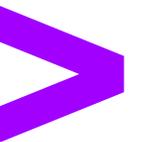
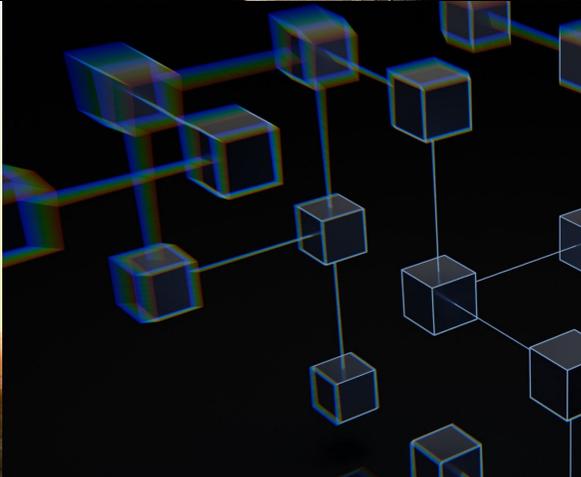


June 2023

Innovate

Trends and innovations that matter





Know more about the latest announcements impacting industry, from zero emissions 'flying' maritime vessels to car interiors made from persimmons.



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

Thomas Rinn

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



Wärtsilä launches radical two-stroke derating solution

The technology company has developed a solution that helps two-stroke engines run at a lower voltage in order to generate less heat. According to Wärtsilä, the Fit4Power solution can be retrofitted to ships to help reduce bore size by 25% while improving combustion efficiency. The idea is that the solution will optimize engines on merchant vessels, enabling them to comply with current and future emissions regulations. The solution works by reducing the bore diameter of engine cylinders and introducing a combustion chamber design that helps the engine run at optimal loads. The technology has already been trialed onboard a container ship with a large-bore two-stroke main engine, proving it can save 2,000 tons of fuel and 6,000 tons of CO2 emissions annually. According to Wärtsilä, if there are no changes made to merchant vessels more than 80% will run the risk of breaching emissions regulations by 2030.

Electreon developing wireless charging for Toyota and Denso

Toyota Motors and Denso Corporation are working with Electreon to develop a wireless vehicle charging system using the Israeli startup's technology. The three companies want to help bring about the standardization of wireless EV charging, and have already conducted an evaluation and held a demo of Toyota's RAV4-PHEV wireless charging on the road using the technology. They are also exploring the development of an aftermarket wireless kit for existing EVs, integration of the wireless tech into new vehicles and a joint pilot program. Electreon has been working on a system to charge EVs while they are on the move via copper coils laid underneath roads.



Danfoss' Editron division and Cummins aim to slash marine emissions

Cummins and Editron, a division of Danfoss Power Solutions, plan to co-develop a single standard hybrid marine solution aimed at supporting decarbonization in the industry. The solution has the potential to eliminate 100% of CO2 emissions compared to diesel alternatives, depending on how it is used. The two companies will also develop a suite of solutions for marine propulsion, focusing on a new generation of variable speed diesel generator sets, fuel cells and energy storage packages. In related news, Editron has also been commissioned by Cheoy Lee Shipyard to deliver its hybrid-electric marine drivetrain system for two new hybrid-electric ferries by mid-2024. The agreement will contribute to Hong Kong's pledge to achieve net zero emissions by 2050, in part by switching to electric vehicles and ferries.



Hyundai Mobis develops in-wheel EV drive system

Hyundai Mobis has unveiled a new EV system where electric drive motors are installed directly in the wheel hubs of a vehicle. The 'in-wheel' system is designed to maximize performance by enabling EV motors to control each wheel directly. The company claims no other business is mass producing a similar system. The new solution, which will reduce the need for drivetrain transmission components, helps vehicles move sideways and reduces energy use by up to 20%. It is integral to Mobis' e-Corner system, which combines electronic steering, braking and suspension technology centered around the motor. The solution also frees up space, so that other elements such as batteries can be installed in a vehicle in the future.





Bridgestone's solution monitors road conditions in real time

Bridgestone Mobility Solutions has developed an AI-powered system for road condition monitoring. Bridgestone Road Conditions can provide insights on road network quality by harnessing aggregated, anonymized data from vehicles connected via Webfleet. The service is split into two solutions. Road Damage Detection uses data from vehicles and sensors to identify the exact location and AI algorithm enables the severity of road damage to be defined, including potholes and cracks, to reduce vehicle damage and increase safety. Road Asset Visualization provides intelligence on roads and infrastructure (such as traffic lights and lane markings) by combining data from multiple connected vehicle sensors and vehicle-mounted cameras that process data securely in real time to upload to the cloud for analysis. It records whether the infrastructure is damaged or even blocked by vegetation.

Epiroc and ispace boost the path to lunar living

Epiroc and global lunar resource development company ispace have signed an agreement to collaborate on sustainable solutions for commercial Moon missions. ispace develops solutions that will help support human civilizations in space, including lunar transportation and tools for improving our understanding of the lunar environment and resources. As part of the collaboration, ispace will collect data on the lunar surface, with Epiroc helping develop corresponding technology and commercial solutions to be launched from 2024.



Caterpillar launches compact mobile energy storage module

Cat Compact ESS, a lithium-ion mobile battery energy storage module, can be used in combination with any traditional or renewable energy source to supplement traditional mobile power solutions. The sturdy, weatherproof module can be used in rough conditions, mounted to tow trailers and other vehicles. Customers can use the module to increase power efficiency, minimize fuel usage and reduce costs related to maintenance and greenhouse gas emissions, compared to traditional generators. It works by storing surplus power from energy sources – diesel, solar etc – before using them as a reserve. It comes equipped with a management system that monitors load levels to ensure it automatically switches between fuel sources as needed. It is particularly suited to use on vehicles that must carry out work over long periods or at night, when quiet conditions are necessary. The modules come with a web interface to track and manage operations and provide analysis, and are already available in North America, Europe and Australia, with more locations to follow.

XCMG enters the metaverse and blockchain with Conflux and Zen

Machinery manufacturer XCMG is partnering with blockchain network Conflux and blockchain fintech company Zen Spark Technology to explore international use cases for blockchain and Web3 technologies. The three companies will explore new opportunities, and XCMG and Conflux are already planning to issue their first NFT collection for overseas markets. XCMG recently announced its new Bored Ape NFT ambassador at the Las Vegas Metaverse conference, donned in XCMG overalls. A new NFT series named "For Real" will also be launched soon with Zen Spark Technology on the Ethereum network. The company says the series is aimed at celebrating a move towards a more inclusive and digital economy.



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