

# Cleaned\_ Participant 23 and TE Study

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## SUMMARY KEYWORDS

token, system, work, engineering, crypto, people, economics, field, design, project, space, applying, find, challenge, mechanisms, position, solutions, questions, build, topic

## SPEAKERS

Lisa Wocken, Participant 23

**Lisa Wocken** 00:00

So what you're getting is kind of the best of the token engineering world and academia to come together to answer this big research question of what is token engineering. And so that's kind of our big question. The output of the study is a findings report of the practices, challenges and needs, and hopefully some definitional work around this notion of token engineering.

**Participant 23** 01:45

This is great. I've been you know doing this for five years now. And it's desperately needed. Like what you're doing is amazing, because no one really knows everyone is doing stuff. But I mean, like we see the space progressing, but it's not not so that you know, we have a common understanding or a common definition.

**Lisa Wocken** 02:00

Yeah, excellent. Well, hopefully, through our interview questions today. It's going to be a lot of you talking. I'll be the primary researcher, so I'll guide us through the questions. Livia will actually turn off camera here in just a moment so you only have one face to have to respond to. And she'll be taking a lot of notes while I focus on asking the questions. And we'll actually be recording the session too. So if you haven't already seen it pop up. We're gonna be making sure to ground all your great insights to revisit them later. So let me know how I can help you. Okay, excellent. So first and foremost, we'll just dive right in if you don't, do you have any questions? Before we starting? No. Let's go. Great. Okay. So tell us your personal journey of how you came to the token engineering field.

**Participant 23** 02:51

What I did is, I was working for a bank in 2017 I think it must have been 2017 or 18. And and I the bank got restructured so 50% of the personnel got laid off, and I took the chance as well. I volunteered for being laid off because I wanted to do something else and what they provided me with this research grant or basically for six months and so I paid leave the research grant I could do whatever I want, when I'm focusing on transitioning to a new job and at the time, I was very excited about about crypto economic systems, because, you know, it was just the ICO era was just, you know, like, just around so everyone was doing ICOs and they were selling tokens and that had nothing to do with my time and but basically started, like start doing crypto and then I joined a startup we wanted to do a token raise and fundraise as well over selling tokens. It failed desperately. But what I learned is that it has so much to do with what I was doing in my past and academically. So I have a master's in mathematics. And also it's like so, so much so interesting with respect to what what the potential of crypto is and from the design perspective and not so much about you know, like you can sell token and become rich but more like what is this new thing? And how to build token economies how to build a token system? So this was a question that fascinated me, but no one really was capable of answering so like back in 2017 back in 2018. No one really knew how to build sustainable or even like how to design token systems like this was not the goal right people just wanted to create an ERC 20 token and sell it online and get some money and then you know, like, either do the project or just you know, like, disappear. So after my research grant ran out after six months, I was so fascinated by crypto, that I decided to start a PhD in this area and I joined the Research Institute for crypto economics in Vienna, which was founded in this year. So it was it must have been 2018 and I contributed to the definition of the research agenda I contributed to the definition of you know, like, first research streams and token engineering and crypto economics, basically by saying okay, I still want to answer the question how to build open systems and I wanted to approach it from an academic lens. And this is what I've been doing for the last five years, both academically but also practically working in the space that because for me, it was very important to also you know, put my hands and make my hands dirty, so to say in a sense of really, you know, testing the things that were in researching or investigating. In real project. This is how I met \$name\$ how I met like all the people from \$name\$ back then 2017 2018 And we started contributing to the space I mean, \$ name\$. Also, I met at the conference[ TGG} ]2019 or 18. I don't know like one of the pros and the goal always was to, to find a scientifically or academically founded a method methodology how to how to approach the design of token system. And the big challenge we had at the Research Institute was that there was no one who really could tell us what to do because like, there were so many opinions there are so many people, you know, like you're just discovering this base, even established professors that okay, I would prefer to in finance, I would like to look at it from the finance lens. And I would really like to, I don't know, look at the volatility of token prices,

because this tells me something about like what I've been doing for the last 20 years, right. Then you have to have professors in economics and you had professors in institutional economics, whatever, or in sustainable topics, whatever. And everyone was just saying, Okay, those cryptocurrencies, like I understand, like, I don't really understand them, but I see how they are, you know, somehow connected to my field and I can continue doing what I'm doing, but I can include the, you know, like looking at crypto tokens or crypto coins at the point at the time, they were called as well. But no one was willing to say, I want to transition fully like I want to commit I want to like define the new the new field. And this was challenging, right. So like, this is what I took for myself as as the goal with my research, and, you know, again, failing desperately because I didn't have a proper supervisor. I didn't have a proper there were no proper journals where I could publish. It was very difficult as a paid PhD student back in 2019 2020. You know, just to find a venue or an established methodology that you can apply to what you're researching and then you like, say, Okay, this is a topic that it's interesting for someone to read or for an editor of a journal or whatever, whatever, right? So you're always had to look at it from a different lens. So you have to look at it from the from the control systems perspective, you have to look at it from the finance perspective, you have to look at it from the systems engineering perspective. And then it was okay to publish something about let's say, maybe Bitcoin because Bitcoin was well known, it was well accepted, people understood it, there was a lot of data about it, and so on and so on. But actually, None None. None of those topics were very interesting. Or fascinating to me. So I didn't want to do this right. So like, I still, I continued with my approach of being an outlier or being you know, someone who is orthogonal, orthogonal to to all of the all of the conversations because I really wanted to proceed the space I really wanted to make sure that the protocol design and how you see it being done today is really moving forward and not really contributing to you know, like some paper that was, you know, like on some topic that is, you know, like, actually not relevant anymore because it investigates old Bitcoin topics from 2008 Right. So this is what what was the biggest challenge for me it was the latency between academia and what you see happening in in the crypto space and while still a student so while still trying to learn the academic rules still trying to learn the how to publish how to write papers, how to you know, behave at conferences, how to communicate with with with all of those academic personnel. It is not so easy to have this inter multidisciplinary perspective on things right. So it was challenging because you have to develop your own skills while you really want to contribute to the field. So so this was this was basically the position I was in but I did manage to write some papers I did manage to publish some of them I'm still not, you know, rushing with with finishing my PhD because for me, this is not important. Like having a title is not important. It's more important to work on the forefront and be able to, you know, contribute to like the discussions that are actually important. And although you know, like I'm willing to I will not ever become you know, an academic academic Professor like this is not going to be my route right. So so for me, this was perfectly fine. Of, of working in applied research project and continuing doing this forever. So I was rambling for for 10 minutes, but I think that this gives you a sense of where I started, what my philosophy is, what my position is and how I approach the topic. Yeah,

**Lisa Wocken** 10:05

this is exactly what we're looking for. Especially you already shared some challenges. So I'm very excited about what you've already shared. Also, you're piquing my interest and one of the things that we want to do is get a little bit more definitional about token engineering, and especially since you've kind of tackled this from an academics, academic as well as a practitioner lens. I'm curious how you would currently define token engineering currently. Okay.

**Participant 23** 10:31

Yeah. So I can tell I can give you the definition that I'm always using or like I developed over time because I was teaching something again, you know, like not having anything to really you know, like draw my my knowledge from but I was still you know, telling the students, undergraduate students, I had a lecture on token engineering for example, right. So, I developed my own definitions, my own ideas, how to present this topic. So, token engineering is the metadata, methodological counterpart to crypto economics, which is a theoretical science right so, it it answers the questions how to design design on how to build something that is investigated in the realm of crypto economics, which are just questions of like, why is it like this or like how to approach the understanding how to build understanding about something, right. So you have this theoretical backbone which is crypto economics, which is the theoretical science of what problem are you investigating and how, you know, which economic or crypto economic problems you're looking at. And then you have token engineering which is the methodological counterpart to the science telling you which tools and instruments to apply in order to find solutions or to move forward with the answering of the questions that you've posed and crypto economics, right. So this is something that the definition that I came up with again, I don't know if this is right or wrong, but it's something that I feel like is a very good way to look at it because it gives you it hands to you both, you know, like the theory but also the methodology and it makes a clear distinction between what you're looking at and how you can combine those things to to move forward with the solution. This is one definition right? So this is one way the other way to look at it is token engineering is a synthesis of engineering sciences and economic sciences, in the sense that because you have you know, blockchain and data and trends and transparent, immutable state spaces of economists that you're looking at you now can, you now can synthesize everything that you know about economics with the toolkit that you have readily to be applied from engineering. So this

would be a different perspective or a different definition or you can look at it so choose any of them or both, or like try to pick what you what you like better, but yeah, this is what I what I used to explain.

**Lisa Wocken** 13:03

Wonderful. And is there anything that you see token engineering addressing truly uniquely compared to other approaches?

**Participant 23** 13:14

Compared to what for example, because it's very difficult to whom you talk to like what you have, you know, what it is, I mean,

**Lisa Wocken** 13:25

or is it what do you have anything, anything that other fields aren't solving, what's the unique value proposition of token engineering

**Participant 23** 13:34

is difficult, but the unique value proposition is that it is an inter and multidisciplinary science. So it requires you to combine to understand and to combine knowledge from different disciplines because then and only then you are able to build or to, you know, find the answers to questions that you're asking. So this would be this would be the challenge that I see you're like the uniqueness of token engineering because it deals with the definition of complex systems, systems that are not you know, like predictable, not not not not linear, that are not straightforward. And it also deals with those problems, not only from, you know, a mathematical perspective or an economic perspective, but it much rather combines all of those nuances in order to build protocols and protocols, which are fueled with tokens, right. So this is difficult to bake uniqueness that you are you have those, those cross disciplinary and pieces that you need to align with each other to make sure that you have as a result, a protocol that function right and this is the key challenge. So you cannot actually look at it from only one perspective. It's too simplifying. You have to combine you have to combine knowledge from different areas. So this would be them.

**Lisa Wocken** 15:02

And while while we're on this topic, which areas of knowledge do you think are critical to the field of token engineering?

**Participant 23** 15:12

I mean, you have to know a lot about economics and you have to be able to formulate your thoughts. So you need to know a lot of mathematics as well. So you need to be able to understand economic problems to formulate them, describe them and specify them so that what you need to know and then you can you need to control those problems. So control systems control, control, engineering is very important as well. But then, you are moving more towards implementation and, and data analysis, right. So like all of those numerical sciences where you would have, you know, datasets and evaluations of datasets, and data analytics are also important. And consequently, once you have you know, built those models and and understood your problems or maybe investigated the problems that you have at hand, you transition to computer sciences and implementation of those problems, right. So you need to understand the hardware and software components and build out those crypto economic systems. Which is not to say because I kind of ignored everything that is related to, to the to making those systems operational. So like you should also understand a lot of a lot about business management and even the legal side of things right. But I would say that token engineering per se, but you know, I tend to argue with many people and many people also disagree with me on that but you the requirement on the token engineer when you see them practices, you need to understand economics you need to understand implementation, and you need to understand legal because you need to synthesize all of this information into a protocol that works, right. So it doesn't suffice if you are very good at mathematics or economics, because this is not the word that you're implementing. That is not the word into which you're implementing right. So I my mind, or my opinion about this switch more over the last maybe two years, the more I was working on practical projects and being responsible for implementing those things, but initially, I started with Yeah, you need to know like economics, mathematics and you know, systems engineering because then you can build and design the perfect system and then fine, but is it only you know, half undistorted, then the true the true knowledge you need to adapt to align with each other, you know, as I mentioned, and then and this is what I really, really tried to like, push back into the corner, but it's also but it's because I just don't have the time to think about it, but it's really very important as well. It's everything related to behavioral sciences and technology and and and you know, social sciences, because you are dealing with with with with humans in the equation right. So like you are not designing systems for the sake of, you know, like automated perfect circumstances, you have those conditions that are also very vague or not, you know, like predictable or, you know, just psychological behavioral sciences, right. So, if you're really honest, you also need to include this into into how you think about your systems.

**Lisa Wocken** 18:19

Wonderful. Thank you. You mentioned already some reflections you've had even in the last couple years. I'm curious if you could give us a sense about your day to day, your week to week. What are your What does a typical day look like for you? What processes and tools are you using? What practices do you engage in? paint us a picture of what the day to day is for you?

**Participant 23** 18:44

Yeah, so it really depends in which position you're working on the project. And those projects also matured over time. So there were different requirements on my job or like on my position. And but, but initially, people just wanted to appear like someone who's good at modeling and data analysis, right? Like this is like again, same as it simplified this. Everyone thought, Okay, if you can build a good model, you can simulate this and it's fine. But But this has changed over time. And now you have more in more legal and operational stuff that you need to care about, because then everyone who wants you to work as a token engineer, they are really building those systems that projects are heavily funded, and they want to prove you know, like, they don't want to waste the time with you know, like modeling and simulation, they really want to say please write down something that can be implemented. Let's go with an MVP approach that can that will work and then we can iterate over time applying this engineering you know, mindset of saying okay, we will improve our system continuously, but but this is what, what, what changed and you know, again, over here, a typical day of a token engineer consists of, you know, talking to business talking to legal and talking to implementation, just to articulate the requirements that are coming from different sides, and to define and translate them into something that can be perceived as a systems engineering lens, right. So I would say that most of my job is really Translation Translation into formal language, so that you can you know, like, get from business from strategy from operations, you can get your like their requirements that they want the system to exhibit. So this is what our system is supposed to perform what they want to do, what is the goal, what are the what is the purpose of the system and then being able to capture those dynamics and capture those those requirements into an equation and formalistic language so that this then can be you know, pinned down and say, okay, it is what you're talking about, because implementation wants to have an equation that they want to say this is what we want to implement, but also from the modeling perspective, you can say okay, this is what really is what you told me so, we can run some some analysis and we can see how the system this dynamic system will perform. If you if you exactly you know, like to use this mechanism or do or, you know, provide those inputs or like, you know, start with those parameters and so on and so on. So it is a lot of a lot of conversation with those three domains or those three parties. And then once I have, you know, articulated those requirements, I have, I don't know some time for myself where I'm really focused on Okay, let's now think really carefully about what this means for the systemic behavior and try to articulate those mechanics mechanisms and try specify all of the states of the system and all of the actions of the consequences of interactions of those components. And try then to define what is happening what you can see from what you've defined, but also what are the next questions that your you will be looking at in the near future. Because the more you have specified, the more you open up for new, you know, questions that you will be potentially looking at. Right away and and this requires you to then you know, again circle back to business circle back to legal and say, guys, okay, we see that we have something that we have specified, how can we move forward with implementation so that we have, you know, the next step of the system the next you know, like iteration over and over and then working and working implementation and then you branch off so, you branch off into forward looking work and backwards looking work. So this means that you know, like defined research programs and suddenly we need to find a mechanism that has this properties need to find some thing that is, that is you know, like from providing us with those properties of the system that we want, but also a lot of work is testing and then data analysis from the things that you already have. So like, what will happen if what are the things that we have specified? How can we test them before we say this is signed off for implementation? And this is the first this is the first step when you look at isolated mechanisms or isolated system components. But then you have to settle back and say, Now let's assembly those things into one bigger system and let's see, which, which areas open up when we try to you know, compose those mechanisms into a bigger hole. And then you know, blowing going back and forth those questions all the time so this is created right and then by the by the end of the day, or maybe by the end of the week, so let's proceed like this one week is like the one site in what you think with everyone you would then have, you know, like, some formulations of those things that you've defined some validations or some tests performed, and and some, you know, like, research type questions, okay, those would be the next steps. Those would be the next things that you need to do. And then with this reset output, you can go back to you know, like the parties that you've talked to and say, Guys, what do we want to focus on immediately this week, but also for the next three or six months? Because we can only choose one thing that we can focus on that we can do that we can implement, what is the most relevant thing to do? And then finally, you get to sign off by legal they would say, okay, yeah, this is what we want to build. And then you translate to implementation teams and say, Okay, please build me this set of smart contracts that will exactly do those things that we have drafted out. So yeah, it's not really a day but I would say it's more like a week or a month or a cycle, how you look at those things, but it always starts with with it always starts with with thinking or defining requirements, and then you're adjusting like then comes like you shut down everyone because they need to work a little bit on making progress with respect to, to formulations and modeling. And then when you get results, you then again, open up for questions and comments.

**Lisa Wocken** 25:06

Thank you, I love just the specificity the details all that's incredibly helpful for us to color in the picture. I'm curious if there's any prototypical tools or even when you say like, I need to kind of think about it, almost like go away and think through the implications. Are there any certain question flows or specific tools that you see in a prototypical project that you find yourself going back to?

**Participant 23** 25:32

Yeah, so it's really you know, I mean, from the modeling side, or from the definition side specification side, we rely, obviously I rely on the work from my collaborators from people that I'm looking up to from people who are you know, also pioneering the space so I'm looking at work from a \$name who will define the GDS system and say, Okay, if you look at those, at those economies, they can be represented as dynamical systems. There is a particular representation that you can use because it helps you to distill the components of the system with respect to state mechanisms, state updates and actions. And then if you can capture the dynamics of the system using this language, then it's very easy for you to draft out what the mechanisms how they could be composed, right? So this would be a tool but not really because it's just a methodology. So like in the design space, generalized analysis, and it's something that I heavily rely on because I was working with with with these people in the past, and they have heavily influenced my research. Consequently, on the implementation modeling site, there is \$Cad CAD\$ the tool that translates GDS into a computation environment that allows you to run simulations applying exactly the logic that was represented by the GDS system, right. So obviously, people who are working on this they have this pipeline in mind that they provide the methodology both on the modeling but also on the modeling on the on the implementation side, which fits in well together, right. And this is what I'm also applying right do I'm translating those, those systems that I have into pipe net environment that allows me to run simulations then applying, applying the libraries that they have at hand. But this is not like I'm not making this claim that this is the best or the most useful methodology. It's just the one that I've learned that I understand. But there might be some other valid approaches there as well. Right. So like I've seen at least like I'm obviously participating in this space. So I've seen other people applying other tools, and I'm not there to discredit discredit them, right. So I'm saying that they might have their applications that might be valid, they might be useful. It's just that I haven't invested time in understanding them. So I don't know. They are not for me understand, right. But, but I see other people advocating for them. So there must be something behind each of those approaches. And I guess that eventually we as the space will mature and have you know, like a broad variety of tools and methodologies that can be applied may be suitable for different approaches or different applications, some of them right. But in general, it will be very, very useful to understand the variety of all of those things to be able to draw from them for the particular system that you're doing.

**Lisa Wocken** 28:35

Wonderful, thank you. Okay, we're gonna transition over into challenges and needs and I'm curious, what, if any personal challenges do you experience in the field of token engineering and then the next kind of follow up is what are the challenges of the field at large, but first, let's focus on Yes.

**Participant 23** 28:54

Yeah, yep. Yeah, it's a personal challenge is obviously that it's like it is very intense in the sense very demanding cognitively demanding space. So since you have to align so many different fields and, and domains in your work. You kind of feel a little bit overwhelmed when you are, you know, like, still learning some of the things but you would be expected to combine them already but you don't know so much about things right. So you don't know what you don't know. And therefore sometimes you're just lost and are just you know, a guessing trying to like you try to do your best knowing that this is not that this is not maybe the right solution, right. So like we are still in the exploratory phase in some ideation phase of the field, trying to discover and learn best practices, but those best practices are not, it's nothing that you can learn, you know, just very quickly, right. So like, you would need to have a master's degree at least in five or six different specializations right to and those who need to combine them to be able to, you know, to reasonable, okay, what is actually what is it that I actually need to do in this case, right. So this is one of the problems it's, it requires you to have a sufficient understanding about so many fields so that you can work interdisciplinary or multidisciplinary. And the other challenge personal challenges, obviously, that there is like no established standards, and there is also not really yet a huge expert body of knowledge in the sense that even from the practitioner side, it's very difficult to ask an expert opinion or two asked to ask about you know, like, even ask someone that what to do in this case, right. So it's, it's very difficult to or to read a book or to do like to, there is no literature, there's nothing there is not even a conference I know of where you could go to and like meet people from the space right. So so this is a huge challenge for everyone contributing because it's still very, you know, like everyone is still isolated a little bit and working on their own solutions, without really knowing if this is something that will survive, right the approach that they are taking So, so this is kind of the challenge. Personally, I guess, right? Yeah, I think so. Yeah, I guess this answers most of the questions, so I wouldn't, I wouldn't think of anything more but from a personal side, but there could be. There could be some other challenges. From the field side or from the community side, which are for the last two, three, for the first 2/3/4 years of my work, and there was no real recognition of what we're doing like so there were there was a core stubborn part of people who were convinced that like token engineering will become huge and will eventually be important. But most of crypto was totally ignoring us. Because my answer to this is that there was, you know, like, several adoption cycles, and the first one was you know, you just could write the white paper and get some money then the second was, you need to have to implement something. So you have to have a contract, you have to have an MVP so that you can get money, right. And but all of those approaches failed because the systems were not well designed or not well understood or not well implemented, and they worked only for particular, you know, like, for some time until people found out the community or people saw that

this system doesn't work as intended, right. So what happens right now and it's cool because for the first like for the last six months or so, maybe one year I feel this recognition recognition starts to appear, right. So people are starting to recognize that okay, those systems need to be properly designed, so that they function. And finally, what we know or what we have managed to build over the last years is finding some demand on the market but also, you know, recognition on the market. So this is cool, but but still this is not the final cycle right. So, even if we design systems, well, what I see happening is that if the systems are not well governed or well maintained, they will also affect it right. So you will see that there will be afterward the engineering cycle or the design cycle that will be this governance cycle until you know you will truly have something that is of value or long along value sustainable. And so this is something that you would see as the space challenge for token engineers was you know, like, it was not recognized because no one perceived it to be important, because you could get money or you could build systems without you know, having this expertise. So no one was you know, willing to willing to invest or to spend money or time on an engineering or designing token systems. And this is what now changed. So now now you see people recognizing this and providing funding and, and looking for those positions, and suddenly we are you know, like the the bottleneck in protocol design and stuff like that. So it's cool, but the space has to mature and it's, as we said in the beginning, it's not an established field, right. So like even if you find people like me to work on a project, I always say I can help you but it's a research project. Like for me, it's researching. It's not like I don't have well tested status, state of the art methodology that I can apply. And I cannot guarantee that what you're looking for to build is going to be build and it's going to work because we don't know yet how to design those systems step right.

**Lisa Wocken** 34:36

Given that whole notion of now, what do you believe are the most pressing needs for the field of token engineering to address right now?

**Participant 23** 34:50

I don't know. Like what I would like to have is really a proper academic program. So this would be cool if if like, you could start learning token engineering so you could have people like even like if you start teaching now you could in five years, or maybe in six years, you could have people who are ready to do this, right? It could be cool. So this is something that I see as super crucial, but I don't know. I mean I've never been in a position before of being the one on whom like is you know, like, everyone relies on like, preceding the field to some extent, obviously, it's not me like much smarter people out there. But like, as I said before, you don't really have no one anyone to whom you could look up to whom you could say okay, I can ask them for questions. I can read this book that was written 20 years ago about you know, how to design protocols. It doesn't make sense, right. So so we need to have you know, we need to make more progress on on best principles and on standards and solutions. Because if this is not standardized, if this is not established, you you will never mature as a field. So the answer to your question is, academic program and academic community and you know, like a peer reviewed, drove a journal right? You need to have people collaborating on this together, test and validate both standards and methodologies. And this is what what we need but this is a long term, long term. Goal and and long term project.

**Lisa Wocken** 36:39

Thank you. Okay, so we've got a couple of almost like segment questions where we'll go a little bit deeper into specific topics. I'm curious first, if you can describe how you see the role of ethics in token engineering.

**Participant 23** 36:55

Yeah, so this is this is not my specialty, but I'm aware that this is an important topic. So I was busy with solving other problems for myself in the sense of you know, I need to learn like first how to do proper modeling how to do proper control theory, how to do proper simulations. And as with as always with everything, you know, there are some problems that are secondary or you know, not perceived to be like that blocking you right, because I cannot like only if I can design a system then I can start worrying about how to design it or like how ethically to design it or like what is the moral behind story, right? So I'm not the best person to ask and you wouldn't have probably in this interview, much smarter people who have you know, much more to say about but and I do agree that what we're building is system critical infrastructure, as you know, like many people will rely on this whole, you know, communities and whole, maybe lives will depend on this, you can think of, you know, building a crypto system for for, you know, a country that is not so well developed and then to get out of the other prosperity, they will need to rely on a well designed system in order to answer so. So it's kind of important to have this right. But it's, it it gets into the same niche as, as with all of the engineering sciences, right? So everyone who is doing engineering has this ethical code or has this ethical standards that their profession are adhering to. And this is the same with token engineers, but you don't really have this again, well thought through and I believe probably because it's so secondary, right. So, most people are worrying now how to like make it properly and then they would we will see the outcomes and say okay, there needs to be some standards on how to design system. And this is going to be this is this is that this would become a huge in the future. So, yeah, I love a good answer. But but this is what I think about.

**Lisa Wocken** 39:09

Yeah, sorry. Sorry to interrupt. It's helpful to hear how you think about it. I am curious for yourself personally. Are there any, like ethical concerns or things that keep you up at night as you see the field evolve?

**Participant 23** 39:24

Yeah, I mean, I'm, I'm applying strong holistics here. So I'm I mean, I have never been in a position of being able to do moral hazards. But if I were, I would need to, you know, like, really challenge myself how I'm thinking about this. So right now, like, up until now, I was always, you know, like, I'm just contributing to this project. I don't have much to say, and they can make the decisions and I want to make the best mechanism or the best solution for this for this interaction as possible. I have my own opinion, but obviously, I'm interacting with people who have their own requirements, business requirements, so I'm going to ask them what they want. If I don't like it like if they're in only for the profit, I will not work on the project. But if they, you know, can convince me that yeah, we want to design a fair mechanism, or we want to build something that is, you know, in line with our mentality that has, you know, strong moral or ethical standards, then I'm going to say, Okay, let's do this, right. But obviously, if you're then in a position, eventually that way, you can make the calls. And it would be very interesting to see how people would behave if they have to put on it right. And I believe that because you've seen this in so many systems already, especially in the first area of ICOs, that people just run away with demand right and then standards have been established and you know, tools have been introduced so that this is not so much possible, but I would always be for making it even more committing to the promises, right. So whenever someone says I want to build this system in this way, I want to support and support this right? And so I would call myself you know, like a fair player in the sense like, I'm not trying to screw anyone or I'm not trying to gain the system. But I'm aware that this is not guaranteed, right. So it could be the case that I'm designing a system for someone with the best intentions, but they then decide to run away with the or like change some parameters or like misuse the mechanisms that I have to find, right. So again, I tried to filter this out on my own, you know, like, moral moral Radar saying to like, I'm interacting with those people or not, but I know that given a moral hazard situation, I don't know if this is, you know, sufficient, right. So it might be good to have established standards or requirements or regulations in the space so that even if I would want to I couldn't change my mind.

**Lisa Wocken** 42:06

Excellent. Thank you. The next topic I'm curious, do you have thoughts on how to increase diversity and inclusion within the token engineering field?

**Participant 23** 42:17

Not really. So like, this is nothing that I would also worry about in the sense. I very much feel like everyone who wants to contribute can and it's a very welcoming space. So what counts for me and what I've seen in all of the projects that I've been working on, is just your like competence. So this is the only thing that that that determines whether someone is working on the project or not working on the project, and I have not seen anyone you know, like to be excluded because of any of reasons that are that are ridiculous. So this is nothing that I'm really worrying about or like I'm thinking of, but with respect to diversity. My opinion is that I don't know if it's also like the goal of like, of a project to force diversity into something where this might not be the best solution right. So like, I would always advocate for bring in the best people together people who are competent in the jobs and want to work on this and want to support and not try to, you know, fulfill a quota or something like that. So I'm personally I'm super tolerant, and I like to work with everyone who just wants to contribute. So and I see this reflected in all of the projects that I'm working on. So I don't know if I can answer this question. You know, any other way than saying, just provide the best in the circumstances for everyone wants and then you will, you will, you know, draw in the people that you want to work with.

**Lisa Wocken** 43:57

Thank you. Okay. And then the next topic we're going to talk finances for a moment in your perspective, what are the incentives to be a practicing token engineer, so typical rewards, or how you might be compensated for your work?

**Participant 23** 44:15

Yeah, okay. So there are many, many, many different rewards. First of all, I find it very rewarding to be able to work in a space that I find super interesting. And I was I was waiting, I would say, certify for years of my life, you know, to finally find something that you know, like, connect all the dots, right? Because I was like, I was trying to, you know, give my best in all of the fields that I was working before, but it somehow didn't click and finally, I found something that, you know, like, connects and builds on everything that I'm interested in that I find fascinating, where I have my background, and so on. So this is this itself for me is very rewarding so that I can work with on something that I find interesting with respect to financial rewards add there are two or maybe even three different types of compensation. So first of all, every investment of time in the project or investment of time in the space brings you forward so it helps you to understand more about all of the things that are happening. And since we are designing financial assets, all of the most of the most of the tokens that we design are tradable. And this means that when you invest time you also build up your knowledge which means that you can participate in projects that you find to be financially promising, so that even if you don't work on it, or if you don't, if you don't contribute, you can participate in the upside simply because this is how crypto works right like so if you are willing to commit to this community, then you can also participate in their value increase. If you're working on one particular project, two types of compensation compensations obviously, the direct financial compensation so you most of the time get paid for your time and which means that you get a salary but also you are rewarded with you know, a stake in the project. So all of this if you add this up for different types of compensation, so you're compensated with reward. I like what I do, but also know that salary and and stake

**Lisa Wocken** 46:29

if you don't mind me asking what would you say is an average salary range or salary for a token engineer.

**Participant 23** 46:37

It just really depends on the position that you have and the project expertise and all of the other things that you it's you are able to do. So you can be an excellent token engineer. But for some reason you are you know, only let's say 25 or 28 years old, because you focus so early on token engineering, like by coincidence, maybe, but you have no other work experience or you don't have any other soft skills. So this means that you can work on the project but you cannot, you know, like manage the team or you cannot, you know, like communicate what you're doing to other to other people or to marketing or to you know, business or to legal or to whatever right. So, then you would get you would not get into the leading role or a team management role, but more like in a specialist role, where you would just you know, like execute your your job and then you would get one type of salary or one range of salary that is, you know, like dedicated for this for this position. You could also however, be someone who has work experience a lot and has, you know, like transition to crypto, you know, at the age of 35 or 40 or 45 or even 50 Because you've been working in so many other fields before and you just very quickly you know, can apply what you know, to this new technology, right? So maybe you are, like you've been implementing for the last 20 years. And now we just learn solidity and now you can build smart contracts or, you know, like you have been in data and data scientists for the last 20 years. And now you've just learned \$ cad cad\$ so you can model and know very quickly for you, right? And but you also are, you know, like good at communication, good presentation, good, whatever, whatever. And you can communicate with other teams and solve other problems that are required for the project.

**Lisa Wocken** 48:31

So, so I can push a little bit. What would somebody that you just described what would be like a salary range for someone like that? Because part of what we're hearing from other participants too, is that token engineering isn't yet maybe valued as much as other forms of engineering and like the web 2 sense, and so trying to get a sense of where even are people getting paid from a range standpoint, so part of the outcome of the study can illuminate maybe some dissonance or lack thereof.

**Participant 23** 49:00

Yeah. I see what you mean. Yeah. So one of the drivers for this, you know, under appreciation or undervaluation. Of those positions is because you work with projects, which are not well funded most of the time, right, so they don't have this budget to allocate to this position, but just to like, give you an answer, and I've seen positions between 50k and 500k. For such for token engineer, like there have been vacancies out there. And depending on you know, like in which role you join, and I would argue that you should at least get something around 200k but it could easily go up up to 400 or 450. Different types of compensation or compensation, obviously, and like fixed bonus and, and also some equity in the project. So, it really depends on what you're building but, but I would see this field you know, strongly strongly increasing in also salary over the next two to five years.

**Lisa Wocken** 50:03

Excellent. Okay, now we just have two questions here to close things out. I'm curious as to what do you wish so we're going to turn our eyes toward the future. What do you wish for the future of the field? And how do you see it in three years from now? There's any specific innovations or developments so what's your wish? And where do you see it in three years?

**Participant 23** 50:27

Feel like I've already answered those questions to some extent. So I wish that I wish that that the field matures that we have, you know, like we have a growing number of participants that we have a growing number of practitioners that we have some some cool academic journals conferences that we have some programs where you can learn those things and and that there are people who really you know, like push, push the frontiers of token engineering, providing solutions and you know, in an open science or an open education way as they do already, so that everyone can learn and become better at and craft. So this is something that would be really, really cool, and I wish that there is also this mentality of like, a long term approach so that we know like, I'm very much aware that we will not solve this within the next three to five years. So, you will probably need 20 years to you know, establish some standards also like to see which systems failed or what was not a good approach or which was not what was not good enough in practice, because of you know, reasons that are yet undefined. So, I would also wish that there is this acknowledgement and recognition from the from the coming from the users and from the investor site, it's okay. We see that you're required we see that you that you that we need your craft, but we also acknowledge that we cannot expect from you in three years to solve all the problems that we have right like so that they see that this is something that has to be treated very carefully over the next 20 to 30 years. So that we finally get into like get get to definitions or to developments that are truly you know, tested, validated and robust. So this is something that I would, I would expect to happen. What I would wish to happen, what I expect to happen however, is that again crypto markets in crypto cycles, there will be a few players in the in the field who will you know, proceed with the mentality that I just described, but there also will be people who will say, there will be an inflow of of token engineers, you know, people who are, you know, promising things that they might not be able to hold right so that because there is such a demand, there's such a need for people to work on projects, and you will draw attention to you know, like engineers or to data scientists or to economists, whatever, and then they will just maybe naively or maybe you know, like wrongfully claim that okay we can solve those



problems very quickly. And the problem then is what can happen is that you will have a design system because there will be someone who claims okay, I've you know, I'm a token engineer, I can do this and then you have the system live in operation, but it will be it will still fail and many bad consequences can can happen for people who rely on the functionality of the system, right. So it would be good if you know, like we let the space mature over time. And don't over rely on on you know, like some simplistic solutions that might not be

**Lisa Wocken** 53:51

sufficient. And speaking of other solutions, where do you see artificial intelligence fit? Into this or its impact on token engineering?

**Participant 23** 54:03

Yeah, this is again, some topic that I pushed away a little bit into the corner because I just, you know, I have so many other things to worry about. But what I can tell you about AI here is that it's kind of like a good opportunity, but also it's very dangerous to to apply it. So, we are designing automated systems right and we are designing some interactive spaces in interactive economic markets. And obviously, there will be vivid interest to our to you know, like try to exploit those markets or to optimize those markets using artificial intelligence right. So, you will see it can be used for the bad but it also can be used used for the good in a sense, right? If it's providing us with you know, like test cases or you know, or validation for our designs, then it's good. But if, let's say we design a mechanism that can be artificially exploited by you know, just programming something that can you know, like, find the weaknesses, and those systems are already in operations, then it's very, very harmful. To the whole operations of the system. So it's a two edged sword to some extent, it can be used for you know, like for improving the design, but also it can be used to game the system or to exploit it. So we will see but I'm pretty sure that there are, again, much smarter people to talk about who know much more about AI in the context of economic systems.

**Lisa Wocken** 55:33

this has been such a pleasure. Before you go. I'm curious if there's anybody work that you particularly admire that you would encourage us to add to our list of interviews if we don't already have them? Whose work do you admire in the space.

**Participant 23** 55:49

I'm pretty sure that you have everyone that I am that I admire in the community already because I've been working a lot with \$name\$ for the last five years so and so everyone who's there is amazing. And everyone who's at the \$name\$ \$ name\$ community is great. Obviously, you know, like the whole \$name!\$ team, and those people are \$name\$ a team like, you know, defi protocols that are in collaboration. So everyone, like wherever we had our fingers in the game, and I've you know, not me, but like the people I mentioned, like this is something I look up to and admire. So all of all of the solutions and all of the people who are really interested in using the scientific approach to the data systems, this is those are the people you should talk to.

**Lisa Wocken** 56:35

Awesome. Wonderful. Do you have any questions for us before we close?

**Participant 23** 56:40

No, it was just it was amazing talking to you. Thank you so much for having me. And I would love to you know, see the results at some points, like when you're done with the study, and when you have some publication or some results, feel free to share with me.

**Lisa Wocken** 56:53

Yeah, we just have a few more weeks planned here just collecting data and then we go into analysis phase. And especially as you're participating, you will definitely be getting the first early insight look at the report on practices needs and challenges. So we're just so appreciative. Livia, do you have anything else to share? No, just want to thank you. It was really interesting to hear.

**Participant 23** 57:17

Thank you so much. I'm glad I could be of any help. And please feel free to reach out to me if you have follow up questions or would like to know, I can help.

**Lisa Wocken** 57:27