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Modernization: Architecting the Future of Your Business - **London**

Janet: Good afternoon, everyone. Whether you are joining us virtually from all over the world or here in the room with us in London, we are so excited to be with you. I'm Janet Wu, an anchor reporter based in Boston, where I see new technologies developed every day. That's one reason I'm so excited to host this presentation on modernization: architecting the future of your business.

Building an environment that creates value while maintaining innovation and security is a tall order, but it is a strategic imperative for companies that need to compete. Success means managing the complexity of multiple platforms with tech solutions to prepare for the future, a future that also demands a greener footprint. It also means recruiting and retaining the talented who can thrive in these constantly evolving environments.

Among the topics that we will explore today in very efficient manner, creating tech-enabled innovation to move organizations forward fast without introducing high levels of risk. We'll also look at ways companies are attracting the talent to build these solutions, and also, especially now, how to keep that talent.

Before we get started, a few items. For our virtual attendees, if you experience any issues with the audio or the video quality, do this simple thing first, just try refreshing your browser. You can also use the Chat box in the bottom right corner of your screen for support during this event.

We have partnered with Thisten, an audio-to-text platform, to transcribe this discussion in real-time, and that's making this event more accessible. You can access Thisten via the link in the session description.

For everybody, we would love to hear your thoughts throughout the program.

To submit questions virtually, please click open the white tab on the right side of your video window. For all of you here in the room, you can submit questions by scanning the QR code on the screen behind me.

Also, we are talking about tech, so please engage with us virtually on social media using the #RethinkModern.

I would like to acknowledge our sponsor, IBM, for making this conversation possible.

With that, I'd like to invite David Hewitt, IBM's director of Cloud Platform in the United Kingdom and Ireland, to the stage to make a few opening remarks.

[music]

David: One clap. Good evening, everybody. Thank you, Janet, for the opening, and thank you everyone for coming this evening. Just a few opening remarks just to get the conversation going. Quick story, almost 20 years ago, the start of my fledgling IT career back when I had a long ponytail, back when I was in the data center to try and

make a big difference, I was thinking about that early experiences as we do, the failures and successes that we take back into our careers that we've learned from early days. I was thinking about those days while I was thinking about this event.

I've thought about a few key themes. It was worth drawing back out to try and appreciate why we talk about these topics and get away from the buzzword side of it that's so easy to get stuck into. A couple of things that had made me thought about it.

First big project with the ponytail was a public sector project. It was a records management implementation, probably one of many failures that I and others might have been involved in, but it was a big project. Some key themes we wanted to take a number of IT systems together. We had grand visions of how simple it would be. We thought we could re-modernize the architectures and redesign something for the future for an important government department, and it didn't work. It was complex, but we were trying to modernize the architecture.

The second thing we were thinking about trying to do, we brought virtualization in. VMware was probably just coming into its fruition being accepted from an enterprise point of view. I'm sure many of you you will remember that. A little bit like cloud is today, that had gone from being something to play around with to something that really could be used to change technology. We did that successfully.

We brought the data set of footprints based on from over 50 rocks of kit down to 5. By doing that, we were able to reduce costs on air conditioning, on electricity, and other facilities costs. We were thinking whether we knew it or not, about sustainability and resource allocation. We also had some great technologies that we thought were all snazzy, we wanted to get into the project. My role was part of the team within the infrastructure and security space. I spent quite a bit of time with Cisco technologies that just happened to be the flavor of the day. Again, if you were around, you'll probably remember the head of Cisco. I come in into the IT world in the early 2000s.

If you did, then you'll also know that NAC, Network Access Controls, were a great idea but almost impossible to implement. You'll know that Cisco's 6,500 rooters and switches were not the easiest things to install into data center physically, never mind the configurations behind it, and the many other technologies that we tried to bring together.

The key thing I remember from that back to today was that it seemed that there was only one genius in the team that was actually able to bring these things together. We all thought it was a great idea, but none of us knew how to actually configure it. We had a talent problem, we had a skills gap, we didn't call it that then, but that's what it was.

Then finally, being a public sector project, security was obviously of the utmost importance. If you were again around in the early 2000s, security was all about putting as many firewalls as you could into the solution, and making sure that your physio diagram was full of firewall icons to keep the accreditor happy, because we all know that that made it secure. Of course, it didn't. Again, that was the very early days of us being challenged between wanting to be secure and wanting to innovate and use technology for what it's needed for. That's, again, what we're struggling with today.

All those topics I've shared 20 years ago are the same topics we're here to talk about today. I slightly got depressed last night when I thought about it, "But why have we not fixed this yet?" Then I started to think, "If we reorient it, why we're still worried about it and why it's different?" Technology has changed in its role in society, and that's what's changed. The problems might be the same, but the stacks have increased, where technology in the past was mostly back office support, maybe systems of record but still drives indirect value into an organization.

Technology today is right at the center of how any organization in any industry can scale and be successful. We know that and we say that. We see in the banking world, we see as consumers we want mortgages. We want a personalized experience, we don't want a piece of paper to fill in on a six-week wait and the same approach that everybody else gets. We want it personalized. That needs technology. We think about the retail space that needs to automate and go faster in supply chains. We know that now more than ever they can only do that with technology.

It's not about the back end, it's not in the front end. We know in pharmaceuticals over the last few years that want to get vaccinations on, they need computational power to go faster and not slower. Who wants to go slower? The end user doesn't and the pharmaceutical doesn't. They have to go faster, and to do that, they need to use technology.

Now with technology plan, it's completely different role in our society. It's the same challenges that we had before that now I have a completely different perspective that we have to solve. That's why we come to these kind of events, why we read about these kind of articles, and we do perhaps get a little bit fatigued about the buzzwords sustainability, the talent gap, and those kind of things. It's important to try and refresh our minds as to why we talk about them and why they're important.

I hope that sets us up today to feel a little bit more refreshed about the buzzwords, and to really hear some case studies from others in the audience who are trying to do this to try and resolve the same issues that perhaps I was 20 years ago.

Thank you again for your time this evening. I will hand back to you, Janet.

[applause]

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Janet: David, thank you. Indeed today is about identifying the problems and hopefully solving them faster. Let's dive in. Companies across all sectors are driving business innovation with a cloud-first model, not just to have problems solved with speed and agility, but also to solve things and to meet ESG goals. We are lucky to be joined today by three leading executives in London to hear how they are creating modern architectures that encourage innovation without sacrificing security.

I'll turn the stage over to my colleague, Tamlin Bason, an analyst with Bloomberg Intelligence, for a conversation with Rishi Das-Gupta, CEO of Health Innovation Network, Josie Smith, Chief Architect, BT Digital, and Amitabh Apte, Vice President, Global Chief Information Officer for the Pet Nutrition Business of Mars Inc.

[applause]

Tamlin: Thank you. Thank you, Janet. This is mostly going to be a discussion between our distinguished guests here, but I'm going to set it up a little bit by just talking about the last few years which we've seen a barrage of shocks that have left no sector untouched.

Market share gains. We've seen gains and losses based on how quickly enterprises within those given sectors respond to that disruption. We've also noticed, during that time, that the correlation between digital transformation and resiliency to those disruptions become clearer.

Today, we're privileged to have these representatives, and they all come from diverse sectors that have had very unique challenges that they've had to cope with over the last few years. I look forward to hearing about the respective journeys, and to talking about what the next steps are as their companies continue to innovate, to stay at the forefront of technology.

I'll first ask a few questions, and if there are questions from the audience, we'll get to as many of those as possible. Janet has introduced the speakers, so I'll jump right into the questions.

Josie, I'm going to start with you. When you talk about the need for digital transformation with stakeholders, what are some of the things that you stress? What are the drivers for the need to do that? Are there any sticking points that maybe cause some anxiety on the part of the stakeholders?

Josie: Yes, and I think particularly when we're talking about cloud, actually, when I talk to my stakeholders, I talk about some of the elasticity and the agility that we need in our current markets or if in BT as we think about different categories that we want to get into, like drones or FinOps, and how quickly do I need those to be spun up, because it's all about time to market and agility, and getting there very quickly, and in an agile world, getting to a point where you can really build, measure, learn.

I think Cloud offers us that, but the elasticity aspect of Cloud has an economic advantage for us as well, like BT, because you can turn things off, you can test development that you spin up one day and you close down another. It's not like a data center anymore where you have to buy the kit and close down. That's the way that I talk about it, and I think that's really welcomed in our organization, particularly in terms of the speed and agility of which BT wants to go and move into more of a tech sector than just Telco.

I think that the challenge we have is exactly what David talked about that he had back when they were talking about 6,500 in the data center, is skills and culture. It's a different way of developing. It's a different way of thinking, and at BT, we are very focused as well on making sure that we've got those skills and we've got that different thinking in a digital space. It's different. It's very different.

Tamlin: Great, Thank you. Rishi, turning to you, the health industry wasn't spared any of the disruptions. The other sectors had, but you had this added pressure of being able to provide services, was quite literally a matter of life and death. Can you talk about what you saw in this sector, the approach to digital innovation, did it shift during that, and maybe where you see that going forward?

Rishi: A great question. We saw a lot of change really quickly. Probably things that we had in train accelerated really a lot fast than we would otherwise do it. Because it's healthcare, we are generally quite risk averse, and the move fast break things approach doesn't really work. We all try and plan a lot in advance. What we saw during COVID was a fundamental reshaping of that risk profile and the assessment of risk within it. Things where we might say, "Well, we'll go with the old way because that's safe, and we'll rigorously test the new way before we try and roll it out." That just didn't work.

Pretty much overnight we rolled out things that we had been planning or perhaps had in train, which we knew weren't going to be a perfect solution, but we got them out there quickly, and actually put a lot of trust in our employees to say, "Well, if it isn't working, you need to shout quickly to us and actually skilled up our help desk." I was actually out in there for a while as well, just to make sure that they were logging the calls properly, trying to work out what they highlighted and what they said can wait for a little while.

We put a doctor down in the IT help desk because actually, one of the things which our technology team struggled with was to understand which bits of the hospital were, as you said, life and death situations, and which were things which actually could wait a little while.

What I saw was that we had groups in the hospital who might not otherwise talk to each other, really getting to know each other's outside healthcare, we call it each other's businesses, right? That's the piece that I really observed, this cross role, cross-fertilization of understanding what to do. In doing so, we rolled out a lot of

things that weren't perfect, and I think we are now moving into a phase of consolidating what we learned from that and going back and re-procuring some things that we rolled out quite quickly a couple of years ago.

Tamlin: Great. Do you feel like some of those shifts are long-term, at least, that you're taking the bits that maybe worked and sped along in innovation.

Rishi: I think so. I always think of healthcare, little cottage businesses within a framework organization, which could be a hospital or something like that. What we've seen is that we can now deliver those services pretty much site agnostic. It really changes that paradigm around. We can run a clinic pretty much anywhere. If you want to go out and run it in a primary care center somewhere if you set up there to do it.

That's one of the areas where modernizing the architecture is quite important, because being site agnostic is something we might have traded off against security of an on-prem situation before. That's where we're coming from. I think that's there to stay. I've just come from talking to another CIO who's just done the business case for their cloud platform, and when they've done it, they were expecting to say, "Well, we're going to pay more for this flexibility." That world's changed. It's more or less neck-or-neck now.

Tamlin: Interesting. Amitabh, turning to you, can you walk through how Mars, and specifically your unit within Mars, has leveraged digital innovation to manage supply chain pressures? I guess touching on also automation AI analytics, which I assume plays a large role in that, I'd be interested to hear how that's going.

Amitabh: If I may just set the scene, because I think some of you may or may not know what Mars Pet Nutrition does. Can we just have a quick poll, a show of hands, people who got pets during the last two, two and a half years? People who got a new dog or a new cat in the last two-- A show of hands, friends, and family got dogs or cats? Quite a few hands are going up, right? That just makes a point, that actually what's happened in COVID and post-COVID, is some interesting trends have emerged.

People accepting that pets are good for your health, good for physical health, good for mental health. The pet adoption has gone through, and it just keeps going. Obviously, it's got an impact on us because the more pets, the more pet food.

Going back to your point about elasticity, that's a classic example of elasticity and flexibility and demand going up. It's a no-brainer that we have to go towards the Cloud thinking. I think the challenge is a bit more subtle than that, because the demand is also met with the supply issues. You can have demand to produce more pet food, but you may have issues on the raw materials. You may have issues on packaging. You may have issues where the suppliers and the factories, which actually produce X volume, actually are in X plus Y volume. How do you scale that?

Just throwing Cloud doesn't actually help. It's also the processes next to that. Most of our factories and warehouses are paper-based, so addressing that, tackling that, and again, you can leverage Cloud for that instance.

I guess the point I'm making is, I think it's a perfect use case to demonstrate where Cloud helps, but just throwing technology sometimes doesn't help. I think you really have to think about a process, the people's education, the security aspect, we shouldn't even talk about. Yes, it's been fascinating, and I think this has been a very unfortunate situation, but I think it's made a lot of patterns here to stay now, at least in the supply chain industry.

Tamlin: Great, thank you. I'm going to stick with you for a second and talk about your role. Sustainability is obviously a big part of the company's vision. In your role as CIO, how do you try to leverage technology to help the company deliver on those sustainability?

Amitabh: Mars, as a company which put its operating principles above anything else, I think sustainable goals is something which we have signed up, not just the pet nutrition business, but also the Mars confectionary chocolate business, the food business. We are looking at it from different point of view. I think I can step back and think about the value chain or the supply chain from Mars. The sustainability is not just looked at from a factory or a warehouse or office building, it's actually looking at the whole value chain where you are getting the raw materials, we are getting the packaging goods and so on so forth.

One of the examples which I'm personally very proud of, is what Mars has done in terms of the Hope project. If you haven't, I think it's a pretty cool project to look up and search for, the Hope Coral Reef Project by Mars, where one of our brands actually, which is a cat pet food brand, obviously it's based on the fish and the marine life, and the implications of overfishing are well known, well documented. What Mars has done is went right back to the supply chain to say, "Actually, it's not just putting the paper or the packs, if you will, but we have to go right at the route."

The Coral Reef Restoration Project, which is the Hope Grows campaign by one of the brands, I think it's phenomenal. That's just an example of how a big corporate can actually really play the change agent role, which is going right to the root of the issue. There are plenty of examples where we have removed a lot of paper from the value chain in terms of how we do the warehouses, to factory, to distributor.

If you look at the Western World or developed markets, it's quite automated, but I would just be into some of the developing markets and the factories and the supply chains, it's still quite manual. You can do a lot of things to remove the paper, remove efficiencies, introduce the fuel efficiency, which is going to be very important now in this energy challenge times.

I think, again, just to summarize the holistically looking at the whole value chain and where you can take out things, where you can optimize, I think we should be looking at. That's exactly what Mars is doing.

Tamlin: Thank you. Josie, similar question actually, BT has some pretty ambitious carbon neutral goals. How does cloud help you, help management reach those targets?

Josie: BT, its goal is to be carbon neutral by 2031. If I look at it from a pure tech perspective, I've probably got, well, it's about 2,400 applications. I won't give the exact number. Some of those applications are as old if not older than myself. When you think about all of those being on-prem in a data center, the older the tech, the hungrier it is for energy. Our ambition is 2,400 down to 500 or less in five years. It's going to be a great addition. There's other things we have to do, but that's how it's going to help me partly achieve that goal of the carbon neutral goal for us. It will take all of that tech out, and it will shut down some of those energy hungry applications.

Tamlin: How do you deal with going from that many applications to much fewer? Does that raise any anxieties within BT? How do you manage expectations or change and the real world impacts on stakeholders?

Josie: Coming back to your point, this is a business transformation. You can't just go, "I'm going to re-architect my tech." You can go so far in doing that, but we're on a simplification journey at BT. It starts with product simplification, process simplification. We are re-imagining every single customer journey in a digital way, and with the whole company actually focused on that, that's how you can succeed. You can't just go in tech, you don't get deep enough into it. All we're doing is automating those processes and those journeys, so you have to have everybody on board.

Tamlin: Great. Rishi, obviously data privacy has been a hot topic now for well over a decade. When dealing with health data that there are significantly more restrictions on what you can do with that, how you can collect that. How do you bake that into everything you do, and with working with the groups you work with, how does that take front and center, and how do you massage around those issues?

Rishi: We're not massaging around the issues. I'll choose my way. You're right, it's a big issue. I think when David came up at the beginning actually, five years ago, when I talked to my board about issues, they would feel strongly that actually having everything on-prem meant it was safer. Having a team of people on site who were responsible for it meant it was in our control. I think that notion of what is secure has changed, and also which data we have in which environment for what purpose is the way that we now think through it.

There's data which is used out for direct patient care, there's data used for planning which is a slightly higher level and in a slightly different environment, data used for

research, which is often fully anonymized. We'll come back to that, but fully anonymized in a way that can be used for research, and that others can access for specified purposes. Then linking that back to panels of patients and general public to try and work out what use cases we want to be using data for. That's the approach we've been taking. I think consistently what I've heard is that whenever we ask people working in the NHS, people assume the NHS is a single organization and all the data is available throughout it. It's not quite that.

I think that the more that we ask people, the more they come back to us and say, "Actually, please do use the data for that. If it improves care, if it isn't being put in an environment which is not secure and others can access it, if it's used for sensible purposes, please go ahead." I think that's the environment we're in. I think in that respect, we're probably in a similar world, but listening to both of you speak, actually, I was thinking about the journey we're in, in terms of complexity, because we're in perhaps in a different place for that. Again, five years ago, we were moving to a cloud first system, trying to reduce the number of systems down.

In COVID, we've massively expanded that, expanded the complexity because we don't have the ability to lose customers along the way. We've got to serve everybody. If we add a function and an alternative way of delivering a service, it's additional to what we had before, and we're now running two operational processes in parallel to do the same thing and perhaps more systems than we otherwise would be. I think we're in a world of increasing complexity for perhaps the next five years or so, and then perhaps consolidation.

Tamlin: Interesting. Josie, similar question on security and--

Josie: Security.

Tamlin: Yes. [chuckles]

Josie: We serve healthcare, we serve government, so just because you're Cloud first doesn't mean that that's everything in the Cloud, or everything may be anonymized. Consent and all of that comes into it, I think. Yes, we are critical national infrastructure at BT, so we have to be careful about what we choose to put in the Cloud, and how we put it in the Cloud.

I think that you have to have zero trust. You have to put in the right level of controls. No, it's not that you didn't have those controls before, but I think because your data's being used as part of critical processes, now critical journeys, you have to be vigilant with that. We talk about Cloud first, but we actually also talk about security first and security right at the start and all the way through.

Tamlin: It's not something that's just addressed initially?

Josie: No.

Tamlin: How?

Josie: You have to have a good strategy around that. You have to be well thought out.

Tamlin: Great. How have these discussions evolved in the last few years? Is it more front and center when you're building these processes than it has been?

Josie: Yes, I think so. I think people did think that maybe you were safer when you were in your data center. Public Cloud, I think because of the concerns and because of how careful you've got to be, has meant that we've had to bring those things to the forefront. It's one of the first things you should think about, is what can I put in this Cloud? How can I do it? How can I do it safely? Data privacy and security in a zero trust way. It means that those things have got to be forefront in your thinking, and not just when you're about to code, but in your strategy, in your planning.

Tamlin: This question's going to be a little bit for all three of you. There's obviously a lot of economic uncertainty whirling in the markets lately, especially sitting here in London. If you haven't looked at the pound lately, maybe don't. When you talk to stakeholders about the critical need to move forward with your modernization plans against this economic backdrop, how would you approach that conversation to talk about the balances and why waiting may not be an option?

Amitabh, you can start.

Amitabh: I think for me, this is about a north star conversation. What's the vision? Where do we want to be? I think you cannot make short term decisions based on what's happening with pound, for example. I know you're making a point, but I think it's a three, four, five-year vision.

Then I think as a CTO, CIO, CTO, whatever the title is, I think you need to come up with the architecture, which takes there. Architecture is not just tech architecture, but it's also the business, the application, the data architecture. We didn't even talk about the data aspect of it. All of those things actually play the part.

Again, going back to my previous point, it's also the people in org architecture, because it's the people who are going to actually make or break your new architectures. I think it's very important to have that sustainable idea behind that it's the people in org which is going to scale, because that's what you want eventually. All the businesses want to grow. I don't think any businesses, we don't want to grow anymore. Clearly, how do you scale?

I think these two balances, and I think as a custodian of that balances, I think the role clearly cut out, at least for me or people in tech leadership, is how do you maintain the balance of that vision with your tech architecture and we do people architecture. Because, one, I think it's very important for the other to work.

Tamlin: Rishi.

Rishi: I think, in healthcare, there's a real, putting aside global headwinds, there's a real cost containment mentality that in every geography that I've worked in, that's the case. There is no magic pot of money to drive a lot of investment in healthcare tech, but what there is an increasing recognition that technology offers a way to improve service delivery, reduce carbon footprint, and actually provide learning for a health system so that it can go on a continuous improvement journey, which ultimately we have to take a leap to say that will reduce cost.

There is a move to try and drive an increase in use of technology in healthcare, use of electronic patient records, use of patient held data, use of data for research, some of which is centrally funded, but actually every organization has to go down this journey.

It means that there are a lot of relatively small organizations with their CIOs, CTOs trying to make calls about this, and coordinating with their partners around them. It's actually one of the things that we do at the Health Innovation Network.

I think that in my industry, everyone's made that leap to say, actually, the only way to drive improvement is through better use of data, and through better use of technology. I just come from some meeting before, we were saying, can you ever have pathway change nowadays without some technology involved, and could you ever do technology change without doing operational and clinical pathway change? I think our answer was the two are totally interconnected now. It isn't a choice of do we invest, it's a choice of how do we invest.

Josie: There's two sides to this, the first is growth. You need the agility. You don't have to have a lot of money to innovate, but you do need to be able to get on on it quick. You need to spin up things fast. Cloud's part of that journey for us. That's the growth side of it. That's important for new categories we want to get into, but also things we want to do with our customers, because we serve consumers and enterprise business. When we think about our journey, it's not just our journey for us as an organization, it's our journey for our customers who are also trying to do things like you've said.

The second is the estate that you have today and how much that costs you. In this economic environment, can you afford to do that, or have you got to simplify and save those costs? We will half our costs and double our productivity, and Cloud is a part of that journey for us.

Tamlin: Great. Thank you. I think we're going to end it there as we're running out of time. Please join me in thanking these panelists for a really interesting discussion. We'll have more speakers coming up afterwards.

Josie: Thank you very much.

Amitabh: Thank you.

[applause]

Tamlin: Thank you again.

I'd like to welcome our next speakers, Prakash Pattni, who is Managing Director for Digital Transformation and Cloud and Financial Services for IBM, and Lauren Kiel, General Manager of Bloomberg Green.

Lauren: Thanks so much. Hi, everyone. Prakash, thank you so much for joining me.

Prakash: You're welcome. Thank you.

Lauren: One of the things I was thinking as they were just having that last conversation was, when you ask a business leader what technology or what Cloud is doing for their business, how can it be helpful to them, they probably say something like, it's helping us optimize. It's making us more efficient. It's helping us transform.

The interesting thing about that phrasing and that framing is, you could take the same thing to sustainability. As you help a company become more sustainable, they'd use those same words and go for the same goals.

I'm curious, especially in the environment that we're living in right now where there's this massive energy crisis in the UK and across Europe, how are you seeing your clients and businesses just in general feel that pressure to move to be more sustainable, and how is tech helping them get there?

Prakash: Yes, sure. I think one of the things we're seeing is, as we've spoken about previously in the prior talks, people are increasing their digitization efforts. Wanted to digitize their operations. There's also data continues to grow exponentially. All of this is putting pressure on data center capacity. I think some of the recent statistics were data center, global energy consumption or capacity has increased by 43% over the last three years. I think even in terms of when you look at the global footprint, it makes up almost 2% of global energy consumption. That's nearly the same as the aviation industry. You can see this is growing massively.

Now, operators have spent a lot of time looking at how they can make these, reduce their energy consumption, and data centers are getting more and more efficient. The energy crisis, I think has put into sharp focus how much more important this has become because of supply constraints, geopolitical events have created a significant increase.

Now, all of that has meant that sustainability and energy conservation has raised significantly in terms of the priorities for businesses. A recent survey that we did of 3,000 execs found exactly that it gone from maybe being below in the top 10 somewhere to it's now in the top 5. The other interesting thing that we found from

these execs was they also found this was one of their greatest challenges in terms of being able to address this particular issue.

Getting back to your question in terms of specifically what's changed, I think is that whereas previously IT buying decisions were framed around cost, around security, around performance, there's now the additional dimension of sustainability.

In the conversations I was having with clients last year, it came up occasionally, but not too frequently, but now it comes up almost in every conversation. Even when we are talking to them about strategies and things, they're often asking us, what is your renewable strategy, what is your greenhouse gas reduction strategy, how do you make sure you're green.

I think, one, it's become much more important, and it's an additional dimension in terms of how people are thinking about IT. What that in turn has done, though, is that, previously there may have been a little bit of a silver bullet approach to technology. We were hearing things like I'm just going to solve all my problems by going to the Cloud or just build my own data centers, whatever it might be. It's driving much more of a hybrid approach.

To give you an example just in terms of how you have to think about this technology, if you had a workload, you put it on an IBM LinuxONE box, you put the same workload on an X 86 server, it's going to consume up to 75% less energy on the LinuxONE box.

Where are some of these technologies that people had historically thought about as being, they wouldn't maybe not have considered them now, or they're starting to think about them because of some of these differences that when you consider sustainability, it brings into the equation.

Some of the things that we are doing with clients, especially as they start thinking more about how do they operate in this hybrid environment, is working with them to understand how do we design, how do we build, how do we manage these hybrid environments, how do we help them meet their sustainability goals, how do we optimize, how do we reduce the energy footprint, how do we look at virtualization, containerization technologies, but even for energy intensive operations like AI or cryptography, looking at things like hardware acceleration solutions. Really where we're ending up is a little bit more of a hybrid world where you're trying to fit the best solution for the particular problem that you have, and then would bring a lot of that capability, be that around technology, be that around services, be that around measurement, to help solve those little problems.

Lauren: You mentioned that clients are also asking you what are you doing about your greenhouse gas emissions, what are your policies. I can imagine they want to know both as a partner but also because they're thinking about their scope, 1, 2, 3 emissions where you fall within their supply chain. What are you doing?

Prakash: One of the interesting things, and I've only been at IBM a short time, 18 months or so, that I discovered was that IBM had put together its first corporate environmental policy back in 1971. That was six months before even the US set up its Environmental Protection Agency. A year before the first UN conference on the environment. We've been thinking about this and working on it for a long time.

Fast forwarding to 2021, one of the things we did was we issued a document which was called IBM 21 which laid out 21 specific goals related to the environment. They looked at things we were doing around climate, around energy, around biodiversity, conservation, waste management, supply chain, et cetera. Just to give you a few highlights, we're on our, I think third generation of renewable targets and goals, and our fifth generation of greenhouse gas reduction goals. We set ourselves targets to have net zero greenhouse gases by 2030, and 90% renewable by the same time, but we also have goals around, we spoke about water management, for example. Where we have data centers in areas of water stress, we are continually reducing our consumption. Every new generation of technology we build and create, we're looking at making more energy efficient. Where in our packaging we're looking at how we source that from sustainable goals and reduce single-use plastics in everything we do. There's a lot that we've been doing for a long time, and we will continue to do.

Lauren: I'm curious, you mentioned you're reasonably new to IBM. Was that immense focus on sustainability one of the things that drew you? Are you seeing that with any of your other coworkers, that that's something that's drawing them to the company?

Prakash: As I said, I think it's become much more into the consciousness of people that we're talking to anyway. I think it was always something that was in the back of our minds I think as consumers, but I think with the energy crisis, it just brought into chart focus. We were talking, I think before we came on here, that how COVID accelerated digitization. It feels like this next crisis is accelerating the move to renewables. Something that was probably going to happen at a slower pace, but I think it's going to happen at a much faster pace than maybe we were anticipating a couple of years ago. I think it has definitely changed, and I think the focus is just going to continue now that people have seen they can't rely on this energy security. They're going to have to think much more deeply about this going forward.

Lauren: With all of those goals that you mentioned, anything, in particular you'd call out that you think that IBM is doing really well to try to achieve those goals?

Prakash: Yes. There's a number of things I would talk about. One is, we talk about energy conservation, and that's really important. We've been running a number of projects. We ran 900 in 2021. We identified nearly 100,000 mega hours of energy efficiency savings. We've been running this since 1990. We've saved over nearly I think it's 10 million megawatt hours through all of those exercises that we've done.

We're also working with our supply chain to bring some of our expertise to them so they learn from it and can improve their sustainability goals.

We're also a member of the Climate Neutral Data Centre Pact. We're a signatory to that along with a number of other organizations, and are looking at how we operate data centers in a sustainable way. As part of that, we're working on best practices for water consumption in data centers. Some of the other things we're doing around using artificial intelligence to help us run and schedule workloads at the right time to try to match the demand of compute against when we have abundance in the supply of renewable.

To put into perspective, do schedule your workload when the sun's shining or when the wind is blowing the most strongly. Then finally, there's a lot of tooling that we're bringing as well because all of this is about transparency. If you can't manage what you can't measure, there's there are tools which allows you to automate collection and assessment of all of your different activities and how they contribute to the carbon emissions and greenhouse gases, and allows you to identify ways of optimizing against that. These are all the very practical things that we're working on and doing to push the agenda that we've been focused on for many years.

Lauren: Great. In our last 20 seconds together, our audience here, we have a lot of technologists, people who are experts in the technology space. What would you love to see from your peers and everyone in the audience to help with moving towards sustainability and business? What could they be better using their technology skills for?

Prakash: I think it would really be to look at your technology with that almost independent eye, not to get sucked into the latest fad. It's always to say, look at different technologies that are good at different things and pick the thing that's right for you, taking into account some of these things, these different dimensions. That would be the key thing, because I often find people get a little bit blinkered at times just around the next shiny thing and then they go run after that. That's what I would ask for.

Lauren: Good. Great parting words. Thank you. Thank you, Prakash. Please everyone join me in thanking him.

[applause]

Prakash: Thank you.

Lauren: Thank you. I'm going to pass this stage back now to Janet Wu. Thanks, everyone.

Janet: Thanks so much, Lauren. I'm going to be joined now by Justin Arbuckle, Global Chief Technology Officer for Wealth and Personal Banking Technology at

HSBC, to discuss how banking, one of the world's oldest businesses, has evolved to meet the demands of the digital age.

[applause]

To begin, let's talk a little bit about your job, what you have to manage day to day, and what has to go right.

Justin: How long have we got?

Janet: [chuckles] We are not asking you what can't go wrong, just what has to go right.

Justin: Got it. Okay. That's an important difference. It's a fairly traditional chief technology officer role. Do I have any other chief technology officer in the room, please? There we go. One over there. Thank you. Essentially I'm responsible for the platforms that our business runs on. The infrastructure, the development tools, the data platforms that we use, the messaging platforms that we use, and essentially how we use those components to build useful business applications.

Janet: As I mentioned introducing you, banking is one of the oldest businesses that has evolved to come into the modern age, HSBC itself founded 1865, you have to innovate rapidly to stay current. Tell us about the challenge in financial services to do this.

Justin: This is actually a really interesting topic. I'm going to say something perhaps slightly controversial, which is, in some ways, the requirements of compliance, the need to continually be ahead in terms of security and regulations has created so much innovation in the financial services space. We've been forced to think about how we can simplify processes, make them more secure, make them trustworthy, and that has actually fueled a lot of innovation, and that flywheel of innovation, although when you think about those kinds of themes, you often think that's the opposite of innovation.

It's that flywheel that has actually really started to help us think about shifting everything left, which is probably a phrase everyone's familiar with, ensuring that we have and are able to express infrastructure-as-code, policy-as-code, these kinds of ideas, all of that comes from there. When we have that, it allows simpler processes. It allows faster time to market, and of course, the most important thing for us is looking after our customers. We look after our customers by getting things to them. For a simple technology guy like me, what that means is, is getting software out into production safely and quickly.

Janet: Could we take a closer look at some of the spokes on that flywheel? Could you give us some examples of how you use technology to deal with your biggest challenges, perhaps you're talking about the massive regulatory issues?

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Justin: If you consider a global scale business, there are a wide range of regulatory requirements that, of course, you have to be compliant with. That's a responsibility that we take very seriously, but at the end of the day, they have to be translated into something that can be repeated in a trustworthy way over and over and over again with the same answer. This idea of perhaps when banking started, a human making these these decisions in a very human way leads to inconsistent results.

The phrase that we use is policy-as-code. We want to try and turn the individual requirements into testable elements that can go through a toolchain, if you like, similar to how you build software, and as you are building you are testing continually against compliance with these requirements. Testability, repeatability, these are absolutely critical.

Coming back to the original question, it's critical to innovation because we want as an organization to be focusing more of our time on thinking about how we can solve problems, rather than focusing on how we do the things that we should've been doing anyway. This is all about trying to be more effective, more productive.

Janet: We need to remind everyone your problems are global, as you said, and you also have problems that you can't get wrong. Everything has to be accurate and right. To that point, you get more than a billion logins per year, 57 markets, as we said global. How do you serve that many markets accurately and efficiently?

Justin: I think probably the basis of it is taking the core pillars of our technology strategy very seriously. Those are speed, scale, resilience, people. When we build systems, we build them for global scale. When we build systems and we design systems or we're remediating all the systems, we do that from the perspective of having to be resilient. We don't want our customers to be in a position where they're not able to transact with us because that's what they expect from us.

Speed, resilience, scale, these are critical. Then of course, at the center of every businesses is the people. It sounds perhaps like a cliché, but for those of you that employ talented, wonderful engineers, you know how important it is to find that talent, and so keeping and nurturing that talent is also part of it. It's not just serving at global scale, creating a business at global scale. Is not just about the cloud or the data center or the widget. It's also about the people that have to turn up when things do go wrong, as occasionally they do, and of course, build these things in a responsible way.

Janet: Can you reveal any secrets on how HSBC is finding the right talent?

Justin: We're hiring, so see me afterwards. From a personal perspective, I think that what I want is I want to work in an organization that is solving hard engineering problems. Let's be honest, if we all left and we were sitting down at our own laptops we could build a cloud-native mobile application in a weekend. It's not a completely trivial thing, but it's not a very complicated thing to do today because of the incredible

advances in the tools that we had, Prakash was talking about some of them. We can do this, but when you're talking about code bases, like Josie was talking about before, that are very old, designed on completely different design principles layered on top of a whole bunch of decisions that have been made over decades, and you want to start addressing challenges like net zero, for instance--

Janet: Get rid of those hungry old systems.

Justin: That's right. Yes, great phrase from Josie. We want to get to net zero by 2030, as well. You want to do these things and you want to move faster than you've ever moved before. Now, that is an engineering problem. I guess part of how I try and tell our story is we're looking for real engineers to solve really hard problems, difficult problems that require a great deal of creativity. I'd like to think that's an interesting proposition for talented young engineers.

Janet: My iPad is not working to receive your questions, but I know we did receive one audience question before we took to the stage, and I want to ask you about building these solutions. Are you finding that there is a risk from, I think the person who asked this, about cloud concentration? Is there risk to going with few vendors? Are you building things internally? Do you find that it's better to partner with someone for the long term? How are you doing this?

Justin: As you will have seen in the press, we have a multi-cloud strategy. We were earlier in this session talking about hybrid. There's obviously a great deal of hybrid capability, as well. The one thing that I would say is with technology that we have today, Kubernetes, Istio, the ability to be able to create a cloud-portable control plane across both on-premises and cloud-based environments is far more than it's been ever before. That gives a real opportunity to start creating some portability, creating some efficiency in the engineering.

Of course, everything can be abstracted in theory, so the last mile is always what counts. However, what we are able to do now is we're able to put a great deal of investment in a lot of technologies like Kubernetes that gives us a certain measure of portability so that when we solve a problem in one way, we solve it for always. Returning to the idea of policy-as-code, so the infrastructure as code, ideas like that. Of course, you've got open policy agents in the Kubernetes world, and so what we're finding is that the cloud environment or cloud-like environment, how we build systems is really embracing these same principles that make us faster. Infrastructure as code, policy-as-code, all of these things we're beginning to see in those environments.

Janet: Justin, tell us about the data analytics tool that screens a billion transactions per month, and with this, banking has changed the way it does business. You were telling me that banking before, the data was moved around. It's not done that way anymore.

Justin: Yes. If you consider the use case when you are purchasing something or when you are transferring money from point A to point B, these transactions, of course, have to be checked, have to be checked for fraud, anti-money laundering, a whole variety of situations that we need to protect us all from. What we found, and this is as an industry, the whole industry has really found in cloud-based technologies the ability to create capacity, to throw the kind of compute power and access to the size of data that you need in order to do some of these tasks far easier than it has been in the past.

I would say that this is just the tip of the iceberg. There's certainly more and more real-time work is really what financial services is all about. It's about making more and more things real-time, being able to respond faster and faster to our customers or respond faster and faster to events that happen in our customers' lives. For this, we need a lot of compute, we need a lot of storage, we need to be at global scale, and so because of this obviously the cloud is a useful foundational platform for that.

Janet: Let's talk about something else that people feel they don't quite fully grasp in addition to cloud, and that is blockchain technology, reducing transaction time to less than 24 hours. Is there pressure to make it even faster? How is the bank, HSBC, adopting blockchain, if it is?

Justin: Blockchain is an interesting case. You've probably seen some press on our innovation partnership with Sandbox, moving into the metaverse. Clearly, part of our responsibility is to ensure that we are present on the horizon if you will. The interesting thing about blockchain, though, is it's a distributed ledger technology. What that really means is it's possible to give everyone clarity and, if you like, the promise that the transaction that they've made is registered, stored, known throughout a number of different distributed locations, and that can be very, very useful. It's been used in a number of cases, areas like custody, things like that. This is in the industry, not HSBC.

I think the question around blockchain is around what the killer app is for distributed ledger technology. Is it a solution with a problem? Clearly, there are many cases, cryptocurrencies is an obvious one, some of the payment mechanisms in the metaverse as well. There are many solutions. There are many use cases around blockchain that can also be achieved using more traditional, not necessarily old-fashioned, but more traditional technologies. I think to answer the question directly, blockchain for me isn't about being faster. It's a particular technology solution to a particular problem. The way that we have to be faster is getting faster and being better at just getting software out the door. It's that simple.

For us, the speed issue, making sure that we're able to keep on pushing the software out the door, keep on getting feedback from our customers, responding to that feedback, and being able to do it quickly and safely, that's how I think about velocity. I don't really think about it in terms of the underlying technology. Clearly the

technology's help, but it's about operating model designed to deliver rapid, safe change if you like, in response to our customer needs.

Janet: Speaking of those customers, their experience still needs to be good. Even though it's built on a lot of technology, they need to feel as personal. How are you using AI and automation to improve that customer experience?

Justin: Look, the whole purpose I think something that is almost unique in banking is the trust that the customers put in us. Creating a convenient, anytime ex-customer experience is important. AI is very useful for that. It's useful in terms of identifying other appropriate products that may be useful or effective. It's certainly helpful in identifying fraud patterns, all sorts of things. For us though, AI it's still an emerging discipline. It's been around for quite a long time. What's really important for us is ensuring that we use it responsibly. We have strong ethical principles inside where we test the AI solutions and algorithms that we have.

We also have partnerships in industry like the Alan Turing Institute to make sure that we are essentially at the forefront of using it responsibly. In just the same way as financial services is all about real-time, responding to the customer when and where they are, AI is a critical part of that. It's never going to be any other way. AI is an increasing part of how I think every business, not just banking is going to be responding to customers.

Janet: We are down to our last three minutes, but I want to get to the heart of what every company wants right now. A lot of people in the room are thinking about this. Taking global banking, it's becoming ever more competitive. It's no longer regional. It's not the bank on your block. A bank can be anywhere hugely competitive. How does technology help you compete?

Justin: You'd expect me to have a potted answer for this, really, wouldn't you? Because it's literally the job. I would say that coming back to the critical ideas that we keep on indexing on, technology helps us take complex things, complex processes, complex systems, and simplify them. We simplify through automation and through other ways, but it's we simplify and then being simpler, we become safer. Because we're simpler, we're also able to move faster, we're able to be more responsive.

Being more responsive means we're able to respond to feedback more effectively, which means we're able to produce a better product. Technology for us is, I guess, the real value is being able to create a shorter feedback loop, if you like, between those of us that are lucky enough to build the systems and those that have to use them. That could be our colleagues, our staff, obviously our customers. We want to have a shorter feedback loop as possible so that we can get useful things into the market, understand if they're working and prove them and keep going.

Janet: I got two really great questions**.**

Justin: Sure.

Janet: We're going to have to do this in rapid fire. One is a doozy. How will quantum figure in what you're doing?

Justin: Right. In 20 seconds. I think that there are some workloads, and Prakash mentioned this, that require hardware-based acceleration. Clearly, the quantum computers that are marketable today require that. It's part of a hybrid strategy.

Janet: We're talking about how banks need to heap up with all the growing regulatory standards, issues, requirements, especially in a global scale. Great question. Do you think regulators are keeping up with all the IT changes at the banks?

Justin: I would say that regulators are servants of their markets in the same way as banks are servants of their customers. Regulators are always going to be shaped to some extent by the demands of the people in their markets. Because of that, I think that there's a necessary growth in being able to ensure that customers' expectations can be met, and it's good. It's helpful to have a fresh pair of eyes to check that it's being done responsibly.

Janet: Justin Arbuckle, we covered a lot in our panel and I thank you very, very much. Thank you.

Justin: Thank you very much.

Audience: [applause]

Janet: We have come to our final panel and we've covered a lot of ground, a lot of tough issues. Our panel will look at how two companies are using technology to stand out from the competition, plus how they are conquering the dual challenges of mass relocations and mass resignations to build a workforce that can adapt to rapidly changing technology. Please welcome Ron Argent, founder and CEO of Cognition Foundry, and CEO of TES Enterprise Solutions, and Nikkie Spencer, Director of Cloud and Service Delivery at Metro Bank.

[music]

Janet: All right. Thank you so much for joining us. I want to begin, Ron also, to give us a basis to explain a little bit about what you do and what you created. What was the unfulfilled market need that you saw that led you to create cognition?

Ron Argent: I sum it up with my vision at the time initially was democratization of enterprise IT. What does that mean? I've got a background going way back to the '70s of working with large organizations like big banks, retailers, governments, centralized systems. This is the traditional mainframe systems. In that, I noticed the efficiencies of scale there, the economies of scale, simplification of processes, and

things like that. When I moved away from IBM, I started to engage more with a startup marketplace. These are people that are trying to take an idea into fruition. Then it was about, you look at the, we've spoken about cloud here. Cloud is great from looking into the cloud. When you get into the cloud, it's different. It's very complex.

My mission as an engineer is to try to simplify things because complexity creates lots of inefficiencies. If you try to change something complex, it's really hard. Trying to fix something that's complex is very hard. I try and drive down towards simplicity. The vision was to help startups actually recognize that there was something else other than the commodity marketplace because if you are a startup and you want to start something new, it's very, very easy to go to the cloud, low-cost start. Once you begin to scale up, it becomes very difficult because it becomes costly and complexity just grows. You close your eyes and you think about one commodity box, but then you multiply it by 100 times, multiply it by 1000 times, think about the wires in between. There's the code that goes in between.

It's all about the market need of how do you show someone the alternative path? If you ask someone a question and say, you've got a choice of being simple, being complex, the obvious answer is to be simple. My machine then was to show the startups that you could start on a different path. Now, the complication is if you look for the audience price systems, they're very costly to get into. It's far easier to start on a portion of a server inside a data center. My mission was how do you transfer the enterprise sphere into something that the startups can use. I decided to buy that enterprise infrastructure and then offer it out to startups so that they can start on that journey. They could start off with low cost but as they scale up, they scaled up in a very simple environment and simple infrastructure.

Janet: Nikkie, you were looking at the cloud in and out of it, and around it every day. That is essentially your job at the bank. I want to ask you, again, a question to lay the basis, what cannot go wrong in your job?

Nikkie Spencer: [chuckles] I think the one thing that cannot go wrong is impacting our customers, impacting our fans in any way. It's really important that when we're looking at cloud, it's been mentioned already, but we're looking at the resilience, we're looking at the security. Alongside the security, data goes hand in hand with that. The customers trust us. I think that's something that Justin said, so it's very important that we are protecting that data. That's why I believe data and security go together. They fit together hand in hand. The worst thing that can happen is that the data that we hold for our customers becomes visible because then that trust is lost. That's the number one.

Janet: Nikkie, I want to ask you, we're talking about protecting the data of your customers, treating your customers well, but there's also a constant demand for new cloud-based services, not just from them, but also internally from the people at the

bank and you have to hire in order to keep up with this. How are you meeting that challenge?

Nikkie: I'm not going to lie, [chuckles] it's tough. I'm sure a number of us are finding this, we've had I guess two or three years throughout the pandemic where there hasn't been attrition. Lately, that's become a real challenge for every organization. Hiring the top talent, retaining the top talent, we have to make it interesting. Technologists want to work with interesting technology. I think there lies a challenge within financial services because of all the regulations.

The journey to cloud gives us the ability to be looking at new technology to hire internally, develop our own skills internally, rather than buying it off the street. That's exactly what we're doing is we're building engineers, building an engineering departments. We can develop ourselves internally, building that skill set. Providing training, cross training, enabling T-shaped individuals so that they're multi-skilled. Actually, since we've looked at our journey to cloud, we've seen a real drive in maybe some of the staff that didn't have it previously. It's looking more positive, but it's still a challenge.

Janet: Ron, cognition handles everything from technology consulting to the hiring. Right now, what's the biggest concern or request you're hearing from your clients?

Ron: It's difficult to say about clients because we deal with very small organizations normally. I'll pick up on what was just said about attracting people because they want to do things. The important thing, our mission of cognition starts with first of all saying democratization, but now, our mission is to create collaborative nurturing partnerships that empower the fulfillment of missions that lead to a better world. Now, that's a mouthful, but it's a culture inside the company, and we look for clients who are doing terrific things to the world. They're taking a billion out of poverty, stopping plastic waste going into the oceans, looking at sustainability, looking at species survival.

When you're dealing with clients like that, you automatically attract people because each one of those things is very attractive. People say, "Well, we'd like to work with this. We'd like to get involved." I think that's the key thing is to try to focus. Now, I've worked in banking for many years. It's great being involved in a technology, but you step back and it's boring. The technology is terrific, seeing the things happen gets boring. When you start talking about ensuring that creatures survive, taking people out of poverty, gender education, equivalents, that's a thing that attracts people. What we try and do in cognition boundaries, number one, tell the stories of our clients. That helps the clients as well because that attracts people to them. We used a mix of IBM students, by the way.

We also create that culture inside our company where people want to work for us. We don't go out to agencies to find people to work for cognition boundary. People tend to come to us and say, "We love what you're doing." That's quite unusual. You

might go to a bank for a mortgage, to get a cheap mortgage but they come to us because they love what we do. We try to create a culture of integrity and a culture of satisfying our clients.

Janet: Since we have been talking a lot about banking, financial services today, Nikkie, I want to ask you about the two big challenges that grow bigger and bigger day by day for banks. We've already covered some of this already. Security and regulations. How do you meet those areas that are getting more complex, all the while?

Nikkie: It's a very good point. I think attracting talent helps because if we've got the right people managing from a security perspective, then we're starting off on the right footing. I think it's important that we're working with the cloud service providers to help us. I think, gone are the days when we were trying to do it ourselves. I think we've realized now that actually the likes of AWS, Microsoft, Google, whoever your cloud provider might be, that they are able to secure in a way that we wouldn't be able to. It's really important that we work with them. On the regulatory side of things, I think the cloud service providers are now having very grown-up conversations with the regulator. By partnering with them, we're able to answer those questions and enable us to move more critical workloads to the cloud.

Janet: Ron, you connect startups with technology. How do you identify the technologies that are important now and in the future?

Ron: We've come to the outcome of more understanding the vision of the client. Rather than thinking about the technology and how do you apply it, you say what's the client's vision, what are they trying to create, and then you look for the technologies that support it. There's lots of technologies around. Last week, I was talking about blockchain. We were, I think, probably the first company in the world to use blockchain for a social enterprise. How do you ensure that people who are earning $1 a day will go out and do work such as pick up plastic bottles from the beach, take them to a junkyard basically for these bottles to be resigned, but then walk away without any payment? Now, the answer to that is the engagement process and mobile phones but backed up with blockchain technology.

It's about using technologies like that, where you can say what's a business problem you're trying to solve. It's about how to remove fraud, corruption, from the money chain. How do you engender trust in the people you're engaging with? We were lucky then because blockchain was all over the press, and blockchain engenders trust. If you get that technology because as the previous speaker was saying, blockchain is a technology that can be replicated by other things, other databases, things like that. The user perception is key on them. When we look at technologies such as AI, how do you apply that to these sorts of things?

One of our customers is doing species recognition by taking water samples. You take a water sample, they can detect DNA of up to two and a half thousand species

within a mile and a half radius of that water sample, which is incredible. You can go to a stream or a river, you can find a-- There were bats flying around, or a cow was urinating on the field and it gets washed down to the stream. It's looking at things like that and applying AI to that kind of technology. You build a huge database of all this information, but then use the AI to begin to understand what that database is.

Janet: That is fascinating. Can you give us other examples about how you're using technology, especially in these sustainable and nonprofit sectors? Because those are organizations that don't have a lot of money and often the ability to scale up teams in order to accomplish their goals.

Ron: Well, another great example, and I love talking about this one, because it's alchemy, a company that makes plastic from the air, and you think, "How do you do that?" Well, plastic is polymer, and all it is, linking of change together. Now, they do this by taking methane, by taking CO2 from the air, which is all about sustainability. Methane from landfill sites, from silage pools on farms. They do this, and they create plastic without any chemical, so it's water-based process, but now you've got the problem. If I pick something up and I say this came from the burp of a cow, who believes that? Well, no one believes it.

The problem they had was how do they convince the marketplace that their products are really sustainable and come from nothing? The answer again was blockchain. We created an application for them, so you can buy one of their products and they do high cast products now, such as handbags, such as sunglasses. You can scan the product, and find out what farm the cow lived on, what date that methane was collected, know when is the production line. The entire thing. It's using blockchain for different purposes. Everyone is used to using it for cryptocurrency, for digital access, and things, but when you begin to apply it to other things, you can really get extra value out of the technology.

Janet: We had already drawn the link between the cloud and sustainability issues. I'd like to ask you that, Nikkie, about how the cloud is linked to your goals as a bank for greater sustainability, and how you can use that technology.

Nikkie: Yes. I think we're probably very early on on our sustainability journey. By moving to cloud, we're able to reduce our carbon footprint. We can simplify our technology, simplify and reduce, and I would say downsize. I listen to Josie with their applications, but if I look at the scale of our environment right now, I think if we move with a full move to cloud, we're able to resize the environment. We're also able to, and I think this was mentioned earlier. We're able to turn things off when we don't need them. We don't need to have everything running 24/7 as we do today. The Eiffel Tower's turning its lights off now. Earlier in the evening, we'll be able to turn off certain amounts of our technology that we're not using for development or non-production services. Those that we keep running will be the ones that our customers need for their 24/7. That's really one of our drives towards it.

Janet: I have another question for you. You have mentioned the problem that everyone has here and around the world, and that is the challenge of hiring the right talent to build your tech solutions and to maintain them. Can you share how you are using technology to improve the experience of the bank's workforce?

Nikkie: One of the things I'd like to say, it was good hearing from Ron in terms of the culture, because although Metro Bank is a bank, it is a community bank, and it holds a lot of the values that Ron was talking about. In terms of the technology, despite the technology advancements from a banking perspective, we still believe in the human touch. We believe in being there for our customers for those key moments. Your first mortgage, buying your first house isn't something you necessarily want to do through AI and through a chatbot. It's something that really requires that personal touch. Being on that journey with you, and that's something we believe in from a Metro Bank perspective, and celebrating in those successes with the customers.

In terms of the colleagues, they're all a part of that journey. In terms of improving that experience, it's about ensuring that they can work anywhere. We're working in a hybrid world now where we're not always in the office, so our office is where we are at any point in time, and that's really how we're changing it for the colleagues.

Janet: Very quickly, and then I want to ask some questions to Ron. Banking being so competitive, something else that we've brought up this afternoon, how do you use technology in order to keep Metro Bank competitive with so much global competition?

Nikkie: Again, I think from a product perspective, it can be very commoditized from a technology standpoint. We need to be moving more to the cloud so that we can be more agile. We've adjusted the way that we work in technology to be more product-led, so we have our product and our change and our technology organizations all working together now so that we can deliver our products quicker, get more products out on the shelves. There's a big competition in terms of getting those products out there. By having our services in the cloud, we can actually deliver those in a much faster way than we can today.

Janet: Ron, I imagine that on a day-to-day basis you do some hand-holding, some nudging, maybe you have to kick some companies saying, "These are things that you have to look at and be concerned with." You've obviously have done a good job of upscaling yourself in this rapidly changing world of technology. What is the advice that you give these small organizations about the need to adapt new technologies that are unfamiliar to them, and how they should do that?

Ron: [silence] I'm thinking about this one. I think-

Janet: It's probably not a one-size-fits-all question, so I apologize. Again, there's a lot of fear and hesitancy because we're asking companies to think about and to adopt things that no one really fully understands.

Ron: You mustn't get tied up with a technology. If you are a business, there's people inside of business, CTOs, CIOs. They concentrate on the technology. The business people don't concentrate on the technology, they want to deliver business. They want someone to look after that aspect for them. The businesses that I work with, that we tend to be the IT department. We hear what their business objectives are and we translate that for them. We don't advise on where technology's going. The one thing we may do is to say there is some capability that's coming here. It might be AI, it might be encryption, might be quantum. We might tell them what's coming through, so that gives them business ideas, but we don't suggest technologies to them.

Janet: Nikkie, I want to ask you, we're coming down to our final minutes, and again, I would encourage our audience if you have any questions to submit them now. Again, what is the advice that you give your teams? Because you're managing a lot of this internally, solutions that you hope your customers really don't notice that things are seamless. Sometimes there can be a lot of hesitancy to change and to adopt things that people don't fully understand. Is there a way that you deliver this to make this more palatable or to encourage your teams to adopt things that can be pretty complex and intimidating?

Nikkie: Yes. I think it's about understanding that change is a good thing. Lots of us see change are scary, but I always think back to a book that I read many, many years ago which was, *Who Moved My Cheese*. It might be a very old book, but it is something that rings true, and it's very fun, but change is a scary place. People don't like change. If I look at my team, I have a team that is responsible for cloud. I have a team that's responsible for the, I would say the legacy environment, the stuff that's on PREM. They could see their jobs as not required anymore because cloud is coming, but actually what we're doing is encouraging them that we're going to cross-train them, we're going to upskill them. They are more excited and hungry for work than I've ever seen them because it's something new for them to move forward to.

Janet: All right. Ron Argent, Nikkie Spencer, thank you so much for this amazing conversation. We really appreciate all the things you've shared with us today.

Nikkie: Thank you.

Janet: Thank you.

Audience: [applause]

Janet: We have come to the end of our briefing. As we always promise, we cover a lot of ground in the short amount of time in order to be respectful of your time. We thank you for joining us for this briefing on Modernization: Architecting the Future of Your Business. We hope you enjoyed the conversations and learn a lot from them. We are grateful to our speakers and moderators for the program, and thanks to our sponsor IBM for making this briefing possible. If you'd like more information from our

sponsor, please, visit the resources tab on the event website. Most of all, thanks to you for being an engaged audience, both those who were joining us virtually and those of you here in the room in London.

To watch any part of this event, you can return to bloomberglive.com to view on demand. I also want to give you a special invitation. This is part of Bloomberg Tech Summit, and you are all invited to a special breakfast on AI, data, and the customer experience as part of the Bloomberg Technology Summit. That's tomorrow at 8:00 AM at 8 Northumberland, and you can ask a Bloomberg staff for more information. Please, join us now for cocktails and networking. Thank you.

Audience: [applause]