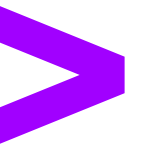


July 2023

Innovate

Trends and innovations that matter





Know more about the latest announcements impacting industry, from carbon capture collaborations to the smart safety vests protecting logistics drivers.



**Industrial is
a front runner
in combining
human ingenuity
with technology
and innovation.**

Thomas Rinn

**Senior Managing Director,
Global Industrial Lead, Accenture**





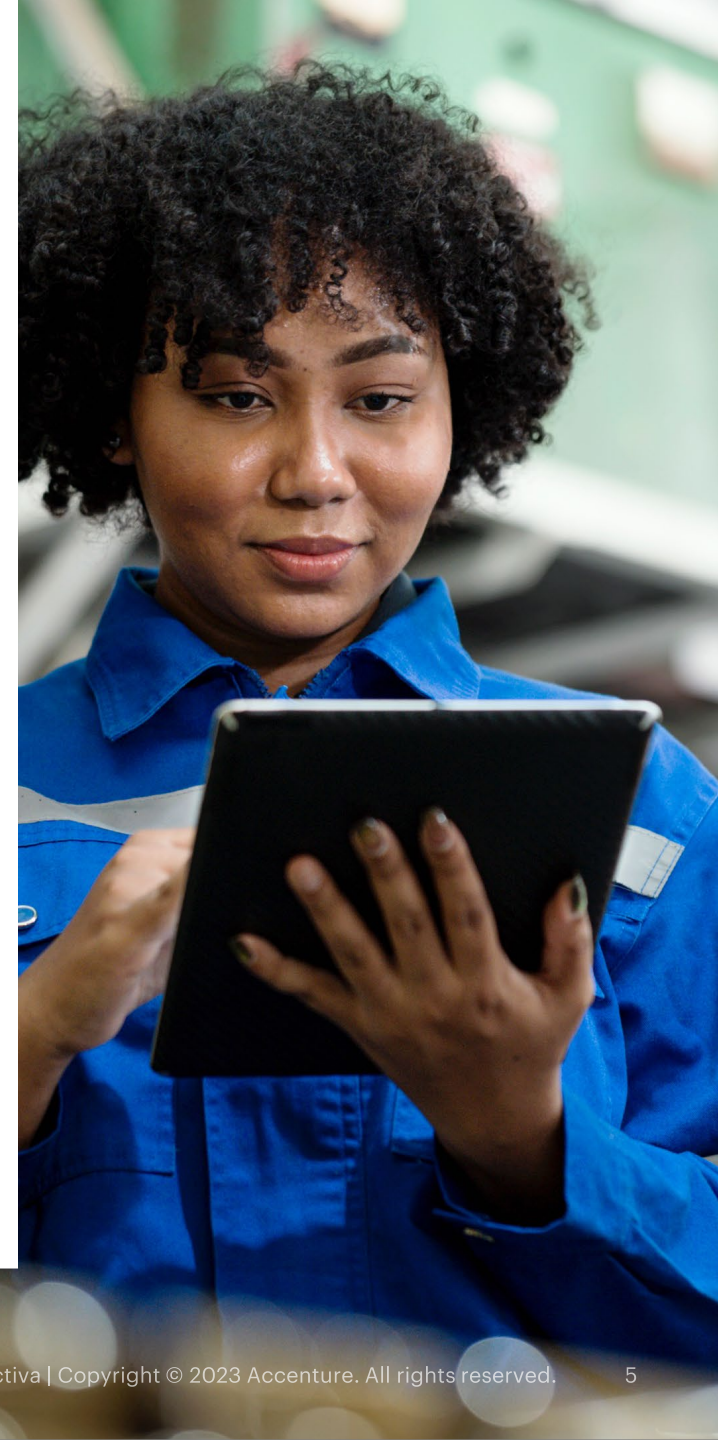
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Koenig & Bauer and SEE accelerate digital packaging design innovation

Koenig & Bauer and packaging solutions developer Sealed Air Corporation (now known as SEE) are joining forces to develop new technology, equipment, and services for digital packaging design. The two companies have been collaborating in an effort to help scale and deliver digitally printed materials faster for brand owners. Koenig & Bauer's RotaJET digital printing presses will harness SEE's prismaq intellectual property, software and hardware as part of the project, which aims to ultimately deliver co-branded digital printing presses. SEE's prismaq solutions help companies increase speed to market with higher quality, cost-effective designs.

Valmet accelerates factory digitalization with Telia

Valmet is using Telia's highly secure private mobile network to support the development of new industrial internet capabilities for its factories, including intelligent production, maintenance, safety and wireless intralogistics automation. Valmet's new solutions need to be scalable, and Telia's private network enables it to share information between different Valmet production facilities using SD-WAN (Software-Defined Wide Area Network) networking, for greater speed and flexibility. Valmet's private network, based on Nokia's Digital Automation Cloud technology, can be scaled anywhere in the world and will help the company to handle increasing amounts of data that will support future automation and robotics capabilities.



Forsee Power launches ZEN LITE battery for heavy vehicles

The new ultra-high energy density battery was specifically developed for 350 V heavy electric vehicles, which present a rapidly growing market. It's estimated that the heavy-duty vehicle battery market will grow by 25% per year between 2023 and 2028 as regulations and the demand for zero-emissions solutions increase. The battery system will be available in 54 kWh and 47 kWh, and the compact design boasts a volumetric density of 258 Wh/L. It is suitable for light and medium electric trucks, short buses, and off-highway vehicles, but by connecting two packs in series it can power heavy vehicles of 650 V and 800 V. The system uses NMC cell technology and can power all-day operations if charged overnight, though it can also be fast charged to 50% in less than 20 minutes. Forsee Power also aims to produce the batteries close to customers' plants in order to reduce the cost and emissions associated with transportation.



3M and Svante to co-develop carbon capture tech

3M and Svante have entered an agreement to jointly develop Direct Air Capture (DAC) products to remove carbon dioxide from industry. Svante already uses a process that coats solid sorbents onto laminate sheets and stacks them into high-performance filters for carbon capture directly on-site at plants and refineries. Because the technology can be used across a wide array of companies (everything from cement to paper plants), it could be applied to 85% of the total carbon capture and removal segment, says Svante. The new agreement will focus on developing solutions using parallel channel structured adsorbent technology. 3M Ventures had already invested in Svante's recent funding round to advance its technology, a round that reached \$318 million.



Hyundai E&C + Holcim advance low-carbon construction

Hyundai Engineering & Construction (E&C) is working with Holcim to co-develop new low-carbon materials by using calcined clay in combination with high-durability concrete technology. The partnership is aimed at meeting carbon emissions regulations in the construction industry, particularly when it comes to building ports, tunnels and buildings in marine environments. Hyundai E&C has already committed to carbon neutrality by 2045, and producing more sustainable concrete alternatives is a large part of meeting that commitment. It is also working on producing a high-density mortar that uses steel by-products. Holcim, meanwhile, has six research centers, more than 1,500 valid patents, and is developing more and more eco-friendly products, including cement and concrete replacements.

NCC tests smart vest developed by Swanholm Technology

Swedish construction company NCC has trialed a smart vest that uses AI and machine learning to detect falls or accidents, keeping truck drivers safe. Former Scania intrapreneur and his team who later formed the Swanholm Technology worked with edge AI and tinyML specialist Imagimob to develop the smart safety vest, capable of detecting a fall and triggering a call for help. This is fitted with a tiny Bosch Sensortec BMI160 inertial measurement and a panic alarm, and the AI is trained on movement patterns. As soon as a fall is detected, a countdown timer is triggered and if the person wearing the vest doesn't disable it, an alarm goes off to alert other staff. To date, NCC has tested the connected vest at a gravel site and on the Förbifart Häggvik road bypass project.





Alstom trials new rail traction system in China

Alstom NUG Propulsion System Co (ANP) has trialed a passenger train that uses its Vasteras TC150 traction system, fitted with a new generation of silicon carbide (SiC) and a permanent magnet motor propulsion system (PMM). The technology is being used on China's Chengdu Line 7 and promotes a new kind of energy conservation in rail transit. The technology results in energy savings of 30% yet results in similar levels of reliability compared to other methods. The small, cost-effective system is also lightweight and reduces noise.

Sumitomo Heavy Industries' 350-ton crane runs on biofuel

The SCX3500-3 crawler crane is set to be used in a Tokyu Construction Co. Ltd. site in Kawasaki City, significantly reducing the project's carbon dioxide emissions. Sumitomo Heavy Industries' crawler cranes and foundation machines are equipped with engines that meet recent emissions standards and are able to operate using RD, a biofuel made from waste cooking oil and animal and vegetable oil. Using RD will reduce greenhouse gas emissions by about 90% across a product's lifecycle.



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