

DR: [00:00] Cloud-native means a lot of things to different people. What does cloud-native mean for Vodafone?

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Announcer: [00:40] This is "Telco in 20," a podcast that helps telco execs achieve a competitive advantage with AI and the public cloud. It is hosted by Danielle Rios, also known as DR. Today, we're talking to Lester Thomas, Head of New Technologies and Innovation at Vodafone Digital and IT.

DR: [00:59] Hi, guys. I'm DR. Back in 2019, there was a telco that embarked on one of the most visionary cloud projects in the industry. It dared to reshape its enterprise data and ripped out 600 Hadoop servers across 11 countries and moved 17 petabytes of data onto a single data ocean on Google Cloud. I'm talking of course about Vodafone. That project was wildly successful. And since then, the operator has continued to add to it with a project called AI Booster that spans both Google and Microsoft cloud, positioning it perfectly for the GenAI revolution. A project like this requires a long game, a decade's worth of hard work, committed leadership, and constant transformation.

[01:42] Today, I'm talking with someone who's been in the trenches for the journey, the head of new technologies and innovation at Vodafone Digital and IT, Dr. Lester Thomas. He's one of the fathers of TM Forum's Open Digital Architecture and open APIs, and a driving force behind Vodafone's transformation vision. I'm so excited about this conversation that I made a video version of it too. Head on over to our YouTube channel to check it out. You'll find the link in the show notes. In the meantime, settle in to hear our conversation about how Vodafone's composable IT approach is delivering huge benefits, how its massive data project has laid the foundation for true innovation, and why the future of telco IT depends on machine-readable

standards and open source collaboration. So let's take 20. Today, I have a guest that needs no introduction. Dr. Lester Thomas is Head of New Technology and Innovation at Vodafone Digital and IT, and he is also a TM Forum distinguished fellow. Hi, Lester, welcome to "Telco in 20."

Lester Thomas: [02:46] Hi, DR, thanks for having me on your show.

DR: [02:48] Yeah, no, I'm so excited to talk to you. We've got DTW Ignite coming up here pretty soon in Copenhagen, and so I think we're going to have a lot of interesting things to talk about. To kick it off, for this year's event, what's your big message for the industry next week?

Lester Thomas: [03:05] Yeah, we do have a big message for the industry. It's one that spans how telcos operate, how they compete, how they grow. I need to set it up by telling you why first before the what.

DR: [03:17] Yeah.

Lester Thomas: [03:18] So telco IT has become too complex to reach and too slow. I've heard you say this many times.

DR: [03:23] Yes.

Lester Thomas: [03:24] Much of what we've got was built for different ages before this AI-first world and that legacy is holding us back. And if we want to compete on experience, agility, and cost, we have to rethink how we build IT. And our goal is to make our core IT modular, open, and agile, and we need to break our monoliths into interoperable, plug-and-play building blocks, components that can evolve and it can evolve with AI without having to start over every time. In the TM Forum, we call this the Composable IT and Ecosystems Mission. And our message is a simple one. It's this composable IT, it isn't optional. It's how we unlock faster innovation, how we unlock smarter operations, and how we unlock scale in an AI-first world. And this is, in theory, we're doing real things, we're building machine-readable standards with embedding AI to every layer based on a strong data foundation and we do it all in the opening with open source approaches.

DR: [04:20] Yeah. Well, let's talk about your strong data foundation. For years, I've been following this big data project that Vodafone

put together. You announced it at Google Cloud Next in London in November 2019. How the project works was you guys took out 600 Hadoop servers across 11 countries and moved 17 petabytes of data into a big data ocean. And I've always wanted to ask you guys this question, what was going on that drove that change that determined that you guys wanted to do that project?

Lester Thomas: [04:50] Before our partnership with Google, we had invested very heavily in our own big data platforms. What we found was we were sinking all of our time and money in addressing the underlying tooling, and we weren't really able to focus on-

DR: [05:03] The data.

Lester Thomas: [05:04] Yeah. The use cases was where we wanted to drive the real value to our business. And the tooling wasn't scalable enough and too many of our markets, they were still using legacy analytics and business intelligence platforms. So our moving to Google was a massive simplification. As you said, it was 600 Hadoop servers we decommissioned, and we rebuilt everything with cloud-native approaches and it was a co-investment with Google. We did things like built a new... It was called data movement as a service, so how do you stream data into Google Cloud in near real time? We also did a lot of standards across the whole company. So we did new standards for data quality, lifecycle management, the actual data models and privacy. And this has been the partnership, and I think it's been a really powerful partnership. I'm not sure if you saw last year we re-signed a 10-year extension to our partnership. So, clearly-

DR: [05:53] Yeah, I did see that.

Lester Thomas: [05:54] ... that's a sign it's going well. And the last thing I'll say is this strong data and analytics platform is absolutely foundational for all the work we're doing now with AI.

DR: [06:03] Yeah, no, I talked to someone from Vodafone about it a couple years ago and they described it as an incredibly difficult project that you wish you had done 10 years ago. It was the best move that you guys had ever made. And so I talk about this a lot in my speeches, on my podcast, that building a strong foundation is critical. It's the base layer for cloud and then now,

AI. And so this project we are just talking about, you've now expanded it with Microsoft in a project that you guys are calling AI Booster. So tell me about that project and what you're trying to achieve with that.

Lester Thomas: [06:37] Yeah, so our partnership with Google gave us a massively scalable data platform. Now, AI Booster was the next evolution. We launched it in 2022. Originally, it had traditional machine learning. So traditional AI, if there's such a thing.

DR: [06:50] Old school AI, if you can say that. Yeah.

Lester Thomas: [06:53] And we were already doing a huge amount of AI before GenAI appeared. So we're already doing lots of network AI things like anomaly detection, we're doing lots of customer AI, like customer value management. And then when GenAI appeared on the horizon, we extended it to support GenAI models and that's where we introduced Microsoft.

DR: [07:10] Perfect.

Lester Thomas: [07:11] So we effectively built this AI Booster across Google and Microsoft, and now we have access to all the machine learning, but also all these GenAI models. And we have models from OpenAI, Google, Anthropic, all the open source models, and it runs seamlessly. It's a single platform for us. And what it does to us is it supports everything that we need to do for AI, but it embeds our security, our privacy, our responsible AI guardrails. So it's how we democratize access to AI services, but while at the same time, we control AI sprawl and it's like we have to make sure that we're using AI in an ethical way. If you're going to embed AI in absolutely every part of your business, in every function, every piece of software, you have to do it as part of the actual software stack. It's not an afterthought. It's got to be part of your fabric of your software.

DR: [08:00] Yeah. And why the move with Microsoft? Was that more to be multi-cloud and not put all your eggs in the Google basket, or was there some services that Microsoft was coming to the table for Vodafone that you guys needed?

Lester Thomas: [08:12] Again, it's down to the data. So in Vodafone, we pool all our commercial, all our metrical or performance data in Google Cloud, in our core data ocean, but also we're very big users of

Microsoft. So all of our documentation, all of our unstructured data, all the knowledge workers, and that's what we're running in the Office 365 cloud. So when GenAI came, we knew that we wanted to be able to apply GenAI across both these gravity of data and Vodafone. And it's also given us access to all the OpenAI models on Azure as well as all the other models that run on GTP.

DR: [08:44] Yeah, totally. So I would imagine all of this hard work that you guys have been doing, thinking about AI at every layer, this very strong data foundation, how is it laying the foundation for Vodafone to adopt the public cloud more broadly?

Lester Thomas: [08:59] It's a good question. Practically, it started adopting public cloud even before that. So it was about a decade ago, we went very aggressively into public cloud. At that time, we knew that we had a lot to learn and we wanted to adopt the practices of internet hyperscale cloud companies, and we decided we had to do it in an agile way. So the first public cloud we did was in our customer engagement platform. So we did a huge amount of insourcing and all the customer engagement platforms are now re-engineered using cloud-native Microsoft software. And so think about the My Vodafone app or the TOBi Chatbot, they natively use public cloud services.

DR: [09:36] Yeah. So cloud-native means a lot of things to different people, could be the way I talk about it, which is an application built specifically for the public cloud with public cloud services, but I've coined this phrase, fake cloud, where people dump it into Kubernetes container because Kubernetes is cloud-native, all of a sudden, I'm cloud-native, or they lift and shift it to the public cloud. And so what does cloud-native mean for Vodafone?

Lester Thomas: [10:00] Yeah. You absolutely have to re-engineer your software. You can't lift and shift workloads into the cloud. And when we started this, we created our own definition. So there's a Vodafone definition, which was applications specifically engineered to leverage cloud services to deliver 24/7, real-time, on-demand, multi-tenant, elastic and scalable services. So it was about adopting the native cloud services, but it's also about delivering real benefits to your customers and to operations. And when we did the work, as part of our adoption, if you just migrated workloads to the cloud on virtual machines with the

same manual operations, we wouldn't actually consider that in our metrics. So when we were reporting internally on our cloud adoption, it wouldn't count even if you had moved something to the public cloud if it wasn't truly a cloud-native thing.

DR:

[10:46] So it's so amazing to hear you talk about how you guys are thinking about it because it's exactly the way I describe it and what I want everyone in telco to do. And so going a little bit further, last year, you were quoted as saying you're moving every new application to the public cloud. So let's double-click on that a little bit. If you look across your entire IT estate, what percentage of the applications are running according to this Vodafone public cloud-native standard?

Lester Thomas:

[11:12] So we've been doing it since 2015. So from 2015, we re-engineered all of our customer engagement systems to be truly cloud-native. Again, that was our learning exercise. Since 2020, we've moved every new application to the public cloud. And, again, this isn't re-hosting, this is re-engineering for the cloud. So if I look today, if you look at our digital workloads, like our engagement system, it's probably 80 or 90% in the public cloud. Our legacy core IT, this is the real challenge, that's much, much lower. It's probably more like 40%. But as I said, every new thing we're doing, over 90% of our net new investment is going into cloud-native workloads.

[11:50] And this is the real challenge that we're talking about in DTW, it's how do you re-imagine your legacy core IT as modular cloud-native software? How can you learn the lessons from digital and apply it into core IT? And we're doing this in a very collaborative way. So we've built a really strong collaboration with software vendors, with hyperscale cloud players, and even with our competitors, and we're standardizing how you build cloud-native components and how you build and deploy them. And our goal is for the whole industry to move faster and avoid this trap of migrating legacy practices and legacy processes as you move to cloud.

DR:

[12:25] Yeah. I mean, it's one of the biggest problems I think in the telecom industry. Coming in as an outsider and relatively new to telco, showed up in around 2017 and looked around and I was like, "Whoa, we haven't been deploying applications like this since the late '90s." But the burden of legacy is so heavy, there's just so much gravity with all the integrations and all the

applications. This is not easy. These are decades-long projects that take a lot of vision from the IT leaders of the telcos to have faith that it'll work. And you just hear about all the failed transformations. So there's a lot of fear.

[13:03] And so Vodafone has a huge BSS estate. Back in 2020, you were on a podcast talking about how every one of your OpCos has about 180 BSS/OSS applications. And so altogether, that's thousands of applications that you and your team are managing. And, obviously, as a distinguished fellow, you're widely adopting the ODA from TM Forum and the open APIs across these OpCos. And so what has been the biggest challenge in implementing the ODA and the open APIs across so many sites, and countries, and obviously different vendors?

Lester Thomas:

[13:40] Yeah, the legacy IT is the biggest challenge. The open APIs work brilliantly in exposing your core IT towards your digital channels. So we use them in every market and they've been really successful. It's been, again, one of the foundational things we've done. But the legacy IT, that's the biggest challenge. And the legacy IT, it runs our most critical processes. It's the most important part of our business. And as you said, previous approaches of greenfield transformations, they're too costly and too risky. Several years ago, we said we're not going to do that, and we had to take a different approach. And when we started this different approach, we knew we also needed to get all of our partners on board, to get the whole industry behind how we do this.

DR:

[14:17] Correct.

Lester Thomas:

[14:18] And when we started, we actually defined three new principles by which we would live and breathe to do this in a different way. And the first one was when we create standards for cloud-native software, those standards have to be software defined. You can't have standards designed to be read by humans. We have standards fit into our automation, into our CI/CD processes, and now you have to have standards designed to be read by AI models and Copilot.

[14:43] The next one was this adoption of this open source culture and practice. I'm a real big fan of that approach to collaboration. So when we're doing this open digital architecture, it's not a traditional standards collaboration. It's all

based on using all the tools and it's all built in GitHub, all the teams collaborate using all those tools, there's a huge amount of CI/CD automation. There's a completely different way of building standards. And the last one is we actually need to change as an industry how we procure software. So we need to move away from this RFP process to POC. So if I want to do something new, I shouldn't write documents and send it to suppliers to fill. We need to have more of a partnership and we need to have strong standards, so I can very rapidly assemble proof of concepts. But there are selections that should be based on real data from real working software. That's the only real-

DR: [15:33] Absolutely.

Lester Thomas: [15:34] We actually launched this standard on the 1st of January this year. So this standard for components is quite new. All the hyperscalers in the world have joined in. Virtually, all the software vendors, all the strategic vendors or partners of Vodafone have joined, all the CSPs have joined, and we believe this will give us a times 10 improvement in agility and efficiency. So it's not we do this and we can shave 30% off our operation. And they only launched in January. It's already live in our first market in Greece. They're getting real results and they are matching to say, yes, it does give you this step change in performance, in agility, and efficiency.

[16:09] And what I'd say is this is just the beginning. And in fact, I think the most important thing that we're doing is this collaboration, because this foundation of how you build agility and how you interact with partners is the most important thing. So we have this innovation hub as part of the TM Forum. I meet with the team every day. We have a daily stand-up, and it's how we're pivoting to drive all the AI into all of our components. We don't know what's going to come tomorrow. Whatever tomorrow throws at us, agility for us to collaborate at scale and at speed, that's the most important thing.

DR: [16:40] And is it antithetical for the vendors to collaborate in this way? Speaking as a vendor, you're like, "Hey, that's my IP and now I'm opening it up and sharing it," does it mean that Vodafone is now building most of this stuff and not relying on vendors as much? But you mentioned that you're collaborating with your vendors.

Lester Thomas: [16:58] Yeah, we were very open up front. So everyone who has joined this, they signed a manifesto that's set out basically the foundations, the infrastructure software is all open source. And it is, anyway, if I went to any one of my vendors and I said, "Show me your fantastic functional software, show me the platform it runs on," it all runs on Linux, generally runs on Kubernetes. Generally, there's a whole suite of open source... So we said, "Let's just accept that's the case and the infrastructure software, let's build as a common reference implementation," and it's all about the integration layers between the software. And that's what we're open sourcing.

DR: [17:36] Okay, got it.

Lester Thomas: [17:37] The actual functional software, it's still like a black box. It's still commercial proprietary, but how is it exposed? And we're removing friction by how you deploy, manage, and operate, which is much more at the infrastructure layer rather than the functional layer.

DR: [17:51] Well, you've been talking about AI and how you're starting to adopt it and add it to every layer. And so you have your cloud-native approach, your TM Forum mandate and openness, there's no one better positioned to start implementing and adopting AI than I think Vodafone or data project or cloud-native approach, and of course, the TM Forum ODA. And AI has, you mentioned it earlier, burst onto the scene. Every day, something new is being announced. And so how is that changing the thought process at Vodafone and how you guys are implementing technology?

Lester Thomas: [18:23] Yeah, this AI is way faster than any of us even predicted.

DR: [18:27] It's crazy.

Lester Thomas: [18:28] Yeah. And that makes you stop thinking incrementally. You have to rethink virtually everything that you do. And that's what we've been doing. So when we built this AI Booster, it was to democratize AI across our business. So AI is not done in this one functioning Vodafone. For every functioning Vodafone, you'll see their own strategy for how they're adopting AI to make their part of their business more effective. But you have to do that to enable you to work at AI speed.

[18:56] And it's forcing us to rethink everything from how we design software. So we're thinking about machine-readable architecture, artifacts, and standards, and it's like how do you embed AI in every layer so it's not just the actual functional software, it's how do you operate it, how do you design it, how do you build it? It's not a feature, it's the fabric of the software itself. And you have to also be clear on your goal. So our goal is quite simple. It's to amplify human capabilities. The goal is to make them more capable in doing their job, to make them faster, smarter, more creative so they can do things that they wouldn't have previously been able to do. And if you want to see this, we've got some great demos coming to our stand at the TM Forum conference. So come by to the Vodafone stand, we'll talk about cloud-native, AI, ODA, what it takes to build a future together.

DR:

[19:44] Yeah. Well, I think a lot of people are going to be interested. I get that question a lot of how are you actually making it happen? And I've been saying I think the LLM layer is a commodity. You're going to use different models for different tasks. You might be optimizing on cost or speed or accuracy. So you've got to build your system in a way to adopt the different models. And I think the value really is in that application layer. And I think your enterprise data being super valuable and being able to access it from different parts of your organization, and then use an LLM to come up with a great answer is something we've never experienced. It's changing the design of organizations.

[20:23] My big idea last week was we're no longer going to have org charts, because org charts represented knowledge of humans, but instead, you're going to have some hierarchy of our agents, the AI capability with the knowledge embedded in that. And it's just such a different way to think. And so Vodafone is obviously pushing boundaries, taking risks, and I've heard that when you're not revolutionizing telco technology, you're a big adventure seeker flying planes, sailing, and you're picking up a new sport that's called wing foiling. And so what is wing foiling? Tell me all about that.

Lester Thomas:

[21:00] Yeah, I do like adventure sports. So I've had a pilot's license for many years. I once had an incident where I had an engine failure and I had to land in a field.

DR: [21:09] Wow.

Lester Thomas: [21:10] Fortunately, my training kicked in and I landed with no damage to myself.

DR: [21:13] Yeah. Steady hand and mind. Yeah.

Lester Thomas: [21:15] We have this saying, "A good landing is one you can walk away. A great landing is if you can use the plane again." And I could use it. I didn't damage the plane.

DR: [21:24] Right. That's great.

Lester Thomas: [21:25] Yeah. I've just taken up this new sport called wing foiling, which you stand on a board and there's a hydrofoil wing under the board, so effectively you're flying in the water, you hold a giant inflatable sail. Basically you have to pretend you know what you're doing while the wind launches you into spectacular wipeouts. So it's a bit like flying, but it's much less control and much more splashing. And, for me, that's what draws me in. So whether I'm flying my plane or on the water or working in tech, really for me, it's all about learning new things. It's about trying new approaches.

DR: [21:57] Absolutely.

Lester Thomas: [21:58] And occasionally falling over in style.

DR: [22:00] Well, I think that spirit that you have, you bring to your work, and I wish more telco IT executives had that desire to experiment and take a couple of calculated risks and rethink. And so your sense of adventure certainly carries over into how you are reshaping IT and trying to get out from the burden of legacy and really imagine a new way of working. And so, Lester, this has been an amazing conversation. I'm sure a lot of people have learned not just what Vodafone is doing, but maybe a way forward. And so I really appreciate you coming on the podcast. Thank you.

Lester Thomas: [22:33] Thanks very much.

DR: [22:38] Stick around. We end each podcast with a "Telco in 20" takeaway. I've got two minutes to tell you something you need to know. Did you hear Lester talk about the hard work Vodafone

has been doing to build a foundation for the future? They started way back in 2019 and put themselves in position to adopt the public cloud, embrace TM Forum's ODA and open APIs, and implement AI across the organization. Talk about vision. I wish I could tell you there was a shortcut to achieve what Vodafone is doing and has done. There's not. Your team has to roll up their sleeves, put their noses to the grindstone, and start transforming. You heard Lester. You have to adopt a truly cloud-native approach, rethink your tech stack at every layer, and make it crystal clear to your vendors that you're dead serious about change.

[23:30] For all the industry leaders out there, the best day to start your transformation was 10 years ago. But the second-best day is today. It's time to stop tinkering with broken down legacy systems and rethink the way you work. This is 100% what Totogi is all about. We're serving customers like Vodafone that are redefining their entire tech stack from the ground up. And we can help you too. If you're ready to become a modern telco, come find Team Totogi at TM Forum's DTW Ignite, running June 17th through the 19th in Copenhagen. Send me a DM on LinkedIn or X, @TelcoDR, and we'll set up a time to meet. Until then, tune into more "Telco in 20" episodes, like and follow, and leave us a five-star review. Don't forget to sign up for my awesome email newsletter on telcodr.com and check out our kick-ass YouTube channel. While you're there, be sure to smash that subscribe button. Later, nerds.