

BI-WEEKLY

# NEWSLETTER

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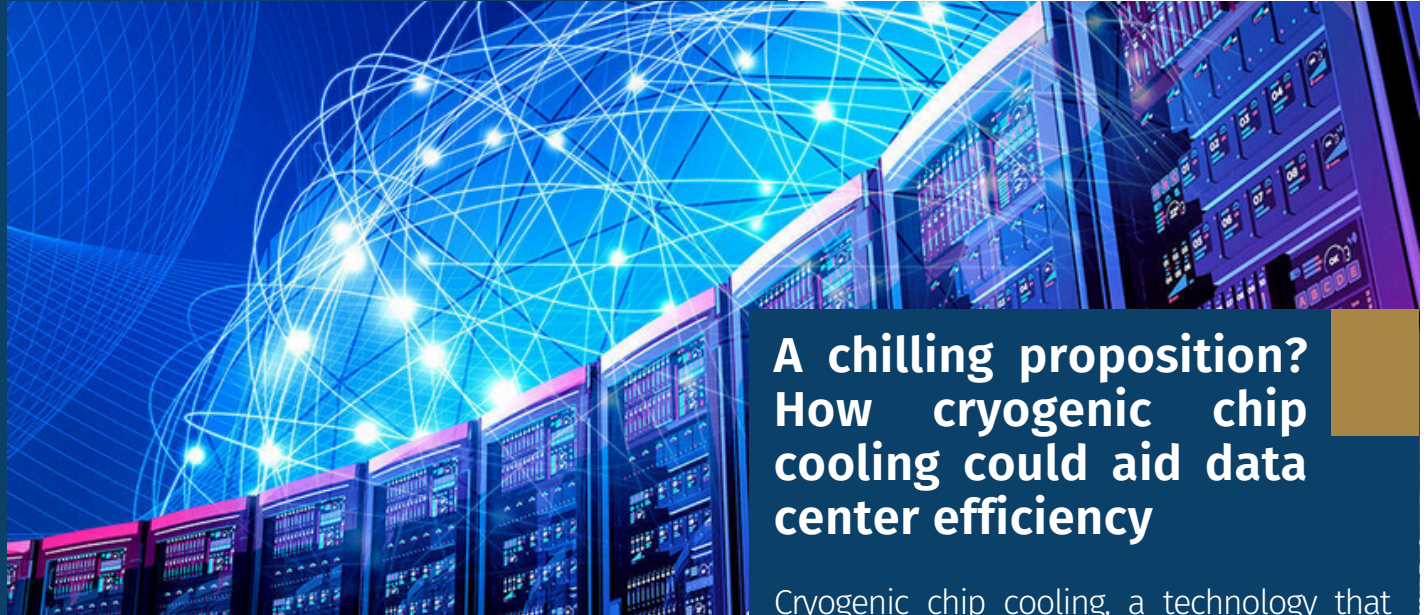
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# RSI

Monday, September 16th, 2024

*Global News, financial analyses, data center related laws & regulations and further latest updates about technologies transforming the data center industry.*

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## Microsoft adopting direct-to-chip liquid cooling, exploring microfluidics

Microsoft is advancing its data center cooling technologies by adopting direct-to-chip liquid cooling and exploring microfluidics. The new designs optimize thermal and power management, support AI workloads, and aim to consume zero water for cooling. These innovations reduce water consumption and increase compute power per square foot. Microsoft is also expanding its use of reclaimed and recycled water and harvesting rainwater at various sites, intending to become water-positive by 2030.

Source: [Datacenterdynamic](https://datacenterdynamic.com), July 26th, 2024

## A chilling proposition? How cryogenic chip cooling could aid data center efficiency

Cryogenic chip cooling, a technology that cools CMOS chips to temperatures below 120 Kelvin or  $-153^{\circ}\text{C}$  using liquid nitrogen, is being researched as a potential solution to improve data center efficiency. The technology, which can enhance performance and power efficiency, is particularly beneficial for high-performance and high-density computing situations where it can handle high thermal loads more effectively than traditional cooling methods. However, the extreme temperatures involved present a challenge for its implementation in commercial environments. This development represents an innovative approach to enhancing the efficiency of critical data center infrastructures. As research continues, its feasibility for broader commercial use remains to be seen.

Source: [Datacenterdynamic](https://datacenterdynamic.com) & [pectrum.ieee.org](https://pectrum.ieee.org), July 23rd, 2024

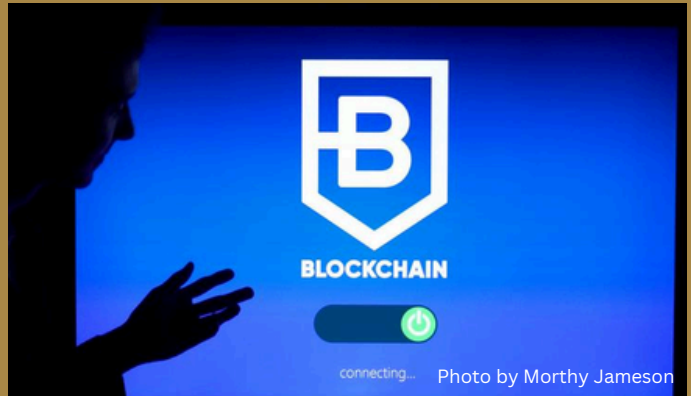
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## Privacy in AI Age, Blockchain to the Rescue?

Without a doubt, the introduction of AI in a form to interact with, ask questions, and receive answers has caused a stir in the technological industry and personal life for humankind, yet it still has a long way to reach its full potential, for instance, to be considered as a general intelligence entity. Nonetheless, it needs a gigantic amount of data to be supplied to realize its full potential, all while facing the challenges of creating a balance between advancement and concerns over data privacy. Some of the biggest fishes in generative AI such as Meta and OpenAI is already under scrutiny for manipulating the users' data. Blockchain technology, with its decentralized and secure nature, can address privacy concerns by providing

transparent, tamper-proof data management enhances data security, offers better control over data sharing, and ensures compliance with regulations.

Source: [Interesting Engineering](#), August 6th, 2024



## AMD Expands Data Center AI Capabilities with ZT Systems Acquisition

AMD is acquiring ZT Systems, a key AI infrastructure provider, for \$4.9 billion in cash and stock. This move strengthens AMD's AI strategy by integrating ZT's expertise in designing data center systems, enabling AMD to deliver optimized AI training and inferencing solutions at scale. The acquisition is expected to boost AMD's earnings by the end of 2025. ZT Systems, based in New Jersey, specializes in AI compute and storage infrastructure for hyperscale cloud companies. Post-acquisition, ZT will join AMD's Data Center Solutions Business Group, with leadership reporting to AMD executives. This deal is part of AMD's broader investment in expanding its AI ecosystem, including over \$1 billion in R&D to enhance AI hardware and software capabilities.

Source: [AMD](#), August 19th, 2024

## Equinix acquires three data centers in the Philippines

Global digital infrastructure company Equinix is expanding its platform to the Philippines by acquiring three data centers from Total Information Management (TIM). These data centers, located in Carmona, Cavite, and Makati, are carrier-neutral and interconnection-rich with over 1,000 cabinets of capacity and additional land for expansion. This strategic acquisition aims to help businesses capitalize on the digital opportunities in the rapidly growing Southeast Asia region. The all-cash transaction, expected to close in the second half of 2024, represents approximately 15 times the projected EBITDA at full utilization. This move signifies Equinix's strategic expansion in the Southeast Asia region.

Source: [Equinix](#), July 23rd, 2024

## A Transistor Created from Ferroelectric Material Promises Broad Electronic Application

In 2021 a team led by physicists from MIT created a new ultrathin ferroelectric material (a material where positive and negative charges are separated into different layers), initially with the potential to be utilized in computer memory and more. Now, the same core team with collaboration with other labs have created a transistor from the material which could disrupt the electronics industry. Even though the research results are based on one lab-based transistor, but solving the problems the technology faces can lead to multiple features and innovation in electronic devices which is not possible with the technology

in hand. Some of the exceptional properties of this transistor includes : switching between positive and negative charges at extremely high speeds (nanoseconds) and is highly durable, withstanding 100 billion switches without degradation. The material's thinness allows for denser memory storage and more energy-efficient transistors due to lower voltage requirements.

Source: [MIT News](#), July 26th, 2024

## Apple used Google's chips to train two AI models

According to a recent research paper, Apple used Google's custom Tensor Processing Units (TPUs) to train two of its AI models. This is notable because Nvidia typically dominates the AI processor market, but Apple opted for Google's chips instead. Specifically, Apple used 2,048 TPuv5p chips for the AI model that will operate on iPhones and other devices, and 8,192 TPuv4 processors for its server AI model. This collaboration highlights a rare instance of Apple relying on a competitor's technology to advance its AI capabilities. The use of Google's TPUs suggests that Apple values the performance and efficiency of these chips for its AI development. This decision may also signal a shift in how tech giants like Apple approach AI infrastructure, potentially moving away from Nvidia's dominance.

Source: [Reuters](#), July 30th, 2024

## Nvidia delays Blackwell GPUs, impacting hyper-scale data center plans - report

Nvidia has postponed the release of its much-anticipated Blackwell GPU series due to unforeseen design issues. This delay, expected to last a minimum of three months, is likely to affect the plans of major hyperscalers such as Google, Meta, and Microsoft. These companies have placed substantial orders for the GPUs to support their AI data centers. Consequently, the delay might push back the launch of new AI data centers that were scheduled to open early next year. Industry analysts suggest this delay could lead to increased demand for alternative GPU solutions in the interim. Hyperscalers may also face challenges in meeting their AI development timelines, potentially impacting their competitive edge. Nvidia's delay could open opportunities for competitors like AMD to gain market share in the AI hardware space.

Source : [Datacenterdynamics](#), August 3rd, 2024



## RSI DC Operations Support

*Highly experienced bilingual staffs available to ensure optimum system performances*

RSI is proud to introduce their bilingual Data Center Operations (DC Ops) Support staffs to support you in your daily operations and take immediate necessary actions to address frequent or infrequent issues happening in your data center. Because RSI is aware of how

valuable are your DC facilities, they can be provided with an experienced and bilingual staff to proactively help you maintain reliability and uptime in your data center facilities during daytime or nighttime, whether on weekends or public holidays.

### On-site Data Center Operations

RSI can provide 24/7 on site staffs to efficiently support all aspects of your data center's critical physical infrastructure to ensure high availability and performance.

RSI can guarantee that all work performed by its experienced technicians is completed to high quality, while maintaining service level agreements, and without any impact neither on your business nor on your clients.

RSI DC operations staffs can deploy their know-how and best practices to efficiently handle your entire data center facilities, including all servers, storage, networking, power and cooling equipment, in order to ensure you a continuous access and an optimum availability.

### What RSI's Customers Say

Through a long term relationship, RSI has dispatched staffs to provide on-site support to various clients across Japan including global and major domestic companies. Most of RSI clients include DC providers, DC services providers and diverse financial institutions.

RSI is proud of the trust built through the excellent quality of its customer relationships in addition to its high quality work that its clients have consistently testified.

For further scope of services provided by RSI, please reach out to us with your inquiry at the contact information depicted below.

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