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Additive Assurance

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Abstract: Additive Assurance, a Monash University spin-out, is the first company in Australia to commercialise a 3D printing quality assurance technology. The company has developed an in-situ monitoring tool to provide real-time defect alerts, and has secured investment from the UK's IP group to commercialise its 3D printing quality assurance technology.

Keywords: Additive assurance, 3D printing, quality assurance

1. The success story—Additive Assurance

With the potential to disrupt existing commercial manufacturing techniques, 3D printing, otherwise known as additive manufacturing, has the potential to revolutionise industries such as aerospace and defence, which are reliant on conventional manufacturing techniques. However, the need to ensure each and every part is defective-free and printed without issue is paramount in ensuring 3D printing moves from a great prototyping tool to commercial manufacturing. Additive Assurance is a research-based spin-out at Monash University that commercialises a metal 3D printing quality assurance technology. Although quality control for 3D printing may not be the sexiest start-up idea, the founders of Additive Assurance are well on their way to changing this concept with investment from the UK's IP group.

2. Where did it start and the motivation?

The co-founders of Additive Assurance, PhD candidate Marten Jurg and his supervisor Dr Andrey Molotnikov, are researchers in the additive manufacturing space. Throughout their own research and collaborating with industrial partners, they encountered the quality assurance issue in 3D printing first-hand. Using 3D printing on a daily basis, they spent wasted time reprinting defective prints. The standard process only allows users to determine if a product was faulty or not at the final stage of production. Traditional methods for identifying defects exist. These are costly methods, relying mostly on using CT imaging, with exorbitant annual running costs and setups requiring more than a million dollars. To make additive manufacturing viable in the commercial world, both time and cost reductions must be introduced into the current workflow.

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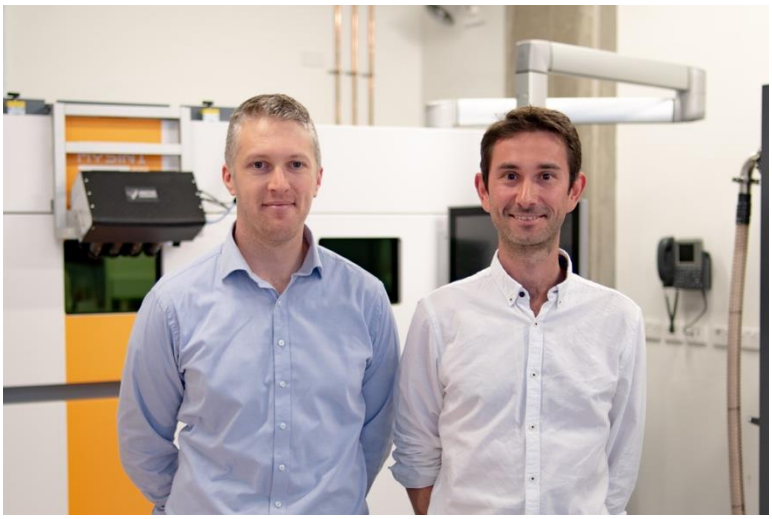

Figure 1. From left to right: Dr Andrey Molotnikov and Marten Jurg from the Department of Materials Science and Engineering (MSE) at Monash.

Additive Assurance has developed an in-situ monitoring tool that can provide real-time defect alerts. This process eliminates waste, as defects can be identified and rectified during the printing process. The technology also allows for full process traceability, i.e., the quality of the 3D-printed metal parts is guaranteed, and printing is adapted across several industries, including aerospace, energy, defence, and medical devices.

3. The journey so far

Whilst the technology was solid, Marten and Andrey were still trying to find their start-up feet and make the transition from scientists to CEO's. They joined the 2018 Accelerator Program, run by the Generator out of Monash University. Over three months, the pair grew as founders, most notably refining their communication around Additive Assurance, adopting a language that not only allowed the research community to understand their project but to a broader audience, including investors. In September 2019, the IP group funded their innovative idea and got a foothold in the market.

Monash University has strongly supported them from the very beginning where they received support throughout the whole process from Monash's tech transfer team, Monash Innovation, to protect their IP and develop a commercial strategy. They secured some initial seed funding from the Monash Research Impact Fund, a dedicated fund created by the University designed to support inventions and new concepts for which commercial potential has been identified to develop proof-of-concept. Their entrepreneurial skills were honed during their time at Monash, using existing expertise and skills developed as scientists to become formidable founders.

4. Look into the future

With plans to expand their team in the coming year and continue their rapid growth and disruption, this is only the beginning of Additive Assurance and their path to revolutionising additive manufacturing across the globe.

The company

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References

[1] Jiménez, M., et al. "Additive Manufacturing Technologies: An Overview about 3D Printing Methods and Future Prospects." Complexity, 2019: 9656938.

Fiona Lewis is the Program Coordinator of the Monash Generator Program, the entrepreneurial hub of Monash University. She has been involved in start-up support programs since 2014, running the very first accelerator program at Monash University. She has supported hundreds of early-stage start-ups through the Generator's programs during this time.

Fiona holds a Bachelor of Biomedical Science (Honours) and a Masters of Business (Science & Technology), both from Monash University. Prior to working in start-up support programs, she worked in the Office of the Vice-Provost (Research and Research Infrastructure) at Monash University, supporting the Monash Technology Research Platforms and research infrastructure activities across the University.