BI-WEEKLY

NEWSLETTER

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RSI

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

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New nuclear clean energy agreement with Kairos Power

Google has partnered with Kairos Power to implement nuclear micro-reactors for powering its data centers. This collaboration aims to deliver approximately 500 megawatts of carbon-free electricity by the end of the decade. These small modular reactors (SMRs) are designed to be more cost-effective and faster to construct than traditional large-scale nuclear plants. The SMRs will utilize molten fluoride salt as a coolant instead of water, offering a more advanced and efficient cooling technology. This initiative is part of a broader trend among tech giants like Microsoft and Amazon to adopt nuclear power to meet the increasing energy demands of their data centers.

Source: Google, October 14th, 2024

How Big Tech can move the needle on water stewardship

Big tech companies are increasingly focusing on water stewardship as part of their sustainability efforts. These companies, including Microsoft and Google, are investing in technologies to manage water usage more efficiently. They aim to reduce water consumption in their data centers and operations. Innovations such as AI and IoT are being leveraged to monitor and optimize water use. The article highlights the importance of collaboration between tech firms and local communities. It also emphasizes the role of transparency in reporting water usage and conservation efforts. Big tech's involvement in water stewardship is seen as crucial for addressing global water challenges. The companies are setting ambitious goals for water positivity, aiming to replenish more water than they consume. This shift towards sustainable water management is part of a broader trend in corporate environmental responsibility.

Source: Trellis, October 17th, 2024

A Sleeping Giant on the Rise in the Shape of Generative Artificial Intelligence Waste

One of the biggest threats humankind faces is the amount of electronic waste produced each year (62 million tons of waste was generated in 2022). The problem arises from the fact that these devices utilize toxic metals and harmful chemicals which can merge with the environment and cause serious harm to humankind's health.
The invention of artificial intelligence, specifically LLMs: Large Language Models, has caused this process to gain a higher speed. According to an estimation only LLMs could produce about 1.2 million tonnes of e-waste in the shape of GPUs, CPUs, batteries, and module cards by 2030.

Unfortunately, recycling takes much longer than waste production and needs to be addressed as soon as possible to prevent a disaster. One of the methods that could help lower the waste is to downcycle electronic devices such as servers and other equipment. The computing devices that no longer produce the intended workload for the LLMs can be assigned to host websites and other functions with a lower intensity. Similarly, the devices can be donated to educational organizations to be used as a means of teaching the pupils.

Source : IEEE Spectrum, November 03rd, 2024

Digital Realty and Ecolab Launch AI-Driven Water Conservation Pilot

Digital Realty and Ecolab have partnered to pilot an AI-driven water conservation solution in 35 U.S. data centers, aiming to enhance water efficiency and reduce environmental impact. The solution, developed by Ecolab's Nalco Water, utilizes AI and machine learning to monitor and optimize water use in cooling systems, identifying inefficiencies and suggesting improvements. This initiative could reduce Digital Realty's water consumption by up to 15%, saving 126 million gallons of water annually. The collaboration, built on a decade-long relationship, aligns with Digital Realty's broader sustainability goals. Previously, joint projects have reduced water withdrawals by 5%, CO2 emissions, and plastic waste.

Source: Digital Realty, October 15th, 2024

IEA: Global data center electricity consumption to "increase significantly," but remain a small part of overall usage

The International Energy Agency (IEA) report indicates that the electricity consumption of global data centers is expected to rise substantially due to the growing demand for AI and digitalization. However, even with this increase, data centers will still represent a minor fraction of the total global electricity usage. The report underscores the importance of efficiency improvements in data centers, which help to reduce their overall energy impact. Furthermore, the IEA highlights that advancements in energy-efficient technologies and the adoption of renewable energy sources will be essential for managing the energy consumption of data centers.

Source: International Energy Agency, October 19th, 2024

Flex Acquires Crown Technical Systems; Moves Into Modular Data Center, Power Distribution Markets

Flex, a major electronics manufacturing services provider, has acquired Crown Technical Systems for $325 million, marking a strategic move into the modular data center and power distribution markets. The acquisition allows Flex to expand its offerings to include modular data center solutions, addressing the growing demand for scalable and energy-efficient infrastructure. Crown Technical Systems specializes in switchgear, relay panels, and enclosure solutions, which will enhance Flex's capabilities in the data center and utility sectors. This acquisition also supports Flex's goal of advancing energy-efficient solutions for U.S. grid modernization and medium-voltage power needs. Flex anticipates that this expansion into power distribution will help it serve clients in data center and infrastructure industries, leveraging Crown's extensive experience in custom-built electrical solutions. This integration aligns with Flex's focus on high-growth technology sectors and strengthens its presence in the fast-evolving data center market.

Source: Data Center Frontier, October 29th, 2024

HOCHTIEF Launches Sustainable Cloud Venture Yorizon with Thomas-Krenn.AG

HOCHTIEF's PPP Solutions has partnered with German server manufacturer Thomas-Krenn.AG to form Yorizon, a sustainable cloud provider. Yorizon will establish eco-friendly, decentralized YEXIO data centers across Europe, beginning with a facility in Heiligenhaus, Germany, set to open in the summer of 2025. The center will offer 2 MW of IT capacity, scalable up to 4 MW. The venture emphasizes sustainability, using energy-saving construction, renewable energy, and a liquid cooling system to reduce environmental impact. Waste heat from the centers will integrate with local infrastructure, such as heating networks. HOCHTIEF's expertise in infrastructure development and Thomas-Krenn's specialized hardware aim to provide high-performance, secure cloud solutions tailored to Europe's needs, with further expansion planned for 2025 and beyond.

Source: Hochtief, September 10th, 2024

Intel Surges After Results Spark Optimism Over Turnaround

Intel's recent earnings report exceeded market expectations, spurring investor confidence in its comeback efforts. The company's revenue growth in the data center and AI sectors highlights its progress in recapturing market share from competitors like AMD and NVIDIA. Intel's focus on strengthening its supply chain and increasing production capabilities has also contributed to optimism around its strategic positioning. Their investments in new technologies and infrastructure underscore a renewed commitment to long-term stability. With robust initiatives in data center and AI segments, Intel's performance reflects a broader shift towards reclaiming leadership in the semiconductor industry, setting the stage for sustainable growth and improved shareholder value.

Source: Bloomberg News, November 01st, 2024

Energy Cost Compared to the Geographical Location of a Datacenter

In general, data centers are extremely power-driven facilities, and depending on the purpose and capacity of the data center, energy consumption can vary from some mere Killo-Watts to multi-Mega-Watts. Additionally, depending on different factors the cost of energy for data centers can consist of 30% to almost 60% of the entire operational cost. Some of the factors that can heavily contribute to the high energy cost depend on the geographical location of a data center. For instance, if the data center is located in a place where renewable energy sources such as hydropower and solar energy, can increase or lower the price depending on the availability of these sources. Similarly, the climate of the data center location has the same effect on the pricing: colder climates can provide free cooling, dry climates are much better for the data centers' equipment efficiency, and hot and humid climates need a much more efficient cooling mechanism. Moreover, depending on the location the pricing for energy can differ based on the rules and regulations set forward by different authoritative organizations.

Source: Datacenters.com, October 28th, 2024

Microsoft Releases 2024 Diversity and Inclusion Report

Microsoft's 2024 Diversity & Inclusion (D&I) Report highlights its global workforce data to date, showcasing progress and opportunities in D&I initiatives. Highlights include a 23.9% growth in global data center roles and expanded demographic data for Indigenous, military, and disabled employees. Representation of women in core roles rose to 31.6%, with 27.2% in technical positions, and Black, African American, and Hispanic representation at senior levels also increased. Microsoft maintains pay equity globally, aiming to close gaps further through representation and pay transparency. Employee engagement remains high, with 76% feeling "empowered to do meaningful work,". Microsoft continues its commitment with initiatives like the Racial Equity Initiative, allyship awareness, and D&I training. Approaching its 50th anniversary, Microsoft views diversity and inclusion as essential for innovation, empowering employees, and advancing impactful solutions for a global community.

Source: Microsoft, October 24th, 2024

Representation trends in datacenter roles 2023–2024*

Global data	2023	2024
WOMEN	11.8%	12.6%
MEN	88.2%	87.4%
US data	**2023**	**2024**
ASIAN	7.2%	7.0%
BLACK AND AFRICAN AMERICAN	8.6%	10.0%
HISPANIC AND LATINX	15.7%	15.5%
NATIVE AMERICAN AND ALASKA NATIVE	0.6%	0.5%
NATIVE HAWAIIAN AND PACIFIC ISLANDER	0.5%	0.6%
WHITE	63.0%	61.3%
MULTIRACIAL	4.3%	5.0%

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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