

PRESS RELEASE

Safran inaugurates ceramic matrix composites research center

Le Haillan, November 6, 2018

Safran Ceramics, a research center for ceramic matrix composites (CMC) located in the heart of Bordeaux Aeroparc, was inaugurated today in a ceremony attended by Alain Rousset, President of the Nouvelle Aquitaine region of southwest France, and Stéphane Cueille, Senior Executive VP and Chief Technology Officer, R&T and Innovation of Safran.

The new research center houses a hundred specialists and about 20 doctoral students, with access to 200 state-of-the-art machines, some the only ones of their kind in the world. All machinery and equipment is interconnected to support the real-time acquisition of research data, a key to accelerating innovation and supporting agile research.

Safran is bolstering its **investments** in ceramic matrix composites to reduce the weight of its aircraft engines and improve efficiency, thus decreasing fuel consumption. The research being carried out at this center will eventually enable replacing engine parts made of metal alloys with lighter and higher temperature-resistant composites.

"I'm delighted to inaugurate our Safran Ceramics research center, which will accelerate our work on the materials we are developing to further improve the performance of our equipment for both aircraft and spacecraft," said Stéphane Cueille, Senior Executive VP and Chief Technology Officer, R&T and Innovation of Safran. "Given its multidisciplinary team of world-class researchers and state-of-the-art equipment, Safran Ceramics is clearly a strategic center of expertise for all of our work in this key discipline."

Located in a 46-hectare (114-acre) park, Safran Ceramics' 9,800 square meter building (105,840 sq ft) was designed to integrate the ecosystem of the historic Toussaint Catros arboretum, dating from the 18th Century. In particular, it features innovative installations for the treatment of effluents, and to control water consumption. This new facility was funded in part by the Nouvelle Aquitaine region and the Adour-Garonne water agency. It is also part of the OIM (Opération Intérêt Métropolitain) Bordeaux Aeroparc initiative, designed to foster the development of a center of aerospace and defense excellence in this growth sector. Furthermore, Safran Ceramics will welcome doctoral students, interns and apprentices, to help train the next generation of technologists.

Safran is an international high-technology group, operating in the aircraft propulsion and equipment, space and defense markets. Safran has a global presence, with more than 58,000 employees and sales of 16.5 billion euros in 2017. Working alone or in partnership, Safran holds world or European leadership positions in its core markets. Safran undertakes Research & Development programs to meet fast-changing market requirements, with total R&D expenditures of around 1.4 billion euros in 2017. Safran is listed on the Euronext Paris stock exchange, and is part of the CAC 40 and Euro Stoxx 50 indices.

In February 2018, Safran took control of Zodiac Aerospace, significantly expanding its aircraft equipment activities. Together with Zodiac Aerospace, Safran has more than 91,000 employees and would have around €21 billion in adjusted revenue (pro forma 2016).

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