



Straight Talk

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Cloud: The catalyst for innovation

Feature

From cost savings
to business
transformation

Case Study

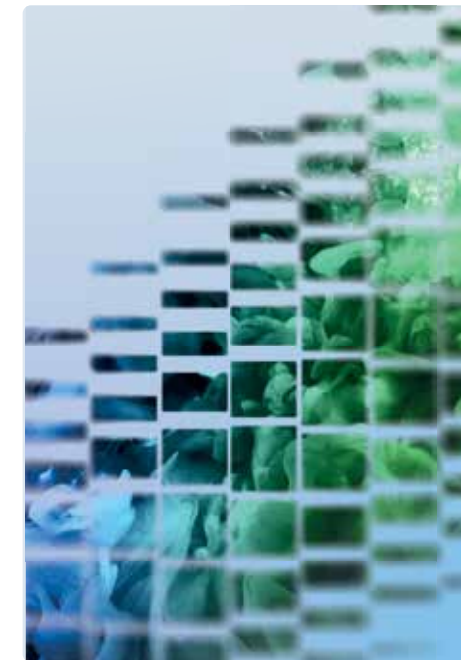
Accelerating Merck's
journey to cloud for
continuous modernization

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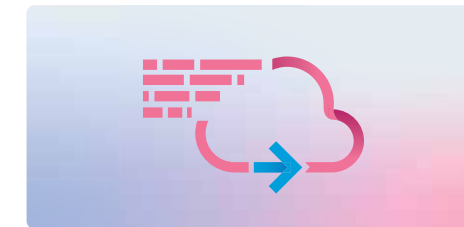
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It's time to innovate in cloud

Cost optimization, infrastructure agility and modernization have been driving the migration of applications and workloads to cloud. But today, the game is changing. Increasingly, organizations are purposeful about migration and modernization, leveraging cloud to create more value to the business.

Gartner refers to this as the application-led phase of cloud migration with a focus on innovation. Application resilience, agile software development and security are now the priorities of today's evolution to the modern cloud.

In this phase, organizations are looking to scale cloud-native applications and services that offer advanced capabilities to boost business performance and enable industry-specific solutions.

To find out about this next stage in the evolution of cloud adoption, HCLTech teamed up with FT Longitude, the thought leadership and research arm of the Financial Times, to deliver a groundbreaking research study—Cloud Evolution: Make innovation a habit.

An overview of the findings is detailed in the first article of this issue of Straight Talk magazine, and for those who'd like to take a deep dive into the research, the below QR code will take you to the full report.

What is clear from the research is that attitudes toward cloud are changing. While cloud may still provide cost savings and efficiency, the research indicates that cloud is considered a platform for innovation, a tool for continuous modernization and a key driver of the evolution of business and sustainability initiatives.



Nicholas Ismail
Global Head of Brand Journalism





Cloud evolution is here →

Cloud is now seen as the crucial ingredient in driving new business models, innovations, platforms and customer offerings. No longer just a scalable and cost-effective way of delivering computing, executive boards need to think about cloud more deeply to avoid getting left behind.

→ [Nicholas Ismail](#)

HCLTech's new research, which surveyed 500 senior executives across both business and IT, reveals that cloud strategies are having to evolve rapidly to respond to new business needs, and to keep pace with the adoption of new technologies.

However, not all businesses are using cloud technology to the full. Most say they could boost innovation if they used cloud more effectively and that security concerns, company culture and skills shortages are holding them back.

Dialogue between business and technology teams is critical to uncovering how business strategy drives cloud journey. However, while the two functions agree that there should be more investment, they have different perceptions of how well cloud is understood across the business.

The exclusive research findings uncover how businesses can make their cloud strategy integral to their overall business strategy, the challenges associated with this and the rewards that will follow.

Cloud powers agility

Businesses are contending with several major challenges at once, with rapidly shifting customer preferences causing the most concern. Most leaders have had to pivot their overall business strategy at least twice in the last three years, showing the need for continuous transformation and modernization.

Cloud presents an opportunity to get ahead, with leaders saying it has helped them respond more quickly to a range of critical issues. According to the survey, 87 percent of leaders who have successfully pivoted their strategy say they could not have done so without leveraging cloud, while over 90 percent of senior executives reveal that cloud has helped them respond quickly to changing customer preferences, cyber-attacks and sustainability targets.

All respondents from consumer services, healthcare and pharmaceuticals, IT and manufacturing sectors find that cloud has helped with regional/sovereign compliance changes. And, Information Technology

“Many organizations still face a gap between what they are currently achieving in cloud and what they know is possible”

(IT), consumer services and transport, logistics and distribution sectors are most likely to say that cloud has helped them adopt new business models.

Maximizing cloud potential

Despite these positive sentiments, most leaders (73 percent) reveal their business is only just beginning to unlock the potential of cloud—and 59 percent of respondents say senior leadership does not understand that their business strategy must drive their cloud journey.

This suggests many organizations still face a gap between what they are currently achieving in cloud and what they know is possible, with 82 percent revealing they would have more of an edge on their competition if they used cloud more expansively.

Security concerns were identified as the biggest barrier to achieving more in cloud and 70 percent say skills shortages hinder how effectively cloud is used, while 58 percent believe company culture has held them back from innovation in the virtual environment.

Conflicting agendas

Maximizing cloud’s potential could be achieved with more synergy between business and IT leaders. Compared to business leaders,

IT leaders are much more likely to believe cloud’s potential is understood across every department.

More than half of all leaders say they are not making enough strategic decisions outside the IT department on their cloud-based projects. To take their cloud journey to the next level, leaders must align on its direction and connect it to their broader strategic vision.

This is confirmed with the vast majority (91 percent) of IT leaders saying that the potential and power of cloud is understood across every department, compared to just 78 percent of business leaders.

“82 percent of organizations would have more of an edge on their competition if they used cloud more expansively”

However, IT leaders (86 percent) and business leaders (81 percent) are broadly in agreement that there is a strong appetite to invest more in cloud.

Powering transformative technologies

Business leaders are excited about the potential of new technologies such as generative AI. But they know their organization can’t benefit from them without the right cloud strategy, and 83 percent reveal their cloud strategy roadmap goes hand in hand with their generative AI strategy.

Organizations that neglect their cloud strategy or fail to adapt it to the rapidly shifting technology landscape risk being left behind, as those who can take advantage will be able to embrace innovation and modernize with ease.

Despite conflicting agendas and the challenges of maximizing cloud’s potential, the findings have revealed that overall, cloud is viewed by both business and IT leaders as an agility enabler, the platform for transformative technologies and ultimately, the catalyst for innovation and business growth.

To view the full research report, scan this QR code



“Organizations that neglect their cloud strategy or fail to adapt it to the rapidly shifting technology landscape risk being left behind”

From cost savings to business transformation

The simple work of moving excess workloads to cloud to save money is done. Now it's time for the hard work of implementing transformative business strategies in cloud

→ [Nicholas Ismail](#)

Market watchers report that hyperscalers are seeing a slowdown in cloud consumption—the good news is that cloud adoption is on the rise. Businesses are now pressing the gas pedal on adopting cloud to achieve their strategic business objectives.

According to Siki Giunta, Executive Vice President, CloudSMART Offerings Strategy, Industry Cloud Consulting at HCLTech, this represents a significant shift in the cloud market.

"In short, legacy is dragging the consumption of cloud. Legacy transformation requires a more complex architecture and there are greater restrictions, especially when it comes to things like compliance and security. Today, organizations are focusing on the capabilities and applications already in cloud,

which has created a bit of slowdown in consumption," says Giunta.

The easy work of quickly moving excess workloads to cloud for the purpose of saving money or improving efficiencies is done—what she calls the "go, go, go of cloud consumption".

"The easy things to modernize have been completed and now the modernization journey is harder," says Giunta.

The hard work of implementing transformative business decisions that lead to the evolution of an organizations' business models is here, and this requires cloud adoption. It's the only platform that can accommodate the changes, the speed and agility needed to drive continuous modernization and transformation outcomes. The impact of cloud is like the impact

of the internet for business at scale and "as of today, there isn't any other type of technology that can support the evolution of innovation".

To maximize transformative business objectives in cloud and move away from legacy, organizations must rely on systems integrators to make cloud work by filling the experience gap.

Giunta adds: "You can't have transformation without system modernizations. But if end user organizations work together with systems integrators to do the hard work of decoupling systems [legacy from modernized] to modernize those you can and rewrite those you can't, you will maximize capability."

Making cloud work

Traditionally, hyperscalers offered organizations a choice when it came to cloud; public, private and most recently, multi and hybrid. But, in this last chapter of cloud, businesses really have to know how and why they are choosing cloud and have a plan for utilization.

Taking advantage of what cloud can do requires an "understanding of the systems, business capability, architecture, knowledge of security, compliance, data residency and more," says Giunta.



"The hyperscalers made it simple to 'move' to cloud, without realizing, as an example, how to move the data to cloud with the applications to drive transformative business outcomes," she adds.

This challenge has been compounded by the talent shortage.

Globally, there is a shortage of skilled employees who have experience in cloud and understand all the challenges of different cloud implementations and how they should turn out. This is what makes the hard work of transformation in cloud most difficult. System integrators fill this experience gap and bring the "been there done that" knowledge when it comes to cloud. Delivering on this challenge is the focus of HCLTech's CloudSMART offerings, designed to accelerate innovation and business transformation enabled by a catalog of holistic, highly industrialized services that simplify operating in a hybrid cloud landscape.

"There isn't enough talent with the experience of doing large-scale cloud implementations. Everyone is going after the same people, because the growing demographic of born-in-the-cloud talent is only now just coming out of universities and schools. They come with the skills, but don't have the experience," explains Giunta.

As an organization, when you know everything that can go wrong you can implement the processes and the tools to ensure bad things don't happen. The system integrators are the insurance policy for having positive outcomes when businesses are adopting new processes and programs to transform their business and innovate.

Systems integrators make cloud work.

Giunta confirms: "Increasingly, cloud providers will rely on systems integrators to be their partner so that organizations can consume the capacity they've sold them."

She adds: "In the long run, cloud is born neutral. It's born to run on anything that you give it. But we know that not every cloud is equal for every application, and every industry. That connectivity is created by the systems integrators that take the time to understand what is best."

"Increasingly, cloud providers will rely on systems integrators to be their partner so that organizations can consume the capacity they've sold them."

Cloud makes things possible

Cloud presents numerous use cases that can drive change and positively impact society, business and the individual. For example:

In North America in 2023, there have been over a dozen train derailments, according to an article in The Independent. One of these, the Ohio train derailment on February 3, resulted in the release of hazardous materials that could have severe implications for the surrounding environment, reported CNN. Residents have complained of feeling sick and the vinyl chloride the train was carrying has made its way into the air, water and soil.

To reduce the number of these disasters, rail companies can use cloud and supporting technologies to monitor and intercept data that can be analyzed to prevent a derailment. Railroads and the National Transportation Safety Board in the U.S. should mandate this technology to prevent these disasters.

Giunta explains: “As more of these trains derail, I’m realizing, listening and understanding that their telemetry is so archaic. Minutes pass before the railway operators know where the train is or what’s going on. These trains are derailing all the time because the track is overheating. By implementing edge devices supported in cloud, operators could have near real-time insights into the train and the track to prevent and reduce derailments.”

She also refers to the pharma industry that could use cloud to conduct more extensive clinical trials in a shorter period of time. In

this environment, the data can be analyzed to make life-changing decisions on formulating medicines.

It’s cloud that makes these things possible. “When you implement

[these use cases] and they happen, it’s beautiful,” says Giunta.

“Globally, there is a shortage of skilled employees who have experience in cloud and understand all the challenges of different cloud implementations and how they should turn out.”




Re-Imagine Cloud the Smart Way CloudSMART

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Learn more:





Generative AI: A human-algorithm symphony orchestrated in the cloud

Generative AI is the trend on everyone's mind. To truly take advantage of this game-changing technology, it must be adopted and used with the right data and cloud strategy

→ Nicholas Ismail

Generative AI is a branch of artificial intelligence that generates original outputs, like content and code, in near real-time. Unlike other AI systems that focus on predictive tasks and identifying patterns, generative AI—trained on large datasets—produces creative outcomes. This creative spark is the reason it's the most talked about tech trend in the world right now, with the potential to disrupt entire industries and the very nature of work.

Defining where the technology trend sits within the AI ecosystem, Kalyan Kumar, Global Chief Technology Officer and Head - Ecosystems at HCLTech, says: "Generative AI is a subset of artificial intelligence at the intersection of deep learning and natural language processing."

A human-algorithm symphony

Generative AI centers around a deep collaboration between humans and algorithms.

"The technology is learning while it builds hypotheses and generates code and content. It can transform many areas including storytelling, summarization, code generation, code assistance and even computer graphics. Traditionally, these areas took people a lot of time. But that's not the case anymore," says Kumar.

However, he explains: "Despite these new levels of unprecedented speed, a human brain is still required to bring in aspects of responsibility, trustworthiness and validation."

The opportunity with generative AI is immense and it will impact consumers, students, citizens, the enterprise employee and all aspects of social life, but human involvement

is crucial. Humans are required to prompt the machine with the right questions to get the right answers to help solve problems, generate the necessary code or write the correct content. Asking the right questions has become a very important skill, with the rise of prompt engineers entering the workforce.

The generative AI opportunity

Today, with programs like OpenAI's ChatGPT and Google's Bard, generative AI is already impacting the consumer world. People are using it every day for every manner of things, including homework, writing and image generation.

In the enterprise there is significant potential to harness decades' worth of data in the form of articles, videos and summaries to generate never-before-seen insights, while in end-user organizations, ranging from healthcare to travel, the transformative power of generative AI is monumental.

In healthcare, for example, it can assist in medical image analysis by converting X-rays and CT scans into clearer images to help with early diagnosis of diseases, as well in the discovery of new drugs by creating new molecules and predicting molecular properties.

At HCLTech, generative AI is also opening the door for new opportunities and considerations.

"We're applying generative AI within our own businesses, looking to understand how we can apply it to application development and maintenance, IT and OT operations and support, systems engineering and in business process operations," says Kumar.

"We're applying generative AI within our own businesses, looking to understand how we can apply it to application development and maintenance, IT and OT operations and support, systems engineering and in business process operations"

He points to four key areas:

1. Prompt engineering

As mentioned, generative AI requires the right prompts. Prompt engineering is a critical component of language model fine-tuning that involves designing and refining prompts to achieve specific outputs or behaviors.

The process of prompt engineering involves testing and refining prompts to optimize them for specific tasks, using techniques such as prompt tuning, blending and synthesis.

With prompt engineers, HCLTech can enrich domain-specific knowledge, while exploiting the language model's strengths and weaknesses to obtain better outputs, whether content or code, with minimal user effort.

2. Data engineering

Beyond analytics, data engineers need to create the right data pipeline for data ingestion, data management and data operations. Generative AI can support this and resolve the industry data scarcity crisis through the creation of synthetic data, which can help eliminate biases and lead to automatic error detection and the correction of data.

3. Integration and orchestration of intelligent apps

Generative AI can be integrated across enterprise, search and knowledge systems to create intelligent apps that drive new business models and value propositions. Importantly, when integrating generative AI systems,

organizations should look to infuse or embed the capabilities of existing applications and their data rather than replace them.

4. Responsible AI

With the rise of generative AI, there is an opportunity for organizations to build responsible practices. This is crucial, perhaps above all else, to ensure a transparent and equitable future.

Industry-focused responsible AI must move beyond a list of principles, with organizations prioritizing the development of a stringent framework.

The role of cloud

To truly take advantage of these generative AI opportunities and maximize its potential, the technology must be deployed only with the right data and cloud

strategy. This was confirmed by 85 percent of senior decision-makers in the recent research by HCLTech, Cloud Evolution: Make innovation a habit.

Generative AI and all next-generation technologies, such as the mixed reality powering the metaverse, quantum computing and 5G, will be powered in cloud. "Due to the sheer volume of data processing, significant storage requirements and the handling complexity of these algorithms, there is no other place for them. Generative AI will be a cloud-delivered service and your cloud strategy will have to evolve to meet these new requirements," says Kumar.

He adds: "Organizations that just move machines and infrastructure to cloud aren't getting the real value. Today, the journey to cloud is about modernizing and rearchitecting existing workloads, while extracting new capabilities. The innovation possible in cloud enables the creation of new applications, built on technologies like generative AI. This needs to be supported by AI and data engineering skills, which is an integral part of HCLTech's CloudSMART. We enable the data capability with cloud, which supports generative AI and machine learning models to extract significant business value."

Every forward-looking business is exploring how they can deploy generative AI solutions to drive innovation, future-proof business models and gain competitive advantage. While still in the early stages of mass adoption, it's clear that companies that will succeed need the right cloud strategy, the right skills and the right partner with the experience to infuse next-generation technologies into existing business operations.

"Today, the journey to cloud is about modernizing and rearchitecting existing workloads, while extracting new capabilities. The innovation possible in cloud enables the creation of new applications, built on technologies like generative AI."

HCLTech outlines its approach to responsible AI in the following ways:

Model explainability – a templated framework to bring model explainability in at each stage of the AI process

Trust in results – defines the features needed to validate results at the design stage, with multi-level checks to support trustworthiness of AI output

Reliability – places emphasis on reliable performance of the AI system once in production, with custom AI app testing and quality framework for delivering reliable products

Privacy and Security – the data privacy and security of people factored in at the data discovery, feature selection, model development and training stages

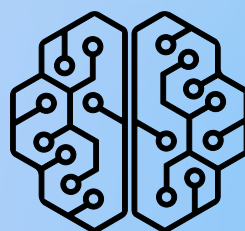
Inclusion – design and test templates that ensure diversity and user backgrounds are well understood before AI systems are built

Fairness – design, train and test templates to reduce potential bias and unfairness in the end product

Traceability – establish not only how a system works, but how it was created and for what purpose, in a way that explains why a system has particular dynamics or behaviors

Accountability – structures and processes are codified and implemented to ensure that all AI operations are driven by the principles on which they were built and agreed with all stakeholders

Change Management – incorporating AI and change management process to support adoption, success and cultural shift





Be smarter in a cloud-enabled business

How to future-proof your organization and fuel growth in cloud

→ Nicholas Ismail

Cloud has revolutionized IT for individuals and organizations alike and it is enabling a propagation of new business models for a digital age.

During the COVID-19 pandemic, a report from Flexera found that nine out of 10 companies chose to advance their digital transformations by modernizing core infrastructures and adopting Software-as-a-Service (SaaS) capabilities to increase operational agility and competitiveness. Yet business leaders continue to face pressure to modernize, by making future-focused technology and process choices that meet the business needs of today and solve tomorrow's problems.

"Accelerating a smarter cloud migration will increase scalability, security, efficiency and sustainability," says Kalyan Kumar, Chief Technology Officer and Head – Ecosystems at HCLTech. "But the greatest value from cloud comes from its ability to enable innovation, helping businesses to reinvent how to develop, deliver and sell products and services, at speed."

A smarter approach to cloud

Embracing cloud as part of a commitment to continuous modernization is essential to thriving in the digital era. According to McKinsey research, for companies that adopt an effective business-enablement model, cloud adoption has the potential to generate \$3 trillion in EBITDA value by 2030.

In the banking industry, innovation is driven primarily by cloud-enabled application programming interface (API) strategies. These allow banks to use advanced analytics

capabilities to personalize products and online banking applications for their clients, who now expect an enriched, immersive, seamless and convenient experience.

"Customers used to go into a bank and build a relationship with a teller. Now, their loyalties are attached to a user interface," says Siki Giunta, Executive Vice President, CloudSMART Offerings Strategy, Industry Cloud Consulting at HCLTech. "That's a big innovation capability."

Organizations have embedded agile composability and resiliency in their business decision-making processes and are now adding customized capabilities and Anything-as-a-Service (XaaS) offerings to create on-demand environments.

The convergence of cloud adoption and next-generation technologies such as private 5G, robotics, Internet of Things (IoT) and serverless computing has accelerated the digital transition and opened the door to pioneering innovation.

"For example, next-generation applications on the edge are creating exciting opportunities for industries such as oil and gas," enthuses Giunta. "Thanks to its distributed and localized nature, edge computing significantly improves data security and privacy. It has the power to transform the handling, processing and delivery of data from devices."

This convergence is also helping to transform smart cities from a futuristic promise to a reality, unlocking and enabling data quality and reliability amongst sensors, edge devices and cloud platforms. And in the healthcare industry, AI-driven cloud computing is enabling organizations to develop ground-

breaking research and development in areas such as cancer diagnostics and automated tumor contouring.

Cloud innovation can drive sustainability

The environmental footprint of the digital world is expanding as energy consumption rises to meet demand. Greenpeace estimates that the technology sector could be responsible for 20 percent of global electricity consumption by 2025, with the expansion of cloud computing a key factor in this surge.

Deeper metrics and intelligent big-data analytics will help organizations to understand their cloud resources, while tracking their cost and carbon footprints in real time, critical in this age of cyclical shortages and climate change. More visual and centralized management tools and analytics will also ensure that idle resources and underutilized or excessive assets or processes are easily spotted, and the underlying issues addressed.

As cloud technologies become more powerful, it's critical that organizations have sustainability front of mind from the design stage, suggests Santhosh Jayaram, Global Head, Sustainability at HCLTech.

He says: "Modernizing cloud usage must be part of the solution, as smarter analytics and automation can help to accurately report and optimize data."

Enter cloud "doers"

Modern, sustainable business models are competitive differentiators and companies of all types and sizes are in the spotlight to improve their performance. In an

ever-changing, complex landscape, however, businesses should both research their options extensively and seek expert advice before coming to a decision. Working with a technology partner that understands the ecosystem in which different businesses operate and that has broad connections that include tech providers, app providers and cloud providers can provide value. No business has time or budget for trial and error, so having access to an array of predictable and resilient options will be essential.

"In creating a modern mindset for the future, we have moved from an era of 'cloud talkers' to 'cloud doers,'" says Giunta. "Now is the time to tap into a culture of innovation and curiosity."

"Customers used to go into a bank and build a relationship with a teller. Now, their loyalties are attached to a user interface."

Looking to cloud at SGX Group

Tinku Gupta, Chief Technology Officer at Singapore Exchange (SGX Group), uncovers how the organization plans to future-proof its business model and adopt cloud services where relevant, particularly for sustainability and capability benefits

→ Nicholas Ismail

Organizations across industries and around the world are reaping the benefits of cloud and, in turn, generating significant business value. Some are at a mature stage in their cloud adoption journeys, while others have just started.

Within the capital markets industry, exchanges are starting to adopt cloud for core services, such as moving data-related trading platforms to this virtual environment.

Singapore Exchange (SGX Group)—the Singapore-based market infrastructure, with service offerings across multiple asset classes from equities to fixed income and FX to commodities—is in this cloud-transformation drive, while remaining true to its core values.

“We want to retain the strengths that our market participants trust us for, which are reliability and availability, and at the same time, embrace the improvements that cloud can bring to the transformation and future-

proofing of business models,” says Tinku Gupta, Chief Technology Officer (CTO), SGX Group.

She continues: “There are many use cases in cloud, and we are deep into it. Some of our platforms are running on cloud and we are working on more that will harness the benefits of cloud.”

Cloud ambitions

SGX Group is looking towards cloud to benefit from extended reach, capability building and platform modernization, as well as for achieving sustainability benefits.

To achieve these goals, new platforms being built from scratch are nearly all cloud-native, and Gupta and her team are constantly looking at opportunities to migrate existing workloads to cloud, where relevant. Operating in cloud will help extend the reach of these services, while taking advantage of all the other benefits cloud has to offer.

According to Gupta, SGX Group’s cloud strategy is built around five core pillars: cloud first, cloud only, cloud move, cloud agnostic and cloud later. These are the foundation of the exchange’s aim to reap the benefits of cloud.

She explains: “When moving new and existing workloads to cloud, the approach we take will depend on what we require of that platform or workload. Our strategy is to make sure that the platform has the relevant functionalities that the customer of the platform requires, even when operating in cloud. At the same time, we ensure that cloud provides all the security by design architecture needed to operate securely.”

Utilizing data in cloud

Effectively utilizing data, consolidating it from various silos and gaining insights from it through AI and machine learning (ML) is a major business benefit of cloud.

At the same time, data is also the crown jewel of an organization, and it must be protected.

In Gupta’s role as CTO, protecting the data and understanding where to store it is as important as utilizing it to drive innovation and transformation.

“The requirements of confidentiality, integrity and availability of the data define where the data should sit, whether on-premises, in the public or community cloud,” she adds.

SGX Group is working with HCLTech to capitalize on this to create new products and services.

“We have been working with HCLTech for over a decade and

the partnership brings together their strengths in operationalizing and operating platforms and the trust and efficiency that we are known for. Moving into this cloud environment, it’s now about how we work together to build this whole ecosystem to continue to provide the same level of service and innovate together,” says Gupta.

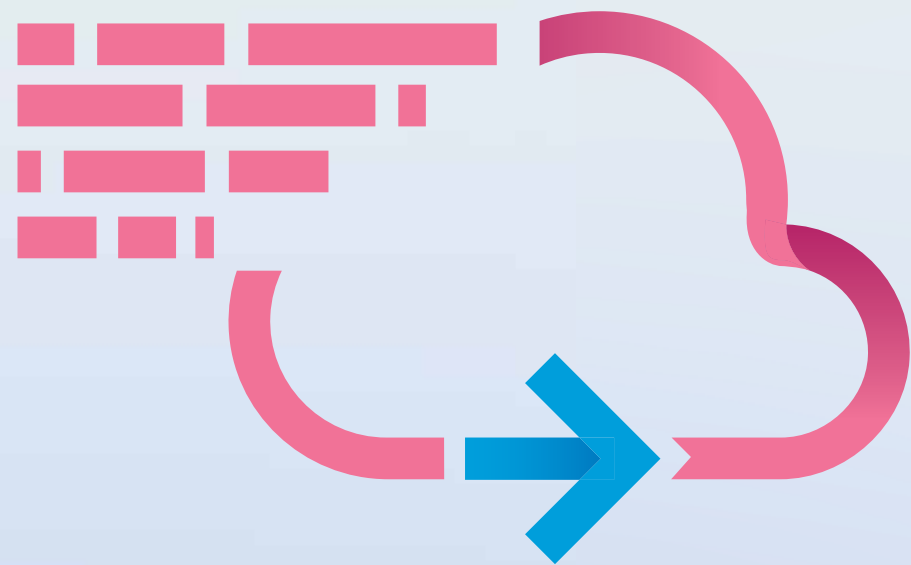
Looking ahead to 2030: Industry cloud and sustainability

The concept of industry cloud is likely to accelerate in the next five to ten years, according to Gartner’s recently published hype cycle.

Industry cloud platforms will have the ability to combine traditional cloud services with tailored, industry-specific functionality to address historically hard-to-tackle vertical challenges.

To reach their full potential, industry clouds will need to evolve into something best described as ecosystem clouds.

“Cloud-transformation partners will need to look at contextual cloud services across the entire ecosystem, from an operation and participation perspective, and it will be good to explore opportunities that industry cloud platforms can bring to our capital markets industry.”



From code to cloud: Maintaining security on this transformation journey

Deploying and securing cloud-native applications requires a holistic approach by embedding security throughout the application lifecycle. An effective protection platform that addresses security needs at each stage of application development and deployment ensures better visibility and risk control to help businesses on their cloud journeys

→ Jordan Smith

The trend of migrating applications to cloud has been rapidly increasing over the past 10 years, and maintaining security throughout that transformation journey is key to enabling those efforts safely.

By empowering security and DevOps teams to effectively collaborate, Palo Alto Networks Prisma Cloud accelerates secure cloud-native application development and deployment. The company's industry-leading cloud-native application protection platform (CNAPP) is helping organizations meet their cloud journey goals with seven billion* cloud resources secured, so far.

To take a closer look at how to maintain a secure cloud environment, Ankur Shah, Senior VP & GM for Prisma Cloud at Palo Alto Networks, discussed the challenges, environmental security threats and best practices for a secure cloud transformation.

Q: Will you introduce yourself and Palo Alto Networks to our audience, and share the key success metrics in your role?

A: My name is Ankur Shah, Senior Vice President for Prisma Cloud. As the audience may know, over the last four years, we have transformed Palo Alto Networks from a firewall company to an organization with a comprehensive security platform. Our flagship product continues to be the next-gen firewall that we're known for.

We've introduced SaaS for zero trust network access (ZTNA). For endpoint security and security operation

center (SOC) transformation, we have XDR, and the third leg of the stool is Prisma Cloud, which secures applications from code to cloud. That's the part of the business I run.

My success metrics are based on helping customers through their code-to-cloud journey, making sure that they're moving fast, going digital and that we're helping them do so in a safe and secure manner. Our core mission is to help our customers in their journey to cloud.

Q: As cloud becomes increasingly ubiquitous and distributed, how can organizations effectively protect this environment?

A: The shift to cloud has been growing at a rapid pace. By the end of 2023, Gartner predicts public cloud end-user spending will reach nearly \$600 billion and, even at that size and scale, cloud providers continue to grow at a significant rate. That's because customers are rewriting their applications to leverage cloud technology and increase development speed.

It's like I say, every company is going to become a technology company thanks to cloud, containers and the evolution of the entire supply chain. If you look at the last year, the majority of organizations have moved over 30 percent of workloads to cloud. And you're going to see that trend continue.

Organizations will either do a lift-and-shift, which is the idea that 'I've already got an application, I'm just going to leverage public clouds,' or they'll build cloud-native applications, which is when applications are built directly within a cloud environment. Cloud-native application approach

is trending now; customers are rewriting the apps.

As organizations take the journey to cloud, I'd like them to start thinking about securing what we call the entire 'application lifecycle.' The traditional approach to security is to say, 'I've got stuff going on in the public cloud, is it secure?' after it's already shipped to the public. And, as it turns out, in the public cloud, developers leave a whole bunch of openings for vulnerabilities. They ask, 'is it secure?' too late.

With the speed that developers are moving and the new services they're leveraging, it's just not possible for smaller security teams to cover the developers' tracks after applications are created and shipped. The right way to secure applications, data and critical infrastructure is for security to move along the tracks with developers—start the security journey at the onset of the development lifecycle itself. Think about this holistically as one big continuum versus a whole bunch of silos, because those silos are time-consuming and ineffective. Silos mean that security teams must piece together all the signals they're getting across the entirety of the application lifecycle to try to figure out which to prioritize.

For example, I've got a Ring Doorbell and if it pings me every 15 minutes when somebody has walked outside my house or a car drove by, I become numb to notifications. It's too much noise, so when an intruder really gets in, I'm likely to miss it. The need is not a whole bunch of small signals, but rather ingrained security at each phase to allow for the combination of the entity of signals, from code to cloud. This leaves threat prioritization to the protective platform and enables users to focus on response.

Q: What are the main threats to this cloud environment?

A: There's the traditional stuff that you worry about like data exfiltration in cloud and a whole bunch of application security risks because of a very common mistake—deploying an application that has a known vulnerability in the public cloud, which is then left open to the public internet that somebody can exploit.

Vulnerability exposure to public internet, overly permissive identity management and secrets in cloud, when you combine all this, it's what the industry calls the supply chain. Software supply chain security risk is when bad actors get hold of your code through methods like social engineering. From there, they still steal the secret

“Every company is going to become a technology company thanks to cloud, containers and the evolution of the entire supply chain.”

“Application security risks and vulnerability exposure to the public internet, those are the classic risks you have to worry about. What leads to those problems and how are they resolved? That’s what customers want to focus on.”

or API access keys, go into cloud environments, siphon off data and do all kinds of crypto mining.

Application security risks and vulnerability exposure to the public internet, those are the classic risks you have to worry about. What leads to those problems and how are they resolved? That’s what customers want to focus on.

Q: What are some challenges as it relates to the skills gap and the human component of the transformation journey?

A: This is something we at Prisma Cloud live through on an everyday basis. The human component of the challenge is that there is a huge disparity between the number of developers and cyber security experts. When you really count the number of people who understand public cloud and security, there are just not enough. They have no chance against developers in terms of keeping up the pace at which they’re developing applications.

So, that represents a problem. One of our goals for Prisma Cloud is to

bridge the divide between security and DevOps teams. We’ve seen great improvements to security from customers who have successfully aligned security and DevOps teams over three steps, the first being the bridge gap closure.

The second step is what we call risk prevention. So, first is just visibility and control and making sure the security practitioner gets that visibility. We then give them perspective on the top risks to report back to the development team.

Developers like to embed secrets in their CI/CD pipeline to allow them to work quickly, avoiding the need to log into another console. By bringing security teams where developers are, security knows exactly the problems that developers could be creating. Preventive security measures can then be added along the way without slowing down development speed.

And step number three is security defense in depth, which is the recognition that what could go wrong often does go wrong. You need active protection when the bad actors are trying to get into your environment.

We think we, at Prisma Cloud, are the bridge builders in cloud security divide. That’s how we’re going to be able to solve this lopsided equation, by bringing security to the developers to make sure security can keep up with development pace, all while acting responsibly.

Q: Can you provide any insight into the latest technologies and strategies that can be deployed to create a holistic cybersecurity strategy?

A: The way to do this holistically is to not do what has always been

done in the industry. I regularly talk to large customers who are using over 100 security tools in total, just in cloud security. A lot of times I find customers with over a dozen tools. Having more tools does not make you more secure, it makes you less secure. You have to look at security holistically from code to cloud.

My advice to security teams is to embrace the new world order. You’re not going to be able to block developers from building new stuff. There’s a business demand. Customers want to move fast. And you want to become the great enablers for a DevOps team by learning cloud, by bringing in the right tool set, by earning trust and credibility and by helping businesses prioritize.

Q: From a business and boardroom priority perspective, where does cloud security rank? How will security be approached moving forward?

A: We recently released our What’s Next in Cyber Global Survey, which found that cloud security was ranked second in priority to network security by the respondents, who were mainly made up of CIOs, CISOs and other senior executives. So, there’s a lot of awareness in the boardroom from CEOs, CISOs and CIOs about investing in cyber. About 50 percent of the respondents in our survey plan to increase investments in software firewalls on both public and private clouds.

My recommendation to CIOs and CISOs is to continue to double down. You have to understand where the puck is going, and the puck is clearly going in the public clouds’ direction. And it’s hard work. I’ve got customers who have a completely locked down

environment, but they have very mature practices, and some who have completely wild west type environments. We want to get to a place where everything is secure from code to cloud, and customers have a single pane of glass where they can consistently see that security incidents and risk are going down as cloud footprint is growing.

“My recommendation to CIOs and CISOs is to continue to double down. You have to understand where the puck is going, and the puck is clearly going in the public clouds’ direction.”

Automation is cloud cure for Blue Cross and Blue Shield of Rhode Island



Joe Friedrichsen, Managing Director Infrastructure and Operations at Blue Cross & Blue Shield of Rhode Island, reveals how the organization has embraced cloud and automation to drive a better business and member experience.



→ **Nicholas Ismail**

Organizations across the healthcare industry are embracing technology and agile strategies to improve business growth and deliver better patient experiences.

Blue Cross & Blue Shield of Rhode Island (BCBSRI) is no different.

At BCBSRI, they promise to deliver cost leadership, customer convenience and comprehensive health and well-being for the state of Rhode Island in the U.S. Its aim is to improve health and well-being by providing leading access to high-quality, affordable and equitable care.

To do this successfully, IT needs to have passion for member and customer experiences, maximize the value in IT related investments and create an integrated organization of business and technical teams delivering on strategy.

“We run everything inside Microsoft Azure. We’re 100 percent cloud-based on our technology stack,” says Joe Friedrichsen, Managing Director Infrastructure and Operations at Blue Cross & Blue Shield of Rhode Island.

Running in cloud

For many healthcare companies, file transfer capabilities determine how efficiently they can operate. It’s a very complex and fragile environment.

In BCBSRI’s case, the company is sent member claims from a range of providers, including pharmacies and dental practitioners, to process the claim. More important is to trend this data across the member population to help provide guidance on improving the member care.

Looking to cloud to deliver the company’s mission of a first-class member experience, coupled with expected business growth, BCBSRI has completed a three-year project, during which everything has moved into cloud.

“As we moved to cloud, we now have the ability to redesign all aspects of our data structure and integrate cloud-based SaaS solutions into our data warehouse, which means we now have APIs available for us to interact with. We’re also redoing the entirety of our technology stack, so we can move away from file transfers and start to engage in real-time with various applications,” continues Friedrichsen.

From a budget perspective, operating in cloud has forced BCBSRI to look at technology quite differently compared to when it was sitting on-premises.

“As we look at how we’re changing and how we’re innovating, it’s really about the whole FinOps practice,” says Friedrichsen.

In addition to the move to cloud, and the inclusion of new data and API technology, their DevOps practice has accelerated in order to automate everything.

A culture of automation

Eliminating waste. That is the fundamental reason for driving a culture of automation, according to Friedrichsen.

Waste comes in several different forms. It could be the repetition of daily tasks or the need to manually pass an activity to someone else in order to complete a task.

Once wasteful activities are identified, it’s a case of accessing the right tools and developing an end-to-end automation framework to streamline tasks and processes, which could be as simple as automating a firewall request.

“Automation is something that we talk about all the time, and it’s applicable in every area of IT,” says Friedrichsen.

He adds: “Part of building your velocity in an agile manner is to make sure that what you’re doing is meaningful and that it’s not repetitive. If it’s repetitive, the expectation is that you automate it.”

Technology-enabled business outcomes

According to Friedrichsen, the most significant benefit of running in cloud and driving a culture of automation is cost.

“Running things in cloud is much cheaper than running on-premises,” he says.

The next benefit surrounds capabilities inside cloud. By running on Azure, BCBSRI can take advantage of Microsoft’s native capabilities and applications, which are constantly being upgraded.

“We have to create a governance [framework] around this so people aren’t using everything and anything, because that causes technical debt, which is a wasteful activity and moves away from adding business value,” notes Friedrichsen.

The third business outcome is improved security.

“We’ve done ethical hacking that has proven our instance in Azure is rock solid from a security perspective,” says Friedrichsen.

All these elements have allowed BCBSRI to focus on changing its data structure around its data warehouse and its APIs, which helps the company move faster to deliver better business and member outcomes, while eliminating waste.

“When you eliminate waste, you allow people to focus on more

high-value things and that helps us to accelerate...and build more capabilities for the business, rather than focus on items like technical debt or security,” he adds.



Better member experience with a personalized touch

With more access to data and analytics in cloud and more time to analyze that data with a culture of automation, BCBSRI is delivering a better member experience.

BCBSRI has provided this data and analysis—which might come from a smart watch monitoring a person’s heart rate or from a doctor’s notes—to its call center agents, who can now advise on a more personalized course of action for individual members.

“We now have a much better view of our members. It’s a 360-degree view, which means that we can really help them get healthier,” says Friedrichsen.

He adds: “Having that data in real-time because of the APIs is allowing us to do a much better job of helping our members as we engage with them.”

Accelerating

Merck's journey to cloud for continuous modernization

In a shared session at AWS re:Invent 2022, Merck—the pharmaceutical innovator—shared the impact of adopting continuous modernization for cloud with the help of HCLTech

→ Nicholas Ismail

During a shared session at AWS re:Invent 2022, Siki Giunta, Executive Vice President, CloudSMART Offerings Strategy, Industry Cloud Consulting at HCLTech was joined by Jeffrey Feist, Director – Public Cloud Product Line at Merck & Co., Inc, to discuss the global pharmaceutical's cloud journey.

The key drivers for embarking on this cloud transformation journey were flexibility, scale, speed-to-market and continuous innovation, with the ultimate aim of improving the delivery and innovation of life saving products.

"With Merck, we started cloud journey with a project to optimize its vaccine trial roll out," said Giunta.

Feist continued: "We wanted to take advantage of cloud's capabilities, continuously advance these capabilities and iterate them for future value."

Building on an established 17-year relationship, HCLTech was well positioned to help Merck achieve this objective and accelerate the adoption of cloud as a business platform by harnessing the HCLTech CloudSMART suite of offerings to provide holistic management for its cloud construct and technology choices.

"The long relationship was a key success factor," noted Feist.

Getting to work

Once the business goals and ambition had been established, HCLTech established an application migration and modernization foundation that enabled continuous modernization of applications and platforms on the AWS Cloud.

This migration was delivered in an agile DevSecOps model with Continuous Integration and Continuous Delivery (CI/CD) pipelines.

Looking at some of the deliverables in more detail:

- HCLTech brought in historical knowledge of Merck's applications and infrastructure
- Analyzed 2,000+ apps and identified 300+ apps for migration and modernization of on-premise workloads to cloud
- Created an innovative path to increase modernization
- Modernized Merck's core enterprise platforms (Tibco and SAP)
- Committed to multi-million-dollar savings over five years
- Implemented retire, rearchitect, re-platform and refactor of legacy assets across the business units
- Implemented continuous automation and building of reusable components for driving efficiency post-modernization
- Sprint-based DevSecOps framework for continuous delivery and improvement

Change at scale

To deliver these key objectives Merck needed to change at scale.

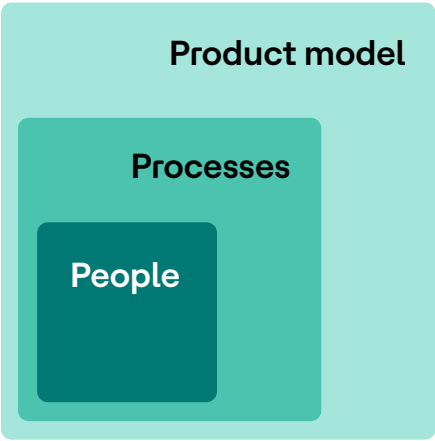
Working in this new environment, it was important to not only focus on technology, but also on the product model, people and processes.

"We needed to empower product owners to support their teams...and foster continuous tech and talent enhancements to grow teams with capabilities they need to meet future requirements," said Feist.

It was also crucial that Merck was able to measure success with a unified platform and tie this back to business goals to highlight value, while breaking down disconnected silos and creating a connected culture that streamlined processes and operations for providers and internally.

The strategic use of automation and self-service not only provided the ability to quickly create solutions, but also enabled product teams to focus on building new capabilities.

This change, at scale, was only possible because HCLTech and Merck worked together to adopt an agile, goal-driven model.



Key takeaways

With the tangible results of the transformation still coming in, Feist provided some key takeaways from their cloud journey so far:

Shifting IT processes

To a product-centric model, the goal is to focus on the business and a model more conducive to innovation

Innovation mindset

Merck has created an innovation mindset that is being adopted across its IT and cloud ecosystem models

Develop application patterns

To enable a factory approach to application migration, which provided access to valuable data and reduced technical debt

New integrated process

Will enable non-disruptive, governed migrations for the future

Giunta commented: "By working with Merck we have learned to apply product-centric applications and modernization in an innovative and continuously modernized way. This transformation will never die a technical death and we can maintain these applications in the future.

"We can meet clients wherever they are on their cloud journey. By harnessing cloudSMART platform, we enable the evolution of their modernization strategy so they can innovate and grow at scale."

While Feist added: "We're excited to have HCLTech as a partner for our future migration journeys."

An AWS guide: Ensure successful transformation by getting cloud adoption right

Everyone knows the value of cloud. But that doesn't mean everyone gets cloud adoption right. In this article, AWS unpacks the key strategies needed to ensure a successful cloud transformation journey.

→ Nicholas Ismail



Cloud is everywhere and the cornerstone of future business strategies. According to Gartner, cloud is the centerpiece of creating digital experiences resulting in global cloud revenues totaling \$474 billion at the end of 2022

As cloud investments grow, organizations are experiencing challenges and are focusing on people, processes and technology to get adoption right.

What do we mean by cloud adoption?

Cloud adoption is when an organization moves existing workloads and legacy estates to cloud, while using the virtual environment to innovate and build new products and services that would not be possible on-premises or by utilizing traditional technologies.

Solving cloud adoption challenges

In pursuit of successful cloud adoption and resulting innovative products and services, organizations face several challenges.

According to Ryan Seaman, former Global Head of Transformation Strategy and Programs at AWS, one challenge stands above the rest.

"The main challenge is a lack of alignment on the target business outcomes. When large organizations move to cloud, there's lots of people who have a vested interest. This means any adoption will have multiple stakeholders that are expecting multiple outcomes. A single cloud strategy can't serve everyone," he says.

Seaman expands on this illustration. "We often see customers build a single strategy to meet a variety of business outcomes. The reality is that building one strategy to satisfy this typically doesn't work, because they require different approaches."

According to a McKinsey report, this misalignment in coordinating cloud adoption efforts has contributed to:



To overcome this, organizations need to focus on their core objectives, which may include:

- **Creating** new revenue streams with new and innovative products
- **Improving** data and analytics capabilities
- **Moving** into new markets, growing sustainably
- **Enhancing** the customer journey, managing inflation in the current climate
- **Reducing** the cost of business operations and the IT environment

Organizations need to consider and prioritize which business outcomes are going to be improved and which areas the business will be impacted.

Sarita Borgenicht, Partner Program Lead – AWS Enterprise Transformation, adds: "Customers really need to focus on connecting cloud adoption very directly to business outcomes. They can do that by identifying the business' key objectives and then creating product teams to solve those objectives through cloud adoption."

"The goal is to create connective tissue between the technical work that must happen and the outcomes that the business really cares about. That way the business is crystal clear on how migration and modernization can help them achieve their goals."

Another ubiquitous cloud adoption challenge surrounds talent. Insufficient skills and resources have been cited by industry analysts as the main challenge for both infrastructure and operations leaders.

"The skills gap can be solved with training and certifications, but experience adds another layer of complexity. There's no compression algorithm for experience. That's why organizations are turning to partners like HCLTech and AWS professional services to work side by side with customers and embed skills into the customers' product teams," says Borgenicht.

"A lack of technical skills will lead to cloud adoption pain points."


Instilling a new mindset for successful cloud adoption

To maximize value in cloud, organizations need to think and do things differently. They need to:

Adopt
a nimble, proactive and innovative digital-first mindset



Embrace
new organizational structures and new operating models



"When we look at customers that successfully adopt cloud, they have a very different profile than customers that do incremental migrations and modernizations," explains Borgenicht.

She continues: "Traditional firms

take one to two years to get new products to market. With firms on the other side of their cloud transformation, they do this much faster in between eight and 12 weeks.”

These high-performing companies are structured differently than traditional organizations. They’re nimble, efficient, more focused on the customer and constantly making changes to address customer requirements.

In addition to embedding a digital culture and reorganizing operations, these businesses have also focused on building and investing in the right engineering processes that drive automation in terms of how they’re building their cloud capabilities.

There is a transition period for these traditional organizations wanting to adopt cloud successfully, and Borgenicht advises that “customers shouldn’t try to reinvent new ways of working on their own.”

Instead, they should look at success patterns of other end-user organizations who’ve done it well, while leveraging support from cloud providers, managed service providers and other partners who can support the entire journey of continuous modernization in cloud.

“Organizations should instill a mindset shift that embraces success stories from other use cases and focuses on adopting cloud to solve customer pain points, as well as meet the business’ objectives.”



Partnerships key for cloud transformation success

When organizations adopt a cloud operating model, they experience outsized benefits, including:

- Faster time to market
- Increased innovation
- Cost reduction
- Greater business efficiency
- Improved cyber resiliency

“To facilitate transformation and cloud adoption we looked at customers that were already being successful and use these noticeable success patterns to build our transformation solutions, because we wanted to provide a meaningful and real experience journey to our enterprise customers,” says Seaman.

He adds: “There’s a list of customers who have been through this cloud journey successfully. We’ve taken the lessons learned—skills gap analysis, organizational restructuring, new team development and so on—from these experiences to calm the fears of other enterprises wanting to walk down this transformation path. We partner with HCLTech because they have the capacity to help our enterprise customers embrace the necessary changes for cloud adoption success.”

CloudSMART

These types of partnerships are crucial for successful enterprise cloud adoption, which is why HCLTech and AWS announced the launch of CloudSMART for AWS, Continuous Modernization Experience to help enterprises worldwide accelerate their cloud business transformation journey.

Unlock the power of innovation

with HCLTech's latest research report on cloud technology



Find out how organizations are using the cloud to drive continuous modernization

[Read Now →](#)



Navigating global regulations with sovereign cloud



Sovereign cloud has emerged as a key area of interest as companies seek intelligent solutions to obtain digital sovereignty. Sovereign cloud computing architecture provides data access in compliance with national laws and regulations.

→ Jordan Smith

Cloud sovereignty requires cloud service providers (CSPs) to monitor cloud and data storage services and validate compliance with national data privacy and security laws. To determine the sovereignty of a cloud computing architecture, regular assessments

are established including records that log access permissions and data movement during a period of time.

Entities that process and maintain highly sensitive data are most likely to be evaluating and adopting sovereign cloud. Interest is even greater in highly regulated industries like financial services, life sciences and healthcare and the public

sector, as well as in countries in Europe. Google estimates the sovereign cloud opportunity is worth over \$70 billion.

HCLTech has a three-pronged approach for helping customers adopt a sovereign cloud structure. There are advisory services for sovereign cloud adoption, in-country and in-region services

that work towards assurance, security, data and controls, as well as onboarding ISVs that can self-test and enhance their offerings to meet sovereign requirements.

Google Cloud's sovereign offering

Google Cloud's sovereign cloud offerings spread across three pillars: data, operational and software sovereignty.

Under the first pillar, data sovereignty, Google Cloud's assured workload offering enables customers to maintain control of their data through local encryption key management and enhanced regulatory compliance. No unauthorized entity can access a customer's data in this way—not even Google Cloud.

Operational software is a pillar that allows customers to achieve a multitenant environment, while having the controls in place like a traditional on-premises environment. Google Cloud has partnerships with local providers in countries with mandated sovereign cloud requirements. The partners act as local administrators for encryption keys, controlling local infrastructure, production access and software updates.

Through software sovereignty, customers can run and control the availability of their workloads without being dependent on providers' software. Google Cloud can also provide survivability services that enable air-gapped and disconnected operations for customers.

What differentiates Google Cloud's sovereign cloud offerings from other cloud service providers and

“Customers must establish the critical drivers for moving to a sovereign cloud infrastructure. They will need to evaluate the level of regulatory compliance that is mandated under old sequences.”

hyperscalers is that the offering follows the Google ethos of working with open ecosystems and open source and has more interoperable products—an approach that closely aligns with HCLTech's CloudSMART suite of offerings designed to accelerate innovation and business transformation.

Additionally, Google has partnered with T-Systems in Germany, Thales in France and Telecom Italia in Italy to deliver security, privacy and digital sovereignty capabilities that are aligned to local regulatory powers.

Advice to customers considering a sovereign cloud infrastructure

Customers must establish the critical drivers for moving to a sovereign cloud infrastructure. They will need to evaluate the level of regulatory compliance that is mandated under old sequences.

Some requirements, like data residency and cryptographic control over data access, can still be managed without an end-to-end sovereign cloud environment. If a customer is looking for operational support services where local presence and personnel are needed, they will need to involve a local partner. In many cases, survivability requirements can be

necessary and require an air gap mode, which is a security measure that involves isolating a computer or network and preventing it from establishing an external connection.



Google Cloud has awarded HCLTech:

→ **Global Expansion Partner of the Year**

→ **Global Social Impact Partner of the Year**

Rise of the industry cloud

Today, cloud adoption is typically delivered across industries as a standardized service. But, to meet industry-specific demands, businesses are increasingly turning to contextualized services to address pain points and growth ambitions. Industry cloud ensures shortened adoption cycles, quick delivery of ROI, solutions to business problems and the generation of new business models

→ **Nicholas Ismail**

Cloud is the most significant trend dominating business value and modernization discussions.

Organizations are breaking away from traditional legacy approaches and leveraging cloud services to bring their business greater agility and flexibility, while lowering the cost and the risk of IT operations. Migrating from monolithic systems to hosted managed cloud native



services allows these organizations to fully realize the benefits of cloud.

With increasing cloud maturity and a greater understanding of the art of the possible, there is now an expectation for industry-specific services: industry cloud solutions.

Conversations between an end-user client and a cloud service or IT transformation provider will now focus on how to differentiate the business in the market via industry cloud, as well as accelerating cloud migration strategies.

"Each client is at a different stage of their cloud transformation roadmap and their cloud maturity levels are very different," says Prabhakar Appana, Global Head of the AWS Ecosystem Business Unit at HCLTech.

He adds: "It's with this in mind that HCLTech and AWS launched

"Each client is at a different stage of their cloud transformation roadmap and their cloud maturity levels are very different"



CloudSMART for AWS, a portfolio of strategic industry focused cloud offerings designed to enable businesses to pivot from their current cloud state to the modern cloud, focused on driving business outcomes through the acceleration of innovation, operational excellence and optimal agility at scale on cloud."

To fast-track these cloud strategies, he explains: "Enterprises are turning to industry cloud platforms to accelerate time-to-market, meet compliance standards and benefit from continuous innovation".

Standardized services falling short

In industries that must comply with certain governance, compliance and security standards, standardized cloud services fall short.

For example, the compliance requirements of PCI DSS (Payment Card Industry Data Security Standard) for financial services, HIPPA (Health Insurance Portability and Accountability Act of 1996) for healthcare and CIP (Critical Infrastructure Protection) for utilities are not baked into standard cloud solutions.

Industry-specific or tailored cloud integrations, interfaces and templates can offer a 'plug and play' flexibility to achieve competitive differentiation in the market, beyond a generic 'lift and shift' cloud infrastructure conversation.

Different requirements and use cases by industry

Each industry is unique, with its own set of challenges and industry standards. Appana describes several

of these, highlighting how tailored cloud services can support the requirements of different industries.

Manufacturing

In manufacturing, the focus is on hyper-automating operations across the value ecosystem, all the way from the design stage through to the supply chain.

"From a cloud perspective, manufacturers want the ability to detect anomalies in real time, improve plant efficiency with efficient smart factories and enable digital twins in a connected ecosystem," says Appana.

In the manufacturing industry, HCLTech's IPLM Cloud solution, built jointly with AWS, enables mobility, reduces the total cost of ownership and improves engineering productivity for better scalability and reliability.

Financial services

Financial services' institutions are focused on delivering mobile-first user experiences and seamless digital onboarding in cloud. This includes real-time transaction updates, intelligent document processing, access to receptive chatbots, personalized recommendations, fraud detection and security functions.

"Cloud services in financial services must enable hyper authentication and accommodate the ever-expanding rules and regulations in the industry," continues Appana.

HCLTech's Novus Payments helps financial institutions navigate the dynamic payments landscape. It serves as a central hub and

enables straight through processing (STP) for accurate and real-time information availability and improved risk management.

Appana adds: "We have also worked with AWS in developing cloud-based conversational banking assistant, Ziva. Ziva is an intelligent banking assistant who provides a natural language-driven conversational banking experience on demand. It's an omnichannel, AI-based self-service conversational solution that banking clients can use to engage customers through voice or text."

Life sciences and healthcare

In life sciences and healthcare, leaders are looking to improve operational and clinical efficiency, whether that is the speedy roll out of a vaccine, enhancing patient care, the digitization of patient records or the optimization of claim processing.

"During the COVID-19 pandemic these priorities were accelerated, and healthcare providers turned to cloud to address these and provide remote consultations," adds Appana.

Telecommunications

Telecommunication (telco) organizations are prioritizing the next generation of connectivity, 5G and beyond.

The delivery of the 5G network is reliant on "an effective multi-cloud strategy, which ensures the provision of connectivity services and the delivery of new incremental value," says Kalyan Kumar, Global Chief Technology Officer and Head of Ecosystems at HCLTech.

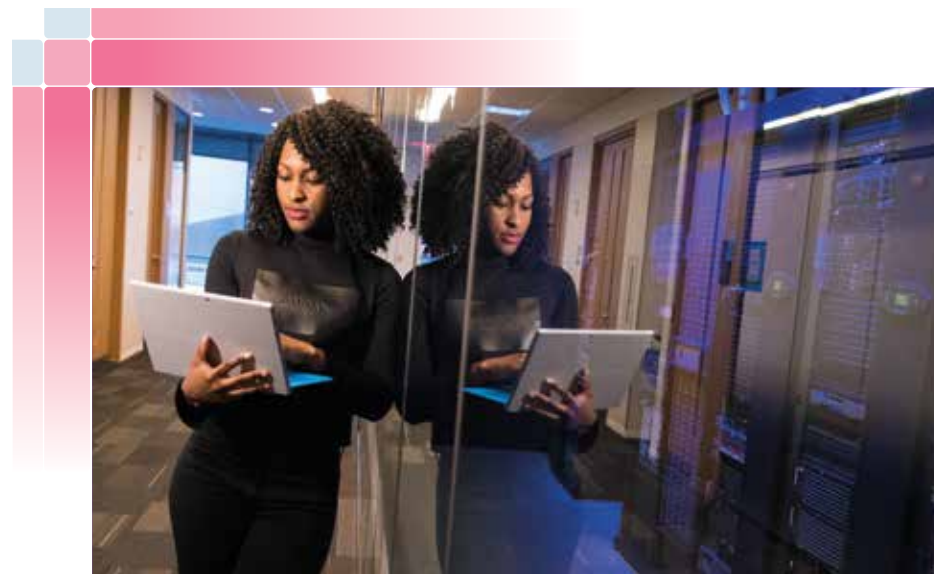
HCLTech's Augmented Network Automation platform runs on

AWS and helps telcos automate wireless network configurations and simplify network management complexity, which leads to faster time-to-market for new wireless services and 5G networks.

These examples of tailored industry-specific cloud services highlight how distinct industry problems and ambitions can be addressed with razor-sharp focus.

Appana concludes: "End-user organizations can achieve their objectives with industry cloud by deploying the right design strategy with the right cloud services provider and proper workload-balancing mechanism."

The delivery of the 5G network is reliant on "an effective multi-cloud strategy, which ensures the provision of connectivity services and the delivery of new incremental value"



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