoat? This is something where you could more easily influence.

01:21:15 Speaker 2 - JE

Yeah, but then if you fill it in then then you would realize the production, you have no control, but maybe the use you wrap it in foil or something to go into the washer. So you can still design around the product.

01:21:30 Speaker 4 - SO

But I I think in this dishwasher tab the most powerful parts are the chemicals in the tab itself.

01:21:38 Speaker 4 - SO

That's what I mean, that's not a part we are designing it is the composition and then we don't really have control over it.

01:21:49 Speaker 2 - JE

Yeah, in theory, like the shape or the packaging, or the way it's presented. It's also design exercise where we cannot influence.

01:22:01 Speaker 4 - SO

But if you think of the packaging and if you feel like this is the part that is releasing a lot of chemicals and this is where we can have influence, yeah.

01:22:12 Speaker 1 - J

Yeah. That's also interesting from the from the I I did a case on on on microplastics from synthetic textiles as well. And then you see that OK, but what are you going to do like you stopped selling clothes then because you, you know, like you that's your production line, that's how it's that's all of your suppliers that's your whole setup. You cannot stop making synthetic textiles.

01:22:33 Speaker 1 - J

So some of the alternatives were like, OK, we installed a filter in washing machines, but.

01:22:39 Speaker 1 - J

And is that still within the control of the of the textile designer or that's completely out of the out of the scope? So indeed some things are within your control and others aren't.

01:22:50 Speaker 4 - SO

Yes, but maybe if you are designing a washing machine, then maybe that's an interesting one.

01:23:00 Speaker 1 - J

Oh, OK, OK. For the sake of time, let's just think about one of the things. Let's think about a reusable package. Or what? What? What do you think? Because we're going to go into assessment. So just so you have a thing in your head to assess.

01:23:15 Speaker 3 -TA

OK, let's let's do it. the metal reusable packaging.

01:23:46 Speaker 1 - J

Using step 3 and this wheel we're going to be doing an assessment and and what happens in the assessment is.

01:24:06 Speaker 1 - J

You first want to see how good is our concept in addressing the concerning emission and exposure scenarios? So in your new, in your new metal reusable package, are you reducing? I don't know emissions or exposure of PFAS?

01:24:40 Speaker 1 - J

After that you can reflect a little bit in the new life cycle of your metal packaging. What kind of other new risks could you generate? or do you generate other forms of environmental impact?

01:25:47 Speaker 1 - J

It is extremely simplified, so just bear with me for a second, but it's a very simplified way of like going like, hmm, are we causing any new problems with this new concept? and, are we targetting the concerning scenarios?

01:25:57 Speaker 1 - J

And then the last thing to do is to look at what other trade-offs can we find? So is this concept now like 10 times as expensive?

01:26:45 Speaker 1 - J

Then I have the iteration guide, where I ask people, so is this strategy really making the product safe or safer? And if that's not the case, you can either select a different strategy or you can choose to combine different strategies.

01:29:07 Speaker 1 - J

The message that I'm trying to like send is like you can combine different strategies. You shouldn't just disregard a strategy just because it generates certain things here and there. You can consider more and more and more options.

01:29:24 Speaker 4 - SO

I think this is maybe not something I would say OK, I have one concept and then I assess. I think I would use it early in the process when I have concepts to start like comparing them right? Because then if you do that then you can also make informed decision on why you're choosing for certain things.

01:29:44 Speaker 3 -TA

And I think actually these pies, or all of the pies, are quite interesting to focus on to say like, so here we see a new potential way that you can iterate on. So can we solve this part or if we have a concept that has a lot of these green ones?

01:29:59 Speaker 3 -TA

Well, that's super interesting. Can we take some of those greens to the other one to combine more greens?

01:30:05 Speaker 4 - SO

So I would use it as a tool in process more than as an evaluation tool afterwards. Then you can compare and continue ideating...

01:30:16 Speaker 3 -TA

I think I think even like in the end, if you if you for instance show 3 concepts to clients, you could say the scores are this and this on the KPIs and then you could also say like the scores are this and this on the SoC. And then of course depending on how important the client finds this, but it could be a key driver.

01:30:38 Speaker 1 - J

OK, so you you want to go through that exercise real quick and then we can jump into the general discussion?

01:30:46 Speaker 4 - SO

Actually, I see a risk here because if it is damaged it can be bad for the perception and it might be thrown away?

01:31:03 Speaker 3 -TA

I I I see some. I see a lot of good things, but I see some risks in transport being a lot heavier. Yeah. And the same for production.

01:31:21 Speaker 3 -TA

And then It needs to be cleaned, and hopefully the cleaning only requires water and not a bunch of chemicals.

01:31:37 Speaker 3 -TA

Yeah, yeah, yeah. You need to put more effort into the use stage (infrastructure etc) and also collecting the collecting is really important if you don't collect it, you get like waste like metal packaging in the environment.

01:31:52 Speaker 2 - JE

that's interesting because ton one side you eliminate some stuff, but then the the task is for us to make the new proposal work.

01:32:04 Speaker 3 -TA

But I think, I mean, looking at the original question of the PFAS, I think we solve it quite well. There's feels like there's no PFAS, but then there's other stuff.

01:32:20 Speaker 4 - SO

I almost feel like I would like to go through this one by one.

01:32:24 Speaker 4 - SO

and for each identify like OK, this is where we have to consider for it. So what we have to consider for all of them so we can tackle them more easily in the process.

01:32:32 Speaker 3 -TA

Then we can start iterating all those things. Yeah, so if you go to production then.

01:32:41 Speaker 3 -TA

But should we score like the concern is eliminated, but we do still see concerns? Yeah, that may be that's the case?

01:32:49 Speaker 4 - SO

So risk, right? So we have like a green.

01:32:51 Speaker 3 -TA

but then it's wrapped in red.

01:33:05 Speaker 3 -TA

So the concern is the amount of energy use...

01:33:15 Speaker 2 - JE

Did you say the same for transport?

01:33:17 Speaker 3 -TA

Yeah, yeah. Same for transport. Yeah.

01:33:40 Speaker 3 -TA

I like that... I think it's maybe as a designer, you're always critical and you end up ideating and iterating immediately.

01:33:44 Speaker 4 - SO

We're going to have the whole thing red....

01:34:03 Speaker 3 -TA

I think here (use phase) one of the concerns is the lifetime right?

01:34:07 Speaker 4 - SO

Yeah, the lifetime because it's different kind of risk, but I think it's still a risk, right, because if you choose once and then done, then you still have a higher impact.

01:34:20 Speaker 3 -TA

So in ideal world this product would live for a really long period of time, but then would have still the same quality perception as the first time using. But that's probably not gonna happen so.

01:34:34 Speaker 4 - SO

And you were saying use of detergents are concerning for the use part I think.

01:35:09 Speaker 3 -TA

We also need a good infrastructure for collection because that's if it's it's being thrown away, then you have the metal thing in nature.

01:35:20 Speaker 4 - SO

So do we also consider that this can be a new form of impact?

01:35:27 Speaker 3 -TA

Yeah, in a way, yes. So there's a potential risk of people throwing it in, not collecting it.

01:35:32 Speaker 2 - JE

For a moment, I was thinking like what's the scale? this is basically the thing that we eliminate lots of things. But yeah the the costs are that here are some risks in aaaaahhhm in use for example...

01:36:05 Speaker 4 - SO

Of course, cost there is also a problem, right?

01:36:07 Speaker 3 -TA

Yeah. And I was also thinking.

01:36:11 Speaker 3 -TA

Well, it doesn't have to be like stored and that kind of stuff... it could be quite compact...

01:36:38 Speaker 3 - TA

Do we still have other things in there?

01:36:43 Speaker 3 -TA

Yeah, here we were thinking about landfill, but we're eliminating this one because we're going for recycling stream, so that's good. But then for transport. It's like even more transport because it needs to go back to the cleaning...

01:36:58 Speaker 3 - TA

Unless there's a cleaning facility locally...

01:37:08 Speaker 4 - SO

See, we're solving things as we assess...

01:37:18 Speaker 3 -TA

Maybe also from a use point of view. It's like the the handling could be a problem for the experience? Because it's metal...

01:37:36 Speaker 4 - SO

So harder to manipulate.

01:37:48 Speaker 1 - J

OK, for the for the sake of time, I'm gonna stop you. Do you do you have thoughts so far?

01:38:06 Speaker 2 - JE

Yeah, I was just thinking maybe just maybe the way we did it now... everywhere there's a risk. Everything you think of. Of course, there's always a risk. Maybe it's not you. It's maybe it's it becomes too expensive. Maybe there's someone. So I was thinking. Yeah, maybe.

01:38:18 Speaker 2 - JE

We can fill it in more like, OK, this is really a risk tied to the way we approach it...

01:38:25 Speaker 2 - JE

Like everything that's new comes with a risk, of course. So maybe we are reading into it too much.

01:38:29 Speaker 4 - SO

I would almost like to to think like, OK, what can we solve with the design process? What do we need to check maybe with numbers?

01:38:39 Speaker 4 - SO

So if I think about the energy use for instance. Maybe this is something you can quantify. You know you can quantify against what they already have.

01:38:48 Speaker 4 - SO

And that might not be solved by us, but that's something that needs to be checked, while if I think of the quality perception... Maybe that's something we can work with.

01:38:58 Speaker 2 - JE

Now indeed it's a risk, but if somehow this would have been part of the first assessment, then it's not a risk. But then we we could say that, OK it's better or worse...

01:39:07 Speaker 1 - J

Yeah the thing is that this becomes like a whole new design project on its own. You decide to avoid it and you're designing something else. We're doing something else entirely. But yeah, I guess. I guess this kind of assessment. And now when you were mentioning, it's like, OK, can you avoid?

01:39:26 Speaker 1 - J

Yes or no.

01:39:28 Speaker 1 - J

OK, no. Then you go through the whole.

01:39:30 Speaker 1 - J

Process of assessing where the concerning emissions and exposure are, and then to address those either through reduce or control.

01:39:39 Speaker 1 - J

That that would be an interesting approach, actually, that that that makes a lot of sense because otherwise you're just assessing and then you're just finding problems everywhere, of course.

**F) Discussion – Improving the method 1:37:48 – 1:58:30**

01:40:15 Speaker 1 - J

I only have a couple of questions. Many of these questions you already discussed, so that was very nice.

01:40:24 Speaker 1 - J

Do you think do you think in general this method could be modified or could be suitable for professional practice?

01:40:38 Speaker 3 -TA

Yes, I I think for professional practice. There's many ways to use it.

01:40:45 Speaker 3 - TA

I think for ourselves as an internal tool for sure.

01:40:49 Speaker 3 -TA

100% there might be tweaks along the way while using it.

01:40:53 Speaker 3 -TA

There's also a lot of tools that I think get updated over the years...

01:41:00 Speaker 3 -TA

I think using it with clients might still be difficult because.

01:41:09 Speaker 3 -TA

I wonder how open they are. Yes, for this I think it's also a role for us to introduce this to them.

01:41:17 Speaker 3 -TA

Maybe we should introduce it slow, I also notice with sustainability we started working for like a bank....

01:41:25 Speaker 3 -TA

More than ten years ago, and every project we got we said like sustainability and they were like, I just ask you to do this and like be quiet and then all of a sudden like slowly and not only by us also due to regulation and like world changing, they were more open for it so.

01:41:44 Speaker 3 -TA

I think there's a role for us to slowly introduce this.

01:41:47 Speaker 3 -TA

Pay attention to it like make sure that that they are also aware we are going more aware.

01:41:55 Speaker 2 - JE

Raising awareness, that's maybe one of the most important thing of this tool.

01:42:05 Speaker 2 - JE

So I mean, if you start to do all the design process and we start with taking all the other things into account that we know should be done. Then maybe you might end up with a really complex tool but if you look at maybe a bit overarching level then you see like OK here and here we have problems. How can we solve that? And you mentioned certain strategies and....

01:42:29 Speaker 2 - JE

You create awareness rather than dissecting something to the bone and then redoing it all. It's just me thinking I'm don't know, but just raise this awareness and the main points and the strategies to overcome that.

01:42:48 Speaker 1 - J

Yeah. So you, you, you make a lot of sense because then you want to for for it to fit design practice. It shouldn't go all the way into like risk assessment like super into detail?

01:42:59 Speaker 2 - JE

it could but there are two different things.

01:43:02 Speaker 1 - J

But then you would see it more as a starting point.

01:43:07 Speaker 2 - JE

I just say this because.

01:43:10 Speaker 2 - JE

The work that I usually do for me personally, I see that OK, that's the way I could use it. But I'm not saying this is the best for everyone..

01:43:21 Speaker 4 - SO

I think for me, if I reflect on what I do on a daily basis, What I miss as a professional is understanding at first, is the SoC?

01:43:34 Speaker 4 - SO

I think this helps to tackle it, but the first question needs to be answered first, so I could imagine having indeed some guidance on where to find information on where do maybe a quick check of what am I working with? At first it's the first step.

01:43:50 Speaker 4 - SO

Because that's also the first step for the discussion you will have with the client.

01:43:55 Speaker 3 -TA

I think there's also different scenarios. So in this scenario the client already has a problem and wants to solve it, so they are already aware of it and I wonder if they would come to us like if probably this hamburger wrapper would just go to the paper manufacturer and the client would say solve it or go to your R&D department and come up with something. Otherwise we go to the competition.

01:44:18 Speaker 3 -TA

So they probably would not even talk to us, which is a shame, because I think we really especially when we think about ideating...

01:44:22 Speaker 3 -TA

And also this avoiding we can really think different and we can come up with different solutions. So that's that's one type of client. The other client is not even aware of it that happens. And I think this is a really interesting client because we can.

01:44:38 Speaker 3 -TA

Introduce slowly, like hey, did you think of this?And could there be Substances of concern when using this material, yeah.

01:44:48 Speaker 3 -TA

So not directly putting them like you are doing it wrong, but just as a general discussion and and maybe go to through this thing and then make them aware of the fact like hey, maybe we can even do better.

01:45:00 Speaker 3 -TA

Maybe even because you're already in the design process or you're already changing things anyway. So you also have the opportunity to change in a in a better way.

01:45:18 Speaker 1 - J

For example, having things well, if designers are aware that there are substances that are on the candidate list, that's also useful to communicate, maybe certain things to clients, I guess to say like, oh, it's not a substance of concern yet, but it's on the candidate list so it could be banned soon.

01:45:35 Speaker 2 - JE

Previous session we also suggested this.

01:45:38 Speaker 2 - JE

To have some kind of reference table and yeah, yeah. To see what can I not use?

01:45:50 Speaker 3 -TA

And some of the things I'm I'm also not aware of and so I understood most of it...

01:45:56 Speaker 3 -TA

Also some of the things are maybe more obvious. A lot of things I don't know. So maybe I should also be when working on projects, do a little bit more research on the material itself or how it's been produced...

01:46:10 Speaker 1 - J

Yeah. Yeah. Because sometimes or in other sessions we have had people saying.

01:46:16 Speaker 1 - J

Oh, where would you start? And then they would say things like, well, I would first Google PFAS and then if you just Google, PFAS you're just gonna get, like, an overload of information. So what? What the method is trying to do, or at least in the 1st step is to ...

01:46:37 Speaker 1 - J

sort of guide you a little bit what kind of things you should be looking into.

01:46:43 Speaker 4 - SO

I do like the questions, because then that's really guiding you like, OK, what do I actually need to look for in this information? but this is already in the assumption that I'm aware that there is PFAS in the product.

01:47:00 Speaker 4 - SO

I think that's definitely helping, the guiding questions...

01:47:02 Speaker 1 - J

Yeah, the whole identifying substances was was step zero and we didn't touch that today.

01:47:09 Speaker

Yeah.

01:47:09 Speaker 1 - J

Yeah, but indeed it's it and there's not. Not a lot to touch because it's just well make a bit of materials and try to get as much information as you can. There is right now no other way I can think you can search for that..

01:47:27 Speaker 1 - J

Except like this magical database that I was telling you about that other people have suggested like, well, I want to make something soft and then this thing tells you, well, if it's soft, then it may contain a plasticizers, you know, that doesn't exist. So.

01:47:41 Speaker 2 - JE

Yeah, but the other way around is more easy just a list with the substances of concern and you suspect you have it in the material you're using...

01:47:51 Speaker 2 - JE

And the you ask yourself is it actually good? Maybe it's only harmful in some kind of transport situation, but you design around it then it is fine to use it.

01:48:01 Speaker 3 -TA

In most cases, when we develop products. they usually consist of 5 materials?

01:48:09 Speaker 4 - SO

I think I think with electronics we are getting more complexity.

01:48:15 Speaker 3 -TA

With less materials it's relatively easy to check with the database..

01:48:19 Speaker 3 -TA

Of course if the data is available, we don't have always the whole data.

01:48:23 Speaker 2 - JE

OR our scope is only the housing, so yeah. Then indeed you have fewer materials to scan.

01:48:28 Speaker 1 - J

Yeah. No, indeed. And and and some of these things are, there is no way of predicting, right. So even if you have the means to do your check on the Bill of Materials and whatnot and then you substitute for another substance that is not on the.

01:48:43 Speaker 1 - J

Databases that tell you these are substance of concern. Then you sometimes make or people make the assumption that then it's safe, but then it may be the case that is.

01:48:53 Speaker 1 - J

Just not researched yet. There's not enough information. So yeah, that's also something that I've been trying to integrate. It's still not very good, but a little bit like, OK, yeah, make decisions where you substitute for better substances, but then also make sure that you have some form of control mechanism or prevention mechanism.

01:49:14 Speaker 1 - J

That yeah, in case things are escaping and contaminating, then you can reduce that in some form. But yeah, it's it's difficult.

01:49:27 Speaker 1 - J

OK. So OK, we discussed this, we discussed a little bit the integration in the design process. You said that you could see it integrating, but in this separate bits, right, if I understood correctly or how else would you see it integrating into the design process?

01:49:52 Speaker 3 -TA

I think to create awareness, I think the first part is already enough so you don't have to walk through a solution, but just to fill in this graph to see where is actually the concern and and this could just be an eye opener.

01:50:06 Speaker 4 - SO

Or the first part only even... to start with...

01:50:18 Speaker 3 -TA

And then I think.. for myself, it would be just interesting as an internal checklist that you do all the way up front, like when you have the start of a project.

01:50:28 Speaker 3 -TA

And you you think of the product, then you quickly do this thing internally to see already yourself. If there's a potential risk.

01:50:41 Speaker 4 - SO

I think this is something that if I look at this one the the mapping of the journey, this is something I would probably combine with.

01:50:50 Speaker 4 - SO

Other stuff. So thinking that we're not only going to look at substance of concern, but we're going to look at the sustainability in general, the impact, the pain points. So this would be for me part of a bigger journey.

01:51:11 Speaker 4 - SO

But I think looking at those in more detail and thinking of what

01:51:17 Speaker 4 - SO

I need to focus on first especially if I want to reduce or control I think this quite helpful..

01:51:25 Speaker 2 - JE

Yeah. Now I agree, especially on the the looking at the ecosystem of the product or the journey of the product...

01:51:34 Speaker 2 - JE

for the wrapper, you you do notice like it's not really about the wrapper itself but when you use it and produce it etc... so you consider the details of the scenarios...

01:51:47 Speaker 2 - JE

It really visualize the problem and I think, yeah, that's what a lot of people like and it helps maybe also having client conversations...

01:52:00 Speaker 3 -TA

Yeah, I think even like if you.... If there's a client who wants to solve the issue around SoC, you must use this. It's a must when you go into this meeting. Because otherwise you cannot come up with an alternative solution, in my opinion, to avoid it. If you don't understand the whole journey.

01:52:17 Speaker 3 -TA

You need to understand the whole journey.

01:52:20 Speaker 3 -TA

So if there's a question for like I already have an issue and and the solution then go through this whole thing otherwise I would either go to like the first part with client or myself just as a check.

01:52:39 Speaker 4 - SO

Before awareness is created, this is something that.

01:52:44 Speaker 4 - SO

I would do more internally and maybe in some cases, we present it, but I feel like.

01:52:53 Speaker 4 - SO

As you were saying, if if someone has this problem, they probably don't come to us or don't think about us in the first place, so.

01:53:01 Speaker 4 - SO

This is probably something that we need to do more proactively ourselves and then use to also educate the client.

01:53:08 Speaker 1 - J

Yeah. Yeah, that's very interesting that you mentioned that because indeed it really is most of the solutions right now are like, well, the chemists are going to eventually catch up and make something better, but but yeah, it's it's nice that you mentioned that from the design perspective, it has to be a little bit more pushed into the client.

01:53:31 Speaker 3 -TA

Yeah, I think the client probably has the idea like, OK, I want to keep this product as close as to what I have if it is a successful product for the same cost price quickly change this chemical like like give me something else that is not the SoC!

01:53:55 Speaker 1 - J

what would you say is the the the goal of the method should be so last time we talked about what the goal of the method was, each one of you thought about methods that you use, etcetera, etcetera. What do you think this method should do or should help you do?

01:54:14 Speaker 2 - JE

Last time we said for decision making... but also during the process... internally. But mostly decision making..

01:54:21 Speaker 2 - JE

I don't know. I think I mentioned the traffic lights away. Just visualising ways internally. But sometimes at the same time you create a tool to help communicating with the client with certain stuff.

01:54:35 Speaker 2 - JE

If you don't use such tools that sometimes can be hard to present or boring, or yeah, yeah. Help making decisions.

01:54:49 Speaker 4 - SO

Prioritizing for me, if I look at this part (assessment), especially, where do I need to focus to have impact.

01:54:58 Speaker 2 - JE

Also, what I mean decisions prioritizing and just getting an overview of the problem.

01:55:06 Speaker 1 - J

So getting an overview of the problem and prioritizing where your attention should go.

01:55:10 Speaker 4 - SO

And also communicating with the client.

01:55:12 Speaker 2 - JE

I think that's just a bonus, basically.

01:55:30 Speaker 3 -TA

I think that depending on how you use it, whether it's for internal together with the client or through full process, I think like internal and with client actually is awareness.

01:55:41 Speaker 3 -TA

Then if you go further down the the line you get insights.

01:55:45 Speaker 3 -TA

And then all the way down you get solutions so.

01:55:50 Speaker 4 - SO

I think we mentioned when we were talking about.

01:55:54 Speaker 4 - SO

Method and tool structure. I think this is also like just having a structure to go through to make sure you are not missing something important.

01:56:02 Speaker 1 - J

Yeah. Yeah. So a little bit of a checklist, a little bit of like, don't forget to think about this, yeah.

01:56:15 Speaker 1 - J

Yeah. OK. Next question is what do you think would be the challenges of using this method? What would you find? Where do you think you will find barriers?

01:56:27 Speaker 3 -TA

Yeah, I think we discussed the first barrier is I wonder if clients would come to us...

01:56:36 Speaker 4 - SO

I think probably it's also the step 0.

01:56:38 Speaker 6

Finding that information. Yeah. Information. Yeah. Information is a big one.

01:56:45 Speaker 3 -TA

And I can also imagine a barrier for clients to use this tool together with the clients that they might think it becomes too big, especially when we go to this, this big cycle. They may think like wow wow don't touch my production ...

01:57:02 Speaker 3 -TA

Because they might just want to say like, OK, just do like 2% less or like changes that, yeah, I can imagine that they if they want to go for a quick solution they might be a bit scared of this.

01:57:19 Speaker 4 - SO

"No, I don't want it" kind of scenario from the client...

01:57:26 Speaker 2 - JE

Yeah sometimes also you talk to some representative or department or company, and you are like, well...

01:57:31 Speaker 2 - JE

I don't have the power to myself contact those persons that know so I'm going to invite you guys. And then it's just out of scope. Yeah, if you're lucky. And you and you know them well enough, then maybe there's a chance to have some leverage.

01:57:48 Speaker 3 -TA

Yeah, I remember like a project where we talked to a marketeer about the dishwasher tab. And then we went to the supply chain and like this R&D guy has been optimizing the supply chain for eight years... and we go like yeah! we are going to do something new... it's like oh man, his baby...

01:58:08 Speaker 3 -TA

No, this is not possible, this is not possible, so there's a lot of different stakeholders within that, that journey that have different hats on.

01:58:15 Speaker 1 - J

Indeed. Yeah, because right now, I mean, it was a very quick exercise. So you you had some information on that paper. So the information was given to you, but where would you find this information? Like, who would you involve for like what kind of resources would you use to to fill this in?

01:58:40 Speaker 2 - JE

I want to first add to the question about barriers, so if I look in the tool itself and not the context where it was used, I felt a bit like quantifying in the wheels, we managed, of course, everybody understands what's happening, but I can imagine, especially if the inventor of the tool is not there to explain it can be used wrong... or something..

01:59:04 Speaker 2 - JE

And then what are you going to do? So you mentioned references, maybe some references or indicators if you see this and this and this thing then it is high... Maybe that could help to make the bit more easy to fill in.

01:59:21 Speaker 4 - SO

Yeah. And I'm also thinking like, if I think of.

01:59:27 Speaker 4 - SO

Having a BOM for instance, is that something that the client is going to be able to provide?

01:59:32 Speaker 4 - SO

If not, how much time is it going to take me to make it? Yeah, I think there is also a time factor here right?

01:59:40 Speaker 4 - SO

Depending on how much you were saying like 5 components, I think if some projects I'm working on, are definitely a lot more! And then you have the problem of like alright, where do I actually start?

01:59:51 Speaker 3 -TA

And also if you are in a project where it is not a part of your scope...

01:59:56 Speaker 3 -TA

but I just want to check it for myself because I find it interesting and then all of a sudden I've seen this thing like, OK, you're using this which has really bad effects... you sort of open up this door that they're not asking for...

02:00:26 Speaker 3 -TA

So, we should sometimes be the annoying ones that should open this door, but it's not always appreciated by the client.

02:00:35 Speaker 1 - J

Do you think you would involve? Do you ever involve external experts? Like, would you ever involve something like, OK, a life cycle expert or like a risk assessment expert or things like that? Is that is that within your scope if the project and the budget allows? Yeah. OK.

02:00:52 Speaker 4 - SO

I think for me, I would get it if there is from the clients a focus on sustainability and this is a lot easier to bring up.

02:01:03 Speaker 4 - SO

Because you can make it part of the sustainability agenda...

02:01:18 Speaker 1 - J

Yeah, you mentioned that if you can already identify if you can avoid it, then you can.

02:01:26 Speaker 1 - J

Quickly go into ideation phase and then not go through the all of the steps is that the only change in the steps that you can see? Are there other changes in the steps that you thought about?

02:01:47 Speaker 4 - SO

Yeah, I think I said. I think for me this part, I would just maybe slightly differently, the the assessment more as a criteria to compare what I have...

02:02:02 Speaker 4 - SO

To be able to make a decision based on that or improvement based on that, yeah.

02:02:09 Speaker 3 -TA

Yeah, I think ideally you would do this and then have these notes next to it, then iterate and maybe already design a solution and iterate again on it and do for several concepts. And then you can you can optimize them.

02:02:25 Speaker 4 - SO

It could be a way to filter down kind of the scope...

02:02:35 Speaker 3 -TA

Yeah, because this is very much on the avoid. If you start thinking about reduce for different stages, you could almost do it as morphological chart. So say like the this phase you could have this solution and this phase you could have this solution. Then you could almost pick your solutions.

02:03:01 Speaker 1 - J

They somehow meet what you identified.