

NTT announces key technology predictions for 2024

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LONDON, UK – 13th December 2023 – [NTT Ltd.](#), a leading global IT infrastructure and services company, today announced its key technology predictions for 2024. As IT teams start planning, and organizations adapt to 2023's biggest disruptor – Generative AI, the new year will see a mixture of both new and key trends gaining traction across networking, Edge, Private 5G, data centers and cloud.

"AI Adoption is growing exponentially and with AGI and technological singularity still in the distant future, humans will be a critical part of AI story", said Shahid Ahmed, Group EVP, New Ventures and Innovation, NTT Ltd. Organizations must look beyond the next year to ensure they have the capabilities to enable new technologies of the future and strive to hit sustainability targets."

1. 'Dark NOC' will enter the lexicon of the networking world.

With the speed at which AIOps has advanced, the idea of a completely automated, lights out Network Operations Center is quickly becoming an ideal. Over the next 12 months, networking companies will further embed AIOps into their broader operations to improve network quality, support engineers, and modernize infrastructures.

While automation lays at the heart of a 'Dark NOC', human talent will be key to making it a success. Network providers will need to focus on upskilling, as well as ensuring they have made the necessary preparations from a technological standpoint – from standardizing APIs to optimizing data processes.

Networking specialists must understand where automation helps and where human talent is still an essential part of the networking function.

2. AI will drive investment in more disruptive energy supplies for data center infrastructure.

Typical data center racks consume around six to eight kilowatts of electricity. AI is accelerating that increase in density, and it is now common to see racks anywhere from 50 to 100 kilowatts, and beyond. The expectation is that power consumption will double and triple in the coming years. These racks, which consequently generate more heat, and need more cooling, are playing havoc with enterprises net zero targets.

In 2024, more enterprises will work in close partnership with their energy providers to explore more sustainable options. Tightening data center regulations will accelerate this disruptive trend, as more governments and subscribers prescribe specific energy efficiency usage and/or supplies, to meet their own sustainability goals.

NTT is already using techniques like [liquid immersion cooling](#), [district heating projects](#), and researching [solar panels in space](#) to power its data centers, among other things.

3. Sustainability will be integral to all new tech solutions.

Sustainability has previously been identified as a top three driver of innovation and primary consideration in the IT procurement process. Next year, it will have a much greater impact on which technologies IT teams pilot, invest in, procure and scale - particularly as regulations evolve, newly develop and tighten.

For example, as of 1st January 2024, 50 percent of the electricity used in German data centers must be supplied by unsubsidized renewable electricity sources. From 2027, the requirement will be 100 percent.

On their path to net zero and nature-positive operations, enterprises will increasingly look to leverage new technologies like Private 5G networks, used by global enterprises such as [LyondellBasell](#) and [Schneider Electric](#), to drive critical smart factory applications that contribute to ESG initiatives – from carbon mitigation to circular economy of infrastructure hardware. Greater pressure on IT suppliers will also help industries achieve their sustainable development goals and KPIs.

4. Optical networking will get closer to mainstream.

The increased focus on network efficiency, reliability, sustainability and being future-ready will bring optical networking to the fore in 2024. [Recent trials](#) prove the potential – achieving 1.2Tbps transmission rates.

Across all industries, over [90% of senior executives](#) are looking to modernize their networks, ensuring they are set up for the existing challenges they face, as well as those yet to come.

There is also a wider concerted effort to overcome the limitations of existing infrastructure with optical technologies. More than 100 organizations are now partnering to drive the [IOWN \(Innovative Optical and Wireless Network\)](#) forward, ensuring the world is ready for future technologies and bringing optical networking closer to mainstream.

5. IoT ecosystems will boost P5G and Edge adoption.

The combination of IoT, Private 5G, and edge computing will enable organizations to gain real-time insights and make better decisions. With enterprises accelerating digitization efforts, more connectivity and even more devices are needed as enterprises continue to digitize their physical environments.

The edge will significantly grow in importance as enterprises need data to feed analytics platforms powered by AI/ML. Increased automation due to labor shortages, computer vision, and digital twins will be key use cases driving the need for robust edge capabilities.

To go further, organizations need outside help, with [8 in 10](#) expecting their dependency on third-party edge services to grow over the next 2 years.

NTT and its partners are using their combined expertise to meet the need for [5G-enabled devices](#) that support use cases, such as push-to-talk devices, augmented reality headsets, computer vision cameras and sensors at the edge across the manufacturing, automotive, logistics and other industries, specifically around private networks and P5G.

6. Human skills will be essential for the uptake of AI.

NTT's 2023 [Global CX Report](#) found that the majority of CX interactions still require a form of human intervention, with executives agreeing that this will remain a critical part of customer journeys. Despite 4 in 5 organizations planning to incorporate AI into CX delivery within the next 12 months, the human element will be central to its success.

As enterprises turn their attention to how automation can complement and enhance human capabilities, they will place greater emphasis on closing the mounting skills shortages that will challenge AI aspirations. The fundamentals of AI and big data analytics will become baseline skills for a majority of jobs across industries, but new hires won't be the only pathway.

[Research](#) by NTT DATA uncovered that business leaders are more likely to have seen profitability of more than 25% over the last three years because of investments in reskilling and upskilling initiatives. This will continue into 2024, with more curated teaching experiences to help close skills gaps and meet the needs of organizations.

7. Invisible clouds will start to go vertical.

When working well, cloud environments become invisible, leaving applications on stage, front, and center. This has largely been achieved with office apps, project management tools, CRM solutions and the like, but not quite yet mastered for specific industries. That will change next year.

In 2024, vertical specific clouds package software, PaaS, and IaaS layers to deliver industry-centric use cases focused on business outcomes, rather than the technology itself will increase. Analysts have been expecting this for some time, and there is now a great deal of interest in these projects.

A transformation services provider for the transportation and defense industries, has already transitioned to a managed cloud infrastructure to optimize spending and reduce costs.

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About NTT Ltd.

As part of NTT DATA, a USD 30 billion IT services provider, NTT Ltd. is a leading IT infrastructure and services company serving 65% of the Fortune Global 500 and more than 75% of the Fortune Global 100. We lay the foundation for organizations' edge-to-cloud networking ecosystem, simplify the complexity of their workloads across multicloud environments, and innovate at the edge of their IT environments where networks, cloud and applications converge. We offer tailored infrastructure and ensure consistent best practices in design and operations across all of our secure, scalable and customizable data centers. On the journey towards a software-defined future, we support organizations with our platform-delivered infrastructure services. We enable a connected future.

Visit us at services.global.ntt

Media Contacts:

Hotwire for NTT Ltd.

Hannah Lock

hannah.lock@hotwireglobal.com

Company Contact:

NTT Ltd.

E. ntt@hotwireglobal.com

W. <https://hello.global.ntt/>

Additional Contact(s):

Hotwire for NTT Ltd.

Hannah Lock

hannah.lock@hotwireglobal.com

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