

Ahead of the Curve

In the last 30 years, the automotive industry has experienced major shifts in vehicle quality standards, profoundly influencing OEMs and the supply chain due to changing consumer expectations for components. Leading the pack of these innovations is TRIGO Group, a global provider of operational quality management and consulting solutions, mainly for the automotive, e-mobility, aerospace and heavy transportation industries.

MATTHIEU RAMBAUD
CEO @ TRIGO

In 2024, engineers and technicians will gather to compete to determine who can make the best breakthrough in manufacturing with technology. TRIGO Group's Innovation Contest is an international, company-wide event where any employee can submit a proposal. The competition's primary objective is to highlight the creativity of TRIGO's teams and improve processes by proposing new solutions that will allow the firm to remain at the forefront of quality management.

In 2022, nearly 150 projects were submitted by employees, and five winners were selected. Team projects included firewall applications,

work instructions digitalization, reflashing of vehicles and other groundbreaking solutions. Once the judges selected finalists, the nominees presented their projects at the second round in Seville, Spain.

"Many of our employees are more than just engineers or technical experts. They are inventors, aiming at developing new solutions to better serve our clients. With such a mindset, innovation isn't just a corporate buzzword but a reality. The manufacturing sector needs these types of creative problem solvers," said Matthieu Rambaud, CEO.

This global gathering is one way TRIGO is taking a big bet on innovation, moving from aspirational ideas to bold actions. →



The birth of an innovator

Founded as an on-site quality provider focused on inspection services in France, TRIGO has since shown impressive diversification and growth. Now employing 10,000 people across 26 countries, the company's portfolio of services covers all aspects of operational quality management. Ranging from component servicing to the implementation of artificial intelligence solutions, TRIGO is now a global manufacturing technology company, becoming a well-known and trusted partner throughout the automotive, aerospace and heavy transportation industries.

"Since 2013, our focus has been to accelerate our diversification across geographies and industries," says Mr Rambaud. "Our first strategic decision was to diversify into aerospace, which we did organically and through acquisitions. We married this with geographical expansion, culminating in our acceleration into the US market in 2018, through three acquisitions there. During the same period, we expanded our range of services."

TRIGO launched the company's innovation and strategic ventures division in 2022 and invests about € 7 million annually in AI, predictive data, and other tech capabilities in manufacturing. The firm recruited Augustin Brochot as the vice president of innovation and strategic ventures to lead the overall innovation strategy.

Setting the pace

To boost its technological competitiveness, it acquired Scortex, a start-up focused on automated optical inspection (AOI) for the manufacturing industry. This "deep tech" has enabled TRIGO to address the most demanding European automotive, luxury and aerospace markets. Spark is the main product of Scortex, focused on deploying artificial intelligence in factories to automate and digitize quality inspections.

Strategic business ventures are also a part of the innovation's strategy to accelerate access to and development of new technologies. For example, a partnership with tech startup Viaduct allows TRIGO to deploy predictive maintenance strategies at scale. In this partnership "we combine the tech expertise and AI engine from Viaduct with the quality automotive expertise and experience from TRIGO to deliver turnkey solutions," says Mr Brochot.

Mr Hallac, CEO of Viaduct, is seeing a virtuous model in this collaboration. "In this part-



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nership, we bring our technology platform. We are very satisfied in our partnership with TRIGO and are impressed by the extensive quality expertise and experience to jointly deploy predictive and preventive solutions for aftersales quality."

The impact of AI

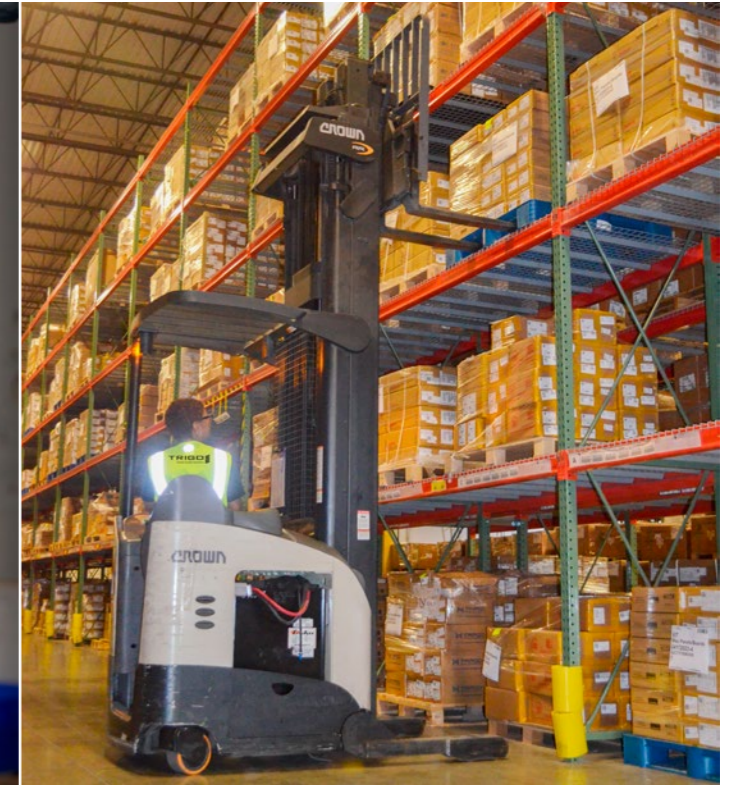
"While there was some concern that AI-backed technology may disrupt our work in quality management, we found that AI is complementary. It has made our processes and human op-

erators more efficient," said Benoit Leblanc, TRIGO's deputy CEO.

It is apparent that TRIGO management's vision is working, due in part to its focus on innovation. By expanding the firm's offerings to include engineering services and technological innovation with enhancements like AI and augmented reality, TRIGO has achieved a 30 percent growth in 2022 compared to 2021, with € 440 million in revenue.

"At the moment, the group is looking at around \$500 million USD, in terms of annual revenue," he says. "We strongly believe that we can continue to grow by around ten percent annually in the next five years with a high contribution of the US market, which is already our largest market, but where we still see huge additional growth potential."

"Innovation is at the core of our evolution. It has been extremely important in improving existing solutions or creating new ones. It also allows us to address quality concerns in both the corrective and preventive fields," says Mr Rambaud.



Empowering the future

Mr Brochot is also in charge of the company's innovation roadmap focused on the following areas: automated optical inspection; data analytics & AI; software quality; and battery & new energy vehicles.

"TRIGO has been a huge supporter of the electrification of vehicles ever since the first electric and hybrid vehicles were produced," he says. "As we recognize the world's shift towards renewable energy sources and electric vehicles, investing in this area will contribute to a cleaner and greener future, as well as provide advanced services to an evolving auto sector globally."

For the battery domain, TRIGO has launched battery clinics in order to deploy inspection, advanced diagnostics and battery rework solutions for electric vehicles. Since their launch, the firm has executed roughly 450 missions related to battery assemblies or their components. This new line of business covers the entire supply chain, from the supply of components to produce battery modules to the use of the batteries themselves in finished vehicles. The aim is to increase an EV battery's life span through testing and repairs as a way to minimize tensions in the supply chain as



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well as repurposing automotive batteries for second life.

"Our core market remains the automotive sector, and this is a sector which is undergoing huge change and has been for some time. We are supporting the sector in its transition to cleaner energy," says Mr Leblanc. "We will be ramping up our services in this area, such as EV battery clinics, and developing our offering geared towards this new technology. We also

will be developing our services in relation to AI, vehicle software and so on, so there is a lot for us to do."

Driving the industry

A unique aspect to note is the company's willingness to co-develop, test and iterate innovations with its customers. "I've partnered with TRIGO to develop several automotive projects, and I'm continually impressed with the ingenuity of its staff," said Stéphane Castets, Caen site manager at Stellantis. "They show a high level of curiosity and passion to ensure the best product is made by the end."

With each of these elements at play, it's clear that TRIGO can look forward to a future of sustained success, a future in which the company stands at the vanguard of a technological and environmental revolution.

"We have a unique approach and a unique outlook," Mr. Rambaud concludes proudly. "We are very customer-centric. Although we are facing some challenging supply chain issues, at TRIGO, we know we can provide differentiated solutions. That's why we do what we do. Regardless of the circumstances, we help to improve the performance of manufacturing supply chains, and innovation is necessary to stay ahead of the curve." ↗