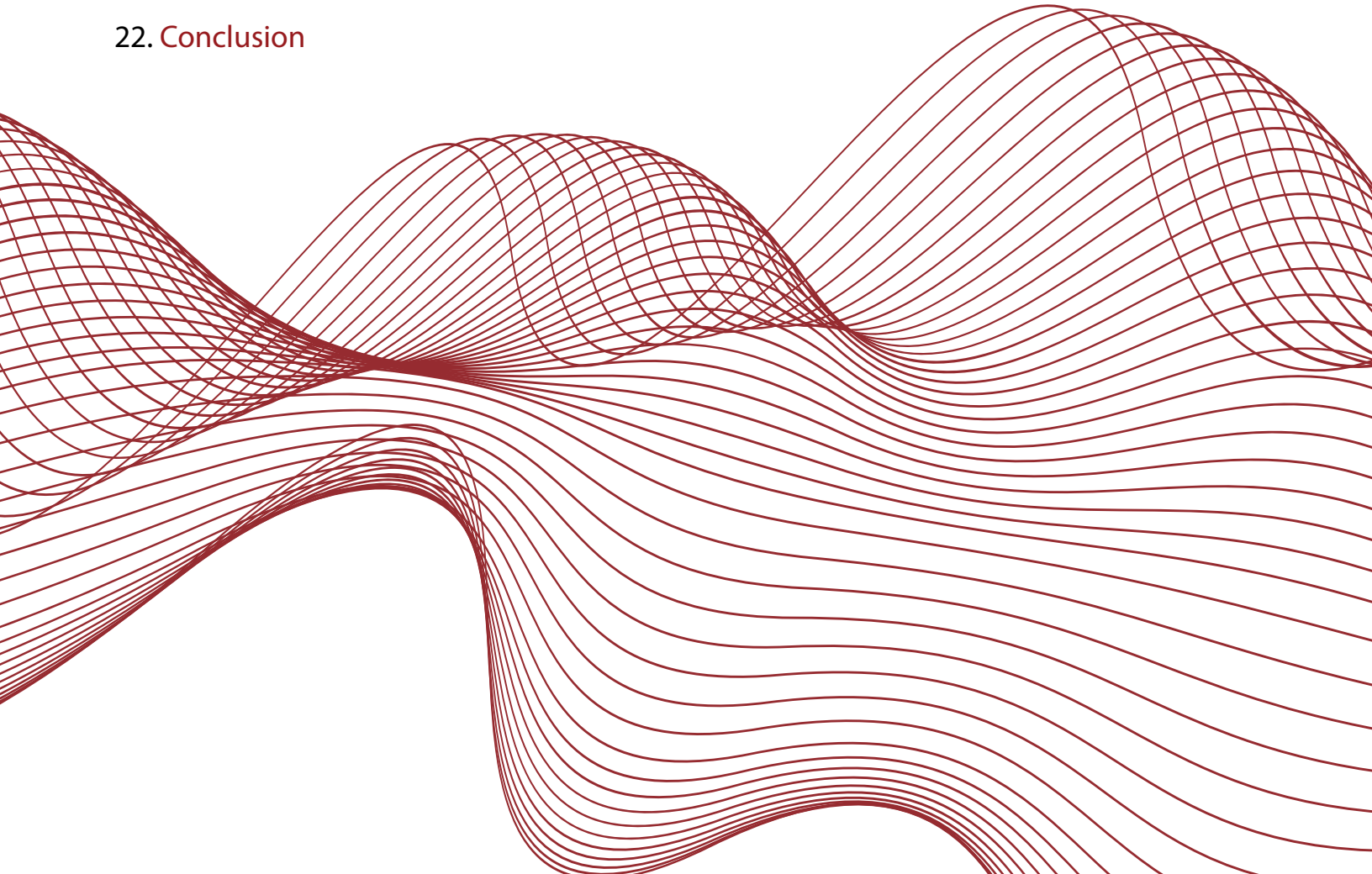

RCRWireless News
INTELLIGENCE ON ALL THINGS WIRELESS
Tying telco AI investments to opex reduction and 5G monetization
Sponsored by
blueplanet
FUJITSU
Google Cloud

TABLE OF CONTENTS



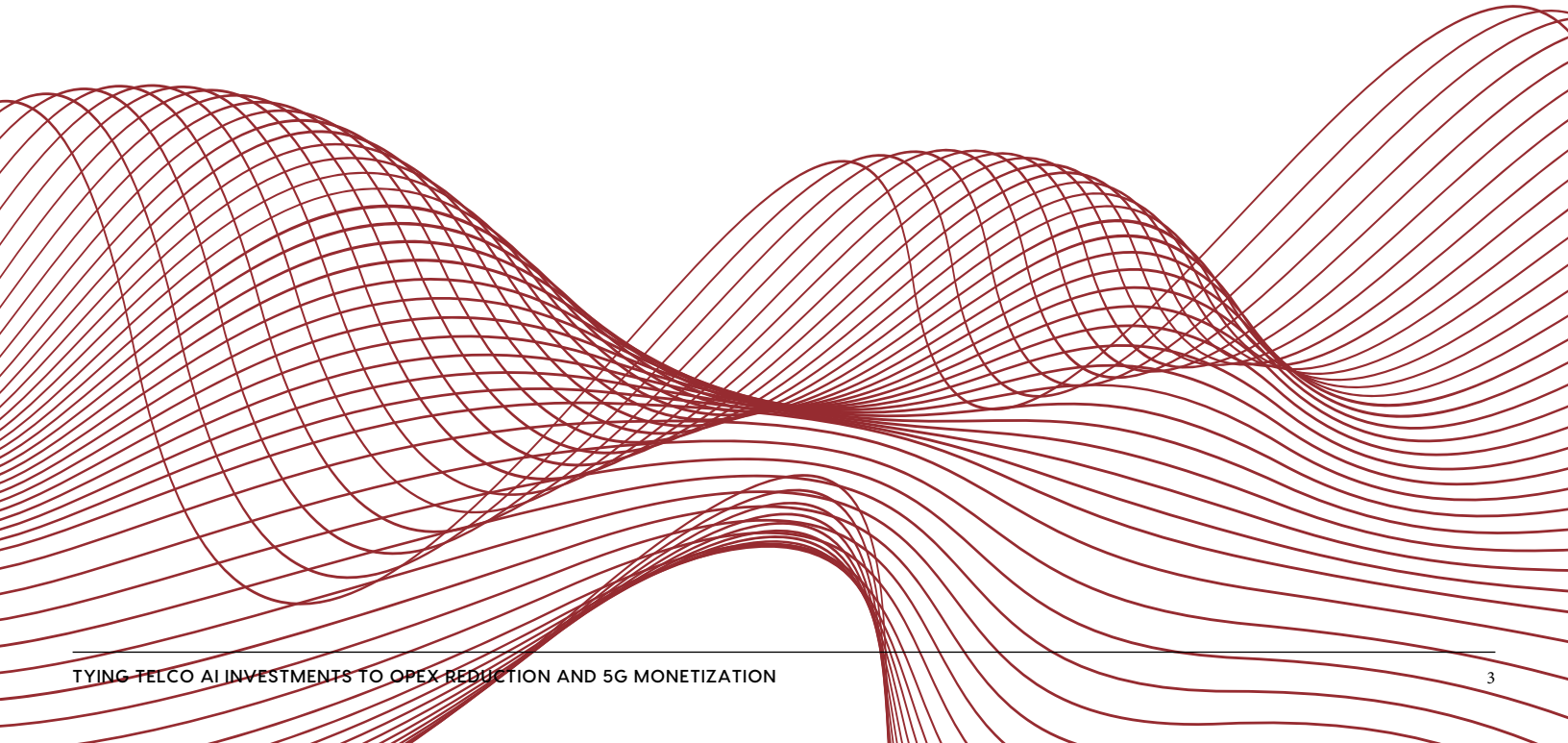
FROM SCIENCE PROJECT TO BUSINESS VALUE—CLOSING THE (CONTROL) LOOP WITH AI

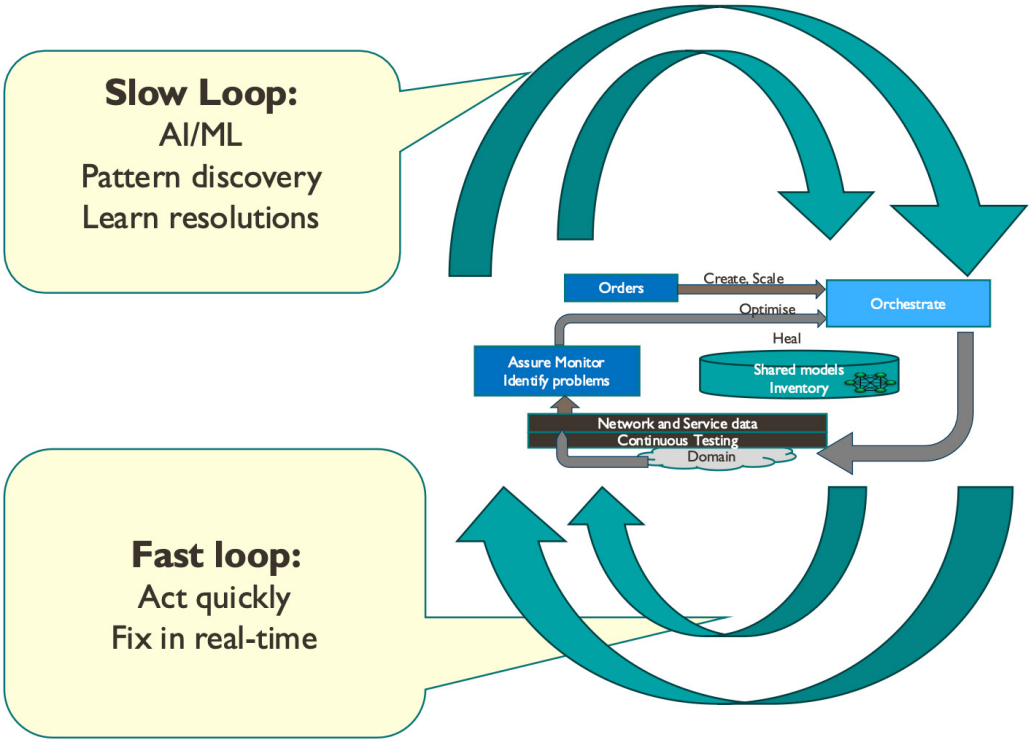
Artificial intelligence (AI) and network automation are distinct things but complementary things, and the former certainly emboldens the latter. This report is intended to examine how telco AI investments can be used to reduce operational costs and help communications service providers (CSPs) more effectively monetize 5G networks. And the pressure is on—CSPs have spent hundreds of billions of dollars deploying 5G but haven't seen commensurate lift in new service revenues; as such, all eyes are on opex reduction which jarringly but not unexpectedly is resulting in budget cuts, layoffs and overall business contractions. Is AI the way out?

In conversation with *RCR Wireless News*, Appledore Research's Grant Lenahan, partner and principal analyst, hit directly on the two-pronged goal of telco AI. "If you're not tying things to cost reduction and/or monetization, is it really a science project?" he asked. "So that immediately brings you to what are the use cases; practically, how am I going to get business and operational and revenue benefit out of telco AI investments?"

The use cases for AI in telecoms, as delineated by Lenahan (see box on page 4) are extensive and potentially significant. But to set the stage, he offered that AI is a family of technologies, including data science, generative AI, machine learning and pattern recognition, and this family of AI technologies co-exists with other effective, established approaches to network automation. His general advice was to focus on what's practical today and work to iteratively improve outcomes. "In other words, crawl, then walk, then run. And in the end we want to use the simplest technology that works, but the most sophisticated technology that we can".

Tracing the evolution of network automation, Lenahan looked at rules-based automation where logic is established by humans which, in a sort of stasis, works. But when conditions, or parameters, start to change, things start to break down. Today, he said, we're moving toward autonomy or self-driving networks in TM Forum parlance. And autonomy, wherein the system is capable of operating without supervision, is "really a big change".





(Image courtesy of Appledore Research)

Autonomous systems operate within very clearly-defined constructs and are often highly technologically specific, designed for a billing system or a transport network or a 5G radio access network (RAN).That to say, these systems don't work generically. Once these autonomous systems are sufficiently advanced and hardened, the automation can become closed loop. So not magic, but effective and capable of running unsupervised. But also not perfect. These closed loops have to be monitored for deviations and failures, and then adjusted.

So, Lenahan continued, "Where does AI work in something like this?" Said differently, on what timescale—fast or slow—does AI work on various control loops? Fast loops speak to processes like automatic network healing or locating a workload in a cloud-native environment; slow loops look across systems and domains to understand what's abnormal, what's normal, and what does that mean, and how can that meaning be positively leveraged?

To recap Lenahan's observations: "I…want us to really think about embedded AI in very narrow scopes, very well understood. In other words, keep it simple and let's crawl. And as we learn from crawling, we'll say, 'Hey! I think we can walk now.' And someday we'll run."

Appledore Research details telco AI use cases.

- **Network**
  - Planning
  - Dimensioning
  - Optimization
  - Energy savings
  - Automatic testing
- **Service assurance**
  - Observability
  - Ops automation
  - Anomaly detection
  - Root cause analysis
  - Traffic forecasting
- **Network security**
  - Threat detection
  - Malicious domain name detection
  - Fraud detection
- **Digital enablement**
  - Churn reduction
  - Hyper-personalization
  - Complaints handling
- **Internal efficiency**
  - Co-pilot model
  - Customer service chatbots
  - Agent assistant
  - Automatic service deployment and testing

(Image courtesy of 123.RF)

SETTING EXPECTATIONS—THE OUTLOOK FOR TELCO AI

5G, AI convergence—a "pivotal moment"

While the industry is rife with talk of telco AI, it's still early days, and emerging AI strategies necessarily need to align with pre-existing network transformations toward autonomous, cloud-native, open, programmable networks.

In March Ciena survey more than 1,500 telecoms and IT engineers and managers, and more than half of the respondents said they think AI will improve network operational efficiency by 40% or more. With regard to how AI might be monetized, 34% of respondents said they expect AI-related revenues to flow from differentiated quality of service.

Ericsson worked with Arthur D. Little to poll more than 80 operator representatives. A majority—51%—said they think AI can result in IT and network operating cost reductions, and deliver an annual return between 5% and 10%. Sixty-three percent of respondents saw optimizing network operations as a primary benefit of AI, and Ericsson specifically called out anomaly detection and network management.

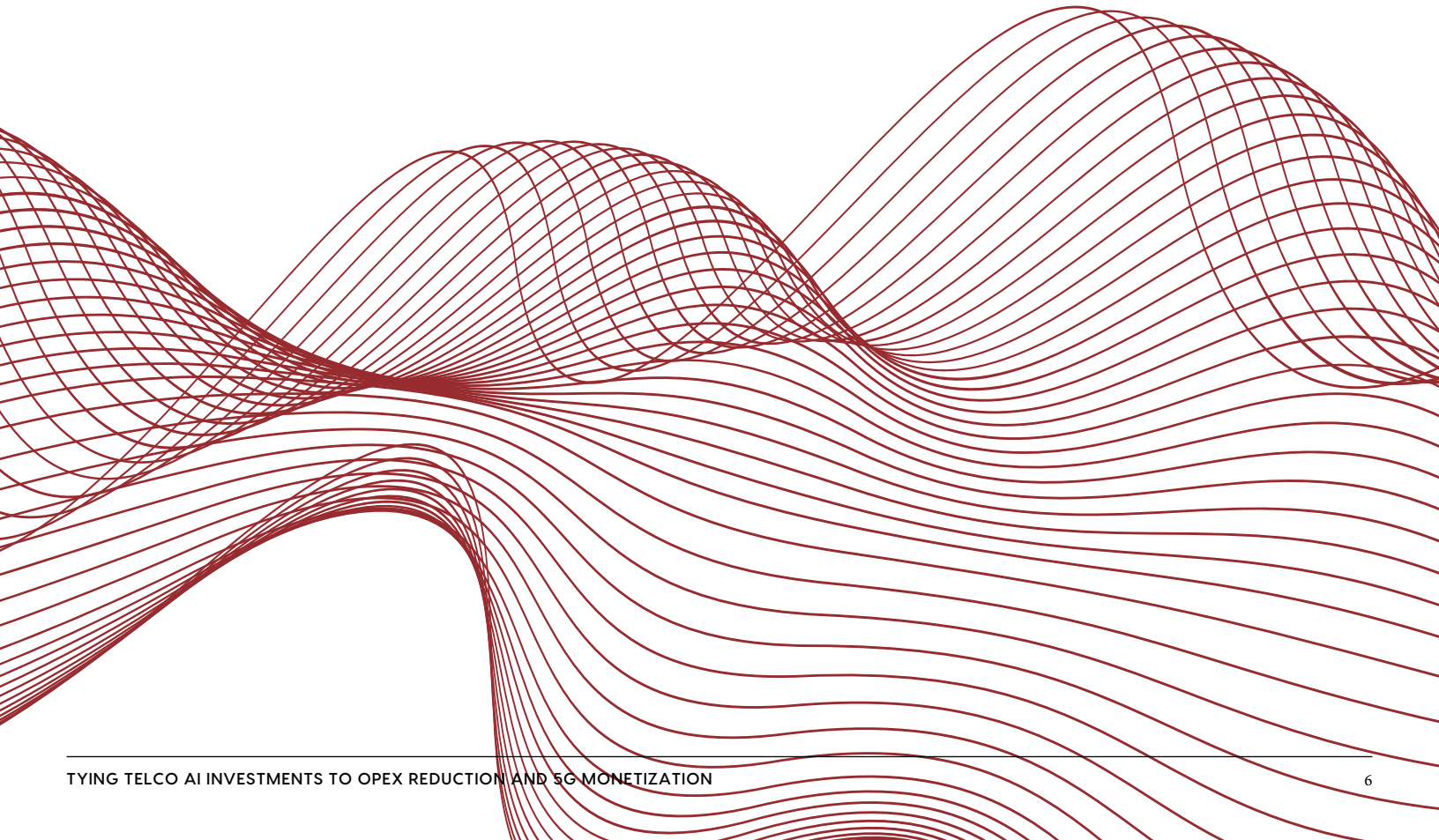
AI juggernaut NVIDIA released its second annual survey of more than 400 telecoms professionals and found that 40% of respondents plan to scale investments to six or more AI use cases this year, and 96% plan to maintain or increase AI-related spending in 2024. The results indicate a focus on use cases, including customer care, employee productivity, network operations, and network planning and design, among others.

Speaking directly to this idea of tying telco AI to opex reduction and 5G monetization, NVIDIA's research found that 67% of respondents said AI has "helped them increase revenues." On the opex reduction side, 63% of respondents said AI "has helped them reduce costs in specific business areas." Those figures, as well as percentage of revenue increase and cost reduction, are in the following table.

As NVIDIA Global Head of Business Development for Telco Operations Lilac Ilan told us on the sidelines of Mobile World Congress Las Vegas, "This is a moment in history. We're in a pivotal moment for the telcos…You're seeing a convergence—convergence of the network infrastructure and AI infrastructure…And this gives the telco an opportunity to reclaim back some of these new economics that they have perhaps missed."

	Increasing annual revenue	Reducing annual costs
<5%	27%	28%
5-10%	21%	21%
>10%	19%	14%

(Data courtesy of NVIDIA)



Google Cloud

At Google Cloud, we're partnering with communication service providers around the world to deliver the AI-Driven Telecom. By harnessing intelligent data, advancing cloud-native networks, and unlocking new monetization models, we are enabling the future of telecom. We are proud of our growing ecosystem that helps drive these innovations forward.

Find out more

(Image courtesy of Verizon)

VERIZON ON WHAT IT MEANS TO BE AI-NATIVE

Narrow, practical AI use cases supported by a foundational data strategy set the stage for long term success

As it looks to leverage AI across its business, Verizon Vice President of AI and Data Michael Raj emphasized that underlying any successful AI strategy is a sound data strategy. "If we don't have a foundational data strategy that actually can bring all of this together, it is a painful process," he explained during a webinar hosted by *RCR Wireless News*.

Raj said Verizon has focused on integrating disparate data platforms and sources into a whole that's greater than its parts. From there, "You look at it holistically and organize it in the form of data products… This is foundational," he said. In evaluating potential AI use cases, he delineated the criteria as strategic importance, business value, technical feasibility and risk.

Raj highlighted that a practical approach to AI can deliver short-term benefits, both operationally and customer-facing. He gave the example of Verizon's use of data to identify high-risk dig requests and then proactively work to reduce the likelihood of potential fiber damage that could occur during a particular dig. Essentially, the operator applies AI to the more than 10 million annual dig requests it receives, then looks for historical and current location-based activity, and the historical performance of the contractor that's going to do the work.

A key piece is identifying high-risk digs and contractors and flagging the elevated risk before the work starts.

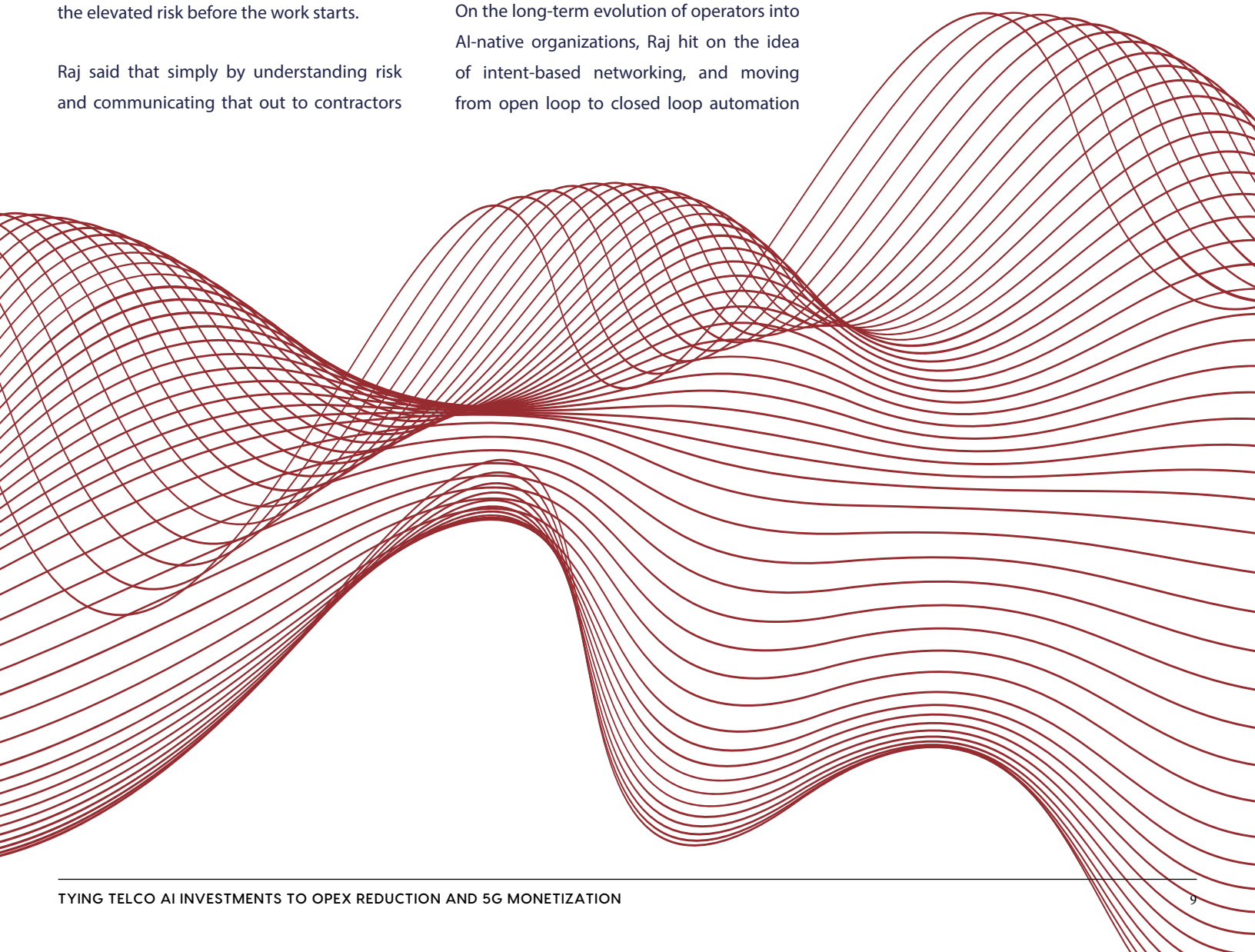
Raj highlighted that a practical approach to AI can deliver short-term benefits, both operationally and customer-facing. He gave the example of Verizon's use of data to identify high-risk dig requests and then proactively work to reduce the likelihood of potential fiber damage that could occur during a particular dig. Essentially, the operator applies AI to the more than 10 million annual dig requests it receives, then looks for historical and current location-based activity, and the historical performance of the contractor that's going to do the work. A key piece is identifying high-risk digs and contractors and flagging the elevated risk before the work starts.

Raj said that simply by understanding risk and communicating that out to contractors has resulted in operational improvements. It's a "very simple application which can be turned around a lot faster…[and it] aligns very well with customer experience."

Speaking more generally, Raj talked through an industry emphasis on using AI at radio sites to understand traffic patterns then deactivate components to reduce energy consumption without impacting network performance. He said his thinking was on how ongoing 5G deployment requires precise prediction of attendant energy consumption to ensure the accuracy of corresponding energy cost planning. Raj also called out AI-enabled climate modeling as useful in planning future site deployments.

On the long-term evolution of operators into AI-native organizations, Raj hit on the idea of intent-based networking, and moving from open loop to closed loop automation over time. "We are probably moving into an area where there can be high level policies and goals that can be set, and the AI systems provide the ability to translate them into actual configurations, therefore simplifying the network management, and therefore significantly reducing the errors which would ultimately impact the customer experience."

"Building an AI-native telco truly requires a very holistic approach that looks at all the technology advancements that are happening, combining it with the organizational transformations that are happening…but, finally, putting a big emphasis and focus on delivering true value to customers."



HOW GOOGLE IS APPLYING ITS OWN AI LEARNINGS TO TELECOMS

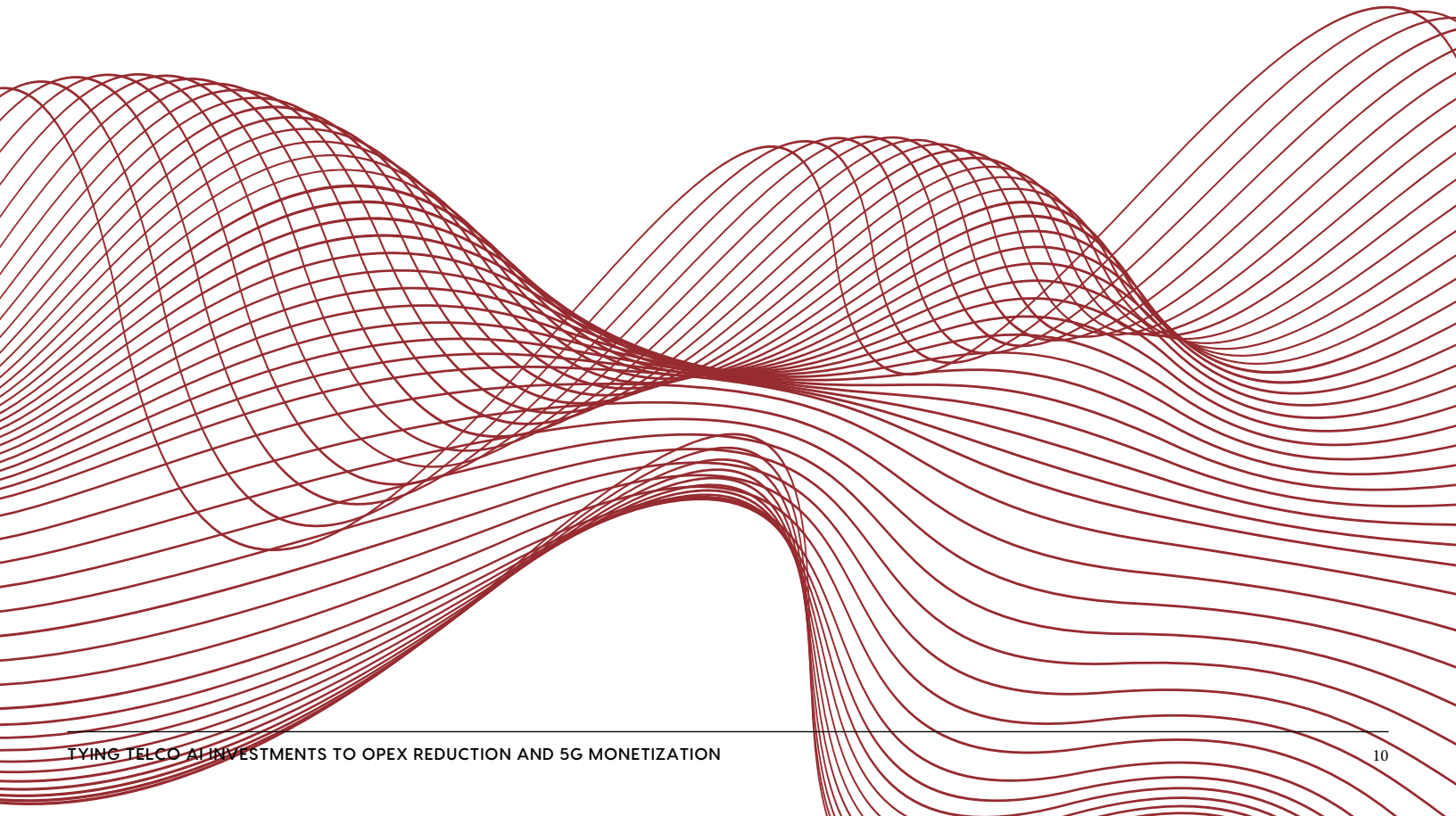
Demand forecasting and anomaly detection are AI capabilities that accelerate numerous additional use cases

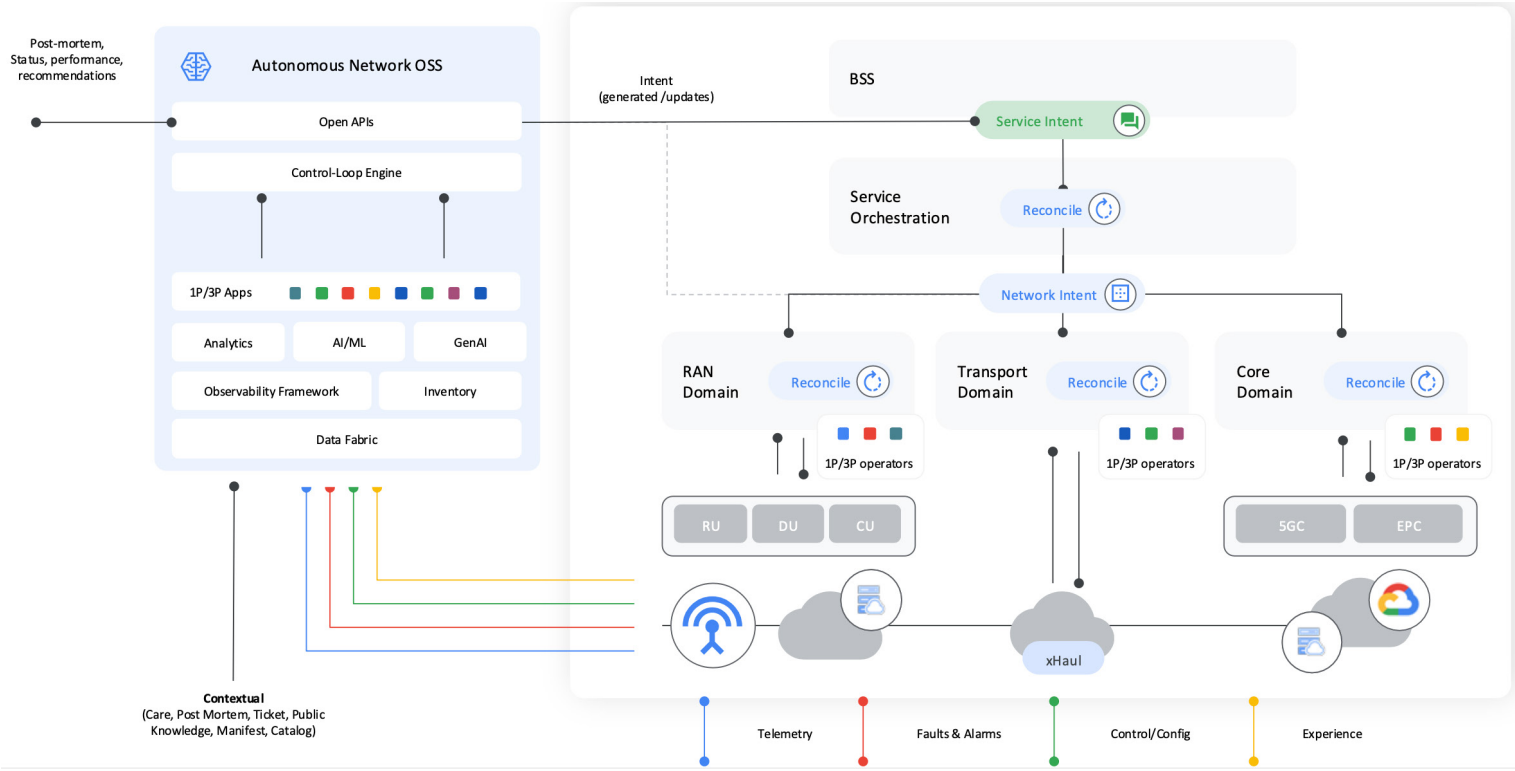
A very material amount of all internet traffic, around 60% to 70%, runs through the Google Global Network. In reaching that scale, the company has learned a lot about using AI tools to manage the network with a high degree of automation, according to Naresh Rao, Google Cloud's head of telco analytics. And now, he said, CSPs are benefitting from those same as they continue on their own network automation journeys.

Rao said use cases like demand forecasting, anomaly detection, root cause analysis and field operations management "have been [of] paramount importance to Google. For CSPs who continue to invest in network transformation against stagnant or declining revenues, "The most important aspect…is how to leverage AI…to optimize their entire network operations…and also improve customer experience."

Rao spotlighted Google's AutoML service, which is a set of machine learning solutions meant to enable developers to train models tailored for specific business needs. He said AutoML can deliver a 25% improvement in demand forecasting which opens up a variety of use cases, including fraud detection, network planning and predictive maintenance among others.

Expanding on predictive maintenance, he said proactively addressing potential network failures minimizes downtime, streamlines operations and also benefits end users. Rao gave the example of European CSP who began using Google Cloud services to ingest RAN telemetry, built a proactive





Anomaly detection is another area that "is more than a use case," Rao said. "It is just a technical capability" that can serve as the foundation for numerous use cases. As Google's own experience has validated, "Anomaly detection can run and scale…This is directly available to our telcos when they run their workloads on Google Cloud…It will help them to build more and more robust use cases."

The big picture, Rao said, is realizing intent-driven networking. "A user will actually define an intent—'This is what I would like to achieve on a particular network.'" That requires the ability to ingest a range of network telemetry from multi-vendor networks across multiple domains. That feeds into a common data model that feeds data pipelines. And, "It should be API-driven," he said. "That's what is very important."

Rao reiterated the importance of inventory management in "achieving this North Star of autonomous operations…understanding all the network functions, network applications, the services and everything, so you continue to drive this intent until you achieve the desired intent."

(Image courtesy of T-Mobile US)

T-MOBILE US TAPS AI FOR CX AND RAN REINVENTION

As T-Mobile US CEO Mike Sievert pointed out during the carrier's recent Capital Markets Day, delivering cellular connectivity is "harder than it looks." As such, T-Mo is looking to leverage AI to optimize its radio access network (RAN) in partnership with legacy telecoms kit providers Ericsson and Nokia, and accelerated computing powerhouse NVIDIA. In addition to bringing AI to bear on the RAN, Sievert and NVIDIA CEO Jensen Huang also discussed the opportunity for fallow accelerated computing resources deployed in a cellular network to create a new revenue stream.

Huang, in a fireside chat with Sievert, said NVIDIA has already shipped the new ARC-1 supercomputer to Bellevue, Washington, where it will be used in the AI RAN Innovation Center, jointly founded by Ericsson, Nokia, NVIDIA and T-Mobile US. "We have the ability to do two things," Huang said. First, the distributed AI can be used for multi-dimensional network optimizations; second, AI-equipped base stations can host third-party workloads, similar in concept to the GPU-as-a-Service models being explored by Singtel and SK Telecom.

Sievert said the big goal of the AI RAN collaboration is to augment and improve existing RAN transformations around hardware/software disaggregation and virtualization. "If we can be co-authors of this transformation, we can have our engineers in there deep…working with the world's leaders like NVIDIA, like Ericsson, like Nokia, to create the future." And, he said, "T-Mobile customers will benefit disproportionately."

On Sept. 18, NVIDIA announced its "full suite" AI Aerial platform for "high-performance, software-defined RAN along with training, simulation and inference so that telecom operators can participate at any stage of development to deployment for next-generation wireless networks." This includes RAN-specific software libraries on NVIDIA's CUDA platform, PyTorch and TensorFlow libraries with AI RAN frameworks to support "spectral efficiency" and signal processing for 5G and 6G. NVIDIA Sionna, "a link-level simulator that provides development and training of neural network-based 5G and 6G radio algorithms, is also part of the package. And NVIDIA Aerial Omniverse Digital Twin provides scalable digital twin capabilities to simulate real world network and user scenarios.

This solution will be used in the AI RAN Innovation Center. Nokia's President of Mobile Networks Tommi Uitto said in a statement, "By bringing together leading companies in the telecom and AI industries, we can unlock the full potential of AI in our networks, improving performance, reducing costs and creating new opportunities for customers."

Ericsson EVP and Head of Business Area Networks Fredrik Jejdling said, "Ericsson has invested in our AI RAN solution, allowing [operators] to deploy portable RAN software running across multiple platforms. We are now evaluating the performance and cost of NVIDIA accelerated computing in this context."

(Image courtesy of T-Mobile US)

T-Mobile US is working with AI powerhouse OpenAI on a new customer-facing "intent-driven AI-decisioning platform." The companies expect IntentCX, which combines T-Mo's proprietary data with OpenAI's powerful GPT series of large language models (LLMs), to launch next year. T-Mobile US CEO Mike Sievert, speaking at the company's recent Capital Markets Day, described the customer experience (CX) strategy as "customer-led, AI-enabled and digital first."

"Our Un-carrier ethos, our customer-first identity, will accelerate us forward," Sievert said. "The key ingredient to our success will only get stronger as we transform our business around data and AI, working to perfect every customer journey."

He contemplated why the wireless industry is so far behind on digitalization, adding that no one should have to spend a big piece of their Saturday at a T-Mobile store to make an account change or upgrade a device. "It's complicated," he said. But "what is AI all about? If it's about anything, it's about making the complicated simple."

T-Mobile US detailed the following IntentCX deliverables:

- Personalized customer service that builds on its Team of Experts model and leverages AI

- "Comprehending conversations, navigating complex, multi-threaded conversations, and even keeping previous context in mind, in multiple languages. So, every customer feels heard and understood."

- Proactive actions delivered by connecting IntentCX to T-Mobile's "transaction and care system" to autonomously identify customer needs and deliver solutions.

- Real-time correlation and decisioning accomplished by comparing network and service data with inbound network or service complaints.

- Faster response time based on a scalable platform capable of managing "thousands of conversations and hundreds of actions simultaneously."

- Providing robust privacy and security measures for every transaction.

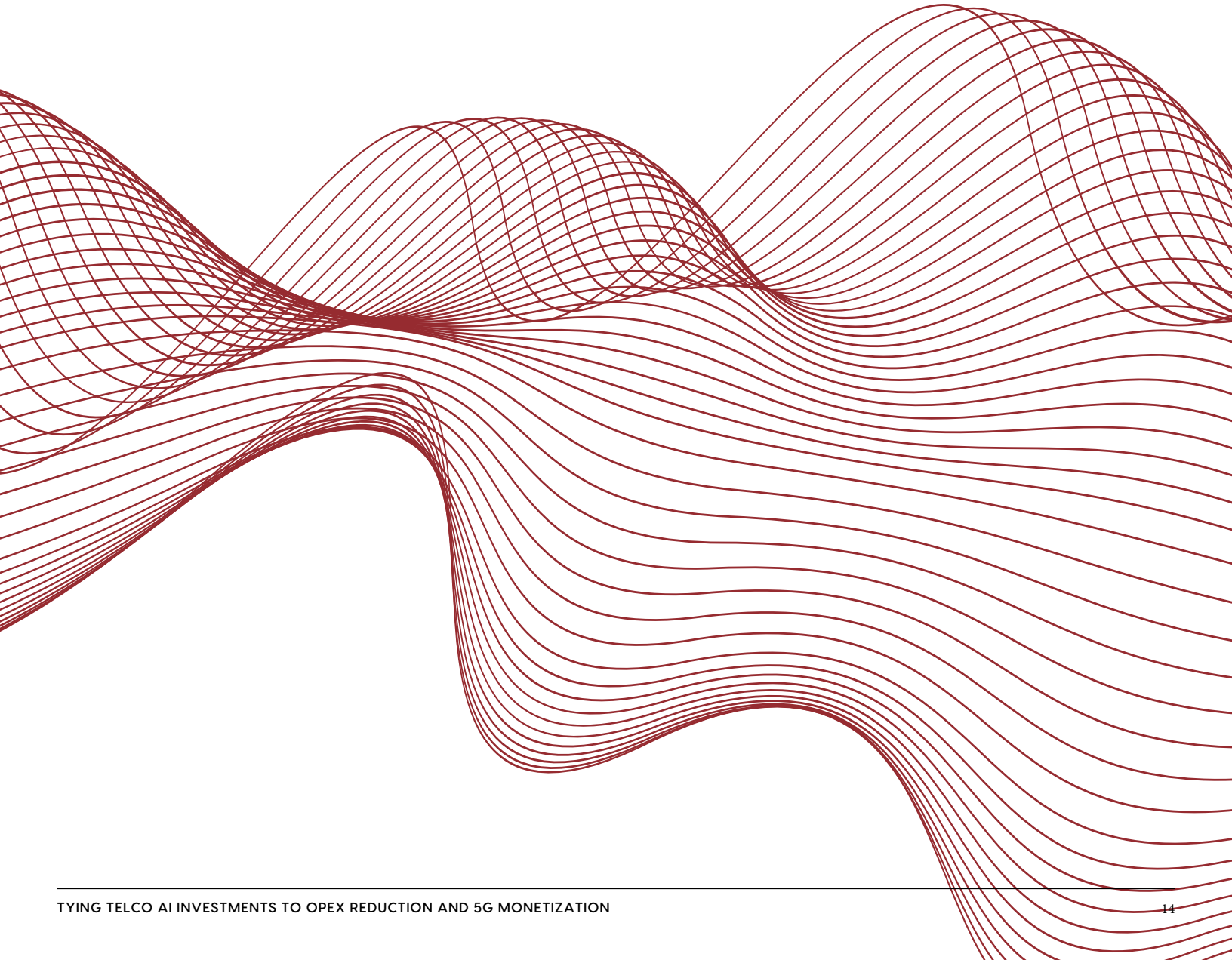
OpenAI CEO Sam Altman said in a statement, "T-Mobile deeply understands how to delight customers, and is driven to deliver better, more personalized solutions. We're thrilled to partner with them to build faster, more intuitive, and accessible experiences for millions of people."

Altman expanded on AI for CX in a fireside chat with Sievert. He said OpenAI's new generation of models can do "personalization for an individual, user or customer…These models will be able to look at a huge amount of data and use a huge amount of tools and access a huge amount of systems and deliver these, hopefully, fairly magical experiences."

During the strategy event, Sievert said digital engagement requires a digital platform which, for T-Mobile US, is called T-Life. He called T-Life a "lifestyle app" that includes account management features, lets subscribers interface with the company's rewards program, and otherwise serves as a primary touchpoint for customer engagement. Sievert said the app is on track for 40 million active users this year, and it replaces "dozens of applications between T-Mobile and our partners."

T-Life will serve as a data source for IntentCX which fits with this larger idea of using AI to turn data into action. Sievert said T-Mobile US has "rethought" its data estate alongside its AI strategy. "The way to deliver real value in the AI era is to unlock individualized experiences for customers informed by the data in a way that humans could never do in real time. This is about automating engagement, informed by the data… Customers are ready for this."

Also on the AI front, T-Mobile US is working with NVIDIA to bring GPU-accelerated computing into its radio access network (RAN) for network optimizations and customer-facing services. Also working with RAN vendors Ericsson and Nokia, T-Mobile US is exploring how GPUs can be used for things like radio processing and spectrum management, then excess capacity can be used for a GPUaaS-type service.



FUJITSU

Why do service providers need analytics powered by AI/ML?

No human can perform the kind of atomized and granular network monitoring that complex 5G ecosystems create. Service providers need AI/ML so your team can focus on efficiencies, strategic items, and customer experience while neural networking manages operational tasks.

Read the white paper

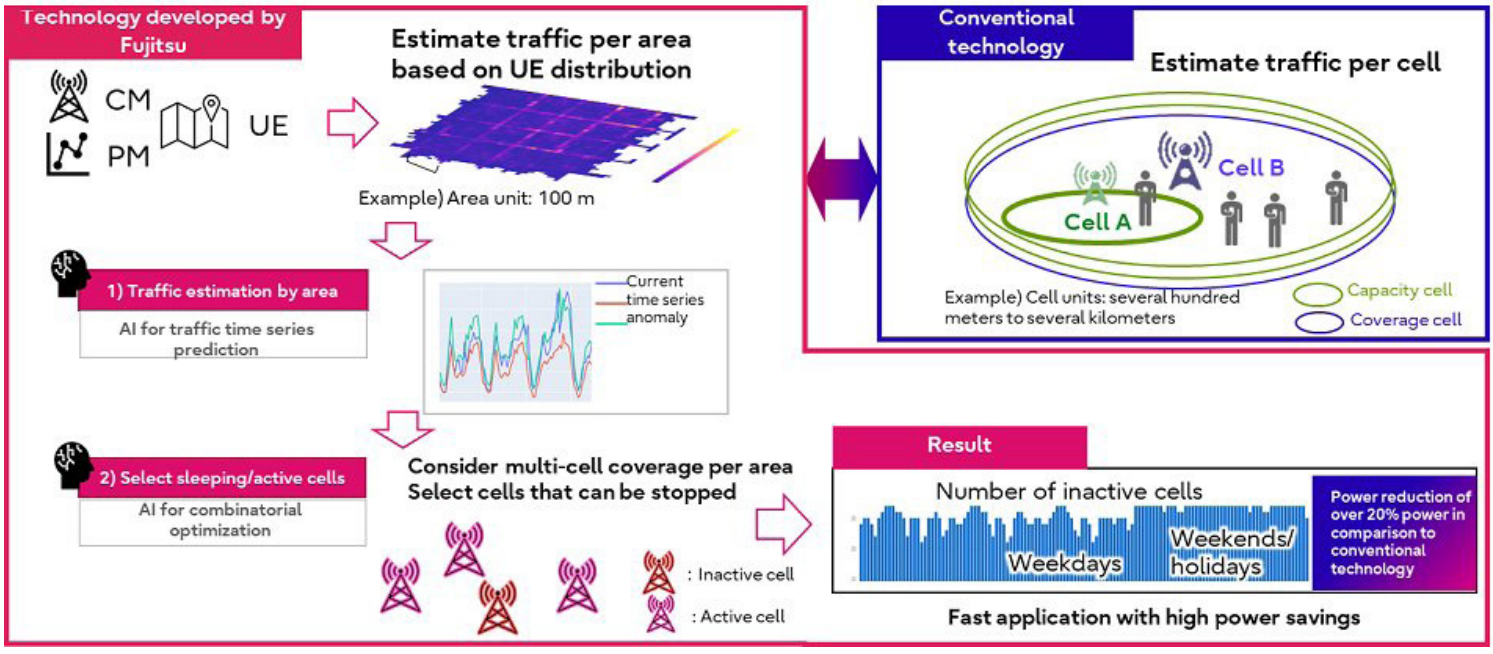
FUJITSU ON TELCO AI- BRIDGING THE GAP BETWEEN TECHNOLOGY AND BUSINESS OUTCOMES

AI-powered rApp for energy efficiency delivers 20% reduction in power consumption

A recurring theme in telco AI discussions is around acknowledging the grandiose transformational potential of the technology while embracing the practical reality that AI success is likely to start with narrow, practical use cases built on top of a well-managed data platform. From there, steadily layer in new use cases and ideally these small, incremental advancements ultimately set a flywheel in motion that powers an AI-enabled, highly-automated machine.

But, as is the case with many types of new technologies, accelerating adoption often hinges on how easy the technology is for the user to consume in service of business-specific goals. "We've been in AI/ML and talking with customers about it for four or five years now," Blake Hlavaty, global director of network software offers at Fujitsu, explained. The conversations have evolved from vendors delivering a set of tools and leaving the user to put them together to providing technology that's packaged in service of delivering an outcome. From the CSP perspective, "There's all this great technology but I'm busy operating my network. How do I bridge the gap from great technology that has the potential to help me versus use cases?"

With its Virtuora portfolio, Fujitsu is aligning with the move toward open, cloud-native networks by providing interoperable AI/ML solutions for high-value use cases, including alarm storm detection and root cause analysis, anomaly detection, energy efficiency, network snapshots, traffic prediction and more.



(Image courtesy of Fujitsu)

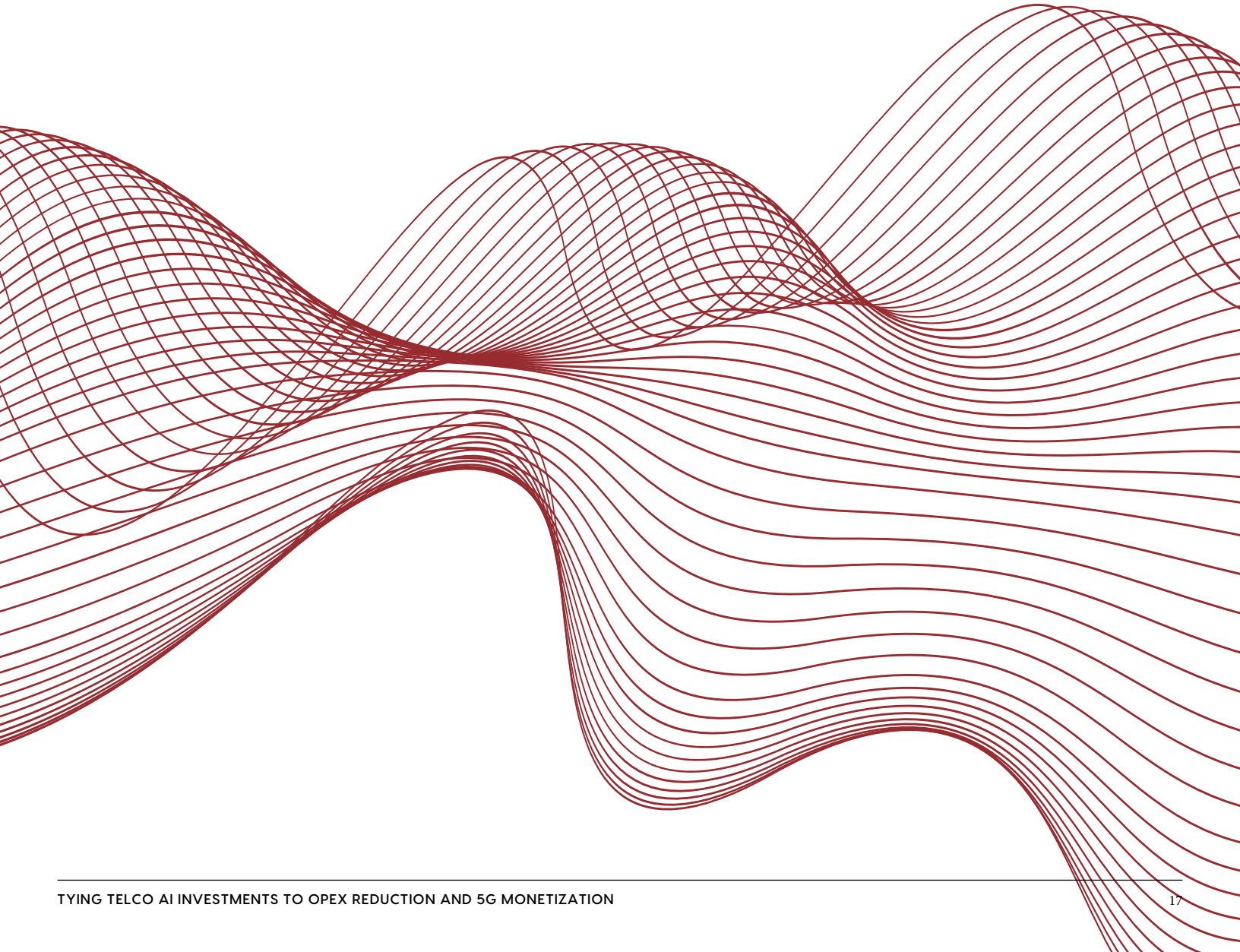
The next step is to add in Virtuora Intelligent Applications which couple neural network modeling with pre-trained models built using domain-specific data. These applications are also compatible with third-party LLMs.

While 5G monetization efforts slowly come together, Hlavaty said he sees CSPs focusing on using AI for network optimization and opex reduction. "The use cases on network optimization are more clear than what's going to help an operator monetize the network." AI investments are being focused on areas "where you can show clear, definitive value."

To give an example, there's an industry focus on using AI to optimize RAN energy efficiency thereby decreasing power costs. Fujitsu has an rApp that runs on its Virtuora SMO; it uses AI and ML to estimate network traffic then switch network capacity on or off as needed while maintaining service continuity. Testing shows a 20% power savings. Discussing how to drive adoption of this solution, Hlavaty looked at it as indicative of the larger issue of developing trust in AI systems in the march toward network automation.

"We've got to rewire how we think about operating networks if we're going to be able to keep up," he said. "New people are going to come in that don't have the history that others do and look at things differently. Our approach to that is…we're not going to start with closed loop. Let's just help the person make decisions. Let's start there and build that trust." As they gain familiarity, CSPs will gain trust and take the step from open loop to closed loop automation.

"We're probably a long way from that full automation closed loop on any kind of large scale or for any major problem," he said. But that's still the direction of travel. Hlavatay reiterated the need for an incremental approach to identifying and solving particular use cases. For Fujitsu, that means using its domain expertise "to bridge the gap between the technology being developed on the AI side and the needs of the network operators. We've got to get creative and we've got to try stuff."



CAN OPERATORS MONETIZE GPU-AS-A-SERVICE?

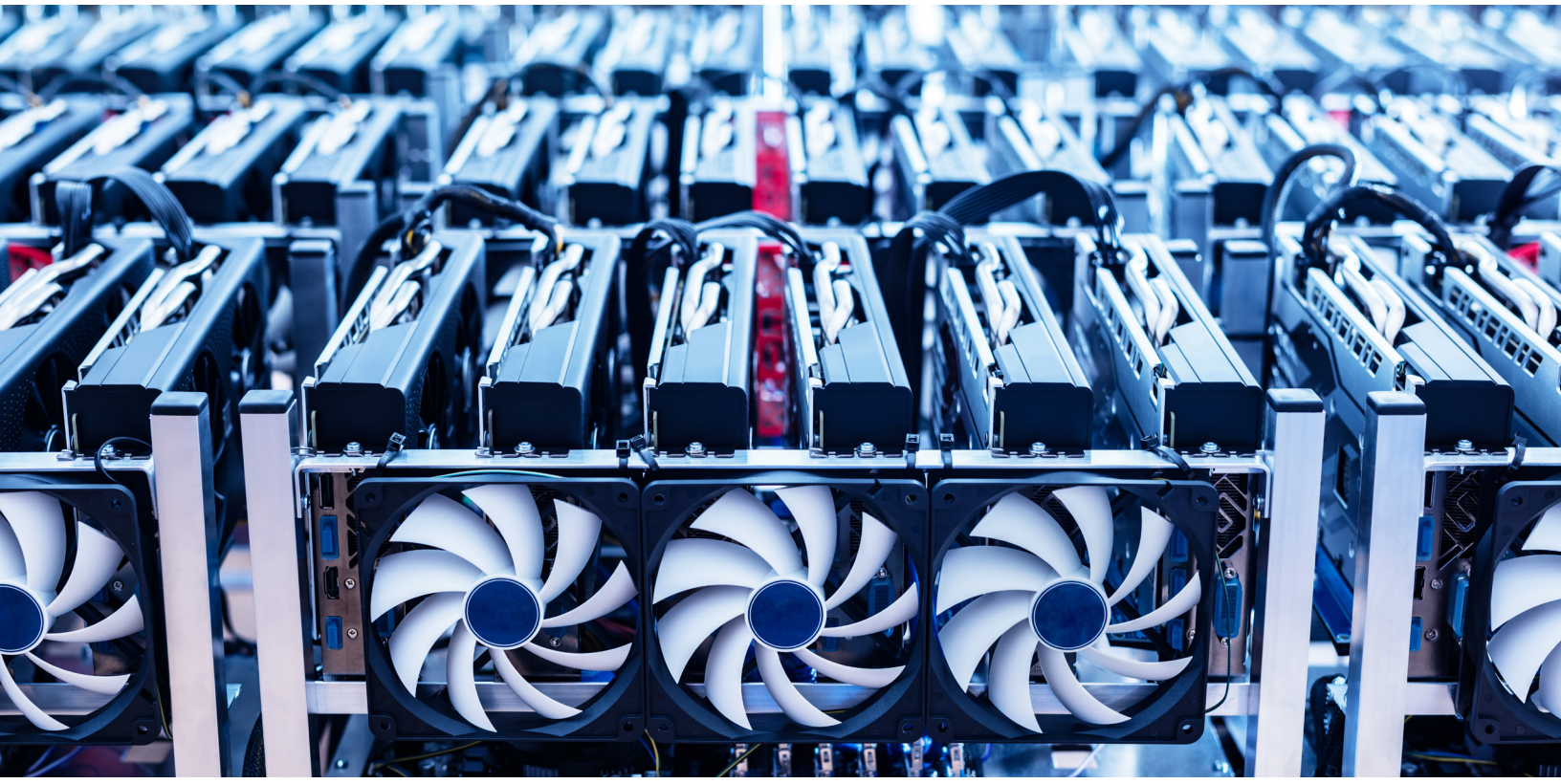
Singtel and SK Telecom have both recently announced partnerships geared toward GPU-as-a-service (GPUaaS) offerings wherein GPU clusters operated by the companies are made available for third-party AI workloads.

Singtel is apparently casting a wide net, announcing deals with Bridge Alliance on Aug. 19, Hitachi on Aug. 26, Nscale on Aug. 29, and GMI Cloud on Sept. 3. These all follow a February announcement from Singtel that it joined the NVIDIA Partner Network Cloud Program which brings NVIDIA's full-stack of hardware and software to Singtel's Nxera data center business.

Bridge Alliance is a consortium of 35 operators who will make use of Singtel's GPUaaS to bring accelerated computing for AI to markets across Southeast Asia, including Indonesia, Malaysia and Thailand. As adoption of the new service scales up, Singtel plans to deploy more GPU clusters.

Tying this to 5G, Singtel has used its proprietary Paragon orchestration platform to control "a multi-edge compute and NVIDIA GPU environment while enabling customers to deploy 5G use cases at speed and at scale," according to the company. "With more telcos deploying 5G network services, we see this real-time AI offering powered by GPUaaS at 5G edge at low latencies as a key growth driver for their enterprise business," Singtel Digital InfraCo CEO Bill Chang said in a statement regarding Bridge Alliance members.

In June this year Singtel and Hitachi announced a collaboration to integrate Paragon with Hitachi's AI applications for manufacturing and other enterprise customers. In the latest, the two firms are working under a memorandum of understanding "to sustainably enhance data center performance and capabilities, thereby accelerating AI adoption and digital transformation of enterprises," according to a press release.



(Image courtesy of 123.RF)

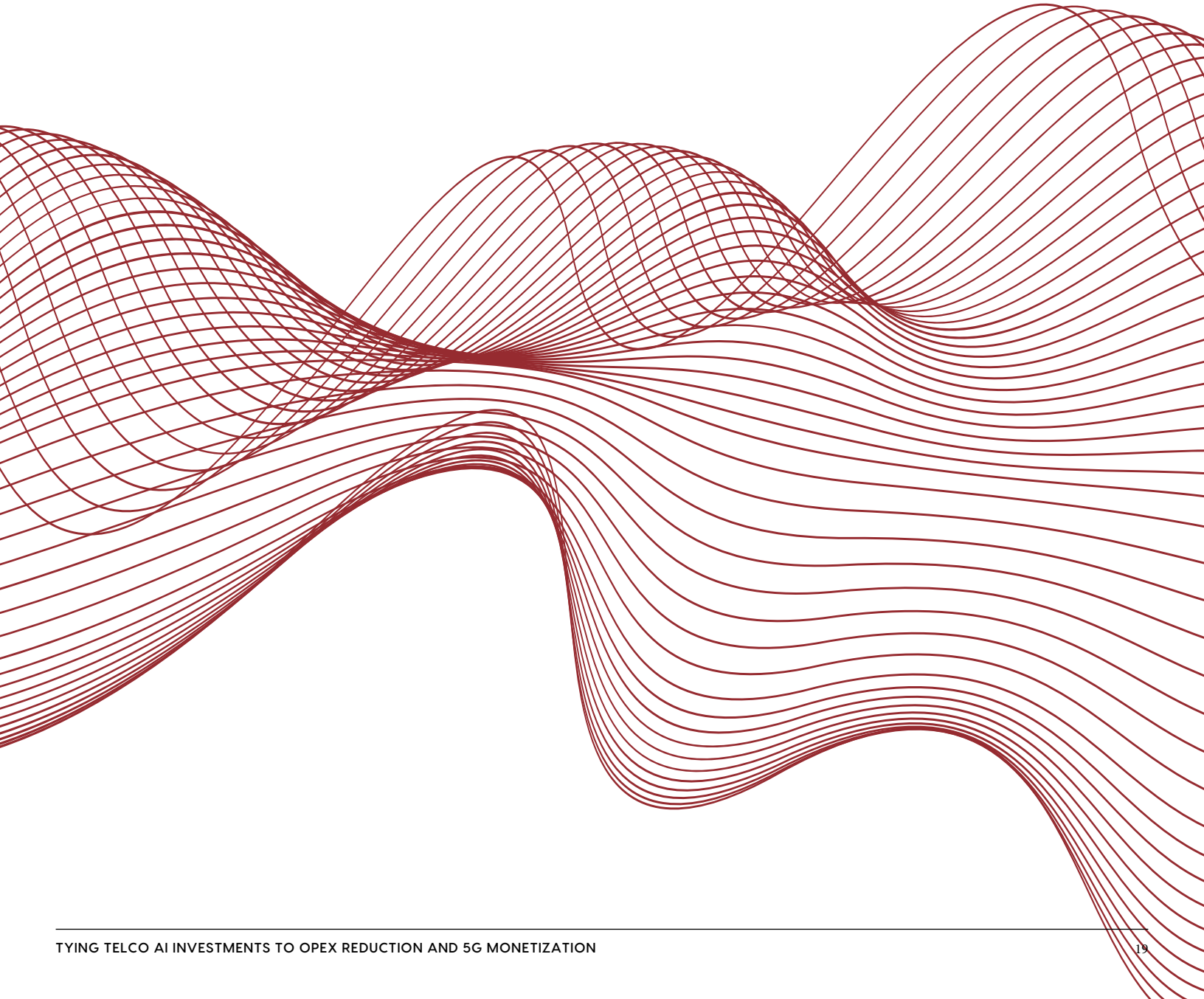
With Nscale, an AI cloud platform provider, Singtel will expand GPU capacity in Europe. Nscale operates both AMD and NVIDIA GPUs in its footprint. While Singtel customers will be able to access Nscale infrastructure in Europe, Nscale customers will have access to Singtel's NVIDIA H100 Tensor Core GPU clusters in Southeast Asia. Paragon will again be used for orchestration, according to Singtel.

And the latest, Singtel and GMI Cloud have partnered to, again, combine their GPU clusters and make them available as-a-service for enterprise AI applications. GMI Cloud CEO Alex Yeh said the collaboration is "creating an ecosystem that will accelerate AI adoption, enabling telecom providers and enterprises to enhance their services and drive innovation in the region."

In South Korea, SK Telecom is working with GPU cloud firm Lambda "to establish a large-scale NVIDIA GPU cluster" to support cloud services, including GPUaaS "on an as-needed basis to develop or utilize AI services," according to an announcement

"A strategic partnership with Lambda will strengthen our competitiveness in AI cloud services and develop greater business opportunities in Korea,"SKT VP and Head of the Enterprise Business Division Kim Kyeong-deog said in a statement.

With Nscale, an AI cloud platform provider, Singtel will expand GPU capacity in Europe. Nscale operates both AMD and NVIDIA GPUs in its footprint. While Singtel customers will be able to access Nscale infrastructure in Europe, Nscale customers will have access to Singtel's NVIDIA H100 Tensor Core GPU clusters in Southeast Asia. Paragon will again be used for orchestration, according to Singtel.



(Image courtesy of 123.RF)

'THERE'S NO CLEAN AI STRATEGY WITHOUT A CLEAN DATA STRATEGY'

Blue Planet sees AI as a spectrum of technologies driving intelligent automation forward

In a wide-ranging discussion with *RCR Wireless News*, Gabriele di Piazza, vice president of products, alliances and architectures with Blue Planet by Ciena, immediately made the point that AI is a "spectrum of technologies," many of which have been battle hardened after decades of commercial use. The common idea, he said, is to use data to solve complex operational problems—"Now that I see the history, I can predict the problem."

Blue Planet's AI solutions are centered on helping CSPs modernize OSS by bringing together assurance, inventory and orchestration on a cloud-native platform to simplify end-to-end automation and enhance monetization opportunities. Di Piazza gave examples of customer outcomes, including predicting if a network element is going to fail with 90% accuracy, and setting up a gen AI-powered chatbot that would let a customer talk through what they need from a network slice that is then configured. The former example touches on opex reduction and the latter on network monetization, but there's a bit of circular flow in that a more performant, reliable, resilient network enhances end-user experience and makes it easier to consume (more of).

But it all starts with the data. "There's no clean AI strategy without a clean data strategy," di Piazza said. He likened data to swimming, AI to snorkeling and gen AI to scuba diving. "Everybody wants to jump to gen AI…Some people want to go scuba diving without swimming." The best practice here would be to establish a common data strategy then gradually develop use cases on top of that common data strategy; from there, a continuous process of improving and iterating will develop a broader set of capabilities and foster organizational confidence. "Comprehensively we need to look at this as a layered approach. I see AI layered on top of data."

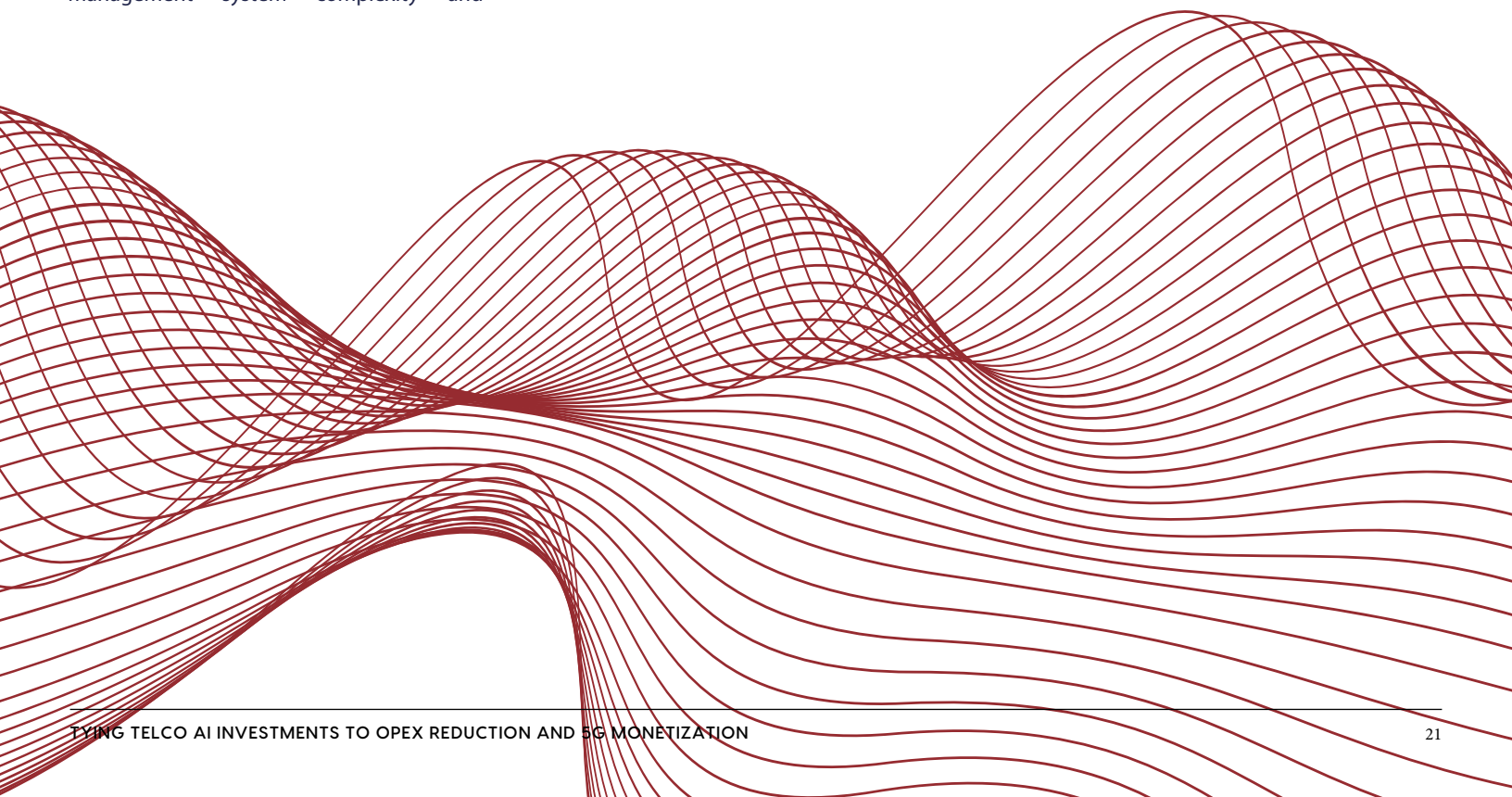
Denmark's TDC NET is working with Blue Planet on an OSS transformation project meant to deliver an accurate, unified accounting of mobile and fixed resource and service inventory. TDC NET's use of Blue Planet Inventory (BPI) is part of a larger digital overhaul that also includes network monitoring, service assurance and workforce management. The goal, according to TDC NET Head of IT Enablement Carsten Rasmussen is "to reduce inventory management system complexity and improve operational efficiencies to the benefit of our customers."

Lumen is also using Blue Planet Inventory as part of its own network simplification and transformation program, and will leverage that "streamlined visibility into its network inventory…to accelerate the development, implementation and support of Lumen solutions," according to a note on the deal. "A single source of truth for our network inventory and data integrity is core to Lumen's transformation to create a digitized, AI-ready network, one that can quickly address customer needs driven by the major demand for connectivity fueled by AI," Lumen EVP of Enterprise Operations Kye Prigg said in a statement. So, again, data as the foundation of use cases that touch on opex, create new monetization opportunities, and keep that circular flow going.

Di Piazza said this is all part of a "big wave of OSS modernization happening." And these inventory examples are a practical way to quickly realize value—the same approach that more generally makes AI a success. "It needs to be real…As we rollout use cases, we need to make sure that this set of use cases and technologies are delivering value in the near term…We do believe in building this vision towards the autonomous network."

Di Piazza also stressed openness as a "core aspect" of how the company approaches AI. He gave the example of the AI Studio software environment that lets CSPs bring in homebrewed or third-party LLMs for integration with other Blue Planet solutions. There are also a number of "pre-built" AIOps use cases, including silent fault detection, forecast resource exhaustion, graph-based alarm correlation, cross-layer stitching and more.

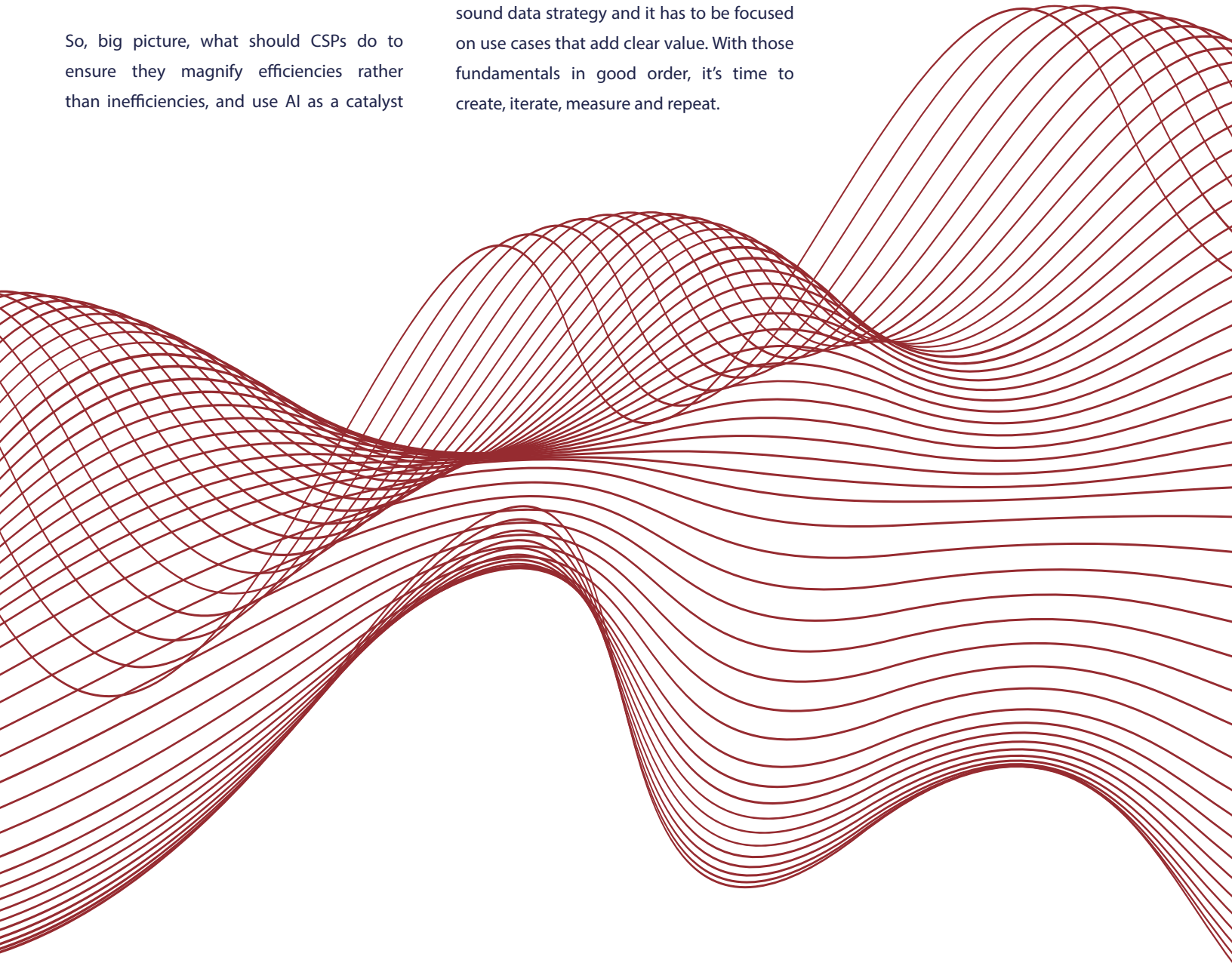
Looking ahead at the continued evolution of telco AI, Di Piazza wrote in a blog that, "In the near future, gen AI will help us improve on all these use cases and create more advanced intelligent automation. Within the next couple of years, we believe that the way CSPs engage with support systems will evolve dramatically, moving away from traditional user interfaces and toward more natural language-based interactions."



CONCLUSION

Bill Gates has said a lot of smart things, and one of the smart things he said that's relevant here is this: "The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency."

So, big picture, what should CSPs do to ensure they magnify efficiencies rather than inefficiencies, and use AI as a catalyst to evolve their networks, overhaul their operations and hopefully grow into new markets? Usually this is where we'd write something about the grandiose vision for AI as some sort of panacea for all of the issues CSPs are facing. But it's not that; AI is a tool that can help magnify efficiencies. To do that, it has to be deployed on the back of a sound data strategy and it has to be focused on use cases that add clear value. With those fundamentals in good order, it's time to create, iterate, measure and repeat.



Featured Companies

GOOGLE CLOUD

At Google Cloud, we're partnering with communication service providers around the world to deliver the AI-Driven Telecom. By harnessing intelligent data, advancing cloud-native networks, and unlocking new monetization models, we are enabling the future of telecom. We are proud of our growing ecosystem that helps drive these innovations forward.

Learn more

FUJITSU

Fujitsu Network Communications, Inc. is a leading provider of digital transformation solutions for network operators, service providers and content providers worldwide. We combine best-in-class hardware, software and services with open network expertise to enable cost savings, faster services delivery and improved network performance.

Learn more

BLUE PLANET

Communications service providers (CSPs) are exploring AI as part of their evolution from telcos to digital techcos. Blue Planet provides open and extensible software that helps CSPs manage AI models and use cases to optimize their operations.

Learn more