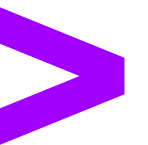


February 2024

# Innovate

Trends and innovations that matter





**Learn about the latest announcements impacting the industry, from the step taken towards greener energy solutions by utilizing low-emission steel for wind turbines, a partnership enabling simplified gen AI integration for industry innovation and efficiency, intelligent tires enhancing road safety, an innovative AI model predicting safety risks on job sites, and more.**





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

**Thomas Rinn**

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





01

---

# Vestas and ArcelorMittal greening wind turbine production

Vestas and ArcelorMittal have partnered to reduce carbon dioxide emissions from wind turbine towers by using low-emission steel. The steel, produced from 100% scrap using wind-powered electric arc furnaces, yields heavy plates suitable for the entire onshore wind turbine towers and the top section of offshore wind turbine towers. Utilizing this steel translates into a 25% reduction in emissions of offshore towers and at least 52% for entire onshore towers compared to conventional steelmaking. Steel and iron make up 80-90% of the material mass of a wind turbine, contributing to about half of its total lifecycle emissions. The first project utilizing low-emission steel will be the Baltic Power Offshore Wind Project off the coast of Poland. This sustainable effort by Vestas and ArcelorMittal is a significant stride towards promoting greener wind energy solutions.

# Siemens and AWS collaboration: gen AI integration made easy

Siemens and Amazon Web Services (AWS) have joined forces to simplify the development and scaling of generative AI applications across various industries. The integration of Amazon Bedrock and Siemens' low-code platform, Mendix, allows users to select the most suitable AI model for their specific needs and seamlessly integrate it into their applications, without need for specific programming skills. Siemens states that customers won't have to construct their own AI infrastructure; instead, they can utilize their company's own data while ensuring maximum security and privacy, and retaining full control of their data.

The collaboration expands on the existing partnership between AWS and Siemens. It represents a significant step towards accessible and scalable AI-driven solutions, empowering companies to boost productivity and resiliency, innovate and help to tackle challenges such as skilled labor shortages.





# Goodyear's intelligent tires: enhancing road safety with advanced technology

Goodyear showcased its "intelligent" tires at CES 2024, featuring hi-tech capabilities to enhance safety and performance. These tires, part of the Sightline suite, utilize algorithms and real-time monitoring to reduce braking distances by up to 1.75m at 80km/h, potentially preventing accidents or minimizing their severity. Furthermore, Goodyear has teamed up with ZF to tackle the issue of hydroplaning, enabling early detection and suggesting optimal speed for better vehicle handling. Through the Goodyear SightLine system, chassis actuators can be activated to apply corrective actions, thus stabilizing the vehicle and decreasing accident risks. These advancements in tire intelligence represent progress towards safer and more effective transportation solutions, and emphasizes the company's commitment to enhancing future mobility safety.

# Bosch's generative AI boosting productivity

Bosch is pioneering the integration of generative AI in manufacturing processes, aiming to drastically reduce the time needed to implement AI solutions from months to weeks. Already in practice at several plants, this technology enhances production scheduling, monitoring, and control, leading to significant productivity gains and cost savings. Pilot projects in German plants demonstrate notable efficiency improvements, such as 15% cycle time reduction during the production ramp-up of new lines and new algorithms streamlining component testing. Generative AI facilitates the creation of synthetic images for training AI models, enhancing quality assurance processes. Bosch plans to expand these advancements to all its locations after the pilot phase. The initiative aligns with Bosch's long-standing focus on Industry 4.0, combining connectivity and AI to improve efficiency, productivity, and environmental sustainability.



## Hympulso project: Advancing high-speed rail with hydrogen power

Spanish rail manufacturer Talgo leads a consortium of ten companies in the Hympulso project, aiming to develop a hydrogen fuel cell-powered high-speed train. The project, supported by a €6.5 million grant from the Spanish government's Renewable Energies Perte, focuses on adapting Talgo's 250 train model with a dual-hybrid battery system, replacing one diesel car with hydrogen fuel cells and batteries. The initiative aims to analyze the transition to greener energy in rail infrastructure and develop safety standards. Hympulso seeks to pioneer a hybrid bimodal train prototype for passengers that is adaptable to both conventional and high-speed networks, utilizes catenary, hydrogen, or batteries where electrification is unavailable, and features automatic track-gauge change. While hydrogen trains are gaining traction in the rail industry, with major manufacturers already developing and supplying the technology, Talgo's train may be the first high-speed model to run on this alternative fuel.



# Enhancing farming efficiency: Deere teams up with SpaceX

John Deere has partnered with SpaceX to deploy satellite communications, utilizing the Starlink network to address rural connectivity challenges for farmers. This collaboration enables farmers to leverage precision agriculture technologies more effectively and represents a major stride in bridging the digital divide in agriculture, empowering farmers with improved connectivity to optimize operations. The SATCOM solution will connect machines through satellite internet service and ruggedized satellite terminals, facilitating autonomy, real-time data sharing, remote diagnostics, and machine-to-machine communication. John Deere's advanced machinery coupled with SpaceX's satellite technology aims to improve farmers' productivity, profitability, and sustainability in their operations. The solution will be initially available in the United States and Brazil starting in the second half of 2024.



# Autonomous drone system for efficient site monitoring

Obayashi and KDDI SmartDrone developed an autonomous drone system that conducted a successful demonstration experiment for site management without visual inspection. The drone, equipped with an automatic charging port, autonomously flew at Kawakami Dam in Iga, Mie Prefecture, using the "Satellite Mobile Link" communication environment. The system monitors and surveys dam and reservoir conditions after earthquakes, generates 3D point cloud models, and employs AI image judgment for progress status verification. The technology achieved an 80% reduction in conventional work time, completing tasks in 60 minutes compared to the previous 345 minutes. In the future, the system will undergo verification to manage multiple drones simultaneously.

# Enhancing construction site safety through AI model

Suffolk, a US construction company, is tackling the industry's labor shortage and safety concerns with an AI model that predicts safety risks on construction sites. By digitizing safety observations and incident data, Suffolk transitioned from intuition-based to data-driven decision-making. In collaboration with NewMetrix, they developed a predictive model leveraging AI, that assesses job site risks and predicts incident likelihood. This approach highlighted the importance of regular safety observations, prompting a shift in jobsite safety key performance indicators (KPIs): instead of aiming to decrease the overall count of on-site incidents, they focused on the frequency of safety observations conducted per accumulated workforce hours. This has enabled to flag the projects most at-risk and led to a notable 25% decrease in incident rates in their past fiscal year.





## About The Industrialist

The Industrialist is our monthly digital publication that puts game-changing perspectives in the spotlight. It combines thought-provoking content and insights, to keep you on top of what's new in the industrial industry.

Featuring different CXOs and diverse leader views, you can be inspired by leading innovators, explore the latest trends, tools, technologies, and innovations, and ignite your industry interest with transformational thought leadership.

Discover how to lead the way and **Subscribe** today.

Visit us at **[www.accenture.com/theindustrialist](http://www.accenture.com/theindustrialist)**

## Disclaimer

This document makes reference to names, marks, and domains/websites owned by third parties. All such names, marks, and domains/websites are the property of their respective owners. No sponsorship, endorsement or approval of this content by the owners of such materials is intended, expressed or implied.