

LACROIX and STMicroelectronics Join Forces to Deploy a Specific Artificial Intelligence for IoT, Powered by AWS

Las Vegas, 27th November 2023 - LACROIX (international technological equipment supplier operating in industrial, home and building-automation, avionics, healthcare, smart mobility, and smart environment sectors) and STMicroelectronics (global high-tech company creating semiconductor technologies) are combining their expertise to develop Artificial Intelligence of Things (AIoT), powered by Amazon Web Services (AWS).

Thanks to the combination of Artificial Intelligence (AI) and Internet of Things (IoT), LACROIX and STMicroelectronics are leveraging the power of AWS to open a new dimension in IoT applications, illustrated by LACROIX through a pilot solution: "Smart Detection." This innovation aimed at detecting abnormal sounds in cities, integrates AIoT, and offers numerous benefits for local authorities. The pilot solution will be revealed at AWS re:Invent 2023 in Las Vegas from November 27 to December 1, 2023.

Smart Detection: an innovation to detect abnormal noise in cities.

This AIoT innovation integrates EdgeAI technology that was developed by LACROIX, STMicroelectronics, and AWS, to extend IoT device capabilities through local sensor data processing with Machine Learning (ML) model inference at the edge, allowing data classification, diagnostics, and actions locally. Indeed, usual IoT solutions enable raw data to be uploaded to cloud platforms, whereas EdgeAI analyzes data locally at the sensor level. This major difference offers numerous economic, energy, and security (data preservation) advantages for customers, end users and authorities. AWS ML and IoT managed services are enabling the EdgeAI implementation with secure deployment across the fleet of IoT devices with Over-the-Air (OTA) software update mechanism.

At AWS re:Invent 2023, LACROIX, AWS, and STMicroelectronics will demonstrate AIoT: Smart Detection capabilities in action, detecting abnormal sounds, such as gunshots, alarms, and mass movements, which in turn can be used to notify authorities and incident response teams in cities. Using EdgeAI based Smart Detection devices, information can now be processed locally with ML model inference at the device level. This approach complies with EU General Data Protection Regulation (GDPR) since data is not sent to the cloud and also helps in reducing power consumption. The possibility of embedding the AI in low-power microcontrollers with minimal memory space requirements and optimal costs means that industrialization can be facilitated, while ensuring the confidentiality of the data collected. Moreover, in the event of communication or cybersecurity problems, the devices remain functional. This convergence of AI with IoT enables new types of applications for smart cities and various industries, including the healthcare applications, which require local analysis of sensor data with the ability to learn from context and evolve the types of data to be recognized.

"It is now possible to accelerate the adoption of EdgeAI and AIoT by combining our machine learning and IoT managed services with STM32 microcontrollers. Scaling any new solution developed using these technologies requires innovative use cases and adapted design and manufacturing capabilities," said Giuliano Serventi, Director, Director AWS EMEA. "This is what LACROIX is proposing through use cases linked to the smart city, which aim at improving the quality of life of citizens. LACROIX is also offering the design and manufacturing of the electronic devices."

“We are thrilled to work with AWS and STMicroelectronics to harness the power of EdgeAI technologies for our smart city initiatives, especially our IoT offering. This advancement is not just timely, but long overdue, since we believe that EdgeAI is paramount for resilient AI at scale. Moreover, we are offering design and electronic manufacturing to customers that want to get their own edge devices, using our LX Sense and LX Connect platforms based on STMicroelectronics chipsets and AWS tools,” said Stéphane Gervais, EVP Innovation & Partnership LACROIX.

A solution already compatible with several LACROIX IoT platforms

To get started, LACROIX will provide the connected platforms: LX CONNECT, a software platform for managing IoT devices, and LX SENSE, an IoT hardware platform that includes STMicroelectronics microcontrollers, to help customers to develop and industrialize IoT solution.

About LACROIX

Convinced that technology should contribute to simple, sustainable, and safer environments, LACROIX supports its customers in the construction and management of intelligent living ecosystems, thanks to connected electronic equipment and technologies. As a publicly listed family-owned mid-cap, with a turnover of €708 million in 2022, LACROIX combines the essential agility required to innovate in an ever-changing technological sector with the ability to industrialize robust and secure equipment, cutting-edge know-how in industrial IoT solutions and electronic equipment for critical applications and the long-term vision to invest and build for the future. LACROIX designs and manufactures its customers’ electronic equipment, as well as IoT (hardware, software, and cloud) and AI solutions, for the automotive, industrial, smart home and building, avionics and defense, and healthcare sectors. The Group also provides connected and secure equipment and solutions to optimize the management of critical infrastructures such as smart roads (street lighting, traffic management, V2X and traffic signs) and the remote control of water and energy infrastructures.

Drawing on its extensive experience and expertise, LACROIX works with its customers and partners to build the connection between the world of today and the world of tomorrow. It helps them to create the industry of the future and to make the most of the opportunities for innovation that surround them, supplying them with the equipment and solutions for a smarter world.

About STMicroelectronics

At ST, we are over 50,000 creators and makers of semiconductor technologies mastering the semiconductor supply chain with state-of-the-art manufacturing facilities. An integrated device manufacturer, we work with more than 200,000 customers and thousands of partners to design and build products, solutions, and ecosystems that address their challenges and opportunities, and the need to support a more sustainable world. Our technologies enable smarter mobility, more efficient power and energy management, and the wide-scale deployment of the Internet of Things and connectivity. We are committed to achieving our goal to become carbon neutral on scope 1 and 2 and partially scope 3 by 2027. Further information can be found at <https://www.st.com/>.

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