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An air intake manifold made of 100% recycled polyamide: the application developed by RadiciGroup for Marelli wins a Society of Plastics Engineers (SPE) award

Groups recognized for sustainable innovation in the Power Train Auto category

An air intake manifold made of **100% Renycle**, the RadiciGroup brand identifying **engineering polymers obtained from recycled nylon**: this application was recognized with the prestigious award in the **Power Train** category by the **Society of Plastics Engineers (SPE)** at the **22nd SPE Automotive Awards** on **28 June**.

The air intake manifold is a **high technology application** typical of the automotive sector, where **glass-fibre reinforced nylon** has, over the years, almost completely replaced metals. RadiciGroup supplies both PA6-FV and PA66-FV polymers for various engines of motor vehicles worldwide. In this particular case, however, the challenge was to use a **100% mechanically recycled polyamide** material, the result of a careful process involving the **selection, cleaning and control of raw materials** to ensure very high quality consistency.

This component, which was designed and manufactured by **Marelli**, must meet stringent performance requirements: high burst pressure, pressure pulsation and prolonged vibration tests subjected to thermal cycles, thermal shocks, etc. Particular attention was paid to NVH (Noise Vibration Harshness) analysis with the aim of ensuring, among other things, acoustic performance in line with the other materials used today.

In developing the recycled material Renycle, RadiciGroup not only worked to **optimize the performance**, keeping in mind the specific requirements of the air intake manifold application (mechanical and thermal performance, etc.), but also sought to **maximize the environmental benefits**. Indeed, a more than **70 percent reduction in CO₂ emissions**, measured according to the **Life Cycle Assessment (LCA)** methodology, was achieved compared to the equivalent fossil source material.

The jury evaluated about fifty projects, many of which were aimed at **making cars and motorbikes more sustainable**. As a matter of fact, sustainability is a priority at RadiciGroup, which has long focused on offering **products made from recycled or renewable source raw materials**, as well as on developing a Group strategy based on **environmental, social and governance (ESG) principles**. RadiciGroup's commitment to numerous environmental and social issues is evergrowing.

*"It is a great satisfaction for us to be recognized by the Society of Plastics Engineers," pointed out **Erico Spini, Global Marketing Director of RadiciGroup High Performance Polymers**. "This award valorizes the work and commitment we put in every day to give shape to truly innovative and valuable projects. Moreover, it recognizes our teamwork with Marelli, our long-standing customer, that we have achieved by focusing on quality, reliability and durability. These principles, or better yet our tangible results, are the basis of our global offering, which decisively raises the bar in the development of winning solutions from the viewpoint of sustainability. To sum up, we hope this application can give impetus to new initiatives fostering sustainable mobility."*

RADICIGROUP – With approximately 3,000 employees, sales of €1,069 million in 2023, and a network of production units and sales offices spanning Europe, North and South America, and Asia, RadiciGroup today is a worldwide leader in the manufacture of a vast range of specialty chemicals, polyamides, high performance polymers, and advanced textile solutions, including nylon and polyester yarns, recycled yarn, bio yarns from renewable sources, nonwovens, and personal protection equipment for the healthcare and manufacturing sectors. Its products build on advanced chemical know-how and the vertical integration of the polyamide supply chain. They are developed for applications in a wide variety of industry sectors, including the Automotive, Electrical/Electronic, Consumer Goods, Apparel, Furnishings, Building, Home Appliances and Sports sectors. Underpinning the RadiciGroup's strategy is an overriding commitment to innovation, quality, customer satisfaction, and social and environmental sustainability. With its macro business areas – Specialty Chemicals, High Performance Polymers and Advanced Textile Solutions – RadiciGroup is part of a broader industrial group encompassing textile machinery (ITEMA), energy (GEOGREEN) and the hotel business (SAN MARCO)

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