



Aviation: innovative materials thanks to MOLIERE, the new joint research laboratory

Saint-Cloud, France, July 5th, 2021 - Antoine Petit, Chairman and CEO of CNRS, Eric Trappier, Chairman and CEO of Dassault Aviation, represented by Bruno Stoufflet, Chief Technology Officer, Michel Deneken, President of the University of Strasbourg, and Pierre Mutzenhardt, President of the University of Lorraine, represented by Frédéric Villieras, Vice-Chair of the Scientific Council of University of Lorraine, officially launched today the joint research laboratory "Innovative Functional Materials for Aviation" (MOLIERE). Its aim is to design new materials for future aircraft in acoustics, electromagnetism and anti-icing.

On this occasion, Eric Trappier, Chairmand and CEO of Dassault Aviation, said: *“For the aviation industry, mastering innovative materials is a key differentiating factor on many commercial and defense products. Whether for the internal acoustics of our Falcons (absorbent materials), the stealth technology of our combat aircraft (materials for electromagnetic discretion) or the safety of all our aircraft (anti-icing materials), we must absolutely keep our lead. I am therefore delighted about this partnership with CNRS and the Universities of Strasbourg and Lorraine, which all boast world-class researchers, methods and tools.”*

Antoine Petit, Chairman and CEO of CNRS, commented: *“Our two research laboratories involved in this partnership with Dassault Aviation have internationally recognized expertise in materials. I am very pleased to see more than twenty-five years of scientific cooperation with Dassault Aviation materialize again today, this time with the creation of a joint research laboratory. This signature is part of the steps being taken by CNRS to strengthen our relationships with businesses which particularly involve over 170 joint laboratories in activity, like the MOLIERE joint lab established today.”*

To Pierre Mutzenhardt, President of the University of Lorraine: *“I am delighted that this partnership has come to fruition, highlighting the importance of bringing together complementary experts from academic research and business to meet today's technological, economic and societal challenges. With its ambitious innovation goals at the frontiers of our knowledge in materials, the MOLIERE laboratory also brings to light the high level of expertise of Jean Lamour Institute, one of our joint research units with CNRS, and of our researchers in universities in the Grand Est region.”*

Michel Deneken, President of the University of Strasbourg, underlines the added value of this cooperation between the worlds of public research and business: *“I am proud to see this long-standing partnership successfully lead to the creation of a joint research laboratory. The MOLIERE laboratory aims to meet the economic and environmental challenges facing aviation. I have no doubt that the complementary expertise of public research labs in the Grand Est region will meet the strategic need for Dassault Aviation to develop new, high value-added materials.”*

A joint research laboratory is a means of establishing a long-term research partnership between CNRS, its academic partners and a company in a given area based on a jointly defined roadmap. The MOLIERE laboratory aims to create high value-added materials for aviation, marking a break with current materials (new properties and functionalities or improvements of existing properties, material savings, for example), through a multi-scale approach combining theoretical, digital and experimental aspects. The durability of anti-icing materials will also be a focus of research at MOLIERE, as they are of great importance for future commercial aircraft in terms of reducing the energy needed for in-flight de-icing.

The MOLIERE joint laboratory will use the simulation, manufacturing and multi-scale characterization resources of two research laboratories: the Strasbourg Institute of Materials Physics and Chemistry (IPCMS, CNRS/University of Strasbourg) and Jean Lamour Institute (IJL, CNRS/University of Lorraine). IPCMS has recognized skills in nanomaterials and nanoscience with leading activities in electromagnetism. IJL is reputed for its expertise and outreach in nanomaterials and metamaterials, particularly for acoustics.

The MOLIERE laboratory is supported by the French Defense Innovation Agency and is established for four years, with the possibility of renewal.

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ABOUT CNRS:

The French National Center for Scientific Research is one of the most recognized and renowned public research institutions in the world. For more than 80 years, it has continued to attract talent at the highest level and to nurture multi-disciplinary and interdisciplinary research projects at the national, European and international levels. Geared towards the public interest, it contributes to the scientific, economic, social and cultural progress of France. The partnership with companies is the basis of its promotion policy. It is available in particular through more than 150 joint structures with industrial players and through the creation of around a hundred start-ups each year, testifying to the economic potential of its research work.
www.cnrs.fr

ABOUT DASSAULT AVIATION:

With over 10,000 military and civil aircraft (including 2,500 Falcons) delivered in more than 90 countries over the last century, Dassault Aviation has built up expertise recognized worldwide in the design, development, sale and support of all types of aircraft, ranging from the Rafale fighter, to the high-end Falcon family of business jets, military drones and space systems. In 2020, Dassault Aviation reported revenues of €5.5 billion. The company has 12,440 employees.
dassault-aviation.com

ABOUT THE UNIVERSITY OF STRASBOURG:

The University of Strasbourg currently has 57,000 students. With 35 departments, 70 research units (UPR, UMR, EA), one service and research unit (USR (MISHA)), six joint service units and six federative research structures (including three in partnership with CNRS), it is renowned for its multidisciplinary and interdisciplinary training offer covering all the disciplines of higher education. Instruction is provided by some 2,800 research teachers, four of whom are Nobel Prize winners, and over 5,000 external contributors. It conducts world-class research, making it the leading European university for its impact on innovation (Nature Index, 2017) and one of the Top 150 universities in the world (Shanghai Ranking 2018).

ABOUT THE UNIVERSITY OF LORRAINE:

The University of Lorraine is a public higher education institution comprising ten scientific clusters totaling 60 laboratories and nine collegiums representing 43 educational facilities including 11 engineering schools. It has a staff of some 7,000 people and accommodates more than 60,000 students each year. Find all the university's news on factuel.univ-lorraine.fr and on [The Conversation France](#).

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