

Frontex to Modernise Europe's Border Surveillance



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News

In mid-October 2025, Frontex [released](#) a comprehensive blueprint report designed to improve the connectivity, interoperability, and future readiness of Europe's border security systems. The [new European Border Surveillance Reference Architecture](#) (EBS-RA) aims to help EU Member States share information more effectively, modernise outdated systems, and derive greater value from surveillance capabilities deployed at borders and in pre-frontier areas. The architecture is intended to guide the entire lifecycle of border surveillance systems in order to help authorities to assess operational gaps, plan investments, draft clearer procurement requirements, and ensure that local tools fit into the broader European landscape.

At first, an executive overview and introduction is given, before detailing the legal basis of Frontex operations and the role of EUROSUR, as well as the current state of border surveillance across the EU. Key challenges are highlighted, including evolving threats to the EU's eastern borders, and comparisons are drawn with systems in the United States, Australia, and the United Kingdom.

A significant part of the report is dedicated to introducing the reference architecture itself: examining technological trends, such as AI, 5G/6G and unmanned systems, and presenting a clear vision that is grounded in defined mission needs. The report identifies the main stakeholders and sets out ten user requirements, ranging from improved situational awareness and intelligence sharing to interoperability, cybersecurity, and system resilience. It also evaluates core capabilities and presents detailed architectural building blocks covering sensors, platforms, communication networks, command and control systems, and advanced data processing frameworks that can be mixed and matched to design new solutions or upgrade existing ones.

Two annexes complement the report: one capturing insights from industry and operational experts, including lessons learned from real-world deployments, and another providing a taxonomy of surveillance system components to establish a shared technical vocabulary.

Lastly, the report's recommendations call on stakeholders to adopt and continuously refine the European Border Surveillance Reference Architecture while aligning it with local operational needs. They emphasise sustained stakeholder engagement, ongoing investment in emerging technologies, and regular testing and validation to ensure the architecture remains effective, up to date, and resilient.

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