



# DRIVING DIGITAL IN BIOPHARMA

## AUDIO TRANSCRIPT

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**VO:** *You're listening to Driving Digital in Biopharma, a podcast from Accenture, your host is Tom Lehmann.*

**TOM LEHMANN:** Hello and welcome to Driving Digital in Biopharma. My name is Tom Lehmann and I'll be your host for today's discussion and this series. If you're an existing listener to the podcast series, welcome back and I thank you for your continued listenership and support. If you're a new listener to the podcast, welcome. Happy to have you here.

00:28

Throughout the series so far, I've been fortunate to speak with several leaders across the biopharma industry as they are in the midst of digital transformation journeys within their respective organizations and functions. Be sure to check out my new Accenture Life Sciences channel blog on my key learnings from our first five episodes, as well as a glimpse into what the future holds for driving digital and biopharma. In today's episode, we shift our focus to the manufacturing space and explore the progress and impact of digital transformation efforts on both QA and QC sides of manufacturing.

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As we hear in today's episode, our guest, John Kelleher, shares a unique perspective on how this organization is connecting learnings and impacts of a digital transformation pilot on the QA side, to the newer, current and more holistic transformation initiatives on the QC side.

John has spent about 20 years in the pharmaceutical industry, focused mostly on IT in digital, across quality assurance, business processes and business facing functions. He came to Pfizer in late 2019, where he now serves as the head of digital quality for Pfizer global supply.

01:29

John's experience bridging technology and business process definitely comes to the forefront of our discussion, and I hope you all enjoy our conversation as much as I did. Welcome, John, to Driving Digital and Biopharma. Looking forward to our discussion today.

**JOHN KELLEHER:** Thanks for having me.

**TOM:** Looking forward to our discussion. You joined Pfizer about two years ago, and obviously that was before COVID-19 hit and the race for the vaccines began, and our industry was in this bright spotlight over the last year plus. I would imagine it has been quite a ride for you since you joined Pfizer.

01:59

**JOHN:** Yeah, definitely a memorable last two years. I was able to work face to face with my team and my peers for only about six months, before we actually had to start working from home. So, over the last 12 months since COVID hit and everybody started working virtually, really had to learn a different way to communicate and a different way to create relationships, which is tough. But we're finally



getting through the other end. Happy to say I had dinner with some of my colleagues last week, and we're finally getting out of that fully virtual environment that we've been in. But I think we have a whole new normal now, and it was definitely a memorable two years.

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**TOM:** It does feel like, as you said, we're turning the corner. Feels like there's a light at the end of the tunnel. And it does feel like even, again, the topic of this series, that digital certainly has come into its own over the last year. Do you feel the same way?

02:55

**JOHN:** Absolutely. I mean, I think it took a little bit to get used to it. But with all the digital tools that we had, we were able to actually do the work that we needed to do. And in our case with Pfizer actually, most of us were at home, while we're producing the COVID vaccines for that, or delivering on all of our projects. So, we're just as productive over the last 12 months, but I think it's going to go back to some kind of normalcy, but never going to go back to the five days a week, like we were in.

03:29

**TOM:** Yeah, it does seem to be the consistent perspective at this point. Let me rewind the clock a little bit. So, what led you to join Pfizer?

03:39

**JOHN:** I was working at GSK in a similar role, but my manager reached out to me, my current manager, Mike Tomasco, reached out to me and started talking to me about this role. And he had a great vision. He had a great compelling vision of what digital could be for manufacturing, which is different than a lot of companies.

A lot of companies were focusing on digital for manufacturing or digital for sales and marketing. And Mike was really focused on digital for manufacturing. And he had an opportunity for us

to take it in another level, to take quality as part of digital manufacturing to another level, really looking at the laboratory experiences, and the quality assurance experiences and the investigations on the plant floor. And he thought we could do it differently. And I was right there with him.

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Also, it's a little bit of a full circle right out of college. I graduated out of University of Rhode Island, which is about 20 minutes away from one of Pfizer's major sites in Groton, Connecticut. So, one of my first jobs was actually working in QC labs in Groton, Connecticut. So, big, long journey around after 20 years back to Pfizer. It's been interesting.

05:03

**TOM:** I would imagine. Funny how the way how that works out over time.

**JOHN:** Yeah, definitely a full circle.

**TOM:** So, when you joined Pfizer, where did you start? What was the initial focus of what you were brought in to do?

05:13

**JOHN:** There's really two main areas that I had to focus on. One we call quality assurance, and really focusing in on the processes for investigating product quality complaints, or product investigations, or different issues that you have in plant floor. That's on the one side, and that's what we call QA.

05:36

And then the second side is in the laboratory, so the QC environment. The laboratories had their own issues around the efficiency of the lab and the cycle time it took to get from between



producing a product and releasing a product to market. And that time is really very reliant on the speed of our laboratories to test the products for the efficacy and the safety.

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So, they were the two main focuses when I joined. And two big problem statements that Mike and the team gave me were, "How do we do these two very, very important items for public safety and the product quality? How do we do them safe, but more efficient, or safe, but actually better and more effectively?" So, those are the two things I was brought in to really tackle at a high level.

06:34

**TOM:** So, why don't we start with the QA side of it? So, tell me little bit more about the situation and what you started with and what you focused on.

**JOHN:** That was really a call to action. I think our executive team had been getting a lot of presentations from consultants around industry 4.0; trying to understand how can they utilize these new capabilities, this new industry 4.0 technical capabilities and apply them to a real-world problem that we had. So, they came and they created this really quick call to action.

07:09

They said, "We need you to solve problems faster using this advanced analytics and AI to provide insight and visibility into our product investigations at our manufacturing sites, very specifically. And there's a big challenge here. You need to do this in about 12 weeks. We need to see that you can actually make a material change in how we do investigations in 12 weeks."

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With that challenge, they also provided some really nice things. They provided funding, some seed funding. They also provided great subject matter experts, and measures for success

around the percent repeat investigations, the total cycle time, and the total number of investigations that were repeated. So, basically, we don't want to do things twice.

07:56

And so, they said, "If you can do this, and we can show...we would like you to show these new capabilities applied to that problem." So, that's what we did. We created three very specific agile teams that went after three areas. One around advanced analytics, the second one around process automation, and the third one was very specifically around the user experience or what we call the digital thread. How do we connect our systems? How do we connect through our digital to the actual real-world users?

08:32

And so, those are the three teams we created. And we set on these two-week sprints with every two weeks doing a demonstration where we ended up. And at the end, we presented a MVP of a number of different applications that were focused on that one specific call to action around reducing the number of investigations and what we call a prime objective, which is 90% closure in 30 days. And so, everything we did was focused around this one very specific prime objective.

09:04

**TOM:** Which is certainly helpful, right? In some of the other conversations that that I've had—and certainly some of even the previous episodes that we've had—just having a clear, measurable strategy, clear measurable objective, seems to be a difference maker here. And that way, you're not just doing digital for digital sake; you're doing it with a very specific, tangible outcome. And to your point, you can achieve pretty quickly.



I have to imagine that that is a huge way to want to provide focus, but also just to rally support?

09:36

It was absolutely critical to the success of this program. I guess we'll talk a little bit about the results at the end, but I think probably the most important thing was that very clear line of, "What does success look like? And what is the measure that we have to go after to make that happen?"

Everything we did, and every kind of digital innovation or AI or ML, or natural language processing component that we applied to this had to meet that criteria. Was this going to reduce the time it takes to do investigations? Or will this make the investigations better in some way?

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So, yeah, it was absolutely critical. And I don't know if they realized that that clarity really was going to be the success needed to do this at the pace that they want. But that's actually what happened. So, there's a really good -- a clear business problem business case and, hopefully, we provided a clear, technical capability to do that.

10:40

**TOM:** So, we'll get to results in just a little bit. I want to get to some of the technical capability point. I have to imagine, but maybe correct me if I'm wrong here, advanced analytics, AI, ML, this whole concept of the user experience, is this like bringing a foreign language into the space or was the group in this process here where you're pretty receptive and inexperienced with it?

11:01

**JOHN:** Yeah. No, this was very new. The quality assurance group is very conservative in how they bring in new capability or new technology. So, they really haven't seen anything like this.

We've actually been working on a system, a core enterprise solution that did most of this work product quality work, and it's been there for about 12 years, and hasn't changed all that much over the last 12 years. So, when we came with these new capabilities to simplify the intake, for example, we created a dashboard that had a direct connection to that existing system, and created a very easy way to flow through that process.

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There was a little bit of an uptake from the user community. But once we worked with them in this kind of iterative way, it allowed them to build trust over time that, "Yeah, this could work. And this is really solving a specific issue that I have on a day-to-day basis."

So, by the end, the super users and the subject matter experts that we had involved here, because we involved them, not only during the week, but in this thing we called an iterative review every two weeks, we brought them through everything we were doing. I think that was also a huge help.

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But this was all brand new. It's brand new for the whole community. So the one thing that I would say is the trust that they had to have took time, especially around the AI that we applied to analytics of historical search. They were doing it one way for many years. And they looked at five specific criteria. They did that search. And they expected a result, and that result is definitive every time they did it.

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And what we had to show them was the AI can actually get those same results, but also get it faster.



And also get it, I guess, even better. They could even find the ones, those searches or those transactions that could definitely help, but wouldn't have come up in their normal search criteria, because of this natural language processing that we applied to some of our analytics dashboards.

13:23

**TOM:** So, does this then lead towards, we talked a bit about human plus machine where it's not intended the AI takes over, but it's to augment their experience, their instincts, their judgment -- are you finding those two converging nicely; that you still have the experience and the depth of the individual, but also now the technology by their side to help them identify it and make decisions?

13:44

**JOHN:** Yeah, absolutely. This is assisted. We're assisting these users. We're making them better. We're not replacing their knowledge. But what we want to do is make it faster for them to ask the question in their head, "How can I make this problem go away?" Or, "Has this problem ever come up in the past?" and give them results and insights immediately. And now they can do what they need to with those results, and that those insights that came up. And their experience will take over after they get it.

14:16

But just getting the visibility into the data and simplifying the process of getting that data was really the biggest key in avoiding the duplicate work; automating certain trends that were taking hours of time in Excel, and then really doing that final thing, which was historical search that took multi-lingual and rapid search finishes and just produced them in seconds with what used to take hours.

14:45

So, yeah, it's really assisting what we call the site investigation leads at each one of these sites to do the investigations faster, or triage our

product investigations to the right person at the right time.

**TOM:** So, maybe just to wrap up this part of it. You just touched a little bit on it, but maybe just put a bow on it, what were the results?

15:13

**JOHN:** Sure. And we've just started seeing these results. We went live in December of this past year with a bunch of our solutions, number of our solutions. And it really started taking hold through this year. And really now, we're starting to see great results. We're seeing a reduction of the measures that we're looking after, a percentage of repeat investigations. So, we're seeing repeats come down drastically.

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I don't want to say the exact percentage, but it's very noticeable and very obvious that the combination of business process with the ability to see the data holistically across the environment in matter of seconds, allows us to reduce those repeats, which is a really big source of waste. And we're hitting our goals and then exceeding them in almost every measure on the percent repeat investigations.

16:11

We're seeing total investigations come down—and this was a goal of ours was to reduce those—by making sure we do effective corrective actions at the end. And we're doing them and we're making different than any other corrective action that was taken for a similar issue that ever came up in the past. And we're seeing a very large decrease in total number of investigations, which means we're doing things right first time. And then we're starting to see cycle time come down. So, the prime objective, which is 90%, closed in 30 days, we're seeing that actually to start significantly come down.



16:49

And that's after about six months of really specific focused capabilities on this problem. And I have to kind of repeat myself again to say, this only happens in conjunction with a really strong business team that has a focus on the same problem.

17:13

So, if we had tools that were focused on this problem, but not a business program that was focused on this problem, I don't think we'd be as successful. But working together with the business process and the tools to allow them to do their jobs more effectively has created a great result that is being recognized by upper management and the sponsors are extremely happy with the output that they've seen so far.

17:43

**TOM:** That's fantastic. And to your point, and on relative quick timeline as well, you started out on 12-week process, and just six months into this seeing that type of an impact is sometimes unusual, which is fantastic, as you said. I think it's a theme here of just that strong business and IT partnership is essential. This is not about just putting more technology out there. I don't think that solves very many problems. I think it's that combination of the two and really being focused on the business process, which has been a recurring theme throughout this series of just the importance of really being pretty holistic in the way that you focus on it.

18:12

**JOHN:** Yeah, absolutely. I mean, everything we did was lockstep with our business partner. We had a super strong business process expert and we had a really strong sponsor pushing us all the way through and being very regimented on the scope of the capabilities that we were providing, and making sure that they met where they were going, and the direction that the business wanted to go.

18:49

So, that kind of laser focus on the problem and the capabilities we were putting out there allowed us to go quick. It also allowed us to implement something in a GMP environment that's probably, it's a little bit unheard of to do. We did it...about six months, it took us to develop. It took us another six months to train and validate and do all those things. And now, we're looking at the last six months to really get it embedded in business. So, it was a really quick turnaround for our analytics tools and our performance management tools that came out of this whole call to action.

19:12

**TOM:** That's great. It's a great story. And I think it's a good starting point and a good win as you join this organization.

Let's, if we can, pivot to when you said you joined, there were two areas of focus. So, we talked about the quality assurance side. If we can, let's jump over to the QC side and the labs. You mentioned the desire to drive efficiency and cycle time reduction, and just generally the speed of the labs.

Help me understand that. How do you translate this experience on the QA side, and how you start to think about the role of digital can play into developing a strategy or perspective around what you do on the QC side.

19:49

**JOHN:** That's a big question. So, the most important thing I've found here is that... where this came as a really strong call to action with a very specific set of, "Hey, if we do this, we will be successful" on the QC side was not, because it is way more complex in the number of business processes and the number of users, and frankly, the techniques that we're going



after. But we still -- it was more of a longer-term approach.

What we did was we kind of set our principles for that and verified them back with the business, and actually had to create a partnership with the business to get those principles aligned and then move forward a strategy that made sense for them, that made sense with their goals as well.

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So, when I came into Pfizer, we had a lot of activity going on in the QC area. But it was all focused on what they call a Laboratory Information System, management system or a LIMS system. And we had a very specific strategy for LIMS. But what we didn't have was a holistic strategy for the laboratory or the QC space. So, we came up and we said, "What do we need to do? Because we can't just have a LIMS strategy. By the time we're done with LIMS strategy, we're going to have a different LIMS."

21:18

And that's very singularly focused, and it's what they call [inaudible] calling this monolithic approach to strategy. And we have to move to something that's way more adaptable, something that can be implemented across 50 individual laboratories across our network, which is a lot different.

21:42

It's a different kind of problem to solve than the QA area. So, we said, "Well, let's not look at it as a harmonization program or a single platform solution strategy. And let's broaden it." And what we came up with was what we call the lab of the future strategy. And what that's going to utilize the industry 4.0 capabilities, focused specifically on value that can come out of efficiency, the value that could come out of doing compliance better, and then overall, the transparency of the data.

22:17

So, looking at efficiency, rather than looking at harmonization is really what we're coming after—and we're hitting four main areas, four main pillars. One of them is what we call proactive data integrity. Doing data integrity, which is a huge component of what we do every day, is make sure the results are correct and the correct results go into that batch, so they can be released to the market and it's safe. And so data integrity... but doing it quicker and doing it less intensive, but actually making it error proof as well, that was a big focus of ours in the lab of the future.

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Connecting the laboratory to other pieces, whether it's an MES or to the individual instruments, that was a second major pillar that we had to go after. So, connecting the instruments, what we call the connected laboratory.

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We're looking at another area of making our scientists better and augmenting their abilities. And so, we call that smart scientist, and it's using AR, using mobility. Very specifically right now, mobility is probably the biggest component of that. But we're also looking at robotics and voice control to just make the scientist, which is the QC analyst, which is the most important person in this whole process, make them better.

23:42

And then the last step is that method execution and giving the QC analyst a guided method through the process of testing product. So, we took a completely different approach than we've taken in the past and looked at it more holistically.



And we're in the process of creating that right now. And then creating that environment and making strides through what we call this lab of the future.

24:12

So, to do that though, we started with the QC analyst to figure out what we needed to do. Whereas in the QA example, we had our executives say, "We need to apply this to this one big problem." We had to come back and say, "We know we have to make some changes, but where are they going to be made?"

24:52

And so, what we ended up doing is taking a bottom-up approach and we actually followed our QC analysts at six of our laboratories across our network, and we followed them throughout their day. Actually, we followed him for a week. And we said, "What happens when you receive a sample? What happens when you prepare that sample to be tested? What happens when you execute that sample? And then what finally happens when you put the final results, and load them into your batch, and your certificate of analysis so that you can release the product?"

25:09

And what we found was a cycle of, it was really easy to do something, or it was really hard to do something. We call those "moments that matter." And we identified a number of these moments that matter. And we figured out, "How can we reduce the stress or reduce the time or increase the visibility of data, or make sure that we can collaborate faster, better in the day in the life of a QC analyst?"

And that's how we built out this strategy. This user experience is the key to the whole QC or the lab of the future strategy that we put together in Pfizer.

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**TOM:** And did you go when having that perspective, or the need to focus on that

revealed itself as you were thinking about the different pillars, and you started to work your way through the strategy?.

26:06

Yeah. No, I'd have to give this... we came in, we knew we had to make changes. We didn't know where we had to make changes. And I'd have to give this back to Mike Tomasco, my manager, and he said, "We you need to create the digital thread." What is the digital thread? Through our laboratory. And we went away and we said, "What does that mean?"

26:37

And we came up with this process, working with our user experience components and people that we already had on the team. Like I said, Mike had a really great vision and so working across the lines, working across QC with our IMEX and our manufacturing side and said, "What did you guys do? How did you manage your platform analysts?" And we took a very similar approach creating that digital thread through the QC and the QC analyst day in the life.

**TOM:** And did you find the QC analysts, as they were participating in the process, really appreciating what you were trying to do seeing the opportunity? I got thinking about this sort of a modern version of a time and motion study, which obviously was much more focused on sort of process reengineering, and cutting things down.

What was your experience like with the QC analysts, as far as what you were trying to do here?

27:20

**JOHN:** I don't think they understood what we were trying to do but I think they're seeing it now. I kind of put it very long time ago, if you go



on a rep ride or you follow your sales rep just to see what the day in the life of a sales rep, it's very similar to that. So, I think that they just knew that we were trying to make it better for them, and we chose specific, digital-friendly users, and QC analysts.

27:48

But in general, they didn't really know what we were doing but they were happy to show us. They were happy to show us, "Hey, look, this, it takes... we have to put the same information into three different systems. That doesn't make any sense." Or, "We have to run this checklist outside of the system that does the results.

28:05

And that's, again, not something we want to do. We want to make it compliant, and it's not. But what it is inefficient." And we needed to create an experience for the users that was more efficient and connect those systems where there's the duplication of entry, or connect the instrument into the LIMS or into the MES to get the results rather than having to transcribe it manually.

28:34

And the other piece was, "Hey, we have to create all these Excel spreadsheets outside to do a calculation. Why couldn't the system do that?" And so, we got those really great insights from the users across six of our labs. And that really kind of opened our eyes as well like, "Wow, we created this system that is very big. It has very, very, very powerful system, does a lot of things. But you know what? It doesn't help the users in many instances, and it was inefficient."

29:04

So, how do we make that better? And that's where this modularization comes in our labs. And you're creating an environment, or creating a user environment or guided experience through the process from beginning to end of a sample, rather than step in and step out of different systems to get to the final end result.

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**TOM:** Well, as you said before, that's a fundamental difference between what has historically been more of the monolithic approach, where it's fit for purpose, for a set of activities, top to bottom, versus something much more adaptable and maybe more process centric, where you're thinking about end-to-end process, as opposed to each of the individual steps along the journey. There's a very much a mindset shift, but also a technology shift that comes along with that.

29:55

**JOHN:** Absolutely. And the technology shift is coming as well. So, creating the micro processes to pass the data along, creating, we'll call it "data fabric" to hold all that data in one spot, rather than have to go into multiple different databases. These are all capabilities that makes the QC area a little bit more complicated, but it's a very similar approach. Getting to that modularization, as you said, is absolutely our key. And that lab of the future is depending on creating the adaptable guided digital thread through the environment.

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**TOM:** So, so as you said, this is more complex. There's a lot more going on with this one. The first story we talked about was a very specific business objective, and it was this complete focus, set to that task. How do you measure the impact? Or how do you assess the impact of what this would be as you start to go from strategy and really diagnosing the challenges, into actually starting to affect some change? How do you determine that upfront to say, "Okay, we're on the right path?"

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**JOHN:** There's a lot of the leading indicators. So the number of manual entries is one of them, the reduction of the number of manual entries, that is. The reduction of time, what we call "release attainment."

31:00

If you can reduce the time from the sample to the release, that's another one. So, success, but success is also going to be in the compliance, the level of compliance that we can achieve. How much review of data do we have to do in the audit trials and for data integrity? There's just a number of use cases here. But what we're going after is a specific... we broke it down into seven specific use cases with an intrinsic value of each one of them.

31:46

And we're about to release what we call a guided method. Execution to one of our pilot plants in about two months. So, we're really excited that we're starting to see it. Again, it was a little more complicated because of all the underlying infrastructure and data that we had to create and just the complexity of a test method versus something else. It just is more complex.

32:14

But we're starting to see the first of our seven different horizons come through and we're really excited. And we'll start seeing every few months the tackling of another one of these new capabilities and releasing that out. So we're really excited for the future of the lab in the future. The future of...of the future a play on words here, but we're really excited for the future of our laboratories. And, you know, we're starting to see those results come through.

32:45

We'll start to see those results come through this

summer. And if we don't see the results, we're going to have to adjust. And that's part of this. We're going to be delivering fast, but we're also going to be adjusting fast. But we're really excited to start seeing the results.

33:09

**TOM:** So, if you were to project out, I don't know, call it two years, what's the story you tell at that point around the impact you've had?

**JOHN:** That's a great question. So, I think in two years, what we'll have is QC analysts that will have the ability to take a sample from beginning to end without having to step out of a system, will be able to completely single digital thread from beginning to end. And then also, they'll have the ability to connect that back to their standard work and connect that to their scheduled work.

33:42

And in that case, what we'll see is a reduction in time or reduction of our lab cycle time, and a reduction in the number of issues that will be coming up in the lab. So, we have, just like on the manufacturing floor, there's a lab investigations. And so, the reduction of those and the assurance that a sample is done from beginning to end right, first time.

34:09

I think what we'll start to see in two years is the reduction of the lab cycle time and the reduction of laboratory investigations. And I think two years is probably a really good horizon for what we call our predictive labs. So, the ability to predict how the outcome is going to come before we actually get to the outcome. And we can start seeing if something's going off before we actually get to release rather than a point in time, wait, next step, stage gate approach.

34:39

**TOM:** That's excellent, and a good vision. At the end of the day, it is we talked about: sort of very concrete examples to start with the strategy, again, with, the you said, the four pillars to really focus on, where do you go.

We're starting to see through some of the leading indicators, and as you just laid out, in a very practical, yet achievable outcome that you're trying to drive towards. Which I think is where most people are right now, thinking about, "Okay, these technologies are out there, in some form, the technology has caught up with the ambition to do something. Now, it's a matter of bringing that together."

35:10

And I think one of the critical things, what you said is really putting your people at the core of this because at the end of the day, you're enabling a process. Because everything you just described is very much about the outcome as it relates to what people do and the work they do, which I think is the direction we need to be headed as an industry. And unfortunately, sometimes we get enamored with the technology and lose sight of why we're looking at the technology. So, I think it's a good reminder of the focus here.

35:31

**JOHN:** Yeah. And it happens. A few years ago, there was a big focus on inline release in the QC area. And I think it was a great vision, and it was something that we need to get to, but we have to take that... the next step is really having that predictive lab. And then we can get to the adaptive, we can get to that real-time release testing. I think jumping right there, that's probably a five-year vision. But we have to really nail this mid-term vision for the lab in the future.

36:04

Otherwise, that kind of holy grail of the QC, which is that online, real-time testing, review by exception at every single line, that's just not possible unless we take the right steps to get

there. And, yeah, as you said, we have to take that practical next step. And I think that's the challenge for a lot of the industry; it's, "what is that practical next step?" Because we see that, I think that the far-out vision is actually clearer than the middle, than the next step for that vision.

36:35

**TOM:** No, I think you're right. So, maybe we'll close on a question related to that. So, our listeners to this series are working up and down the value chain, not just specific in the area that you focused on.

If you step back from me with some of the details here, how does what you've gone through and how you've approached it translate into what people could be doing up and down the value chain?

36:58

**JOHN:** Yeah. I think up and down the value chain would be creating these huge enterprise systems that have great data. We have buckets of great data. And I would say look to that data. Where do you have that enterprise data that's underutilized? Focusing in on that large dataset, I bet you'll be able to find, and if you apply the right technology to the top of that, you'll be able to get insights out of that data for either product improvement, or process improvement, or just new insights into your customer base.

37:30

So, whether it's sales and marketing, or R&D, or manufacturing, like in my case, that huge data set that we've been working on over the last 10 years when creating these enterprise systems, that data is so valuable. And don't just throw it away. Don't overlook it. There's definitely diamonds inside of that data that could be mined for really great results. So, I would say look at that big set of data that we have.



38:00

**TOM:** Excellent. Well, good. Well, I appreciate the discussion today. This has been very helpful. Obviously, it's great to hear the example of stories that are that are actually then delivering the outcome. And then obviously a story that's laying out the future and what's on the horizon. So, it was good going through that with you today. Thank you for joining. And I really appreciate your time.

**JOHN:** Thank you for the opportunity. This has been an excellent conversation.

38:28

**TOM [outro]:** Big thanks to John for joining me in today's discussion. Reflecting back on our third episode and its title, Digital is Greater Than Technology, I do find that John's story serves to further shine light on this point—that a digital strategy should be bolstered by technology, not a consequence of it. Furthermore, it is interesting to learn how the lab of the future strategy at Pfizer is really centered around improving the day in the life of a QC analyst, highlighting the importance of people in this complex digital transformation equation we've spent so much time talking about.

38:56

As we conclude this episode, I am curious to know how your organizations are measuring impact and the success of longer term digital transformation journeys as you've moved from strategy into action. Connect with me on LinkedIn and share your thoughts. I thank you all again for listening. Please remember to like and subscribe to Driving Digital in Biopharma on your favorite podcast platforms so you don't miss an episode. And until next time this is Tom Lehmann, with Driving Digital in Biopharma.

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