Draft orientations towards the 'main' work programme 2026-2027

*Draft orientations to be developed on the basis of the Key Strategic Orientations and expected impacts set out in the Strategic Plan 2025-2027, ensuring **there should be <u>no gaps </u>by the end of 2027 with respect to the Horizon Europe Specific Programme and the Strategic Plan 2025-2027**.*

Horizon Europe cluster 3 "Civil Security for Society"

1. Destination: Better protect the EU and its citizens against Crime and Terrorism

<u>Draft expected impacts</u>:

Expected impact of the draft Horizon Europe Strategic Plan 2025-2027: "Tackling crime and terrorism more effectively and increasing the resilience of infrastructure".

The following draft specific expected impacts are suggested for Work Programme 2026-2027:

- Increased public security across Europe, leading to a reduction in fear of crime and terrorism among citizens;
- Enhanced trust in law enforcement e.g. via cooperation between communities and police authorities;
- Improved expertise in forensic science through forensic intelligence and exploitation of data for strategic purposes;
- Informed policymaking, building on evidence-based insights;
- Strengthened EU resilience against transnational crime and terrorism through collaborative frameworks, shared resources, and unified strategic responses;
- Better preparedness for emerging threats, including those posed by technology and geopolitical shifts, through proactive research and innovation;
- Mitigation of economic and cultural losses associated with crime and terrorism through effective prevention and response strategies, contributing to overall economic stability and growth within the EU;
- Empowered civil society and local communities through their active participation in crime prevention and counter-terrorism efforts, fostering a sense of ownership and responsibility among citizens;
- Reduced risks posed by criminal organisation & terrorists during natural or human-made disasters and crises;
- Enhanced prevention and awareness, improved support services for victims, and support to policies to combat gender-based violence.

<u>Main expected outcomes</u>:

- Advanced technological solutions, skills, methodologies and innovative training curricula for security practitioners (European Police Authorities, forensic institutes, civil society organisations) to prevent, detect, and investigate criminal and terrorist offences, including the lawful court-proof collection of crime evidence;

- Improved mechanisms for cross-border information exchange and collaboration in the fight against crime and terrorism;

- Enhanced understanding of the geopolitical, cultural and societal aspects of terrorism and other forms of crime, as well as on the key challenges related to combating them;

- Evidence-based support to policy-makers on shaping and tuning of regulation related to terrorism and other forms of crime;

- Enhanced perception by citizens that Europe is an area of freedom, justice, security and respect of privacy and human rights, thanks to innovative awareness-raising campaigns explaining to citizens the key and evolving mechanisms of crime and terrorism and how to protect against them.

Addressing main policy priorities:

Contribution of the draft 'main' Work Programme 2026-2027 to the Commission political guidelines 2024-2029:

The new political priorities call for a new era of European security. Internal (civil) security is a necessary complement to defence. Ensuring civil security and contributing to the EU's civil preparedness is the central role of Cluster 3.

This Destination will support the Commission's priorities by addressing new, upcoming or unforeseen challenges and/or creative or disruptive solutions for improving the prevention, detection and deterrence of various forms of crime or terrorism/radicalisation through an enhanced understanding of the related societal issues. In doing so, research and innovation projects funded under cluster 3 will contribute to safeguarding, sustaining, and improving the Union's unique quality of life, by improving the Union's ability to prevent, detect, and deter various forms of crime and terrorism, including the different forms of hybrid threats and gender-based violence, in a proportional and human rights-compliant manner. Research under this Destination will contribute to the forthcoming Internal Security Strategy and Counter-Terrorism Agenda.

Overall, research under this Destination will focus on preserving and securing citizens' basic right to feel safe. It will do so by funding projects which, amongst others, enhance European security practitioners' ability to effectively prevent, detect and investigate crime and terrorism.

2. Destination: Resilient Infrastructure

Draft expected impacts:

Expected impact of the draft Horizon Europe Strategic Plan 2025-2027: "Tackling crime and terrorism more effectively and increasing the resilience of infrastructure".

The following draft specific expected impacts are suggested for Work Programme 2026-2027:

- Improved resilience of large-scale interconnected infrastructures in case of systemic failures; complex attacks, including combined cyber and physical attacks including hybrid threats, pandemics and natural or human-made disasters;
- Infrastructure management systems enable adaptive, rapid and effective response and recovery from complex threats and challenges without substantial human intervention;
- Urban, peri urban areas are better protected with technological, organisational, and social innovations, and deepened public involvement;
- Better risk assessment, modelling, scenarios and simulation tools are available for critical infrastructure operators and authorities integrating also aspects of environmental impact and risks;
- Increased strategic autonomy of critical infrastructures across the EU, including their supply chains, and aspects increasing resilience to foreign interference;
- Climate change impacts and considerations of future climate scenarios are integrated into European standards relevant to critical entities;
- Public awareness of risks and threats to critical infrastructure is considerably raised;
- Aligned professional guidelines, trainings, exercises and best practices reinforce standards and procedures among key European stakeholders and their partners, including the uptake of new technology.

Main expected outcomes:

- Critical infrastructure operators and authorities as well as crisis management and civil protection authorities are offered tools and methodologies to support the development of sustainable and effective risk assessment and management plans, further strengthening their preventive, mitigating and recovery capabilities.
- Development of innovative platforms, methodologies and guidelines for critical infrastructure stress testing of specific sites and sectors, as well as complex interconnections, including cascading effects and interdependencies of systems;
- Strengthened cross-border cooperation and information exchange across sectors to prevent, protect against, respond to, resist, mitigate, absorb, accommodate and recover from natural or man-made threats and subsequent disruptions of essential services;

- Law enforcement-oriented tools for post incident analysis, offering broadened investigative capabilities for cases related to critical entities;

- Modern, validated and interoperable tools, methodologies and processes aimed to support authorities to protect assets and empower people in urban and peri urban areas.

- Dissemination of best practices, guidance and training materials to critical infrastructure stakeholders.

Addressing main policy priorities:

Following the Commission political guidelines 2024-2029 this Destination will support the implementation of the directives on the Resilience of Critical Entities (CER) and on Network and Information Security (NIS2). Actions will focus on upgrading physical and digital security and resilience of critical entities and their supply chains, including the European strategic autonomy aspect, while ensuring that solutions are scalable, adaptable, interoperable, affordable, long-lasting and effective.

Research investments will support the Commission's priorities by addressing emerging and evolving challenges, including hybrid threats. To achieve this, cross-Destination and cross-cluster cooperation will be fostered to better understand the risks, including both the technological, organizational and underpinning societal issues, and to deliver tools to prevent, detect, and investigate them.

Furthermore, this Destination will continue to develop measures to improve the resilience and security of urban and peri-urban infrastructures, while taking into account the increasing interconnectedness of digital infrastructures and systems. These will contribute to realising the objectives of the EU Security Union Strategy and Counter-Terrorism Agenda.

In addition to building resilience of critical entities and smart cities against deliberate or accidental human actions, prevention and mitigation of risks stemming from climate change will also be addressed, contributing to the EU Adaptation Strategy, and its climate resilience objective.

Overall, research under this Destination will focus on preserving and securing citizens' right to feel safe and have access to essential services. Activities will continue to monitor and interact with new relevant policies, such as forthcoming the EU Preparedness Strategy, the Water Resilience initiative, or the impacts of the Niinistö Report on policy development.

3. Destination: Effective management of EU external borders

Draft expected impacts:

Expected impact of the draft Horizon Europe Strategic Plan 2025-2027: "Facilitating legitimate movement of passengers and goods into the EU, while preventing illicit acts".

The following draft expected impacts are suggested for Work Programme 2026-2027:

- Improved capabilities of European practitioners in the areas of border management, customs, supply chain security and civilian maritime security;
- Promote technological and social innovation from research results and/or further research investment that respect and promote human rights in the areas of border management, customs, supply chain security and civilian maritime security;
- Enhanced technological sovereignty of European authorities in the areas of border management, customs, supply chain security and civilian maritime security.

Main expected outcomes:

- EU-funded European research and innovation on border management enables the development of the capabilities identified as needed in the long-term by the EBCG Capability Roadmap[1], by developing European solutions needed for those capabilities;
- EU-funded European research and innovation strengthening European capabilities for the security of the flows of goods, customs and supply chain, in particular to support the implementation of the EU Customs Reform proposal, if adopted;
- Further integrate Horizon Europe projects with the piloting and validation capacities of relevant EU Agencies (as well as of the proposed EU Customs Authority), and of Member States and Associated Countries, to improve the uptake of results of research on border management;
- Better monitoring, preparedness and reaction capabilities in border management tasks (managing migration, managing irregular or illegal activities involving people or goods across external borders, including land and maritime borders);
- Safeguarding of human rights in efficient border management;

- Improve efficiency (including throughput, energy efficiency and environmental impact of future solutions); improve reaction time of operations in all geographical and meteorological conditions;
- Build capabilities needed for improving border surveillance and real-time situational awareness.

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[1] Frontex, 'Capability roadmap of the European Border and Coast Guard – Relevance, resilience and excellence – Futureproofing the external borders and accelerating innovation – Towards 2037', 2024
https://prd.frontex.europa.eu/document/management-board-decision-16-2024-on-the-approval-of-the-capability-roadmap-of-the-european-border-and-coast-guard/

- Reduce workload, improve safety, user experience and performance of practitioners' staff involved in border management;

- Improved identity and (travel) document and credential security, privacy and usability, within improved trusted, secure, easier, automated seamless border and travel checks;

- Improved ability of European authorities to evaluate biometric recognition technologies they acquire for the purposes of border management and law enforcement;

- Increased level of standardisation among proposed tools to ensure to the largest extent possible interoperability both among proposed solutions and also with future technological developments;

- Improved detection of dangerous, illicit and illegal goods, materials and transaction through external borders and the supply chain;

- Improved prevention and disruption of trafficking of dangerous, illicit and illegal goods, materials and transactions through external borders and the supply chain.

Addressing main policy priorities:

Contribution of the draft 'main' work programme 2025 to the Commission political guidelines 2024-2029: The new political priorities call for a safer and more secure Europe, as well as for stronger common borders. They also show that border management internal (civil) security is a necessary complement to. Ensuring civil security, border management, also contributing to the EU's civil preparedness is the central role of Cluster 3.

This Destination within Cluster 3 will help address these challenges and support the priorities identified in the Political Guidelines, including investing in the continued update and development of future European digital border management and future secure border management that respect EU values. It will also contribute to equip European border and coast guard and customs authorities with future European state-of-the-art technology. This will also include preparedness and capabilities to manage possible future challenges across the external borders of the EU, including potential instrumentalization of migration, hybrid attacks, migrant smuggling, and evolving trafficking linked to serious and organized crime.

This will also be relevant to implement the EU Customs reform (if adopted) which proposes a data-driven, future-oriented vision for the Customs Union leveraging these state-of-the-art technologies and introducing an EU Customs Authority (Agency) that will develop and manage a Data Hub to drastically reinforce customs targeting and control capacities.

The European innovation on border management developed thanks to funding from this Destination will contribute to the objectives of the new European Internal Security Strategy, new Counter-Terrorism Agenda, the forthcoming EU Preparedness Strategy, new European action plans, while assuring human rights, notably against drug and weapons trafficking and migrant smuggling.

Overall, research under this Destination will focus on preserving and securing citizens' basic right to feel safe and maintain human rights as a priority for both European citizens and third country nationals. It will do so by funding projects which, amongst others strengthening Europe's borders, making them more secure, safe for humans, while facilitating travel and trade.

4. Destination: Cybersecurity

Draft expected impacts:

- Support the EU's technological capabilities by investing in cybersecurity research and innovation to further strengthen its leadership, strategic autonomy, digital sovereignty and resilience in the context of emerging technologies, such as Artificial Intelligence and Post Quantum Cryptography, while maintaining the human rights and right to privacy for European citizens;

- Help protect the EU's infrastructures and improve the Union's ability to prevent, protect against, respond to, resist, mitigate, absorb, accommodate and recover from cyber and hybrid incidents, especially given the current context of geopolitical change and the increasing threat of advanced persistent threats;

- Support European competitiveness in cybersecurity and European strategic autonomy, by protecting EU products and digital supply chains, as well as critical EU services and infrastructures (both physical and digital) to ensure their robustness and continuity in the face of severe disruptions;

- Particular attention will be given to SMEs, who play a crucial role in the cybersecurity ecosystem and in overall EU digital single market competitiveness;

- Promote the development of a European funnel of Innovation, starting at lower TRLs in Horizon Europe projects, leading to deployment and uptake of European solutions through the Digital Europe Programme;

- Strengthen the European Cybersecurity Competence Community, in close collaboration with the European Cybersecurity Competence Centre.

Main expected outcomes:

- Development of innovative Artificial Intelligence tools for Cybersecurity operations, including tools based on Generative AI, also in support of Security Operation Centres/Cyber Hubs as well as cybersecurity assessments of novel AI solutions;

- Enhance the EU's ability to address the security risks associated with the increasing use of AI and AI-generated data in cybersecurity, including the development of AI-powered cyber-attacks;

- Tools to increase collective situational awareness and support operational cooperation, for example:

o   Increasing Computer Security Incident Response Teams (CSIRTs) services maturity level;

o   Improving the toolbox available to Security Operations Centres (SOCs);

- Tools to support cybersecurity resilience, preparedness, and awareness within critical infrastructures and across supply chains, including:

o   Technologies and tools to protect EU organisations and end-users from supply chain attacks;

o   Technologies and tools for enhanced adversarial attack detection capabilities of the EU digital assets;

o   Secure interoperability of systems (particularly for IoT and edge computing);

o   Secure communication, data collection, data transport, and data processing;

o   Secure design methods and security testbeds for hardware/software systems;

- o Security building blocks, architectures, or test beds;
- Technologies and tools to support the development of Privacy Enhancing Technologies (PETS) including post quantum ones, for both personal and industrial data, as well for the secure operations of European Data Spaces;
- New approaches, methods and tools to support the transition to Post Quantum Cryptography in particular: the security and performance challenges of quantum-safe cryptography in real-world cases (such as Connected Collaborative Computing (3C) Networks, IoT, digital identity systems), emerging cryptographic primitives such as for Privacy-Enhancing Technologies and blind computing, the correctness of security proofs and codes, cryptoanalysis, schemes ensuring full forward secrecy, setting the ground for new technologies for future global networks and for different cryptographic tasks.

Addressing main policy priorities:

- The main policy issues continue to be those identified in the Work Programmes 2023-2024 and 2025.
- The Topics to be developed will support:
- The implementation of the Cyber Solidarity Act, by developing innovative AI and GenAI solutions for the Security Operations Centres/Cyber Hubs.
- The national transpositions and the implementation of the NIS2 Directive.
- The implementation of the Cyber Resilience Act.
- The EU 5G Toolbox.
- The Cybersecurity Act, in particular supporting European cybersecurity certification schemes .
- The EC Recommendation on Post Quantum Cryptography.
- The GenAI4EU initiative;
- The AI Act.

Building Synergies:

R&I activities that will be proposed under the Cybersecurity Destination will bring synergies and benefits to R&I activities funded under other parts of Horizon Europe, such as those on Quantum, AI, Data, Network Technologies.

Technology transfer, capacity building, and skills initiatives involving ENISA, the European Cybersecurity Competence Centre and the Network of National Coordination Centres (NCCs) as well as the Network of Digital Innovation Hubs will be enabled.

5. Destination: Disaster-Resilient Society for Europe

Draft expected impacts:

Expected impact of the draft Horizon Europe Strategic Plan 2025-2027: "Reducing losses from natural, accidental and human-made disasters".

The following draft specific expected impacts are suggested for Work Programme 2026-2027:

- Enhanced citizen and local (e.g. city) and regional authorities' involvement in research actions, and in operational measures that may result from research, with focus on risk awareness and enhanced disaster prevention and preparedness, including awareness raising and education and learning from past experiences;
- Improved disaster risk governance (from prevention, preparedness to mitigation, response, and recovery, using updated risk assessment methods, early warning systems and decision criteria and including knowledge transfer, uptake and awareness of innovative solutions) from the international to the local level;
- Improved disaster risk management due to single/multiple threats through a holistic, systemic and cross-cutting approach, also considering changing climate, environmental and socio-economic conditions;
- Strengthened capacities of disaster response, preparedness and prevention assets in all phases related to all-hazard (natural and human-made, including hybrid threats) disaster with validation of tools and technologies used in disaster management are environmentally sustainable including emergencies, and demonstration of their interoperability;
- Preparation for cascading effects which may result from natural and human-made disaster, with special focus on hybrid warfare against the EU and neighbouring states and disinformation in times of disasters.

Main expected outcomes:

- Improved disaster preparedness, learning from past disasters or crises, and better sharing of knowledge on lessons learned and risk awareness to citizens and local (city level) and regional authorities, while also preparing for emerging risks and threats;
- Identification of reliable scenarios based on multi-hazard approach to define in advance effective operational strategies and intervention models within a systemic and operative framework;
- Improved knowledge/experience-sharing from past emergencies to cope with future emergencies, also strengthening trans-national knowledge and data exchange among EU countries;
- Development of holistic Risk and Resilience Metrics to support multi-hazard prevention strategies, encompassing main physical, economic and social effects;
- Reinforced dialogue and cooperation among scientific and technical communities, stakeholders, policy-makers and local communities in disaster risk reduction for an enhanced uptake of research

outputs as well as successful integration to existing systems (e.g., European Civil Protection Pool, Copernicus Emergency Management Service);

- Tools that improve coordination among emergency services at the local and regional levels would directly benefit members' capacity for disaster management. Specifically, on CBRN related issues and the collaboration between CBRN training centres within and outside Europe is underlined.

- Better understanding of the impact of disasters and crises on risk governance and emergency management structures, including emergency services and communities, common metrics, damage and losses and improved adaptation and resilience of emergency systems and civil protection systems;

- Enhanced availability and accessibility of up-to-date data, including at local and European level, and global interoperability of existing products, tools and technologies, such as crisis management platforms;

- Improved capacities to manage different types of disasters (natural or human-made and their potential compound or cascading effect) by various practitioners (e.g. firefighters, medical responders, civil protection, early warning analysts, preparedness experts, risk prevention planners, etc);

- Technologically mature solutions for disaster risk management that can enter the market successfully, when applicable, and can be taken up by relevant authorities in deployment to operations.

Addressing main policy priorities:

Contribution of the draft 'main' work programme 2025 to the Commission political guidelines 2024-2029: Ensuring civil security and contributing to the EU's (civil) preparedness is the central role of Cluster 3. The Disaster Resilient Societies (DRS) Destination will address main policy priorities by fostering advanced research and innovation to enhance risk assessment, improve disaster prevention and response mechanisms, promote climate adaptation, strengthen critical infrastructure resilience, and support inclusive governance frameworks aligned with EU Green Deal, EU Preparedness Union Strategy and Security Union objectives.

This Destination will contribute to the EU's efforts to get prepared and resilient in the face of extreme weather events that are increasing in both frequency and impact. Research actions in this area include developing new methods, tools and technology to address disasters induced by natural hazardssuch as drought, wildfires and flash floods and their potential compound or cascading effects.

Following the Niinistö Report, the DRS Destination will continue emphasizing collaborative resilience strategies, enhancing preparedness through cross-border coordination, advancing early warning systems, and leveraging cutting-edge technologies, to mitigate risks ensuring alignment with EU strategic objectives. A special emphasis should be on creating stronger structural links to bridge the gap between research, innovation and deployment. This could include the establishment of stronger links with national disaster management authorities, and promotion of DRS Destination's running projects and outputs.

Synergies with other disaster resilience grants (e.g., the Knowledge for Action in Prevention & Preparedness, technical assistance for Disaster Risk Management) or activities (e.g., thematic workshops from the Community of European Research and Innovation for Security (CERIS), Civil Protection Forum or specific thematic workshops) should be pursued for project uptake.

Overall, research under this Destination will seek to reduce losses from all types of disasters (whether they are induced by natural, technological or societal hazards), improving the Union's climate adaptation, preparedness in order to sustain our quality of life. Research will also inform cross-sectoral, cross-border and better coordinated international adaptation response to diverse combinations of climatic and non-climatic risks.It will do so by funding projects which, amongst others, increase the Union's capacity to prevent and prepare against existing and new natural and human-made threats on all levels (EU- wide, institutional and civil society), particularly those linked to chemical, biological, radiological and nuclear (CBRN) as well as risks to security from the impact of climate change.

6. Destination: Strengthened Security Research and Innovation

Draft expected impacts:

Expected impact of the draft Horizon Europe Strategic Plan 2025-2027: "Cross-cutting R&I actions under the Destination 'Strengthened Security Research and Innovation' (SSRI) will support the expected impacts".

The following draft expected impacts are suggested for Work Programme 2026-2027:

- Increase the impact of the work carried out in the EU security R&I ecosystem and contribute to its core values;

- Create operationally applicable knowledge and value through research on topics (including technology, but also social sciences and the humanities) that are not exclusive to only one security area, but cross-cutting to the whole Cluster 3;

- Foster intersectoral cooperation and cross-discipline innovation policy;

- Generate greater knowledge of standards or breakthrough research in matters that are of interest across all the thematic areas, including research on societal issues.

Main expected outcomes:

SSRI will continue to increase the impact of the work carried out in the EU security R&I ecosystem and contribute to its core values, namely:

- Increased focus on the potential final use of the outcomes of security R&I;
- Accelerated adoption of cutting-edge technologies and solutions across EU security sectors to address evolving threats;
- More forward-looking assessments of security challenges and advanced planning of EU security capabilities;
- Availability of security technologies that are socially acceptable;
- Greater safeguarding the EU's open strategic autonomy in critical technology areas for security;
- Improved cooperation between security stakeholders, including researchers, industry, practitioners, policymakers, local authorities and the civil society;
- Strengthened European security R&I ecosystem for more impact.

Addressing main policy priorities:

The Strengthened Security Research and Innovation (SSRI) Destination fosters innovation to strengthen the EU's ability to prevent, detect, and respond to security threats by responding to challenges that are transversal and can be identified in more than one thematic Destination. SSRI also promotes technological leadership by advancing cutting-edge technologies that are disruptive in our response to security threats

and is enhancing security capabilities and industrial capacities while supporting the EUs technological sovereignty.

SSRI accelerates the integration of advanced technologies, tools, methodologies and processes into operational security practices, bridging the gap between research outcomes and real-world applications to enhance EU resilience and EU Strategic Autonomy.

The Destination is in line with the strategic objectives as described in the Niinistö and Draghi reports on strengthening EU competitiveness and supporting the preparedness of the EU by investing in cutting edge and disruptive technologies.