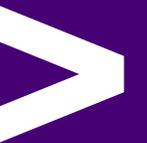


November 2022

Innovate

Trends and innovations that matter





Know more about the latest announcements impacting industry—from the robots keeping construction sites clean, to industrial metaverse worlds.



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

Thomas Rinn

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





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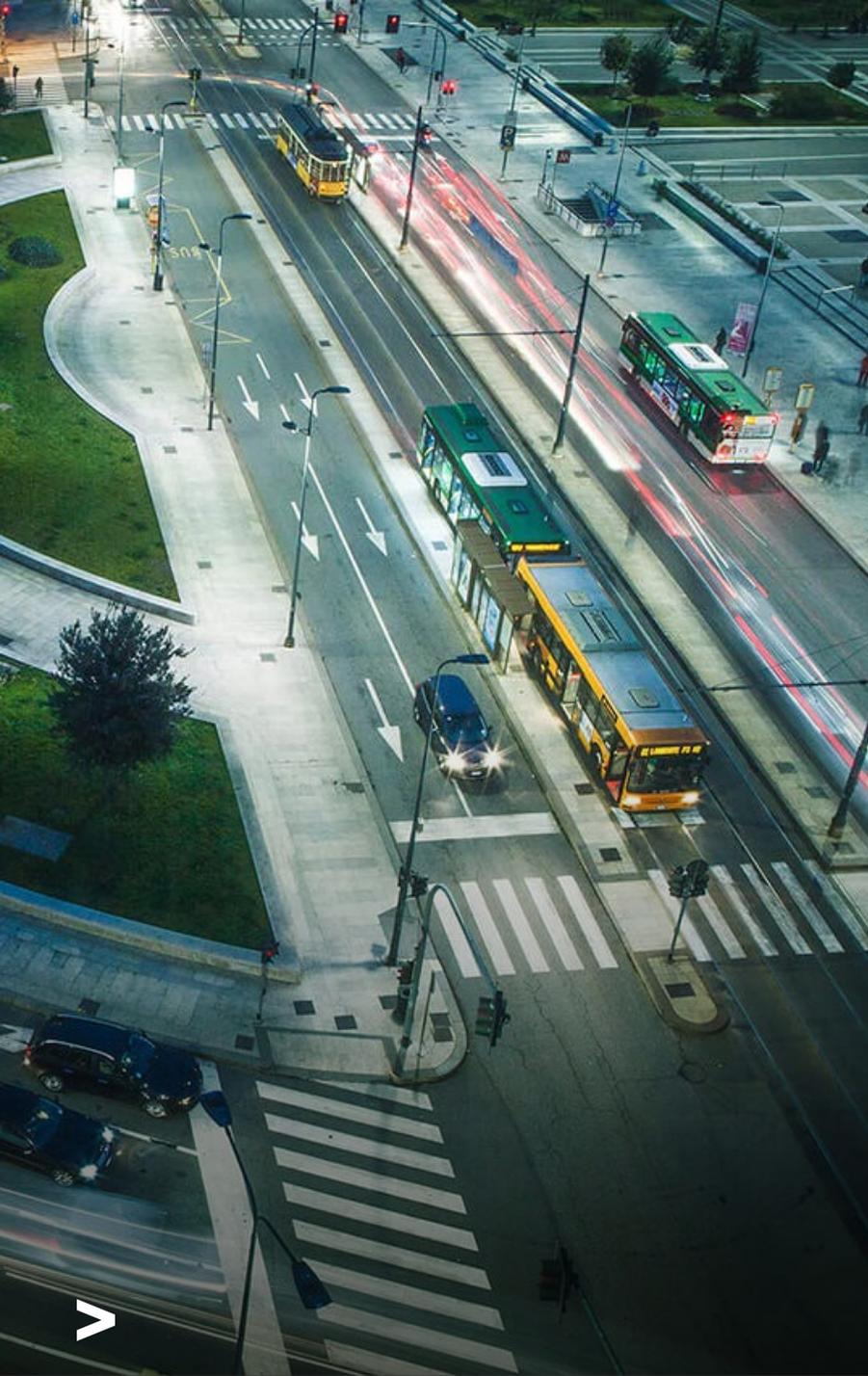
Mitsubishi AI cuts motor design time

Mitsubishi Electric and Toshiba Mitsubishi-Electric Industrial Systems Corporation (TMEIC) have developed an electrical motor-design system that will significantly reduce the time it takes to generate designs. The project leverages Mitsubishi Electric's Maisart AI technology and produces designs that are on a par with those developed by skilled engineers, enabling teams to simply adjust performance targets and let the AI generate new specifications. When trialing the technology, design time was reduced from one day to three hours. The same work can take up to three days for less experienced engineers. The new system, which TMEIC plans to begin using from 2024, will standardize the design process for electrical motors used in industrial pumps, compressors and fans, while helping to support less experienced engineers as they learn.

MAN and ABB collaborate on dual-fuel propulsion

MAN Energy Solutions and ABB have committed to a Decarbonisation Cooperation agreement for the development of a next-generation, Dual-Fuel, Electric+ (DFE+) propulsion concept for LNG carriers. The DFE+ electric plant concept will help shipowners reduce their carbon emissions and fuel bills. It features a MAN 49/60DF engine (which can run on LNG, diesel and biofuel blends) and ABB's Dynamic AC technology. The two companies have agreed to share technical data, with both promoting the concept to their respective customers. The plant concept stands to improve efficiency and significantly reduce methane slip. It is suitable for LNG carriers, Floating Storage Units, and Floating Storage and Regasification Units. MAN and ABB will also explore the use of fuel cells to further improve the technology.



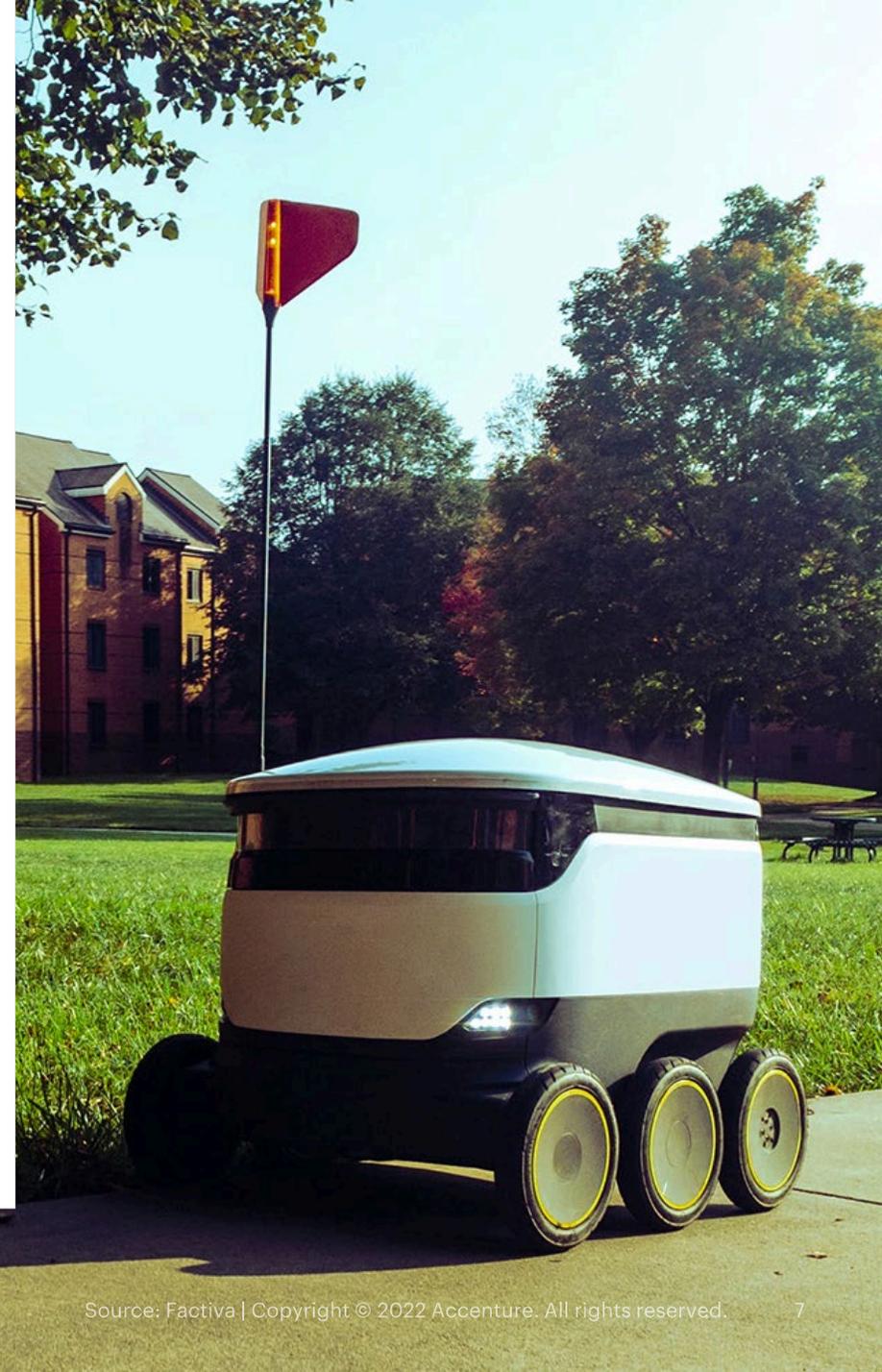


Eurotech launches Edge AI for public transport

The Italian provider's new, highly secure public transportation Edge AI solutions have been certified for use in road and rail vehicles. The DynaGATE 10-14 solution uses AI and computer vision to differentiate between adults, children, wheelchairs and strollers, and is designed to help accelerate application integration and time-to-market for connected vehicle solutions. It is compliant with the industry standard for public transport technology systems and uses Internet of Things (IoT) middleware for integration, connectivity, visual data flow programming and device management. Eurotech will begin offering the solution to customers by the end of 2022, with production starting in 2023.

Magna and Cartken tackle last mile delivery

Mobility technology company Magna is set to manufacture thousands of Cartken's autonomous delivery robots. Cartken's Model C robot is being produced at Magna's Michigan facility, with production capacity increasing in the coming months to include additional autonomous delivery models. Cartken's fully autonomous robots can safely operate outdoors and indoors, and can also be controlled via a remote monitoring and teleoperation system if necessary. The robots are already deployed in shopping centers, hotels, universities and warehouses across the globe. This new collaboration will see Cartken scale even further.



Car smart surfaces gain facial recognition

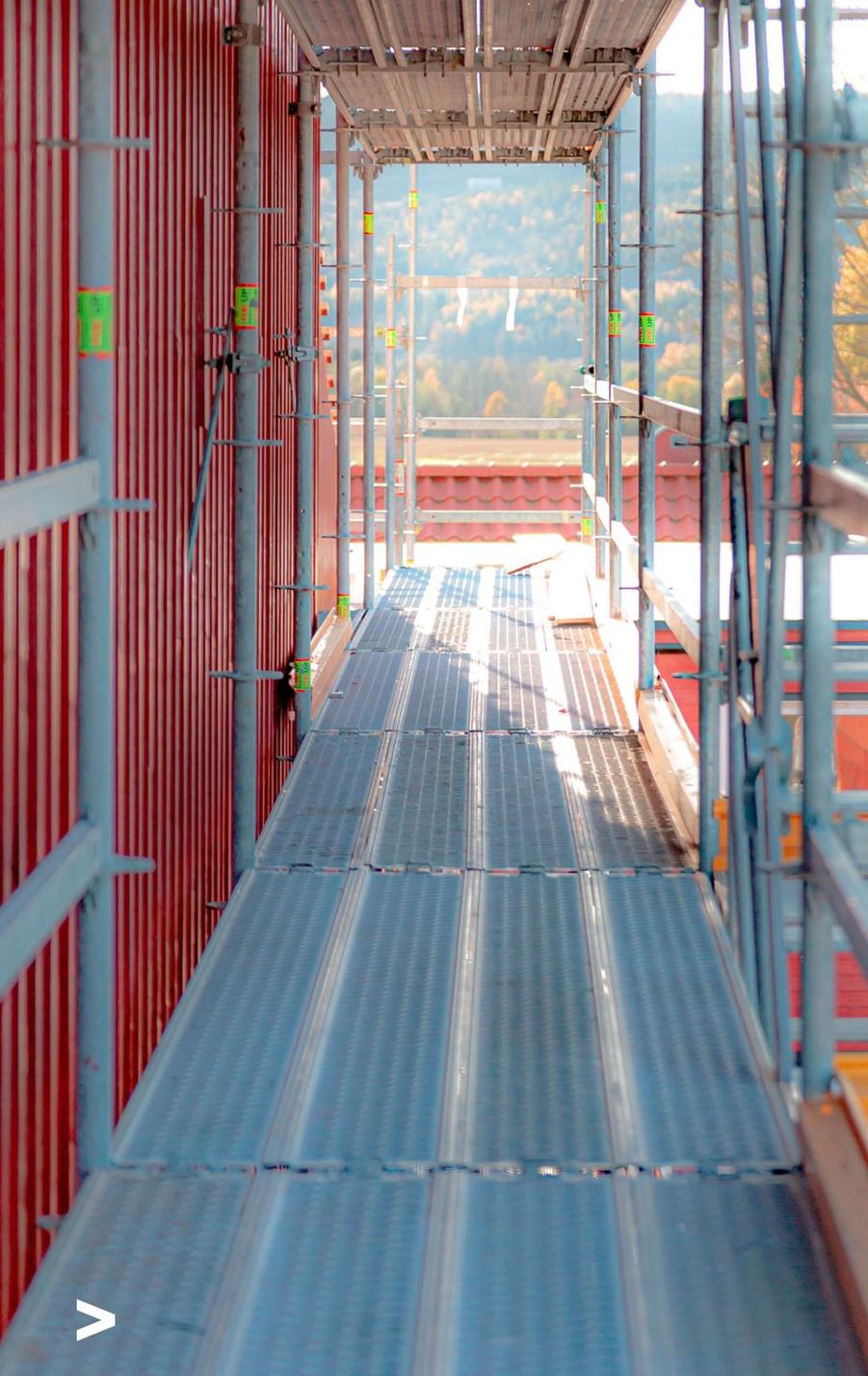
Automotive interior technology specialist Grupo Antolin is working on creating face authentication technology for vehicles with biometrics company TrinamiX.

Antolin is well-versed in smart surfaces that combine both lighting and electronics for vehicle interiors, and is spearheading the development of the new exterior Human-Machine Interface (HMI) system. The system integrates TrinamiX facial recognition technology—usually used in smartphones—into the smart surface. It will enable drivers to securely unlock cars by simply walking up to them, using the highest data protection standards for biometrics.

Toyota and Denso tackle driver safety for elderly

The Toyota Motor Mobility Fund is joining with Denso to improve driver safety for the elderly. The project, which will run from 2022 until 2024, uses an AI driving diagnostics system to analyze imagery, before providing safety advice. Around 3,000 people aged over 60 will take part in the project which is designed to help reduce the risk of accidents. The participants will spend four months driving, with the system capturing images and data from inside and outside the vehicle. The AI will use that information to assess how safe the driver is and provide monthly advice.





Smart robots keep construction sites clean

Haseko Corporation and Smart Robotics have developed a robot cleaner for construction sites named the HRX Sweeper S HIPPO. It is essential that construction sites are well maintained and kept clean to ensure safety and security. The 28kg HIPPO is a compact, lightweight device designed to collect waste such as concrete fragments, nails, dust and other articles that are discarded during the construction process. The device, which has fall avoidance and automatic stop functions, can clean a 70sqm space in around one hour. It can also be remotely monitored via a smartphone.

Ferrovial builds a VR Infraverse

Ferrovial has developed a workspace in virtual reality, known as the Infraverse. The company collaborated with 20 technology partners including Microsoft, Intel, Unity and Google to design the unique ecosystem. The Infraverse can replicate assets for major ongoing projects using technologies such as digital twins, augmented reality and AI, using devices such as Microsoft HoloLens. Assets and projects are fully digitized, so they can be visualized in the metaverse environment—from the design and construction phase, through to maintenance and operation. This will help Ferrovial modify ongoing projects based on Infraverse simulations. Ten projects are already being developed within the Infraverse at locations in the UK and Spain—including an exact replica of the North Tarrant Express (NTE) highway in Texas. This initiative is designed to help improve worker user experience, increase efficiencies and set the company on a path to becoming even more agile and innovative.



About The Industrialist

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