



# Agrati: A driving force worldwide

Steeped in history and tradition Agrati Group is a worldwide leader in high-quality fastening and component solutions – supplying global automotive markets. Claire Aldridge, deputy editor, visited the company's headquarters in Veduggio, Italy, to find out how the business started as a small mechanical engineering company and has grown to produce 40 million pieces a day.

**E**stablished in 1939 in Brianza, Italy, producing woodscrews and carpentry parts, Agrati has grown to become a global organisation with twelve production plants and five logistics centres – exporting products to three continents around the world. These products include high strength bolts in various sizes and geometries; engineered components with complex geometries; nuts – single nuts, cage nuts and weld nuts; as well as licensed screws for metal, sheet metal and plastic joints for the global automotive industry.

“From a little company born in Brianza to a leading global organisation, Agrati’s success is due to a long-standing history, enriched with a passion for high-quality manufacturing, along with a supply chain that’s competitive, high-quality, flexible and adaptable,” comments Paolo Pozzi, CEO at Agrati Group.

Paolo continues: “Over the years our supply chain has grown into what our customers know it for today – strength and reliability. As our customer needs and market demands have changed, this supply chain has had to be adapted accordingly to create a local, short and competitive supply chain, which has only been possible because of the quality machinery, tooling, coatings, and of course raw material suppliers, that are still available to us locally as an Italian manufacturer.”

This locality of key suppliers also stands Agrati in good stead when it comes to its carbon footprint. The company has developed a decarbonisation strategy, with the ambition of reaching carbon neutrality by 2039. The strategy aims to define a clear decarbonisation trajectory, anticipating the milestones set by the Paris Agreement and the EU Green Deal of 2050 carbon neutrality.

In order to reach these ambitious targets and reduce its CO<sub>2</sub> emissions, Agrati is committed to improving the energy efficiency in



various stages of its production with the purchase and generation of electricity from renewable energy sources, the use of low impact steel, the shift towards hydrogen, as well as the purchase of steel produced from scrap using electric arc furnaces.

“With our carbon strategy we aim to become a decarbonisation leader in the automotive industry. For Agrati, sustainability means treating the Earth as we treat our company – by taking care of it to make it healthy and strong, whilst giving those who come after us a future that can provide value. However, sustainability for Agrati is also about much more than just environmental factors – we are very proud to recognise the three pillars of sustainability,” highlights Paolo.

Paolo adds: “The three pillars of sustainability – environmental, social and economic – have different driving forces across the globe. In Europe, we are seeing a big focus on the environmental aspect but in the Americas, the social and economic factors are far ahead of their time. As a global company it’s important for Agrati to recognise all three pillars as key mechanisms to address future challenges within the fastener market.”

Recently implemented social policies include flexible working time, special work programmes to help accelerate young talent within the company, an employee mental health programme, as well as supporting its employees in local volunteering opportunities. As part of this volunteering drive, Agrati employees also participate annually in corporate volunteering, carrying out various activities with different associations. »



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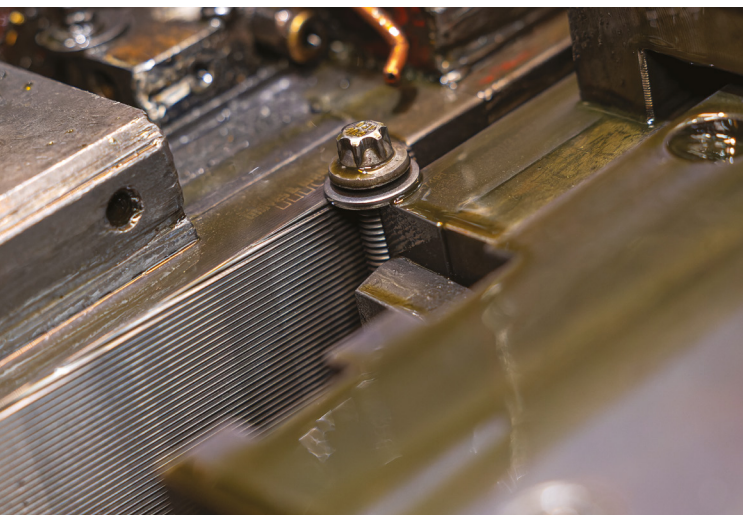


» As well as this, Agrati has its own Agrati University for the development of its employees, with 50 trainers worldwide and over 67 courses offered. “We learn by doing, that’s always been the case. Agrati University is the beating heart of our people’s growth and development, becoming a place where knowledge merges with experience and where talents are cultivated and skills honed. It is the engine that fuels the success of our company, preparing it for future challenges and unexpected opportunities,” says Paolo.

Here, employees, and also customers and suppliers, can immerse themselves in tailor-made training paths, guided by expert trainers and/or through interactive digital platforms to enhance existing skills and discover new perspectives, helping to retain the knowledge and expertise in Agrati’s work force.

“Like every manufacturing company, we face the challenges of attracting and retaining skilled workers. With Agrati University we strive to offer our employees knowledge and understanding of the company, as well as the industry. It is important for our people to be able to know what they’re working towards, and what they’re creating, and I am proud that investing in people continues to be one of Agrati’s strengths,” states Paolo.

Agrati University also enables the company to develop completely new talent independently, based on the specific needs of the fastener market. “We promote entrepreneurship in our company by supporting people’s ideas and creativity, as well as providing the skills and



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competence to innovate and improve our daily and future activities. Our team is trained to achieve better performances,” mentions Paolo.

**Investing in innovation**

As testament to its commitment to innovation, Agrati has recently launched a new business unit, Agrati Performance, dedicated to developing, producing and delivering cutting edge solutions for the world of racing, sports and supercars. Under the leadership of Giandomenico Sbaragli, group sales and marketing director at Agrati Group, as well as Walter Mauri, chief innovation officer at Agrati Group, the engineering team will mainly focus on three key areas of work: Performance engineering – offering co-design, calculations and FEM testing; dedicated service management – from prototypes and small batches for racing to mass production; and high performance components – featuring complex geometries and special materials.

“Our mission is to ensure unparalleled reliability and high performance both on the road and on the track. From our expertise in high performance engineering ,and as a Full Service Provider for the most prestigious supercar brands, Agrati Performance is a testament to our passion for automotive excellence,” remarks Paolo.

This passion is further underlined with Agrati’s co-design service, taking place in Agrati Tech Centres (ATCs) across the globe – where a dedicated and integrated team works directly with customers’ engineering and R&D departments to design, test and validate all the joints of new automotive and commercial vehicle components and complete full systems.

Within the ATCs, the co-design projects go through three stages – design, prototyping and testing. At the design stage Agrati manages the analysis of the joint with its working loads to make calculations and designs of the fastening system, integrated by FEM analysis for a complete nonlinear joint calculation. The company also has dedicated



lab tests on components to optimise the calculations and to integrate the database of proprietary software and workstations to find the best tailor-made solution. This stage enables the correct design definition and tightening procedure of the fastening system under investigation.

Agrati then produces small batches of parts in-house, which are used for the validation tests, cutting the cost and improving efficiency of the development with a manufacturing process that is representative of the serial process. Finally, Agrati manages tightening tests on complete systems to validate the tightening procedure to measure the clamping force by ultrasonic devices. The company also studies the effect of dynamic loads on the joint and the clamping force relaxation, as well as investigates the tribological interaction and influence of coatings over materials.

“By understanding the needs and co-developing with our customers, Agrati can improve design methodologies and spread our experience and knowledge in the field of fastening systems. This enables us to be involved with designing not only the fastener but the entire bolted joint system for an automotive application – by specifying materials, sizes, as well as tolerances, which is an added service for our customers,” highlights Paolo

With ATCs Agrati is able to offer its multi-generational deep-rooted experience, further know-how in fastening systems and next generation lab equipment and testing capability to its customers first-hand.

ATCs are equipped with the latest generation machines to measure mechanical strength, fatigue performance, chemical composition, friction coefficients, stiffness, torque and tension correlations, corrosion resistance, cleanliness level and metallurgical analysis.

Another positive to come out of the ATCs was the establishment of TOKBO Srl – a new independent company developed to bring intelligence onto fasteners, making infrastructures digital and thus increasing the level of maintenance and safety of these applications.

The TOKBO system is composed of a network of sensorised structural bolts that allows the detection and monitoring of clamping force, vibration, temperature and inclination. These bolts are connected to each other via gateways. TOKBO has also developed a proprietary solution that enables the digitisation of these threaded joints by remotely

and continuously monitoring the status of the joint with force data and accelerometric status.

The TOKBO system can be applied to both existing and newly built structures and requires four steps – installing the sensors on the threaded joints; connecting the gateway; setting up the system; as well as switching on the network and monitoring. The system can be applied to various types of fastening systems, starting from an M12 diameter, and is already being used across a number of industries including highways, railways and construction.

“TOKBO was born out of technology that Agrati was already using for our own benefit. Our ATC enabled us to look outside the box and apply this existing Agrati technology to new applications. As a result, the TOKBO solution is potentially applicable to multiple environments and we believe there are many opportunities for the technology across a multitude of new industries,” explains Paolo.

Paolo concludes: “Today our investment activities have changed. Instead of looking at the traditional ROI, we are looking at how our investments can reduce our carbon footprint. To be a global leader we must act sooner rather than later. We simply cannot wait until the last moment to invest, become compliant and meet targets. Sustainability is a huge focus for the foreseeable future within our industry and Agrati is ready.” +

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