



AI in Industry 4.0: ALLEN joins STMicroelectronics partnership program to streamline industrial performance

Press release

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Following SIDO in Lyon, the largest European trade fair dedicated to IoT, AI and robotics, ALLEN – world leader in engineering and IT services – has announced that it is joining the *Partner Program* run by [STMicroelectronics](#), a world leader in semiconductors. This initiative aims to promote Industry 4.0 by strengthening the implementation of advanced embedded artificial intelligence solutions for industrial systems and processes. This is enabled through the use of STMicroelectronics' NanoEdge™ AI Studio technology, running on STM32 microcontrollers, which are already integrated into most customer systems, and also into future Intelligent Sensor Processing Units (ISPU).

ALLEN employs its expertise in artificial intelligence to integrate cutting-edge technologies and apply them to address its customers' challenges. A case in point is STMicroelectronics' NanoEdge™ AI Studio solution, which is used to develop learning algorithms embedded into smart, communicating objects. The shared goal is to **support our clients who are seeking to improve their overall performance and value proposition by developing new uses.**

"With this partnership, we are proud to offer our customers an advanced technology that can be tailored to all kinds of equipment and used by a multitude of sectors. Our ambition is to integrate AI into the heart of products in order to make them smarter and less resource-intensive. Client companies equipped with this technology will see their responsiveness improve considerably and their environmental impact decrease. This approach is born of our desire to create a partnership ecosystem to strengthen the integration of cutting-edge solutions and participate in the development of Industry 4.0," says **Antoine Santoni, Director of an ALLEN division (Grand Est area in France).**

Last October, in order to accelerate innovation in AI under this partnership, ALLEN opened an **Artificial Intelligence IoT Skills Centre in Grenoble, dedicated to STMicroelectronics solutions.** Grenoble is a technology cluster with an international dimension and has been recognised as the "European Green Capital 2022". It is a city that is conducive to the development of innovation. This explains ALLEN's decision to set up its new Lab here, enabling it to carry out projects with its customers based on all of STMicroelectronics' AI solutions. The developments will be based on three main themes related to the "Green Smart IoT":

- The new services provided by smart products (ambient intelligence services);
- New decentralised architectures with closer proximity to the data capture process (data mesh);
- Targeted IoT cybersecurity (from hardware to embedded software).

The opening of this Lab will consolidate ALLEN's scientific approach while enabling our customers to co-innovate, transforming technological opportunities into business value in their own situations. A 360° operation that will enable expert consultants, doctoral students and trainees from leading engineering schools to channel their shared know-how into a common project.

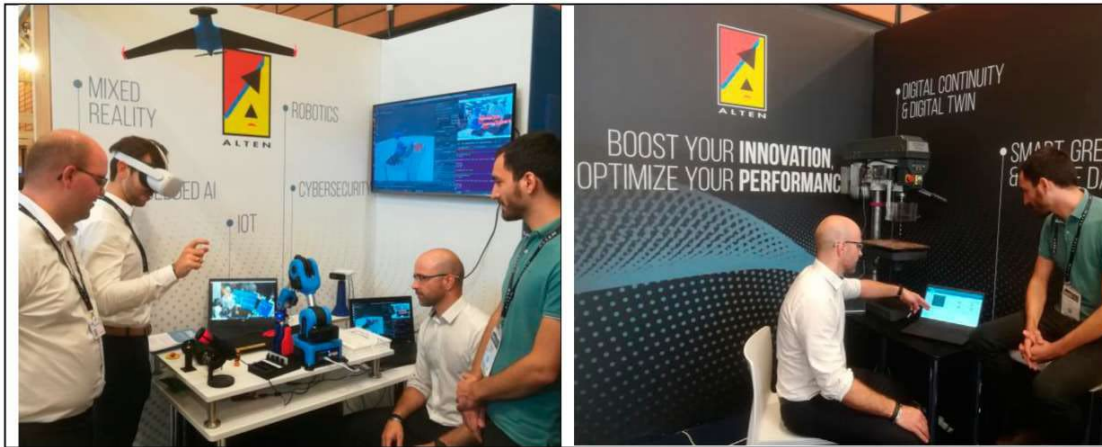
The development of the Lab will be supported by a partnership between a group of start-ups: GreenSpector (digital sobriety and efficiency of digital services) and Data Terrae (data & AI as-a-Service). Three CIFRE thesis projects will also be planned in collaboration with Mines ParisTech, Paris Dauphine University and UTC.

Two practical applications of the NanoEdge™ AI Studio solution presented at SIDO

This innovative technology that can sense, process and act locally, when applied to digital twin and embedded systems, gives manufacturers the opportunity to improve their industrial processes. Two applications were demonstrated on the ALTEN stand at this year's SIDO event in Lyon:

Digital twin: by mocking up a "mini-factory" in the form of a digital twin, ALTEN has shown how AI accompanies operators remotely, enabling them to carry out tasks in the real world while benefiting from virtual support. Artificial intelligence acts in this case as a decision-making and steering aid within workshops.

Predictive maintenance: using NanoEdge™ AI Studio technology, ALTEN has implemented an AI algorithm that can monitor any type of machine. In this demonstration involving a drilling machine, the algorithm evaluates the percentage of wear of the drill with the aim of performing a maintenance operation. This demonstration shows that by integrating the solution with existing equipment, it is possible to autonomously issue an alert following a drift in behaviour and thus anticipate a breakdown, resulting in significant savings in terms of time and costs.



Digital twin (left-hand photo): demonstration of the assembly of a drone, assisted by mixed reality. The operator (with the VR headset) is following the assembly instructions through a set of tasks displayed virtually before his eyes. He is actually interacting with the tasks with his finger.

Predictive Maintenance (right-hand photo): demonstrating the results of on-board AI analysis on drilling through a cloud-based predictive maintenance platform.

Explore this topic further: François Portier, ALTEN Director of the "Smart Factory 4.0" Research Programme, took part in the Lyon Sido's [Pitch Minute](#) programme, in which he goes into detail about these demonstrations.

About ALTEN

ALTEN was created in 1988 and supports its customers' development strategies in the areas of innovation, R&D and technology information systems. ALTEN works with key players in the Aerospace, Defence & Naval, Security, Automotive, Rail, Energy, Life Sciences, Finance, Retail, Telecommunications and Services sectors.

The ALTEN Group has over 45,000 employees in 30 countries, 90% of whom are engineers. Its turnover in 2021 was EUR 2.925 billion.

For more information, please visit <http://www.alten.com/>

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