

UK-Canada consortium led by Smartia awarded grant from Innovate UK and the National Research Council (NRC) of Canada for enhancing industrial productivity



**Bristol (UK), Montreal (Canada), Calgary (Canada) and Quebec (Canada)
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Smartia announced today that Innovate UK, the UK's innovation agency and the NRC of Canada, have awarded Smartia and their consortium a major grant (£500k) to support data driven processing towards affordable automated composite manufacturing. The goal of this project is to develop an AI enhanced system to leverage the power of data to establish a shorter path to first part production.

The proposed solution involves collecting data directly from the production equipment, streaming this data to a central data lake and using Artificial Intelligence (AI) and Machine Learning (ML) to develop applications that will predict defect occurrence, quality fall-off and optimise process parameters selection from the first part.

The project focuses on part of the composite material manufacturing process, specifically the Automated Fibre Placement (AFP) stage. This stage is a critical part of the overall process and quality of the end product depends on how well this process is carried out. Quality is dependent on the machine itself, the manufacturing process parameters and the material type, which currently leads to a high development cost to get from part design to the final manufacturing process.

Smartia's MAIO will be the key technology and the backbone to handle the data ingestion, which will include data from process sensors and camera feeds. It will provide gateway connectivity to the AFP production equipment all the way to the environment for deploying and running the AI applications.

The consortium includes UK's National Composites Centre (NCC UK) and Canadian organisations Complex Systems Inc, the National Research Council (NRC) and Stelia Aerospace.

Innovate UK



Complex System Inc.



"As a UK business, we are proud to be working with a number of commercial and research institutions from the international community at the cutting edge of technology. This grant is testament to the scope of our ambition to help increase productivity in the manufacturing sector and the value of our technology in achieving this goal" [said Dr. Mauro Arruda, CEO of Smartia.](#) "In this exciting project, we will be working with the NCC and our Canadian partners to build and demonstrate an end-to-end AI-driven composites manufacturing solution."

About Smartia

A new dimension in industrial intelligence, Smartia provides scalable AI solutions that drive value from operational data by digitising industrial assets. MAIO, Smartia's end-to-end Data & AI platform combines edge computing, big data technology and AI-driven applications to provide a complete digital solution for the manufacturing and engineering industries. Smartia also offers an AI and Machine Learning application development service that is tailored to the customer's needs. For more information visit www.smartia.tech.

About Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas, including those from the UK's world-class research base. We connect businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services leading to business growth. We fund business and research collaborations to accelerate innovation and drive business investment into research and development. Our support is available to businesses across all economic sectors, value chains and UK regions. Innovate UK is part of UK Research and innovation. For more information visit www.innovate.ukri.org.

About NCC UK

The NCC mission is to accelerate the growth of UK industrial output by enabling design and manufacturing enterprises to deliver winning solutions in the application of composites. Owned by the University of Bristol their centre is based at the Bristol and Bath Science Park. The NCC's founding members include GKN Aerospace, Airbus, AgustaWestland, Rolls-Royce and Vestas. For more information visit www.nccuk.com.

About NRC

The National Research Council is the primary national research and technology organisation of the Government of Canada, in science and technology research and development. The Minister of Innovation, Science, and Economic Development is responsible for the National Research Council. For more information visit <https://nrc.canada.ca>.

About Complex Systems Inc

CSI is built on the principles of making quality products and providing reliable and distinct solutions for our clients. We seek to provide to our clients with the software, sub-systems and onboard equipment they require, and other high value-added services, both in civil and National Defence markets. CSI has been driven by a mission to deliver quality services to other businesses in Research and Development, Consulting, Software Development and System Integration. For more information visit <http://complexsysteminc.com>.

About STELIA Aerospace

STELIA Aerospace offers global solutions for aeronautical manufacturers and airlines. Created in January 2015, STELIA Aerospace designs and produces aerostructures, pilot seats and business and first-class passenger seats. With a turnover of 2.2 billion euros in 2018 and more than 7,000 employees worldwide, STELIA Aerospace supports the major aeronautical players. Our company is present on 3 continents, in France, Canada, Morocco and Tunisia. STELIA Aerospace combines rigour, quality and performance, with one aim: the satisfaction of its Customers. For more information visit <http://stelia-northamerica.com/>