

BAREFOOT INNOVATION PODCAST:

DANIEL GORFINE,

CHIEF INNOVATION OFFICER AND HEAD OF LAB-CFTC

THE COMMODITIES FUTURES TRADING COMMISSION

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(Note that transcripts may contain errors and timing notations do not match the recorded podcast)

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| Jo Ann Barefoot: | 00:01 | I have been looking forward to today's show for a long time because I have the greatest guest, Daniel Gorfine, who is the Chief Innovation Officer of the CFTC and also the Head of Lab CFTC. I'm so excited to have you on the show. Welcome. |
| Dan Gorfine: | 00:19 | Thank you so much. It's great to be on with you. |
| Jo Ann Barefoot: | 00:21 | We are fortunate that this is our second Commodities Futures Trading Commission show, and we had your chairman last year, and we will link back to him in the show notes, Christopher Giancarlo. I have to say, as I did in that show, he was the most visionary agent we've had on innovation, anywhere frankly, that we've had on the show, but it's bigger than that. |
| Dan Gorfine: | 00:46 | Well, and Jo Ann, I'm going to jump in and just say that I completely agree with that. From my background, having been in the thin tech world for a period of time, I paid close attention to some of the most forward-looking policy makers in DC who really had a sense for where the world was heading, how the internet technology and digitization is really impacting our markets, and definitely Chairman Giancarlo is I think one of those leaders in Washington. For the same reason that I think you wanted to sit down with him, I was keen to come work with him. |
| Jo Ann Barefoot: | 01:19 | I absolutely see it. He made the statement that every regulator has a top priority of moving their rule book from analog to digital form. It was such a strong unequivocal statement about the importance of the technology. It was just fantastic. |
| Jo Ann Barefoot: | 01:40 | He also in that show talked to us a lot about the CFTC and its scope, so you and I should keep that part short, because we want to cover what you're doing, what the lab is doing, |

including some really exciting initiatives underway, and then you and I also are going to talk about something that we've spent quite a bit of time on in the past about the difficulty of innovating inside a federal government agency because of a lot of well-intended but complicated process issues. I think it'd be really interesting for our listeners to hear about that.

Dan Gorfine: [02:18](#)

Oh, I look forward to it. You frame it very well.

Jo Ann Barefoot: [02:20](#)

Okay, great. For starters, let's hear about you. You used to be at On Deck. Tell us your story.

Dan Gorfine: [02:27](#)

Okay. Well, let's see. I'll say since this is an innovation community that listens to your podcast, I'm tragically a lawyer by background. No, I began my career at a law firm here in Washington DC, but then had an opportunity in 2011 to join a think tank that had just created a new center for financial markets here in Washington.

Dan Gorfine: [02:49](#)

I came onboard to serve as legal counsel and then also to do financial market policy work. At the time, 2011, we had a bit of a whiteboard since we were a new think tank in DC. There was already a lot of coverage of things like Dodd-Frank and housing finance reform, so trying to figure out what's new on the horizon.

Dan Gorfine: [03:09](#)

That started around the time that the Jobs Act legislation was moving through congress in a bipartisan way. We saw in the Jobs Act some really interesting new dynamics that dealt with, in my view, the first time that Washington was grappling with the role but the internet was increasingly playing in financial markets and services. The Jobs Act had things like crowdfunding portals and online accredited investor, venture capital style portals, and something called Regulation A+, this mini IPO exemption that could be utilized in interesting ways on internet platforms.

Dan Gorfine: [03:46](#)

We did a lot of think tank work on the Jobs Act, and then as I said, stepping back from it, started saying, "Gosh, what is the internet doing in other areas, well?" You've got the capital raising piece, and we were looking at things like crowdfunding portals and asking, "What are these? Are these broker dealers, as we would traditionally understand them? Are they something new? Are they something different? Do they require a different look from a policy perspective?"

Dan Gorfine: [04:10](#)

If you look at the role of the internet, and then you apply it across other areas of financial markets and services, you would see similar themes or threads along the lines of digital

currencies, digital payment platforms, online lending platforms, robo advisory. Many of these were grappling with the same sets of policy and regulatory questions, but also really demonstrated the ongoing impact of the internet.

- Dan Gorfine: [04:35](#) We built out in 2013 one of the first fin tech programs, which then took me to the world, as you just mentioned, of thin tech lending. I joined On Deck, a small business lending platform soon before their IPO, and it was a wonderful experience and opportunity to see a few things. One is the startup world, getting to a more mature point and what that process looks like, but also gave me a front row seat as to how innovations and how these new technologies are squaring with existing rules and regulations at the state level and at the federal level. It was really a very valuable eye-opening experience.
- Dan Gorfine: [05:16](#) That ultimately brought me here, and for the same reason as you just mentioned, Chairman Giancarlo and his vision for building out what it means for a federal financial regulator to have an innovation initiative office hub that can really help to promote market enhancing innovation and building out what that model or blueprint could look like.
- Jo Ann Barefoot: [05:36](#) You and I got to know each other when you were at On Deck, and I was so excited when I heard that you were coming here. As most of our listeners know, all the US federal agencies pretty much now have some kind of an innovation initiative and they're all wonderful in their own ways, but yours is unusual I think in bringing in somebody from the thin tech innovation world to lead it. I'm sure that creates lots of special opportunities and probably some challenges, too, to navigate the federal rules. It's been really fantastic for you to be here.
- Jo Ann Barefoot: [06:14](#) Let's spend a minute on the CFTC just because it's not just pork bellies anymore, right? Talk just a little bit about the scope of what the CFTC regulates, and mention a little bit the role with ICOs.
- Dan Gorfine: [06:31](#) Yes, yes, no, absolutely. I think that the simplest way to explain the landscape is when you think about capital markets or financial markets, stocks and bonds are regulated by the SEC, the Securities Exchange Commission.
- Dan Gorfine: [06:44](#) CFTC oversees swaps, derivatives, futures markets, which in many cases, you're dealing with underlying commodity-based products, so things like oil futures or agricultural based futures and derivatives products is what CFTC is traditionally known for.

Dan Gorfine:	<u>07:04</u>	These markets play a really important risk transfer and hedging function that has a real world impact. For example, farmers may want to hedge risk around what the future demand or price is for their agricultural products will be. By having risk transfer hedging instruments available, it can help ensure their activities and operations, which gives them stability.
Dan Gorfine:	<u>07:27</u>	That's part of the reason why we've been able to provide stable agriculture, farm products to market for Americans. It plays a very important role. There's always been a lot made of certain airlines, for example, that had enabled to use oil futures products in order to hedge fuel costs. That can help stabilize and normalize business activities.
Dan Gorfine:	<u>07:49</u>	Also, what you're referring to is that over time, you've seen the increased financialization of CFTC-regulated markets, so there's a broad range of instruments that are traded in our markets, including things like interest rate swaps that can help to mitigate some of the risks around potential rises or fall in the level of interest rates. All of this ultimately impacts Americans when you think about mortgages and mortgage products. The stability in mortgage rates has a lot to do with the ability of banks to hedge some of the potential risk in interest rate movements.
Dan Gorfine:	<u>08:26</u>	Going further, you mentioned virtual currencies and this space. Back in 2015, the CFTC determined that virtual currencies like Bitcoin are commodities. The definition of commodity under the Commodity Exchange Act is quite broad, and so that immediately brings in from our perspective the application of the Commodity Exchange Act to Bitcoin.
Dan Gorfine:	<u>08:52</u>	If you're creating futures products, options products based on or predicated on Bitcoin, a commodity, that then triggers our rule sets. That means there are certain exchange listing requirements, there's product requirements, and it positions the CFTC as the regulator that provides oversight of those particular markets.
Dan Gorfine:	<u>09:13</u>	It's important to note that we do not have direct oversight or regulatory authority over the underlying spot markets, so people who are cash trading in Bitcoin, we do not regulate those exchanges. We do have enforcement jurisdiction over potential fraud and manipulation in the underlying market, but that's distinct from oversight and regulatory authority where entities come in and license and are subject to annual potential audits or compliance exams.

Dan Gorfine:	<u>09:44</u>	That's how we've been brought into this world of virtual currencies, and as I'm sure you can imagine, since the launch of Bitcoin futures products at the end of 2017, we've seen a lot of activity in this space. It certainly demonstrated why it was quite prescient for the chairman and the commission to create something like Lab CFTC to make sure that we can stay at the forefront of innovations, make sure we understand what's happening in the marketplace, and keep pace.
Jo Ann Barefoot:	<u>10:13</u>	Yes. I think it's fair to say that there's widespread admiration for how you have handled these very novel mold-breaking issues and a lot of appreciation for the fact that you're enabling innovation to go forward while still putting some framework around it to protect markets.
Dan Gorfine:	<u>10:13</u>	Yes.
Jo Ann Barefoot:	<u>10:33</u>	We may circle back to the initial coin offering topic, but let's talk about Lab CFTC. Tell us what it is and how it works and what you're trying to do.
Dan Gorfine:	<u>10:41</u>	Yes. Look, I won't be able to say it as well as the chairman put it when he was on with you a few months ago, but Lab CFTC is really built out of the idea that technology is here to stay and it already is having a dramatic impact on our markets and it will probably even more so have that impact going forward. The focus of Lab CFTC is dual-fold. One is on the external side, it's built to facilitate market-enhancing fintech innovation, and then on the more internally facing side, ensure that we have the tools and understanding to keep pace with innovation so that we can be a proactive regulator, skate to where the puck is heading, which is probably something you have heard from the chairman, and that's critical because five years from now, the world is going to look dramatically different. If you're only then starting to react to a changed world, you're going to probably not be best positioned to formulate the best policies of the time that can help encourage what you want to be seeing in the market, and also preclude, limit, or police activities that you know you want to reap out of markets. That's the high level of what we're all about.
Dan Gorfine:	<u>11:54</u>	We have three primary work streams that we pursue in order to satisfy that broader mission. The first one, which is really our bread and butter, is something that we call Guidepoint. This is the engaging prong of Lab CFTC. We spend countless hours in various cities across the US. We've been to Boston, Chicago, New York, DC, Silicon Valley, San Francisco, meeting with

innovators to learn about what they're doing. When I say innovator, that means startups to established financial institutions, regulated entities, technology companies. Anybody who's using technology to do innovative things in our markets, we're interested in talking to them.

- Dan Gorfine: [12:35](#) Again, back to that value proposition, it's twofold. For us, we get to learn what's actually happening and where markets are heading, and then for those who meet with us, for some that are truly startups, they might want to just understand Washington and be able to navigate the alphabet soup, or I think Jo Ann, as you and I just heard in London, it was referred to as the alphabet spaghetti.
- Jo Ann Barefoot: [12:56](#) That's true, we did. We'll talk about that. We both were in London just last week actually, as we're recording this, for the Financial Conduct Authority tech sprint, on AML.
- Dan Gorfine: [13:05](#) Well, and I laugh because whether you call it an alphabet soup or alphabet spaghetti, the point is it's confusing for a lot of innovators and even regulators to navigate our landscape. If we can help provide feedback guide posts as to how our rule sets may apply to certain activities and when folks should be talking to some of our peers and other agencies, that's something that we can provide, which saves innovators time and resources.
- Dan Gorfine: [13:29](#) Others may come in and flag for us areas where there's ambiguity in rules, there may be friction in rules, and then we can internalize that. We have something called the Lab CFTC Liaison Network, which is senior reps from our various operating divisions who help provide us with subject matter expertise, but we can also run these types of issues through the divisions. Perhaps no action relief is appropriate. Maybe we need new interpretations, guidance, or even rule makings.
- Dan Gorfine: [13:57](#) A simpler idea of how we can respond is at the end of last year, actually in October of last year, Lab CFTC published a primer on the topic of virtual currencies, and that was in response to questions we were frequently getting from innovators. They were asking, gosh, and trying to navigate how regulation applies to virtual currencies, where does the CFTC fit?
- Dan Gorfine: [14:18](#) The primer sets out our understanding of what is the technology, and then the second piece is why does it matter to the CFTC, how does it implicate our jurisdiction, and then the last piece are what are some of the risks and challenges that folks need to be made aware of. That's an example of us trying to be responsive to the community.

Dan Gorfine:	14:35	A good friend of mine at another sister agency once said that regulators too frequently either say no or don't say anything at all when asked questions. This is a way to facilitate an ongoing dialogue and communicate. That's all the first prong, Jo Ann.
Dan Gorfine:	14:53	The second piece of what we do, which I'll talk about briefly because I think we'll come back to it, is the idea that we can identify, incorporate and foster certain promising technologies. As we identify things in the market that could make us a more effective or efficient regulator, we should certainly use that to inform our own internal technology strategy, but we can also use things like innovation competitions to actually support and nurture certain types of innovation. I'll leave that piece there.
Dan Gorfine:	15:21	Finally, the last prong of what we're doing, and it's probably the area that I've become most excited about during my first year here at the CFTC is something that we call Digital Reg, but it's essentially an in house think tank function where we spend a lot of time with staff and colleagues helping to educate about what we're seeing and learning about in the market. Ultimately, that's what has the multiplier effect and can really help impact culture at an agency as to keep everybody here informed as to what's going on. It allows for better policy making down the road.
Jo Ann Barefoot:	15:58	I was going to ask about that.
Dan Gorfine:	15:58	Yes.
Jo Ann Barefoot:	15:58	How big is your team?
Dan Gorfine:	16:00	There's now five of us working within this core Lab CFTC team, but again, that Lab CFTC Liaison Network is critical.
Jo Ann Barefoot:	16:09	That's what I was going to say. Talk a little bit more about how the hub and spoke system might-
Dan Gorfine:	16:14	Yes, it's a great question. One of the things that I can say about these innovation efforts or offices or initiatives is that a risk is that they become siloed.
Jo Ann Barefoot:	16:24	Yes. On the other hand, if you don't wall them off a little bit, they get smothered.
Dan Gorfine:	16:30	Well, that's a good point. It is about striking that right balance. What Chairman Giancarlo I think very thoughtfully launched Lab CFTC out of the Office of General Counsel, and part of the

reason for doing that is that the Office of General Counsel serves the broader commission and all operating divisions.

- Dan Gorfine: [16:52](#) That's the right way to think about this is as a resource for the agency that can support and enhance the work of our operating divisions and the commission. Obviously being born out of the Office of General Counsel, we have that same approach.
- Dan Gorfine: [17:09](#) The hub and spoke is that having subject matter experts from within the operating divisions obviously benefits us, because it's the subject matter expertise that we need. At the same time, it also allows information flow to pass through into the operating divisions to make sure it's benefiting their work.
- Dan Gorfine: [17:27](#) I think that's a very, very thoughtful design, and it's really important to design it that way. If you are too walled off as a separate entity, the rest of the agency over time won't see the value and impact that you can have, and you won't be able to help inform your colleagues in the right way.
- Jo Ann Barefoot: [17:45](#) Yes, exactly.
- Dan Gorfine: [17:46](#) I think design is really important. Now, of course, there are many different ways to think about doing this, and I'm sure that there are always ways to improve it. I think we've been running for about a year now and I think we've been able to learn from that process. Some things have become very clear, including the value of liaison networks and getting those types of folks involved.
- Dan Gorfine: [18:08](#) It's not something that you can measure overnight in terms of the impact that you're having, but really empowering people with at least the knowledge to be able to suss out where are there innovations that are really interesting and worth taking a look at, and where is there puffery. Where is there a lot of smoke and mirrors?
- Dan Gorfine: [18:27](#) That's another really important part of this type of a function is being able to provide some grounding as to where we really are today and not necessarily buying into hype cycles, because those will come and go, but really making sure we're staying attuned to the real trends that we're likely to see impacting us five years from now I think is a really important function of what we do.
- Jo Ann Barefoot: [18:49](#) Yes, that's fantastic. There's no substitute for having the really passionate support from the head of the agency. I know that

that gets everyone at the agency interested in the innovation work.

- Dan Gorfine: [19:01](#) Absolutely. No, listen, as they always say, the tone from the top and having that type of support for this type of an effort is critical. Look, Chairman Giancarlo has been very much a visionary in this space. I would also just commend our entire commission, previously, Commissioner Bowen and now Commissioner Quintenz and Commissioner Behnam. Everybody's been very supportive of this type of an effort and I think see the value in this type of an initiative ensuring that we do have tools and understanding to keep up.
- Dan Gorfine: [19:35](#) That's something that I think will become increasingly critical given the need for technological literacy. You cannot be a business leader, regulatory leader, any type of a leader today without really understanding the core technologies that are powering our business models because likely, they'd be one of the greatest sources of risk. If you don't understand what's actually powering markets, business operations, and activities, hard to regulate it, hard to manage the business, and hard to run the business. It's important.
- Jo Ann Barefoot: [20:07](#) It's only going to keep speeding up, so absolutely.
- Dan Gorfine: [20:09](#) I fear that's true.
- Jo Ann Barefoot: [20:12](#) Let's turn to this particular initiative that you have pending now on your science prize competition. This is such an interesting approach. Tell us about it.
- Dan Gorfine: [20:22](#) Yes. It is very exciting. Folks usually think about maybe it's DARPA or NASA and some of our science agencies, thinking about using competitions and challenges as ways to solve really difficult public policy challenges or just broader challenges.
- Dan Gorfine: [20:42](#) As we began scoping what types of tools do we have at our disposal that can help us really facilitate innovation, showcase innovation, and learn about what can really impact and improve our operations, our activities, or our markets, we found the [Science Prize Competition Act](#), which is a pretty broad authority that allows an agency to conduct innovation competitions to solve challenges.
- Dan Gorfine: [21:10](#) [One of our colleagues on the Lab CFTC team, Brian Trackman, he's our attorney lead and did an excellent job of sussing out what is it that we're able to do through the Science Prize Competition Act, what leeway do we have and flexibility in](#)

running a competition. From there, we started thinking about, well, what are some of the topics that might prioritize to do a competition?

- Dan Gorfine: [21:33](#) Then, we kind of hit the brakes, because we started thinking about things that we thought were really cool, that we thought would be really interesting to have folks compete over, but we realized that that's what we think. That's not necessarily what the broader community might think, the innovation community might think. We thought, "Well, why don't we slow this down for a minute and actually try to crowdsource ideas, get public feedback as to where the broader community thinks that innovation could improve our markets or improve CFTC activities and operations?"
- Dan Gorfine: [22:05](#) What we did a few weeks ago is put out a public request for comment or request for input where we are crowdsourcing substantive ideas and topics for an innovation competition and seeking out ideas around process of how would we run such a competition.
- Dan Gorfine: [22:23](#) Jo Ann, you just mentioned we were in London just last week, but we certainly here at Lab CFTC have been looking at our peers across the ocean at the Financial Conduct Authority for a number of years now, because they've done an excellent job engaging with innovation both on the thin tech and reg tech side.
- Dan Gorfine: [22:41](#) The Financial Conduct Authority just wrapped up a tech sprint or a hackathon on financial crimes and anti-money laundering, and it was fantastic to learn from them as to how they conducted such a competition. Hopefully we can learn from that and build on it when we do a competition, whether it's later this year or into early next.
- Jo Ann Barefoot: [23:02](#) This show with you is going to air shortly after the one that I recorded on the last day of the tech sprint in London with the two leaders of it, Christopher Woolard and Nick Cook.
- Dan Gorfine: [23:16](#) Oh, that's not fair. They have better accents, Jo Ann. I can't come after them.
- Jo Ann Barefoot: [23:19](#) That's true. It's a lot to compete with. You're right. We have prior shows with both of them individually actually, as well, which I'll link to. Everyone should be sure to listen to this one because it talks about the regulatory process innovation over and above the regulatory content innovation, and they're both

enormous challenges, which is going to take us in a couple minutes to this other realm that we want to talk about.

- Jo Ann Barefoot: [23:49](#) Talk a little bit more, then ... You're open for comment. One thing we want to do is encourage everyone to comment on this, to be in the crowd that's going to crowdsource this. How long is the comment period open?
- Dan Gorfine: [24:01](#) Thank you. We're open for 90 days, which gives you I believe until the end of July, so I think July 24th is the date. You can find this if you go to the CFTC website. Maybe we can provide a link to you, Jo Ann, as well, for our listeners.
- Jo Ann Barefoot: [24:13](#) Oh, absolutely.
- Dan Gorfine: [24:15](#) There's a simple page on our noticing comment platform where you can submit your feedback. Again, we've published a little, it's about a five page paper that lays out some of the areas that we thought were interesting, things like data visualization tools, for example.
- Dan Gorfine: [24:33](#) We publish a lot of data around our markets, but are there other public data sets that you could combine with our data set and add some visualization tools that would help to better explain our markets? That seems like a ripe area. Where could machine learning aid, whether it's supervision, surveillance, or just general operations of our markets? Maybe that's a ripe area. Machine readable rule books or machine executable rule books, could we do some work in competitions there?
- Dan Gorfine: [25:01](#) These are just some of our ideas, but we want to get people's thoughts on either of those or others that we haven't thought of yet. It can be simple. You can submit a paragraph. You can submit a 10 page paper. We'll read it. It will help to inform what our competition will look like, so it's a real opportunity I think to start channeling some energy into how innovation can really improve a federal financial regulator.
- Jo Ann Barefoot: [25:24](#) Have you gotten far enough along that you know what the prize in the prize competition may look like?
- Dan Gorfine: [25:30](#) That's a great question. We're even soliciting feedback on that front. We are not inclined to offer any type of a cash prize, but we do suggest in our paper that maybe one of the things we offer is that you become the CFTC Innovator of the Year. That's one thing that we've suggested, but there's a lot of different ways that we can think about prizes.

- Dan Gorfine: [25:53](#) The broader recognition, and I think Jo Ann, we saw this when we were in London, participating in this community and getting your ideas out there and demonstrating in a very tangible way how technology can improve markets or improve the activities of a regulator, it's really valuable. I think that the competition itself is quite rewarding for those who participate, but again, we're open to moon shot ideas as to what we can do for prizes.
- Jo Ann Barefoot: [26:23](#) That's fantastic. It's worth taking a moment to say, and I know we both feel this way, that part of what was showcased and actually further developed in the London events last week is this premise that to make progress, we have to have more collaborative activity. You have to get people who care about these issues in a room together.
- Jo Ann Barefoot: [26:50](#) The format that the FCA has been using is what they call a tech sprint. I always like to point out that that is a hackathon, but they're regulators, so they don't like the word hack, but they're actually putting together regulatory and financial experts, this one was about anti-money laundering entirely, putting them together with people who are writing code, giving them specific problems to tackle, and then they work day and night. We had 16 teams around those tables actually trying to begin to jump start new ways of tackling these things. The magic of it is the cross functional connection.
- Dan Gorfine: [27:33](#) Absolutely. I was just going to say what comes to mind is cross-pollination of ideas. Here's why, to double down on your point that collaboration is critical is the reality is our markets, our economy, everything is becoming more technical and more specialized. That runs a certain risk, and the risk that I see there is that do people, and especially within the technology and innovation community, really even know where there's opportunity to use technology to improve certain processes?
- Dan Gorfine: [28:09](#) CFTC markets and derivatives markets, there are many who probably don't have familiarity with it. I was glad we were able to give at least a little bit of an overview at the outset, and really understanding how do our markets operate. Let's talk about thinking about the roles of exchanges, the intermediaries, the trading platforms. There's a lot of areas that unless you have specific subject matter expertise, you wouldn't even know where to begin to think about applying technology to innovation. Cross-pollination becomes critical.
- Dan Gorfine: [28:37](#) If you bring together market participants, regulators, innovators, technologists and the market participants or the regulators and

some of the subject matter experts of a particular part of an economy or of an industry, can point and say, "Here's what we're doing here. Where can we improve that?" You might all of a sudden have a light bulb go off with a technologist who says, "Oh my goodness, we've had a technology built for 10 years now that we've been applying in a totally different setting, but if we were to tailor it to this, we could solve this and create a more efficient, more transparent market today." I think it's imperative.

Jo Ann Barefoot: [29:15](#)

Yes. That's a great segue into this other topic that we want to tackle, because you came into the government, as you said, you're a lawyer. You understand the legal world, but nevertheless, if anyone would put themselves in your shoes, I'm going into this federal agency and my job is to foster innovation, share, and rethink roles and so on. You are not the only person I know in that role, that kind of role who has said it is so difficult to move in these agencies.

Jo Ann Barefoot: [29:52](#)

I want to say first, this is not anybody's fault. I've been in and around Washington for a long time. There's a good reason for the process rules and laws that we have in place because whenever you have government activity, you've got to worry about undue influence, inappropriate spending, backroom conversations that ought to be in the sunshine and so on. Nobody thinks we should eliminate those things, but on the other hand, I will say this because I'm not going to ask you to be quite this blunt, our process is almost moribund.

Jo Ann Barefoot: [30:33](#)

I talked to one agency that was interested in really thinking about bringing some technology into a key regulatory area, and we were talking about a specific example. They were enthusiastic, and somebody sat across the table from me and said, "If we decided to do that today, we would have it in eight years." Procurement, collaboration. Talk about that.

Dan Gorfine: [31:04](#)

Yes. Well, let me say one thing at the outset and just tell you where I completely agree with you, and then one thing at the front end, it's been impressive, and again, we're talking about Office of General Counsel and how Lab CFTC is housed within the Office of General Counsel. Our colleagues there have been excellent in helping us to try to navigate rules and regulations that are in place around what we can and can't do. As you say, and I totally agree, a lot of these things are in place for very good reason.

Dan Gorfine: [31:34](#)

Now, of course, things like Lab CFTC try to figure out, "Well, what can we do? What authorities do we have?" That's where

we come up with things like the Science Prize Competition Act that we can do innovation competitions, which is very exciting. I will say I've been impressed with all of our colleagues who have helped us get to yes where we can.

- Dan Gorfine: [31:51](#) Now, to the broader point you're making, though, where is there a gap? Where are we really unable to really get involved with technology? I would say let's broadly talk about research and development and testing, okay?
- Jo Ann Barefoot: [32:09](#) Yes, which is crucial.
- Dan Gorfine: [32:11](#) Crucial. Historically, you thought about this in the context of the science agencies. You would think of NASA needing to have special labs, and certainly DARPA in the defense space, you want the best and brightest working in the labs on the latest technology to make sure we can deploy it.
- Dan Gorfine: [32:32](#) I think what's happened is because we've been talking about how pervasive technology is today, including now within financial markets and services, it is equally ... Well, I don't want to say equally, but it is imperative that we have the ability to interact with that technology to really understand it.
- Dan Gorfine: [32:50](#) Let's just start with basic understanding, because we have through Lab CFTC, we meet with wonderful innovators. Folks will come in and they'll give us a demo or they'll put up some slides that explain what the technology does, and a lot of times, it's really promising. It looks great. Now, do I really, really understand what's under the hood and technology? No, I'm not going to get that from that type of a demonstration.
- Dan Gorfine: [33:15](#) Then, you ask, "Well, how do you then get engaged with the technology to really understand its benefits or how it might impact your markets?" Well, that's where we're running into challenges at the regulatory level, and here's why. Things need to fit into a particular authorized way to engage with technology.
- Dan Gorfine: [33:34](#) You mentioned procurement. If a regulator says, "I know what kind of technology I need and I'm able to put out a request for proposals because I understand the problem, I understand the technology that I require. I can put out for proposals. There will be an arm's length bid process and I'm going to select a technology and the vendor's going to create it for me."
- Dan Gorfine: [33:53](#) That's not really what we're talking about here, because I don't know, first of all, I'm not saying I even need to purchase the

technology. Second of all, I don't really even know what the technology really can do for me, for us, for the market, what risks does it pose, are there cyber security risks, is it wholesale better capital markets infrastructure? I don't know because I haven't been able to engage.

- Dan Gorfine: [34:15](#) When I say I, that's collectively the regulatory perspective. We have colleagues in our operating divisions who would have a very difficult time, again, just looking at slides saying, "Yes, this is where we would see markets evolving and we think that's a good thing," or, "We understand how our rules would interplay with those changes." Procurement, traditional procurement rules, it's not the way you're going to go about doing that.
- Dan Gorfine: [34:38](#) On the flip side, **we run into an issue with if someone were to come in and say, "Well, I'm going to offer you this technology to play around with. It's a prototype. Mess with the prototype." Well, we're also not allowed to take anything of value. If it's of value, we need to pay for it, but now this is getting circular, if you can tell, because we're not trying to buy anything.**
- Dan Gorfine: [34:58](#) Let me make it more tangible. Let's give a concrete example. In the world of distributed ledger technology, we hear a lot about, and I'm not talking now about blockchain and cryptocurrencies or virtual currencies. I'm talking about the idea that within permissioned systems, you may have market participants who would all use the same common platform either to transact, collect, trade information, and then potentially even report trade information.
- Dan Gorfine: [35:29](#) Now, the benefits of distributed ledger technology system, if it were to replace parts of capital market infrastructure or back offices of a lot of market participants is that it would force the standardization of data and it would create a system where a regulator can serve as a node.
- Dan Gorfine: [35:47](#) I know you talked about this with the chairman previously. He's mentioned this potential where a regulator serves as a node, has access to real-time standardized data from market participants benefiting both sides, where the market participant is not having to batch files, push it manually to the regulator, which includes a lot of cost and friction, and the regulator is now able to get this standardized data real-time instead of having to collect it in bulk and then figure out what to do with it and have to analyze it.
- Dan Gorfine: [36:17](#) Now, if we want to really understand what a prototype looks like for that type of an ecosystem, it's not something that we would

procure. We're not buying new market infrastructure, but nor is it something that someone can come and hand us a prototype and say, "Hey, here's a demo, but a real life demo that maybe you play around with for a period of time." Arguably, that's something of value, so we can't take it. Where does it leave us?

Jo Ann Barefoot: [36:44](#)

Is this the Anti-Deficiency Act?

Dan Gorfine: [36:51](#)

Yes. This is the Anti-Deficiency Act.

Jo Ann Barefoot: [36:51](#)

What year was that passed? Do you happen to know?

Dan Gorfine: [36:51](#)

Oh, that's a good question. I don't know.

Jo Ann Barefoot: [36:51](#)

It's been there for a while.

Dan Gorfine: [36:52](#)

Listen, as you said at the outset, there's really good reason to have rules like that in place, but what we're talking about is, are there ways to approach this, are there carve outs in the traditional procurement process, but ultimately with the objective of creating a space for research and development, for testing, for allowing the regulator to get his or her hands dirty to really understand the technology.

Dan Gorfine: [37:16](#)

From there, where does it go? Maybe it's better policy making and rule making. Maybe it is procurement down the road. I don't know, but what I do know is that you really can't be effective unless you really understand the core technology. I think we've said many times over on this program so far, that core technology is what's powering our markets.

Jo Ann Barefoot: [37:36](#)

Exactly. I think there's progress on this. I think you might have a little bit of news to share with us about movement on this.

Dan Gorfine: [37:47](#)

Yes. Look, the good news is I think there are many folks, Jo Ann, you're certainly one of them. We have a lot of very forward-looking people out there who have I think come at this from different angles and settled on the same gap or need. Fortunately, there are some very forward-looking members of congress and senior policy makers who have started looking at this issue.

Dan Gorfine: [38:10](#)

Within the House Agriculture Committee, there were a number of folks who came to us and started asking us to help understand where this gap may exist and how we could help CFDC to support their effort to create legislation that would give us some of this testing authority that would figure out how do you create a narrowly defined, because again, there's good

reason that we have a lot of guardrails in place, but is there a way to craft a space so that a federal financial regulator can actually dabble in these technologies through maybe a more dynamic iterative procurement process, maybe a little bit more give and take with the innovators, because if you don't know where the technology is leading, you want to be able to have a lot of back and forth.

Dan Gorfine: [38:55](#)

It has to be more flexible, more in line with what we were talking about with DARPA and NASA and ways that you can start playing around with the technology to really understand what it can do for the agency for markets.

Jo Ann Barefoot: [39:10](#)

There should be legislation coming through and focusing attention on the issue, as well.

Dan Gorfine: [39:16](#)

Yes. They've worked on some really thoughtful, I think a very thoughtful approach to solving this problem through legislation. Look forward to being helpful and explaining as we're doing right now where there's opportunity I think to make sure, and back to the beginning, all of what we're doing with Lab CFTC is thinking about a regulatory toolkit that gives regulators the tools to keep up.

Dan Gorfine: [39:42](#)

There's a lot of different ways to do this. Engagement is critical. Publications, like primers can be very important. We can talk about sandbox notions. We can talk about competitions, but certainly this testing, this proof of concept idea is another very important tool that could be part of a proper 21st century toolkit.

Jo Ann Barefoot: [40:03](#)

I think this is one of the most important points, and you and I both talk to people about these issues all the time. I find that a lot of people can't quite see the need for the experimentation and testing. They know that there's need for innovation, but the whole sandbox movement, which has been spearheaded by the FCA again in the UK and then emulated around the world, our US regulators, although actually there's news on that as well. There's a move toward some of the US regulators embracing the sandbox idea, but just the idea that to learn the regulator has to have some way to get hands on with the technology, as you said. You can't really get it by reading about it in whatever, a license application or something like that.

Dan Gorfine: [41:02](#)

That's right. Yes, no, I think you're spot on. That's why it's interesting. You think about the tools that are out there. As you say, a sandbox, that's going to be something that the innovator brings to the regulator. By the way, again, I define innovator very

broadly. That can be a startup. That can be an established bank, financial institution, but of course there, it's someone seeking some type of a permission to do something that's novel within guardrails and certain parameters.

- Dan Gorfine: [41:33](#) The benefit is that the innovator gets to actually test the product or the idea and see how it plays, whether it's worth pursuing, and the regulator gets to actually see real world results, which can help inform subsequent policy. That's the sandbox, driven largely by the market participant.
- Dan Gorfine: [41:52](#) Then, you think about things like competitions. That's something that's led by the regulator, heavily involves and relies on the innovation community, and I think both really benefit there because obviously the innovators have a lot of interest in seeing successful ideas come out of that and so does the regulator.
- Dan Gorfine: [42:13](#) Then, when we talk about this proof of concept model, though, this R&D, this testing, this is probably a little bit more regulator-focused, where it's the regulator who's trying to really understand something. I just start with that basic idea, and that's where it just doesn't fit neatly anywhere today is to say you need to understand it. Well, yes, these are complex systems. They would require a lot of time spent.
- Dan Gorfine: [42:37](#) You said before, some people don't understand why you would need to do this. Let's talk about machine learning. I want to know how many people today are truly comfortable saying that they understand machine learning and how it could be applied to, whether it's trading activity, oversight activity, compliance, surveillance. This is not easy stuff to just understand.
- Jo Ann Barefoot: [42:58](#) Yes, or take it into other realms of finance, underwriting and risk analysis on AML.
- Dan Gorfine: [43:05](#) That's right. That's right. Now, look, we have a lot of really smart people here, but you've got to get your hands dirty. You've got to be able to really see it, and then you also hear so much. There's a lot of noise, and again, talk about hype cycle. Usually a hype cycle is based on elements of truth. There's new stuff that's coming out, but you hear a lot. There's a lot of noise, and you hear about different modes.
- Dan Gorfine: [43:29](#) You know what's interesting about machine learning? Frequently, it's conflated with artificial intelligence. Everyone says "AI/machine learning." Well, wait a minute. Artificial

intelligence, if we mean it as a very future state general intelligence notion, we're not there yet.

- Dan Gorfine: [43:45](#) That's a very different-looking world, but even within the stages that it may take to get there, there are so many different layers of machine learning ranging from some that passes itself off as being machine learning where it's really just statistical regressions, to things that do get more complex, deep learning notions.
- Dan Gorfine: [44:03](#) Even there, to really understand that, you're probably going to need to mess around with the systems and see what they're capable of and learn what's real and what's puffery, what's fluff, what's not quite there yet.
- Jo Ann Barefoot: [44:14](#) Absolutely. I haven't mentioned that I'm affiliated with FinRegLab, and I know you are very familiar with them, as well, founded by Melissa Koide, who's at the Treasury Department, and I'm the chair of that board, actually. That's a private sector lab experiment environment that's tackling some of these same issues in an independent nonprofit format, as well. We'll link to that in the show notes, too.
- Jo Ann Barefoot: [44:45](#) There's this realization that we have to give this regulatory process breathing room to try things and to talk to people. There are other laws that people cite to me, and I don't know if you're an expert in them all. I know that I'm not, although I've lived under them as a regulator.
- Jo Ann Barefoot: [45:04](#) People talk about the Administrative Procedures Act making it difficult to talk for the regulator or the regulatees to talk during the rulemaking process because you have to document the *ex parte* conversations and so on. It's hard to just sit down in a room and talk with people. People cite some of the ethics rules.
- Jo Ann Barefoot: [45:28](#) I was involved with an event last year where we were trying to invite regulators from the US to meet with regulators from other countries when they came into Washington for the World Bank IMF spring meetings. We thought, "Wouldn't it be great to just let people sit down over breakfast to get to know each other?"
- Jo Ann Barefoot: [45:49](#) One of the participants that was invited from one of the US regulators called to ask what would we be having for breakfast because she was basically allowed to eat a donut but not an egg because that might be too much money. You're going like, "How are we going to talk with people if we can't just, like I said, get in a room and talk with them?"

Jo Ann Barefoot:	46:17	There's others I'm forgetting. People cite a range of these laws. Oh, the Federal Advisory Committee Act is another one, FACA, where the regulators can't keep meeting with the same groups of people I think without them coming under the sunshine requirements on advisory committees. Again, all of this there's a good reason for, but we do know that in other countries, it's easier. Some of that may just be because they have simpler industries than we do. With our 6000 banks and so many trade associations and all of that, it makes it extra complicated. I think we should work on it, and I think the key to it, I'm editorializing now, is giving the regulators and policymakers a safe space for collaborative dialogue and hands on learning, and then build around that some transparency so that it isn't a secret backroom thing, so that you're accountable to the public or to your congressional oversight committees or whatever it might be if you're doing things that ought to be reported, and that there's a little bit of scrutiny in it, but not stifling it.
Dan Gorfine:	47:44	Yes, and look, again, I think a lot of these, and as I know my colleagues would point out to me in our Office of General Counsel, a lot of these rules have good reason, came from historical issues.
Jo Ann Barefoot:	47:57	Yes, they didn't come out of nowhere, exactly.
Dan Gorfine:	47:57	They didn't come out of nowhere.
Jo Ann Barefoot:	47:57	I know it.
Dan Gorfine:	48:01	Look, obviously what you're pointing out though is rules often also have unintended effect and consequence. That's the difficulty. We have rules in place, and then the world evolves. The world changes. You want to make sure you're actually satisfying regulatory objectives. There's always the risk that you end up in a world of check the box compliance where something was written, it had good purpose and good meaning. The world changes where people are saying, "Well, I'm actually satisfying that particular rule, but oh, by the way, you're actually violating the spirit of what it's all about." You want to make sure your rules are actually current and they capture what you're trying to capture, they mitigate what you're trying to mitigate, but also give space for folks to do things that are productive, that are constructive, that taxpayers would want you to be doing.
Dan Gorfine:	48:52	It's a very interesting question. Look, I think you have to be very thoughtful in looking at something like that and making sure that you don't end up in a place where there can be good

intentions in making changes, and then maybe that drives bad outcomes, but your point's well taken.

Dan Gorfine: [49:09](#)

I think the idea of sandboxes or at least creating a space where regulators can observe, can monitor real world application of technologies so that you actually understand what it is you're then trying to regulate and what are the actual harms that you're trying to regulate, that's critical for just good policy making. It's pretty common sense. To the extent that that's being chilled unnecessarily, that's worth exploring.

Jo Ann Barefoot: [49:38](#)

I also think a key to it is just ring-fence some of this at a small scale. We are talking experimentation, so if somebody wants to learn from the experiment, and as you go, go do a full procurement, you can go back into the traditional channels and make sure that's all done that way but just allow that very small, like I said, breathing room really makes a big difference.

Jo Ann Barefoot: [50:04](#)

Do you have other advice? We have a lot of policy makers who listen to this show and a lot of regulators. We have some members of congress coming up, too, that are going to talk about some of these issues, but what advice do you have for people in the regulatory and policy making community that we haven't already talked about?

Dan Gorfine: [50:24](#)

Yes. Look, I would say that I think there are many who are doing and have done really great work thinking about these kinds of issues. I'll say specifically, I know that Dan Quon, who's done some really excellent work over at CFPB around Project Catalyst and it was one of the first efforts to really start scoping what tools do regulators have in the toolkit.

Jo Ann Barefoot: [50:47](#)

It actually inspired the FCA's [crosstalk 00:50:50].

Dan Gorfine: [50:49](#)

That's right, that's right. They acknowledged it, which I thought was very nice and a real tribute to the Project Catalyst team, but no, that's the thing is that that work helped inform, launch the FCA's innovate and reg tech work, and then you've got Beth Knickerbocker over at the OCC who's building out an office of innovation. We have thin tech groups that have formed at various agencies, including the SEC.

Dan Gorfine: [51:20](#)

I think the advice is scope what tools you have and that's what we've done. We've been able to look at what others have done and learn from some of our colleagues. Let's just keep learning from each other, because at the end of the day, a lot of these tools in the toolkit cut across jurisdictions. They're not specific

to any particular agency. I think we can all collectively build out that toolkit.

Dan Gorfine: [51:44](#)

The FCA has been a great leader. There's a lot of excellent work being done globally in Singapore, Australia. ASIC's been a real leader. We entered into a thin tech collaboration arrangement with the FCA a few months ago, which was a first for us, but it's really just to demonstrate our commitment to these types of relationships.

Dan Gorfine: [52:03](#)

I think my advice is to all of us, continue doing the hard work, continue scoping what's possible, what we can do, where there are restrictions or limitations that don't make sense for the world today. Flag them, like you and I have done today. Point out areas that we think are not necessarily going to drive the best policies, not what the American taxpayer wants us to be doing, or rather the American taxpayer would like us to be doing, make sure we have that ability, and we'll keep learning from each other. I think that's the best way forward.

Jo Ann Barefoot: [52:33](#)

I couldn't agree more. It's back to your point from earlier that the cross-pollination is the key thing and the collaboration, and you can do that across agencies, too. I've been thinking a lot lately about the fact that we're not going to restructure this sector either in the government or in the industry. What we're going to have to do is learn to build some new models to lay over the top of it and bring people together in new kinds of ways of working that are going to meet these needs of being faster and more iterative and so on. You just are off to such an amazing start with that. I can't tell you how much I admire what you're doing.

Dan Gorfine: [53:16](#)

Well, thank you. I'll throw it back to you, Jo Ann, and say that the reality is there's a lot of really great people thinking about these topics. You've done excellent work and I think it's a snowball effect. There have been a lot of people that are thinking about the right tools, the right approaches to facilitate market-enhancing innovations. We all learn from each other and build on that. Thank you for all that you've done.

Jo Ann Barefoot: [53:42](#)

Where can people get more information about Lab CFTC?

Dan Gorfine: [53:45](#)

Oh, funny you should ask. We have a website, so if you go to the CFTC website, we're at backslash Lab CFTC. That's at CFTC.gov. You can also email us at LabCFTC@CFTC.gov. That's a lot of letters. I know it's easy to get choked up on them, but no, folks are encouraged to reach out to us.

Dan Gorfine:	54:07	We hold, as I mentioned before, office hours and meetings on an ad hoc basis with innovators. We'd love to hear from you. Please, if you have thoughts on the innovation competition, you've got a little bit more time through July, so help us with that effort. That's that collective group of effort that can really move these things forward.
Jo Ann Barefoot:	54:27	We will put all that information also in the show notes at JSBarefoot.com.
Dan Gorfine:	54:32	Great.
Jo Ann Barefoot:	54:32	Dan Gorfine, I cannot thank you enough for being our guest today. It's been fantastic.
Dan Gorfine:	54:36	Yes. Thank you so much. Really fun to join.