

Media Release

## **Safran, Oerlikon, CNRS and the University of Limoges create a joint research lab and technology platform for surface treatment in southwest France**

**Paris Air Show, Le Bourget – June 18, 2019 – Stéphane Cueille, Safran Senior Executive Vice President, R&T and Innovation, Dr. Roland Fischer, CEO of Oerlikon, Jean-Luc Moullet, Chief Technology Transfer Officer at the French National Center for Scientific Research (CNRS), and Alain Celerier, President of the University of Limoges, have signed a Letter of Intent announcing the creation in Limoges of a joint research laboratory, PROTHEIS, and a technology platform, SAFIR, two complementary organizations specialized in surface treatments for aerospace applications. The signing ceremony was attended by Agnès Pannier-Runacher, Secretary of State reporting to the French Minister of the Economy and Finance, in charge of innovation, and Alain Rousset, President of the Nouvelle-Aquitaine region in southwest France.**

These two new entities will help Safran enhance its surface treatment capabilities, to make lighter and longer-lasting products capable of reducing noise and nitrogen oxide emissions, compliant with the European regulation REACH and capable of addressing the requirements of all types of aerospace applications, now and in the future. The lab's roadmap also provides for developing the numerical simulation of processes, in line with Safran Factory of the Future initiative, based on capturing, storing, analyzing and exploiting production data, to ensure control over product quality.

Oerlikon expects the collaboration to advance its already strong support of the aerospace industry along the entire value chain. Oerlikon contributes to the partnership with deep and long-standing expertise in advanced materials, surface engineering and high-end, industrialized equipment to increase the competitiveness in the industry.

For the CNRS and the University of Limoges, which operate a joint research unit called IRCER, the aim is to foster scientific and technical discussions on surface treatments with leading national and international laboratories and to attract top talent from around the world. This project will bolster IRCER's position in the aerospace sector, as well as personnel training in conjunction with the ENSIL/ENSCI engineering school and the Science and Technology faculty at the University of Limoges.

Through this joint research lab, the different entities can unite their skills and expertise. The research to be carried out will be guided by Safran's requirements, as well as the R&D activities of Safran, Oerlikon and RCER.

The technology platform will cover technology readiness levels from TRL1 to TRL6\*, and offers the possibility of combining high-level multidisciplinary skills. It will efficiently manage the entire maturation process, while also ensuring the requisite safety conditions. With an investment of more than 8 million euros, this platform will be used to translate the joint lab's scientific work into concrete technologies, while also being available to work for other transport, energy and electronics companies.

This project will strengthen the ecosystem that already exists in Limoges, making it a unique center of expertise in Europe based on the IRCER laboratory, the University of Limoges, Oerlikon and the CITRA engineering and surface treatment center.

\*TRL (Technology Readiness Level) is a scale indicating the degree of maturity of a technology, in this case from observing and describing basic principles (TRL1) to the demonstration of a prototype in a representative environment (TRL6).

According to Stéphane Cueille, Senior Executive Vice President, R&T and Innovation at Safran, “This ambitious project will bolster our surface treatment skills to further improve the performance of our aerospace systems and equipment thanks to new materials and processes. The joint lab and technology platform will eventually provide world-class science and technology to all Group companies, as well as our supply chain.”

“We are excited to enter into this strategic partnership with Safran, CNRS and The University of Limoges,” said Oerlikon CEO, Dr. Roland Fischer. “We are a strong believer in the value of partnerships that bridge business, R&D and education. By combining our advanced R&D expertise in functional coatings, surface solutions and additive manufacturing with Safran’s R&D roadmap, we will help make aerospace more efficient, safer, quieter and faster.”

“This project will bolster IRCER’s position in high-level scientific research targeting key areas for the future of aerospace. It will also help spread the global influence of programs offered by the ENSIL/ENSCI engineering school and the Science & Technology faculty at the University of Limoges.” According to Alain Denoirjean of the IRCER.

“The planned creation of a joint Safran/Oerlikon/CNRS/University of Limoges research lab specializing in thermal spray coating technologies is the culmination of a long-standing partnership that started over 15 years ago with a number of research contracts and doctoral theses,” noted Jean-Luc Moullet, Chief Technology Transfer Officer at the CNRS. “The partnership between two world-class partners clearly reflects our commitment to cementing ties with industry and making an active contribution to the development of new technologies for tomorrow’s aerospace sector.”

Alain Rousset, President of the Nouvelle-Aquitaine regional council, commented: “The Nouvelle-Aquitaine region of France welcomes the initiative to set up an RD&I (research, development and innovation) platform in Limoges specializing in surface treatment. It will strengthen the IRCER laboratory’s research capabilities and expertise, raise its profile in this field and pursue RD&I programs in line with the technological aspects of the region’s Factory of the Future plan. It also aims to boost the competitiveness of Safran and its regional subsidiaries as well as the activities of companies like Oerlikon, while supporting and sustaining their presence in Limoges in the longer term.”

### **About Safran**

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 92,000 employees and sales of 21 billion euros in 2018. 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 1.5 billion euros in 2018. Safran is listed on the Euronext Paris stock exchange, and is part of the CAC 40 and Euro Stoxx 50 indices.

For more information: [www.safran-group.com](http://www.safran-group.com) / Follow @Safran on Twitter

### **About Oerlikon**

Oerlikon engineers materials, equipment and functional surfaces while providing expert services that enable our customers to have better performing products and systems with extended lifespans. A Swiss technology Group with over 100 years of tradition, Oerlikon operates its business in two Segments – Surface Solutions and Manmade Fibers – and has a global footprint of more than 10 500 employees at 175 locations in 37 countries. In 2018, Oerlikon generated CHF 2.6 billion in sales and invested around CHF 120 million in R&D.

### **Oerlikon in aerospace**

Aerospace is one of Oerlikon's focus markets, where customers benefit from solutions that improve safety, aircraft power and efficiency. Oerlikon supports aerospace customers throughout the entire value chain with a portfolio ranging from coatings for cutting tools for the machining of aerospace components, wear protection for critical parts, abradable and thermal barrier coatings to powder and services for additive manufacturing. Oerlikon's advanced materials, functional coatings and process technologies boost performance, improve safety and fuel efficiency while reducing emissions. These solutions not only meet customers' exact technical requirements but are also efficient and cost-effective.

### **About the CNRS**

The French National Centre for Scientific Research is Europe's largest public research institution. It produces knowledge for the benefit of society, innovates and creates companies. With some 32,000 employees, a budget of 3.4 billion euros in 2017 and offices throughout France, the CNRS is present in all scientific fields through its 1100 laboratories. With 22 Nobel laureates and 12 Fields Medal winners, the organisation has a long tradition of excellence. It carries out research in mathematics, physics, information sciences and technologies, nuclear and particle physics, Earth sciences and astronomy, chemistry, biological sciences, the humanities and social sciences, engineering and the environment.

<http://www.cnrs.fr/en>

### **About the University of Limoges**

At the heart of Europe, the University of Limoges is an important multidisciplinary higher education cluster in an environment more conducive to scientific development. Open, it is a place brimming with interactions, with a diverse student population, efficient hosting structures, close-knit teams, training based on research of a very high level and for well-identified opportunities. Its scientific excellence, with its state of the art laboratories and major partnerships, contributes to inventing the world of the future.

For more information: [www.unilim.fr](http://www.unilim.fr) / Follow @unilim on Twitter

### **For further information, please contact:**

#### **Oerlikon**

Andreas Schwarzwälder  
Head of Investor Relations  
Head of Group Communications & Marketing a.i.  
Tel: +41 58 360 96 22  
[a.schwarzwaelder@oerlikon.com](mailto:a.schwarzwaelder@oerlikon.com)  
[www.oerlikon.com](http://www.oerlikon.com)

Gilles Widawski  
Head of Europe West  
BFR / Management  
Tel: +33 164 124 917  
[gilles.widawski@oerlikon.com](mailto:gilles.widawski@oerlikon.com)  
[www.oerlikon.com](http://www.oerlikon.com)

#### **Safran**

Catherine Malek  
Tel: +33 1 40 60 80 28  
[catherine.malek@safrangroup.com](mailto:catherine.malek@safrangroup.com)  
[www.safran-group.com](http://www.safran-group.com)

Quitterie de Brebisson  
Tel: +33 1 40 60 84 40  
[quitterie.de-brebisson@safrangroup.com](mailto:quitterie.de-brebisson@safrangroup.com)  
[www.safran-group.com](http://www.safran-group.com)

Isabelle Javary  
Tel: +33 1 40 60 82 20  
[isabelle.javary@safrangroup.com](mailto:isabelle.javary@safrangroup.com)  
[www.safran-group.com](http://www.safran-group.com)

**CNRS**

François Maginot  
Tel: +33 1 44 96 43 09  
francois.maginot@cnrs.fr  
www.cnrs.fr

**Université de Limoges**

Candice Malagnoux  
Tel: +33 5 55 14 91 40  
com@unilim.fr  
<https://www.unilim.fr/>

Mathilde Bagur  
Tel: +33 5 55 14 91 10  
com@unilim.fr  
<https://www.unilim.fr/>

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