Can Hyperledger Make the World a Better Place? Nancy Min, Chair of Hyperledger's Social Impact Group and Founder of Ecolong, LLC

[00:00:00] **Eric:** Hi this week on the Encrypted Economy, we had Nancy, she used a chair of the Hyperledger. So she went that group and the founder of Ecolog LLC. Now the encrypted economy has done a few episodes, now with Atomyze and Matt Zand on Hyperledger. And this week we continued that trend. Hyperledger is a private blockchain for private.

Um, his theory I'm also has a private network implementation, but I believe that both Hyperledger and Ethereum in the context of private blockchains is only going to grow and accelerate. a lot of focus has been placed on public blockchain, but there is a confusion among policymakers when they refer to crypto.

And when they define crypto, they think of the public blockchain. What they don't think about is the private blockchain. And in fact, many of the things that they propose specifically, some of the proposed changes to IRS. Code[00:01:00] that are just covered in an episode with Sutherland. they believe that they are regulating just crypto, which is in their mind, the public blockchain, what they don't realize is the long-term ramifications on private blockchains.

And in fact, Hyperledger being scooped up in this as well. But back to this week, this week, I wanted to focus on some of the social good that blockchain can bring. And Hyperledger actually made that very easy. Once I started investing in. it was very easy to find the social impact group. In fact, it's an umbrella to multiple different social impact groups underneath that.

And there, their teams are pretty dedicated and are doing a lot of good things and like, oh, it was really interesting. And it was great to find out about, so this was a great episode. I enjoyed it a lot. I hope to learn even more about some of the projects that they're involved in, so they are quite exciting.

And as it gets into it on the spot, So again,[00:02:00] as I always say, do you like this podcast, share, share, share, share it with your friends, share it with one of the people, let's grow it. and you know, we'll, we'll keep building the audience here. So, and with that, I'd bring you Nancy then chairs of, of ledgers, social impact.

This is Eric Hess with the encrypted economy, I'm really excited today to have Nancy min. She's the founder of echo long and the chair of the Hyperledger social impact group.

Welcome.

[00:02:28] **Nancy:** Thank you, Eric. It's a pleasure to be here. Really excited to talk about some of the amazing things we're working on at Hyperledger, as well as that.

[00:02:36] **Eric:** Excellent. Excellent. So, let's begin with your background and Ecolong's as well.

[00:02:42] **Nancy:** Absolutely. so I am kind of a business major that found technology to be really, really exciting and spent my career so far working in the tech space started off at

Deloitte consulting, doing a lot of tech consulting for the federal government, as well as state [00:03:00] and local.

Um, did that for quite a few years and then transitioned it over into, at Columbia where we're working on developing software solutions for the clean energy industry. And one of, as part of my experience kind of stumbled upon Hyperledger. and it's been happily ever after since then.

[00:03:20] **Eric:** Excellent. So, at this point in the podcast, often we give you an opportunity to say to share a singular personal. Has shaped your values, your worldview, who you are.

[00:03:33] **Nancy:** I think that's an excellent point. I wouldn't say that there was one singular event that really shaped it, but a lot of micro events that happen in my life.

Um from the day of sitting in business school and in a finance class, and we were talking about Bitcoin that had just come out during those, those years. it really kind of, I think that was the moment that really sparked my interest into blockchain technology. and then pursuing a [00:04:00] technology focused career.

Um, I kept seeing blockchain technology pop up everywhere and it was kind of like a calling that I must look into this technology and must do something about this. and you know, that's kinda what led me to where we are.

[00:04:16] **Eric:** I think everybody has that sort of rabbit hole moment where you hear it, you hear it and you're confused about it.

You know, it's like, I can't really put it all together. And then there's like, you're just like, gosh, darn it. I'm going to spend the time. And I'm just going to dive in. Right. I mean, there's no other way. It's like, you can't just like, oh, put your toe in. And all I get a little bit, you've got to like it's, there's so much, it's so much like drinking from a fire hose that there's just no.

That you can just tow the water in too hard anyway. So Hyperledger specifically. So, what, what drew you, what's your origin story with Hyperledger itself?

[00:04:53] **Nancy:** So, tracing it back to the college days. So that, that was around when Bitcoin had come out. And I [00:05:00] remember we were talking about with Bitcoin, it's a public blockchain, right?

And there are so many of these different use cases with cryptocurrency. And one thing that we kind of thought was kind of missing. And as we were discussing, the technology is, well, what is the fundamental premise of blockchain technology or distributed ledger technology? And one thing that we identified was that it's really a mechanism of sharing trust and instilling those trust metrics.

And so, I think there was always a little bit of a gap in the industry where what are the different ways that enterprises could actually utilize this trust sense of trust. And so, and as well as from this technology, right, and being able to implement them into some of the

various systems and Hyperledger came out a few years after we were looking into Bitcoin, But Hyperledger was specifically focused on enterprise grade solutions.

And it was about enabling trust for these enterprises, which was, I think, a gap that we saw missing in the industry. [00:06:00] And so I've been following Hyperledger. since the very beginning, when I first heard the announcement, I was really excited about it. But I didn't actually get in touch with the Hyperledger team until I went to a blockchain expo in Amsterdam.

And funny enough, we were looking into Hyperledger a lot, and I was ecstatic about the Fabric project, as well as the other projects that were coming out and stumbled upon the at the expo Hyperledger was ex there. And that was where I met Daniella Barbosa. Who's the VP of worldwide alliances at Hyperledger as well.

Um, she was also a part of Hyperledger, and we were just talking about the different ways to use it. And we were talking about some of the pains that we were having at having at the time of using some of those underlying technologies. and then I got invited to one of the meetups at Hyperledger Amsterdam that very evening.

So, I kind of just got plugged into this and I think one thing that's fantastic about the open-source community. Everyone's so well, And so [00:07:00] like I was going in there and like not knowing anything and not knowing anyone and it was great to kind of get immersed into that community. And since then, I've just gotten more and more kind of ingrained in there.

[00:07:10] **Eric:** Excellent. Excellent. And so, shifting now to Ecolong, how does the blockchain how do DLT technologies factor into what you're doing with E?

[00:07:21] **Nancy:** Yeah, absolutely. So, I think one of the fundamental things about blockchain is it's going from the centralized database architecture that we're all very accustomed to, and it's going to this more decentralized architecture.

What we're seeing in the clean energy revolution is the same exact thing where we used to have centralized power plants. And now with distributed energy resources, such as like onsite rooftop, PV, solar, we're transitioning to a more, much more decentralized way of generating our electricity. from the grid's perspective and one of the growing pains associated with that was our electric power grid was never built with that in mind.

And so [00:08:00] that's an, a gap that we saw blockchain technology as filling, as being able to provide that trust amongst kind of the overall grid perspective, but also helping as an enabling technology towards that decentralized.

[00:08:14] **Eric:** And so how, and so how does your technology facilitate the exchange of, I guess, energy or clean energy amongst participants in the network?

[00:08:24] **Nancy:** Yes. So, the use case that we're building, and we're funded by the U S Department of Energy to develop, this is what we call a peer to peer transactive energy platform. And the real concept behind that is allowing communities and neighborhoods to be able to share their excess energy that they've generated on their own rooftops.

Um, the rest of the community. So as a rooftop solar owner, you can actually sell your energy to your next door neighbor and your next door neighbor who doesn't have rooftop solar, or maybe does, can buy and as well as do the sell transaction amongst that. And it's really just helping to enable. that interconnectedness and resiliency on [00:09:00] a community level is what we found it.

I came along as the founding principal.

[00:09:05] **Eric:** Right, right. And I guess not in many cases enterprises or even residents don't necessarily have the ability to store all the power that they may generate at different times. And so that would facilitate transferring it and crediting it.

[00:09:23] **Nancy:** Yeah, absolutely.

Like if you have energy storage, what you can do is you can do energy arbitrage. You can sell at a good price point in time and be able to buy at a low price point size. But if you don't, you would have the ability to actually monetize the energy that you've created for them.

[00:09:38] **Eric:** Great.

Excellent. So as a confession, I actually have solar panels on my roof, and I sell my energy to another aggregator and get extra credit for it. So, it's worked out

[00:09:53] **Nancy:** well. Let's talk more about that.

[00:09:55] **Eric:** so, so in Y and why do you think [00:10:00] Hyperledger is a better choice for this kind of environment than other public blockchain projects?

[00:10:07] **Nancy:** Well, so I think you know, the public blockchain and then the enterprise permission they all have So many more, so many benefits, and it really depends on how you're looking to apply. And the particular use case that you're looking to kind of satisfy or what the requirements are. I think on the public end, it definitely fills a huge gap in terms of.

You know, enabling everyday users to kind of be really that peer to peer process and, and kind of incorporating those into those things. But I think one area, a couple areas because we went the permission route, or the enterprise grade route is we needed to be able to have very high levels of free throughput.

Um, if you think about energy transactions across the grid there's a lot of transactions that happen, especially as we go decentralized. Uh, and that was an area that we thought made a lot more sense. Another [00:11:00] area is there needs to be governance within these types of solutions governance, from the perspective.

You know, democratic consensus and things like that, but not for it to be a bottleneck for the overall platform. And so those are a couple of things that know we, we saw as the enterprise grade gave a lot of benefits. The other aspect of it was that things like under the Hyperledger umbrella, like Sawtooth, basically.

Fabric and all those they're extremely modular and allow us to really be swapping out things that make the most sense for the use case that we wanted to apply. And so those were a couple of things that kind of really stood out to us as we were developing our solution.

[00:11:38] **Eric:** Interesting. And then in the, like in Ethereum, if you're doing transactions on Ethereum, there's obviously gateway or gas fees, how is that addressed on let's say the, the peer-to-peer energy.

[00:11:49] **Nancy:** Yeah. So, within the Ethereum network you know, you just, like you mentioned, there are those gas fees and things like that for, to kind of facilitate the mining process and et [00:12:00] cetera on a permission network, right? You have more defined nodes and you actually have much more defined consensus method methods.

And the transaction throughput is much higher. So that is not something that is considered as part of this platform. whereas we have more. Organizational partners or consortium partners that are managing the throughput and managing each of those notes that are facilitating some of those orderings.

And so, it's a little bit of a different architecture and it allows us to be able to do more on expansion of throughput. Right. We can get to thousands of levels and not be stuck at 30 transactions per second. it

[00:12:37] **Eric:** Right. And you're not necessarily charging a gas fee per se. You might charge a transaction fee or maybe a monthly maintenance or something else, but it doesn't, it may not have that same fluctuation where you're dependent on sort of the public network.

And then you wake up one morning and you know, you try to do a trade and you're like, what? I was on, I was trying to do a trade this weekend and it was like, it was like, [00:13:00] you know, very, I'd call it a small trade. And it was like thousands of dollars to do it. I'm like, in gwei. I'm like, I don't know. I got to get better at using MATIC, but anyway, we'll put all that to the side.

So, the social impact group that you're a part of now, when was that?

[00:13:18] **Nancy:** So that was actually founded. I want to say 2018. so, it's funny the year before I joined as the chair of the Hyperledger social impact group. and you know, I think a couple of things that really stood out to me about the, the, the project and kind of the mission statement was how do we find PR like ways to.

Like blockchain technology for social good for actually making an impact on the world. And you know, so it was, it was a great initiative and we're still kind of you know, always willing to highlight different projects that kind of do some of these initiatives. And I'd be happy to kind of go a little bit more into some of the projects that we've, we've seen over there.

[00:13:57] **Eric:** Well, we will, we will. So, and, and so, [00:14:00] and, and you're the chair of the social impact group? was this something that you were part of the creation of, or was it already in existence and you just sort of rolled into that role,

[00:14:11] **Nancy:** it kind of rolled into the role. I think there were you know, kind of in transition and trying to grow the community a little bit more.

Um, so I got pulled into it just from my previous interactions with the Hyperledger community. so, it's been a lot of fun.

[00:14:28] **Eric:** Excellent. So, before we start to dig into the sectors and some of the projects, and it's actually very, well-organized like once I started doing some digging, I was like, wow, this is actually, I can put a lot of this together.

So, so kudos on that, you know? And it's formative still, but it was it was somewhat easy to, to, to navigate. So. There's a number of frameworks. You mentioned Besu Fabric Sawtooth...and then there's Aries, Indy and Umbrella.

if you think it might be, make more sense to talk about the different sectors and then back [00:15:00] into the different frameworks, we could do that to your choice.

[00:15:02] **Nancy:** Yeah. Abs absolutely. So, I can quickly kind of brief the sector is a little bit and what we kind of cover and then talk a little bit about some of the frameworks and how we've seen it.

Used a little. so a couple of things that as a social impact, we actually have a pretty broad base of interest because there are so many different ways that you can apply impact projects across different industries. A few of them include agriculture and land rights, climate environment, digital identity financial empowerment, governance, and democracy, as well as health.

And a couple of these actually also do step into some other SIGs that we also have. So, in the climate environment brand what we actually have is a climate action, SIG special interest group that actually specifically focuses on that one and the digital identity. So, we actually have quite a few projects that I'll talk a little bit more about such as the Hyperledger, Aries and Hyperledger Indy, as well as.

Um, [00:16:00] that really kind of focuses on that perspective financial empowerment a lot of great use cases. And that governance and democracy, where we've seen things like voting play a huge role in developing different solutions. And then in terms of health and wellness, we actually also have another sick that focuses on how.

Uh, special interest groups and different use cases. a couple of things that we've been focusing on a lot right now in the SIG, a lot of discussion has been an agriculture land rights. So, with the food and drug administration there's been a lot of movement on how we use blockchain technology as a way of, for example, detecting fraud across the food industry.

There are also things like using supply chain. So, for the food and ag some of the things that we saw with the pandemic, there was a food shortage at a certain point. And that's kind of where it was like, well, how do we get more traceability? How do we actually instill and know what's currently out in the general public [00:17:00] But when we look at kind of the different Hyperledger frameworks and the mapping between those one thing that I will say is like all of the Hyperledger framework projects are extremely modular.

You can actually build any kind of solution on any of them. but there are different ways that the industry has more commonly adopted these solutions. And I can kind of go through that a little bit. So, if you think about like Hyperledger bays or who is one of our newest projects, it's really exciting.

Um, because what we're seeing is Ethereum it's it built entirely on Ethereum, and it is a permissioned enterprise grade version of that. And so, you still have kind of the gas that's involved in that, but overall, like if you have developed solutions on Ethereum, you can. Very easily over and be able to build enterprise grade solutions on top of that.

Um, Hyperledger fabric is one of the older, frameworks that we've had, but not older in terms of the tech stack is still very, very innovative and involved. And this one was the one that is mostly led by the IBM team, [00:18:00] and extremely modular. We've seen fabric be using use cases across. Fabric actually has a food trust, project where they're working with Walmart and quite a few other partners to kind of develop that out on, on that lens.

Another project is Sawtooth and Sawtooth is the one that has led by Intel. And we've seen Sawtooth primarily be applied in supply chain use case. But however, the underlying code is still extremely modular and it's still you know, you can still apply it in different ways of you know, whatever it makes sense, and you can always plug and play with it.

Um, the other project that you mentioned was the areas and indie and areas and MD. So Hyperledger Indy is actually the blockchain, the DLT it's mostly used for did so decentralized identity and areas was built using Hyperledger or N D, but bill has more of a plugin. So, you can plug in, did into say your fabric solution and your software solution or your baser.

It's really meant to kind of facilitate that [00:19:00] identity portion and the access management portion of it. Uh, various things. another project is Hyperledger I Rojas, which is actually mostly for like IOT as well as like different device use case of a blockchain solution. So, I think, try to try to give a little bit of a primer of the different umbrella projects, but there are still so many more that are coming out every day.

Um, and sometimes it gets a little bit hard to keep track and

[00:19:28] **Eric:** track. And, and before we maybe talk about which ones are getting more tracks. Because I also noted some seem to be like, sort of moving at breakneck speed and other ones that were still formative, which you would expect in any system, the, the F you know, in terms of the funding for this, I saw that there are grants that are being applied for, and that's one stream.

Is there like a Hyperledger grant program as well?

[00:19:52] **Nancy:** Yeah, so there's, there's two programs. so, every year there is an internship program. so a mentorship or runs actually the right [00:20:00] term where we actually encourage and Hyperledger will issue scholarships to students that are interested in continuing development and innovation of the various stacks.

Um, as well as like different use cases. So, you can always propose a project and you can mentor students to kind of build out those solutions across the board. Another one, I can't

remember the name right now, but it's a way to actually fund a project. So, it's kind of like the crowdfunding, kind of mentality.

The Linux Foundation actually kind of hosts and you can develop a brand new solution. You can kind of continue to refine some of these projects we've seen, like you know, I think area's had one at Indies might've had one where you can kind of crowdfund. You can get people to donate and, you know and, and kind of help build out the solution overall.

[00:20:46] **Eric:** Excellent. Excellent. So, let's get into some of the meat of these things. So, of these different projects I mean, I, I when I was doing my research, I came across a unit coins. I came across mobi, but we don't have to [00:21:00] start there. Just we can, we can mix those in. So, which one of these social impact projects are getting the most traction and maybe more specifically where the wins, the clear wins are the most.

[00:21:14] **Nancy:** Absolutely. I can highlight a few of them and this is honestly the, like my favorite part of my, my role is just engaging with these like innovative companies that are coming out with really awesome ways that they're making an impact on the larger community. so, one that actually comes right to mind is there is a United nations, digital identity project and as developed by the United nations international computation center and what they did was they took Hyperledger Indie so the DID and as well as some areas asked by sent to us, and they built a digital wallet for United nation personnel.

And it's like a digital wallet that tracks their personal human resources, like medical travel, payroll security. Plan. So, all the way from like [00:22:00] onboarding an employee all the way to be like they're partying and eventually retire. Have them all on Hyperledger enterprises in D. And so, this is a great pro uh, program.

They're actually already in the process of rolling it out across United nations. And this is something that are going to be they are actually already piloting. And so, like that one was one that I would love to hear more about. And they actually presented at one of them. social impact sessions.

So, you can actually see the recording off of our website. another project is all project pecan and this one I felt so much for when they also presented at one of our sessions. So is there a need, so along with national bank of Cambodia part kind of did this pilot project and they're actually rolling this out to, to boost financial inclusion in the unbanked population.

So especially in the rural areas of Cambodia a lot of folks actually don't have a, a bank. They don't have a [00:23:00] checking or savings account. However, they saw an interesting thing where a 50% of the population that actually had a mobile phone. And so, they created project because on the Hyperledger, I Roja to allow them to be able to do transactions and to kind of have a, a bank account without actually having this bank account and be able to so for a lot of folks that are working in other areas to be able to ship money back home and be able to do all those things.

And the pilot for this was of 16 banks and they supported over 10,000 users across the country. So, it was fantastic. Another great project, really excited to hear a little bit more

about and another project that we were, also got to listen to be a carbon tracing project by Covalent so the covalent is a fashion brand that was launched by new light technologies.

And what they did was they actually develop, develop this blockchain project on fabric Hyperledger fabric to track the carbon [00:24:00] footprint and supply chain as part of one of their products, which was air carbon. And so, you can, as a purchaser, you get your unique identity on your merchandise. It could be an eyewear, or it could be a handbag and you can actually trace and track.

Uh, that your carbon footprint from, from buying that. So that was a couple of different, really cool things that happened. And it's happening right now. it's not project. You know, we have to wait a very extended period of time to see, to come fruition. You know, folks are actually doing this and they're really leveraging these things.

[00:24:30] **Eric:** Excellent. Excellent. So, so to kind of go back to the, the one you started with the United nations. =

[00:24:36] **Nancy:** Yeah. They have quite a few projects. So, the United nations, I think, has been really kind of on the forefront of blockchain technology.

Um, they've been very inclusive, and I know they had quite a few challenges where they're challenging the United nation teams, like across their various teams to come up with different ways to build on top of blockchain tech.

[00:24:53] **Nancy:**. And one of, so they were talking about some of the pain points that they had, right. So United nations is all across the world and they often have [00:25:00] issues like tracking where everyone is. And for first, like for safety purposes too. and so this was one of the solutions that they came up with to be able to kind of make sure that every, all their personality.

And they knew where they are and stuff like that.

[00:25:13] **Eric:** Yeah. Oh, great. Great. Excellent. and then, another one that was noted was the sugar industry.

[00:25:24] **Nancy:** Yeah, so, so ripe sugar. So, they, they, yeah, we, we also got to kind of hear about some of the things that they were doing in third world countries.

Um, and they were doing some supply chain related stuff. So that's also available as a recording on our community presentation. So, if you guys are interested in digging more deeper into that, please do check that, that recording

[00:25:42] **Eric:** out. Excellent. So, so, and then thinking across these different projects, one of them is, is sort of supply chain tracing with the social, but the environmental impact.

Another one is knowing where the people the people in an organization are over the world all over the world, [00:26:00] obviously providing banking or allowing people to sort of capture I guess, money and remittances into their wallets. Are those the most compelling areas or are there still other areas as you look ahead for social impact, you say, this is great.

We can this is not, but, but, and this is where I think the next big wave is going to come. Like where do you think the next big wave is going to come in terms of marrying the goals of social impact? Distributed ledger, blockchain technologies.

[00:26:33] **Nancy:** I think you like raise a really good point.

So, like social impact can really be realized in, I think any industry vertical and across many different projects. kind of finding that fit where you're, you're developing it for, kind of the, the mission statement of the project. but you know, the stuff that I highlighted surely is not kind of the end all be all.

So, things like voting rights. So, and I think in Oregon, they had [00:27:00] two projects where they were looking at, how do we track and trace each boats and ensure like that those are. Uh, verifiable and certifiable. So that's definitely in the government piece in governance that's I think going to be a huge push with some of the future projects.

Um, another one that we're actually incubating as part of the social impact special interest group is the giving chain. So that is going to be focused. It's a project that's led by Bobby Mascaro. Uh, she's also a part of the technical steering committee. she is right now kind of focusing on charitable gift giving.

So how do we really track and trace. each of the items and as you do donations across the board and she's also focusing one on women's products as well as food from access farms and different areas. So, there's quite a couple of different areas where I think You know, in the future, we're going to be seeing more and more of and, and I think [00:28:00] there's always room for innovation, always room for new ideas to come out across these boards.

Um, and, and definitely I really appreciate Eric, you are highlighting this because this is just such an important field that people don't quite notice yet. but I think things are going to change. One thing, I think in particular that we're right now in discussions with is corporate socially responsible.

Um, we've seen a lot of that happening over the last few, few years and that growing awareness of this. but there's an aspect of it is how do we actually track and trace the impact as well as the different social responsibility goals that companies have. but being able to kind of see those in, in reality and that is something that's actually led by the climate action group.

Um, we're speaking with them about doing collaborative. On how we can kind of realize that in, in the European union this is actually a current policy and legislation that they're looking to roll out is [00:29:00] ma ensuring that corporates, are actually fulfilling some of their goals.

[00:29:06] **Eric:** And so how does like a distributed ledger technology facilitate you know that effort?

Yeah.

[00:29:13] **Nancy:** So, one of the ways that it can be done is really helping to manage and track and trace in a transparent manner. each of the things like, such as like if you went to you know, we had a goal of a hundred or a thousand hours of community service, we can track those hours and be able to kind of in transparently kind of relay that information to the public and be able to kind of ensure that we're, we're meeting those metrics.

So those are one of the many ways, but there's also like emissions, right? Like we're reducing. our emissions there's, we can look at track and tracing for those and be able to also share those responsible, right.

[00:29:50] **Eric:** So, so for like different corporations, I guess, to the extent that they were had implemented this tracking in a way that wasn't just, we are telling you, but you [00:30:00] could actually verify it through DLT technologies.

You could actually almost, I guess. Yeah. Real-time in terms of when it's reported be able to, to, to capture that and report it maybe in a more standardized way and maybe as more sort of like socially responsible companies. And this is, these are the ones that we verified. So, these get it’s, it's almost like maybe even a grading standard, right?

Where some, some corporations having fulfilled their social goals by through these DLT technologies, we're able to verify it would have a higher grade than those. Did lip service and didn't do anything

[00:30:37] **Nancy:** exactly

[00:30:39] **Eric:** interesting. I could definitely. And I, and I, and I guess given the widespread adoption of Hyperledger in the enterprise space, do you see that corporation sort of turning, like looking at Hyperledger as being the ideal framework or do you see them looking.

Hyperledger Besu, [00:31:00] or do you see them thinking public blockchain? Like how does as we start to move towards something where maybe we're trying to create I'm not going to say standard, but a way of capturing whether these goals are being met are, are, are one of these tech, is it public, public?

Well, I call it Besu public private, or private blockchain, which one do you think sort of make sense? Which, which, which tool is right for the job?

[00:31:26] **Nancy:** Well, I think for each of the use case every there's different ways that you can implement them. I think one thing that this industry has been focusing on, I think really rightfully so has been on interoperability.

And it's really hard to say that there's one solution that fits all. It's hard to say that all solutions fit all. but you know, I think interoperability across the different DLTs or across these different protocols, that's going to be a huge area of development. And we actually have quite a few projects under Hyperledger that is focusing on some of those [00:32:00] things.

Like the, the recent one that came out is Hyperledger Firefly, which is focusing on kind of abstracting out the smart contract. and making it kind of like blockchain agnostic too. and

then and, and so I think some of those things you know, that's going to be like a huge area of focus.

Um, and you know, once we figured out the interoperability issues things like the plug of public blockchain can easily be integrated with private and there's really no need for the, for one solution, but we can, we can facilitate it across the various solutions.

[00:32:34] **Eric:** Yeah. I mean, I, I, in, in my view, Private blockchains or these more private networks proliferating even much more.

So, like everything that's going on with the theory I'm on the public, blockchain is just going to drive even more private blockchains because there's going to be more compelling reason to sort of have these. I don't know if they call it an enclave or something that's more secure or maybe it's members only it's permission really it's permissioned

So [00:33:00] What what's the come with the Hyperledger SIG group. What's w what, what should we be looking for? Yeah.

[00:33:07] **Nancy:** So, I think one thing we're right now, kind of transitioning a little bit I think there has been a recent push for us in our kind of community to move a little bit more towards agriculture.

Um, and so we're seeing more and more of those use cases, a lot of our discussions, agriculture, as well as circular economy. So that kind of that entire full story. kind of process. So definitely be on the lookout for us we're going to be doing a little bit more on that.

Another thing that we're, we've been kind of focusing on is also looking at creating kind of hackathons so that we can kind of foster more of the community involvement into the various aspects of Hyperloop. so, a couple of things that we're, we're doing, so we actually should be coming out with our part two of our circular economy blog posts.

We actually have a four-part series. We released our part one over the summer. Uh, part two should be coming out over the next [00:34:00] month or two.

[00:34:01] **Eric:** Okay. Well, we got, we were going to have to get some links to, to drop them in the show notes so people can, can follow up. anything that I should have covered here today that I did.

[00:34:11] **Nancy:** Not, no. I think we went through everything that this was a lot of fun. and, and definitely have glad you know, thank you for highlighting some of the work that Hyperledger has been doing. Hopefully we get more, more groups involved in this and,

[00:34:27] **Eric:** and before we go, I'm going to actually go back to mobi, which I raised, and we didn't follow up on.

So, what is mobi?

[00:34:33] **Nancy:** So, moly actually is an initiative in it, open source initiative that is Le led by Advantra. and she's been focusing on the transportation industry and how can we

really kind of develop out open standards? Using blockchain for the for transparent for transportation and one.

Um, so we're actually, this is going to be an upcoming meeting that we have at the end of September. [00:35:00] And so she'll be kind of going kinda more deeply into the use case. So, I don't want to give too much away before she does.

[00:35:07] **Eric:** I'm too ahead of it. I'm jumping ahead. I'm jumping ahead though.

No

[00:35:10] **Nancy:** worries. But please do feel free to drop a link to the meeting. Happy to kind of thank you so much for bringing that up so that we can advertise this beforehand.

[00:35:21] **Eric:** That's right. It’s coming up. If you want to learn more about mobi. So where can people find out more about you Ecolong and Hyperledger?

[00:35:29] **Nancy:** Yeah, so feel free to connect with us on, on LinkedIn. So, the Hyperledger SIG actually has a LinkedIn page, a company page and we also have a Wiki page that we use to kind of, and within that Wiki page, we actually built a new member center. So, if you're new and you're trying to get plugged into Hyperledger for social impact feel free to check that out.

Uh, and if you're interested in Ecolong you know, happy to share our website, as well as our company page with somebody.

[00:35:57] **Eric:** Excellent. Nancy. Thanks so much for coming on [00:36:00] the show today. It was great. Yeah, Eric,

[00:36:01] **Nancy:** thank you so much. It was a pleasure. Thank you.