

EUROSATORY 2024:

Artificial intelligence at the heart of the show's hot topics

From 17 to 21 June at Paris Nord Villepinte, EUROSATORY, the global event for Defence and Security (D&S), will be the year's major international event for governments along with all public and private decision makers in the defence and security community.

The 2024 edition, which has extended its influence further than ever, will bring the entire D&S industry together around a comprehensive range of equipment and solutions to tackle all types of crises, from high-intensity conflicts to the humanitarian and environmental disasters specific to our century. High-level talks and panel discussions are also a top feature in this event.

Among the technologies on show and the themes addressed at the exhibition, artificial intelligence (AI) will be one of the 2024 exhibition's hot topics. Indeed, it is proving to be a major innovation catalyst in the defence and security domains. Eurosatory 2024 will thus offer a unique platform to explore these technologies that have become unavoidable, as a security and sovereignty focal point for armed forces and governments.

Here we offer a closer look at the ubiquity of AI in the sector, its operational use and its repercussions on the international stage.

AN INTERNATIONAL "RACE TO AI" WITH THE FOCUS ON INNOVATION

As the reflection of industrial trends and those of D&S, a global "race to Al" has begun in which States are investing to maintain or gain a lead over the others.

The United States have developed a sizeable ecosystem incorporating cloud technology and its IA development and use doctrine, which combine to make it the undisputed leader of this race. China meanwhile has developed its own standardised system by massively investing in technology, especially in biometrics. It also holds the record for the number of scientific publications on the subject. In the area of standardisation, the European Union cannot be ignored, with the adoption on 9 December 2023 of its first legal text on the subject, the EU AI Act, by the European Parliament and Council.

FRANCE IN THE RACE TO AI

In this worldwide race to AI, France is fairly well-placed, particularly "with regard to its large businesses and its start-ups", highlights the neuroscientist Quentin Montardy, also CEO of InMind-VR, a Eurosatory exhibitor, adding however the caveat that "French researchers tend to go abroad".

The matter of sovereign AI is naturally essential, but should be placed into perspective in view of the dependence on an ecosystem initiated by the United States, in particular the cloud. According to Arnault loualalen, mathematician and CEO of Numalis, who will be present at Eurosatory, one way for France to position itself would be to fight on a different terrain by developing what he calls "frugal AI", i.e. AI running on "less data and therefore greater sovereignty". In his view, greater sovereignty in this area also involves the simultaneous and ongoing relaunch of a European semiconductor sector.

Arnault loualalen also argues that while the United States may be a few years ("about three years") ahead of France in terms of doctrine, China is emerging as a major strategic competitor, investing and publishing on a massive scale: "What we are seeing is colossal investment. Where we are investing €500 million, the Chinese are investing €50 billion...".

What we are also seeing is China's desire to "structure the AI ecosystem for their industry" through a standardisation strategy that has already been in place for five years. In Europe, a text designed to lead to the first legislation in this area - the so-called "EU AI Act" - was adopted on 9 December by the European Parliament and Council.

ARTIFICIAL INTELLIGENCE IS A DUAL TECHNOLOGY APPLIED TO D&S

In June this yeat, EUROSATORY will bring the D&S world together to discuss the major issues facing the sector, with over a hundred talks and almost 2,000 international exhibitors from more than 60 countries (start-ups, SMEs, ETIs and major world-leading groups), as well as 40 international pavilions. Once again, EUROSATORY will reflect the global dynamics of D&S, highlighting the growing importance and diversity of AI in research and innovation.

The use of AI in D&S has been driven by the rapid rise of cloud computing and graphics cards. Cloud computing has provided data storage and processing capacity on an unprecedented scale, enabling players in the defence and security sector to exploit massive quantities of information. At the same time, developments in graphics cards have been a key driver of this dynamic, enabling exponential computing of data.

Today, industrial applications applied to D&S activities can be grouped into three main categories:

- Image processing, which will significantly improve detection and classification, will be particularly useful in the fields of video surveillance and target tracking, applicable to all military operations, particularly intelligence operations;
- **Time series processing** (i.e. the evolution of a variable over time, such as temperature, vibration or fuel consumption) will help, for example, to anticipate potential vehicle or aircraft failures;
- **Natural language processing** is particularly useful in the field of intelligence, as it enables a great deal of work to be done in summarising documents and information.

However, the integration of AI into D&S operations depends in particular on their reliability and standardisation. The reliability of AI is as yet empirical, and requires considerable efforts in terms of reliability and standardisation in order to increase confidence in these tools and guarantee flawless data processing.

Eurosatory 2024 will provide an opportunity to take stock of the major advances in artificial intelligence (AI) applied to Defence and Security. Al-related technologies are significantly transforming these fields, providing innovative solutions to reinforce interior security and the capabilities of military and security forces, and thus meet increasingly complex challenges.

AI: ALREADY OPERATIONAL TARGETED MILITARY APPLICATIONS

Al has a large number of applications in D&S systems, such as autonomous navigation, autonomous systems and robotics, planning, data analysis and predictive intelligence to anticipate potential threats, decision support, logistics, predictive maintenance, cybersecurity and electronic warfare, facial recognition and biometrics, simulation and training, the health of men and women in the field (soldiers, police officers, etc.), and so on.

Here are just a few examples that will be at the heart of the innovations at Eurosatory 2024.

DECISION SUPPORT

Al provides qualified information to the armed forces, defence, civil security and crisis management authorities at different levels of the chain of command. However, it is not a substitute for human expertise and final decision-making. Al acts above all as an aid to decision-making, by improving and speeding it up, particularly in the land sector.

According to General Pierre Schill, Chief of Staff of the French Army (CEMAT), "The integration of this technology into weapons systems and our staff processes is imperative if we are to retain the initiative: making decision-making loops more reliable and faster, making the most of data, optimising the individual potential of soldiers, helping to design manoeuvres, etc." This also means adapting our people through training to ensure that they understand data and use it to best effect.

• INTELLIGENT SYNERGY: AI AT THE HEART OF DEFENCE MAINTENANCE AND LOGISTICS

Al is also essential for strengthening the operational capabilities and resilience of armed forces, through its convergence with maintenance and the supply chain.

It acts with precision on maintenance operations thanks to time series processing, in order to reduce repair costs. Intelligent algorithms improve route planning, inventory management and resource distribution, thereby contributing to a more efficient and responsive supply chain. Systems interoperability is enhanced by real-time data sharing. All these factors have a positive impact on the resilience of armed forces in the face of unplanned scenarios.

• AI WORKING FOR HUMAN HEALTH

Conflict, emergency and crisis situations encountered by forces and populations can generate significant trauma, particularly neuronal and psychological. Several companies attending EUROSATORY, including start-ups, offer intelligent solutions to alleviate these effects on patients suffering from disorders. One of these is the French company InMind-VR, which offers software solutions for research, health and D&S to assess several factors (cognitive load, stress, fatigue, alertness and attention). These measure and optimise cognitive performance and act on neuropsychology to improve performance or help people recover from disorders.

"With developments in international standardisation work on the robustness of artificial intelligence, the defence and security industries will be stepping up their production capacity in the coming years. At EUROSATORY 2024, while the use of AI for image processing in optronics and imaging systems is nothing new, electromagnetic spectrum analysis is increasingly being used in intelligence and anti-drone systems, and we will be seeing the growing use of AI in the development of predictive maintenance, training and simulation. The cyber analysis of networks and financial fraud will also offer particular opportunities for their use. Naturally, command centres will be integrating AIs of all kinds, which will foreshadow the future of decision-support centres for forces and crisis management alike," adds Louis Ménigoz, Director of Technological Strategy at Eurosatory.

ABOUT EUROSATORY

Established in 1967, EUROSATORY is the global land and air benchmark event for Defence and Security (D&S). The show is organised by COGES Events, a subsidiary of GICAT (French Land Defence and Security Industry Association), and a member of CIDEF (French Defence Industries Council).

The aim of EUROSATORY is to contribute to "Inventing the responsible Defence and Security of the world of tomorrow" to tackle all types of crises. As a premium interface between all the members of the international community, every two years EUROSATORY brings together more than 60,000 professionals working with D&S and managing crisis situations: businesses, governments, military staff, institutions and private bodies, and supranational organisations.

Supported by a comprehensive, concrete, innovative and forward-looking exhibition offering, EUROSATORY showcases more than 500 new products, and presents institutional and professional visitors with the widest spectrum of solutions and services. The next edition of the show will be held from 17 to 21 June 2024, at the Paris Nord Villepinte exhibition centre (France).

EUROSATORY 2022 IN FIGURES

- 1,743 exhibitors from 62 countries with 62% from outside France
- 39 national pavilions
- 62,000 professional visitors from 150 countries
- 250 official delegations from 96 countries