Innovation project for the industry 4.0: AV&R and APN combine their expertise to advance aeronautical manufacturing in Quebec

Montreal, December 2nd, 2020

AV&R and APN, two Quebec companies operating in the aerospace market, combine their expertise in a collaborative and innovative project. This initiative is part of Mach Fab 4.0 (Aéro Montréal) and aims to develop technologies for the complete automation of high product mix deburring* operations.

Current Challenges of Deburring Operations

Manufacturers in the aerospace supply chain, despite the use of automation, still rely on the human touch in the manufacturing of aerospace parts. Difficulties in recruiting and training a skilled workforce and the complexity of operations are challenges faced by manufacturers. In a context of small production batches with a wide variety of products requiring flexibility and speed of integration on the part of manufacturers, AV&R and APN are combining their expertise to solve this problem.

Democratising the Deburring Process

The project mission is to automate, make things easier and democratise the deburring process. The two Quebec companies aim to develop a modular solution that, using APN’s activities as a proving grounds, will allow AV&R’s robotic deburring system to adapt to smaller and varied production batches, while respecting the strict requirements of the aviation industry.

An Industry 4.0 Technology Solution

In the age of Industry 4.0, data collection is a critical step in optimising and developing manufacturers of aerospace components. The combination of AV&R’s software capabilities and APN’s expertise in system data management and analysis will deliver a robotic solution that meets current industry automation and data management requirements.

This joint project was initiated in Autumn 2020 and will continue until Spring 2021. It is an example of the collaboration and synergy of innovative Quebec companies whose ambition is to evolve the practices of the aeronautical supply chain in Quebec.

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*Deburring: material modification process that removes sharp edges or burrs on metal parts.
A leader in industrial automation for 26 years, AV&R is a Quebec robotic engineering company with more than 70 employees. It offers robotics and vision solutions around the world. Its activities are concentrated in the aerospace, medical and energy sectors. AV&R designs high-tech robotic systems that have been developed specifically for critical and complex parts such as gas turbine parts or orthopedic implants. AV&R offers robotic finishing systems (profiling, polishing, deburring) and automated visual inspection systems to manufacturers of aircraft engines, energy turbines and medical implants.

About APN

APN Global designs and manufactures complex parts for the aeronautical sector in full compliance with the strictest requirements. Backed by over 50 years of know-how, state-of-the-art facilities, and superior production capacity, APN guarantees outstanding product consistency, conformity and quality, part after part. Its groundbreaking processes exploit the full potential of industry 4.0 by associating each component manufactured with its critical data history. Thanks to this “data makes perfect approach”, APN is the go-to partner for enhanced productivity. APN Global has 170 employees distributed on 5 sites in Canada and the United-States.

About MACH FAB 4.0

MACH-FAB 4.0 aims to support 50 aerospace SMEs over five years in their transition to the digital enterprise of the future. Its objective is to promote the implementation of digital technologies and advanced manufacturing among participating SMEs through improvement projects to make them more competitive on the global stage.

This program is supported by the Government of Quebec under the Quebec Aerospace Strategy 2016-2026 to the tune of $9.5 million. To this amount is added an equivalent contribution from the private sector, a total amount of $19 million in private and public investments.

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