

The Graz University of Technology, voestalpine, and other industry partners establish Austria's first endowed chair for aerospace research

With an average annual growth of over three percent globally, the aerospace sector is taking off. In order to take advantage of this potential, an endowed chair has been established at the Graz University of Technology in cooperation with industry partners voestalpine, Fuchshofer Präzisionstechnik, TCM International, and Diamond Aircraft Industries. Since March this year, this position has been officially held by Brazilian-born materials scientist Sergio Amancio. The aim of this cooperation between science and business is to establish an international competence center for the development of pioneering materials and production technologies in the aerospace sector. voestalpine is the largest industrial partner and, with its high-performance materials and special forgings used in extremely high-load-bearing structural, engine, and undercarriage parts, is one of the world's major suppliers to the aviation industry.

In terms of material quality, aerospace sets the standards: highly stress-resistant components such as drive units must be able to withstand up to 10,000 revolutions per minute and temperature fluctuations of between plus 600°C and minus 50°C at altitudes of up to 12,000 meters. At the same time, innovative materials made from ultra high-strength steel, titanium, and nickel-based alloys also help to make aircraft even lighter in order to reduce fuel consumption. The new endowed chair in Innovative Materials and Production Technologies in Aerospace at the Graz University of Technology will conduct research into improving material properties as well as new processing technologies—in particular additive processes—for use in aircraft manufacturing.

Hotspot for aerospace technologies

“The new endowed chair and the team of experts at the Graz University of Technology is helping to turn Graz into a scientific hotspot, one closely linked to the regional aircraft supplies industry. Our aim is to become an internationally renowned center for aerospace materials and production technologies,” says Harald Kainz, Rector of the Graz University of Technology. In addition to the voestalpine production companies voestalpine Böhler Edelstahl and voestalpine Böhler Aerospace, based in Kapfenberg, Styria, the other partners in the cooperation are Fuchshofer Präzisionstechnik, TCM International, and Diamond Aircraft Industries—local companies active along the entire value chain including material manufacturing and processing, and component and aircraft manufacturing. During the first five years the endowed chair will also receive support from the Austrian Research Promotion Agency (FFG).

New scientific momentum for voestalpine

Already all major aircraft manufacturers including Airbus, Boeing, Bombardier, and Embraer, source products from voestalpine. “In addition to our in-house research and development activities, we have been actively working together with universities for years as a way of extending our innovation leadership in the aerospace sector. The endowed chair at the Graz University of Technology is therefore an important step in achieving new momentum for further growth, and extending our existing production expertise in this future market,” says Franz Rotter, Member of the Management Board of voestalpine AG and Head of the High Performance Metals Division. The voestalpine Group currently generates

around EUR 330 million (BY 2016/17) in the aerospace customer segment, and this figure should increase to EUR 500 million over the medium term.

German-Brazilian materials expert now researching in Graz

On March 1 Brazilian-born materials expert Sergio Amancio (42) was appointed to the endowed chair professorship in aerospace based at the Institute of Materials Science, Joining and Forming (IMAT) at the Graz University of Technology. "Here at our institute Sergio Amancio will significantly strengthen research into material design and joining techniques, and cooperate intensively with the Institute of Production Engineering and the Vehicle Safety Institute at the Graz University of Technology," says Christof Sommitsch, Head of the Institute for Materials Science, Joining and Forming. After a variety of research activities in Brazil and Germany, most recently as Group Head at the Helmholtz-Zentrum Geesthacht, for the past seven years Sergio Amancio has been a junior professor for joining technologies for metal-polymer composites at the Institute of Polymer and Composites at the Hamburg University of Technology (TUHH).

The Graz University of Technology

The Graz University of Technology is the most well-established technical and scientific research and education institute in Austria, playing a central role in the international research and education network for over 200 years. The Graz University of Technology delivers international excellence in its five fields of expertise, and cooperates intensively with other research and educational institutions, business, and industry, around the world. The Graz University of Technology has seven faculties with around 100 institutes, and a staff of almost 2,400 employees. 14,000 students from around 100 countries study at the Graz University of Technology. Building on its basis of Bachelor degree programs in the sciences, the Graz University of Technology focuses on research-oriented Master programs, increasingly run in English, and PhD programs. Materials research is part of the Advanced Materials Science field of expertise, one of the five research focuses at the Graz University of Technology.

The voestalpine Group

In its business segments, voestalpine is a globally leading technology and capital goods group with a unique combination of materials and processing expertise. This global Group comprises about 500 Group companies and locations in more than 50 countries on all five continents. It has been listed on the Vienna Stock Exchange since 1995. With its top-quality products and system solutions using steel and other metals, the voestalpine Group is one of the leading partners of the automotive and consumer goods industries in Europe as well as the aerospace and oil & natural gas industries worldwide. voestalpine is also the world market leader in turnout technology, special rails, tool steel, and special sections. In the business year 2016/17, the Group generated revenue of EUR 11.3 billion, with an operating result (EBITDA) of EUR 1.54 billion; it had about 50,000 employees worldwide.

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