



FFI Norwegian Defence
Research Establishment



Research for our future defence

FFI's 20-year strategy for 2044

Our world is changing

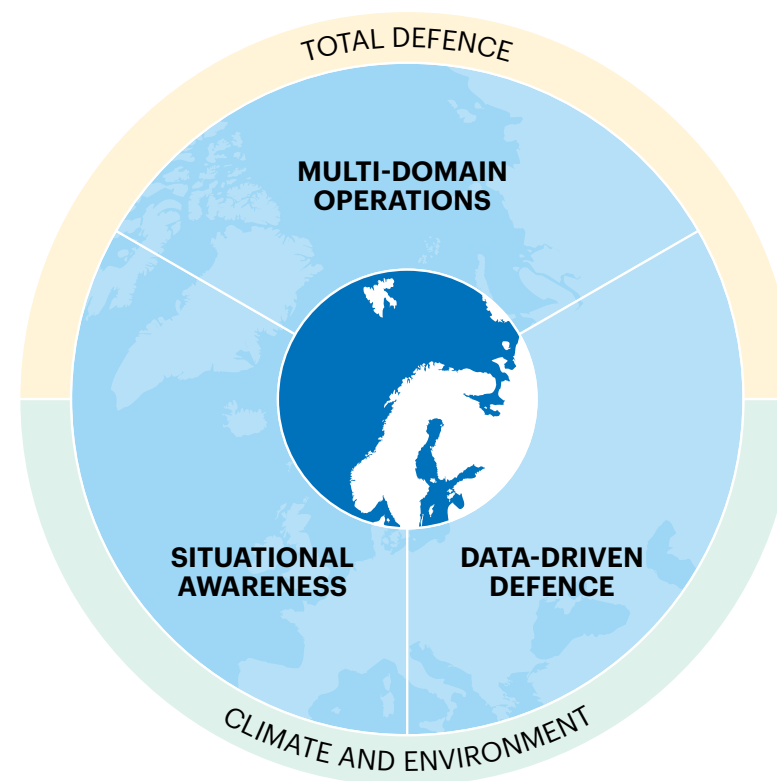
Since 2022, the global security landscape has changed dramatically, and this has profound consequences nationally as well as internationally. In the coming decades, we are likely to experience instability, unpredictability, and unrest. Norway and its allies need to strengthen defence capabilities, and security in the Arctic is once more on the international agenda.

The strategic implement of the defence sector

Having comprehensive knowledge is crucial to making the right decisions in uncertain times. The Norwegian Defence Research Establishment (FFI) is the research institute of the Norwegian defence sector and the primary implement by which the defence sector benefits from fast-paced scientific and technological development. Through research, development, and innovation (R&D&I), FFI contributes to an effective, interoperable, and relevant defence that is well-prepared for the future. FFI will continue to develop and make use of the unique opportunities provided by the cooperation and trust of our allies.

Important areas of research

This strategy points to areas where there is a substantial need for R&D&I. Norway must be able to defend itself across domains in collaboration with our allies, and we must make the most of our resources across the full range of possible crises. Our understanding of the situation and our ability to respond rapidly are vital, and the insights gained through big data may boost our defence capabilities in new ways. We need to improve the interplay between civil society and the military in order to ensure an effective total defence. Moreover, the Norwegian Armed Forces must consider climate change and environmental issues.



Staying ahead of the threats of tomorrow in the north

FFI provides research-based advice about defence policy, defence planning, and administration of the defence sector to Norway's political and military leaders. To do this successfully, we need to have extensive insight into the needs of the Armed Forces. We also need a broad range of expertise in many fields and the ability to stay at the forefront of technological development in key areas.

In our strategy, we identify areas of research, development, and innovation (R&D&I) that will play a major role in the future ability of the Armed Forces to fulfil its mission. Our strategy forms the basis for how we develop our expertise within science and military technology and how we prioritise our resources. In addition, it provides direction to our R&D&I activities. Moreover, our strategy acts as our recommendation about which R&D&I activities the defence sector should focus on to ensure operative effects that are critical for our future defence.

The strategy's aims for our R&D&I activities are ambitious and will require targeted, long-term efforts with suitable framework conditions. In addition, our strategy defines the operative effects we expect from our R&D&I activities while also providing sufficient flexibility to adapt to the rapid pace of technological and social change. We will outline our efforts in detail through our R&D&I plans and management plans.

We cannot succeed alone. We need to strengthen our cooperation with the foremost research and innovation communities, nationally as well as with our allies. We need to be in the forefront in areas that require special solutions to Norway's strategic position in the north, its relatively small and widely dispersed population, the cold climate, and its vast ocean areas that are of major strategic importance.

High ambitions for R&D&I at FFI demand correspondingly high ambitions for our operations. Utilising the right expertise and technology will greatly enhance our ability to meet these challenges and strengthen Norway's defence capabilities.

FFI must be development oriented and be in a position to recruit and retain the best talent.

Research for our future defence is FFI's contribution to a strong defence of Norway.

Aslak Tveito
Chair of the Board

Kenneth Ruud
Director General





Multi-domain operations

FFI aims to conduct R&D&I activities that enable the Armed Forces to operate effectively in all domains, both independently and alongside our allies. This will require superior situational awareness and data-driven defences.

Priority areas for R&D&I:

- concepts and technological and structural development
- weapons and weapons systems
- effective, secure, and prompt operational coordination within the Armed Forces, between civil society and the military, and with Norway's allies

Situational awareness

FFI aims to provide solutions that will ensure superior ongoing situational awareness for the Armed Forces and an accurate basis for decision-making across the full range of possible crises.

Priority areas for R&D&I:

- technology and systems that help to safeguard and utilise the information communities
- comprehensive updated analyses and decision-making support from the technical to the strategic level
- systems and technology for gathering and distributing information





Data-driven defence

FFI aims to develop solutions that will enable the Armed Forces to realise the full potential of data for operational purposes.

Priority areas for R&D&I:

- technologies for data structuring, data access, securing data integrity, data analysis, and the automatic processing and use of data
- interaction between different technologies and between humans and technology, and the importance of this for the Armed Forces
- the consequences of a data-driven approach for the Armed Forces' organisation, personnel, and expertise

Total defence

FFI aims to be at the forefront of R&D&I in total defence, with a focus on the operational needs of the Armed Forces across the full range of possible crises.

Priority areas for R&D&I:

- cross-sectorial situational awareness and management
- hybrid threats to society and society's vulnerabilities and resilience
- effective preparedness and arrangement of total defence
- future defence against CBRNE threats





Climate and environment

FFI aims to develop sustainable solutions that enhance the Armed Forces' operational capabilities.

Priority areas for R&D&I:

- energy-efficient, climate-adapted, and environmentally friendly technologies and concepts across the full range of possible crises
- data collection and analysis that provides a sound basis for decision-making on reducing the Armed Forces' carbon footprint and managing future climate-related security challenges

FFI as an organisation

Our strategy requires FFI to be an effective, flexible, and interdisciplinary organisation. We will ensure trust by maintaining a high level of integrity, a sound security culture, and a strong security system that safeguards assets and addresses the threat environment. FFI intends to maintain its image as an attractive employer in the research sector, promoting a healthy work environment and high ethical standards of research. We will contribute to a knowledge-based public debate through targeted and effective research dissemination.

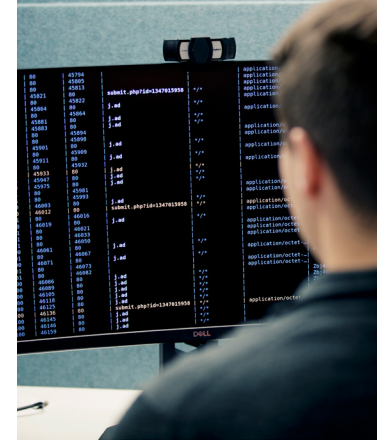
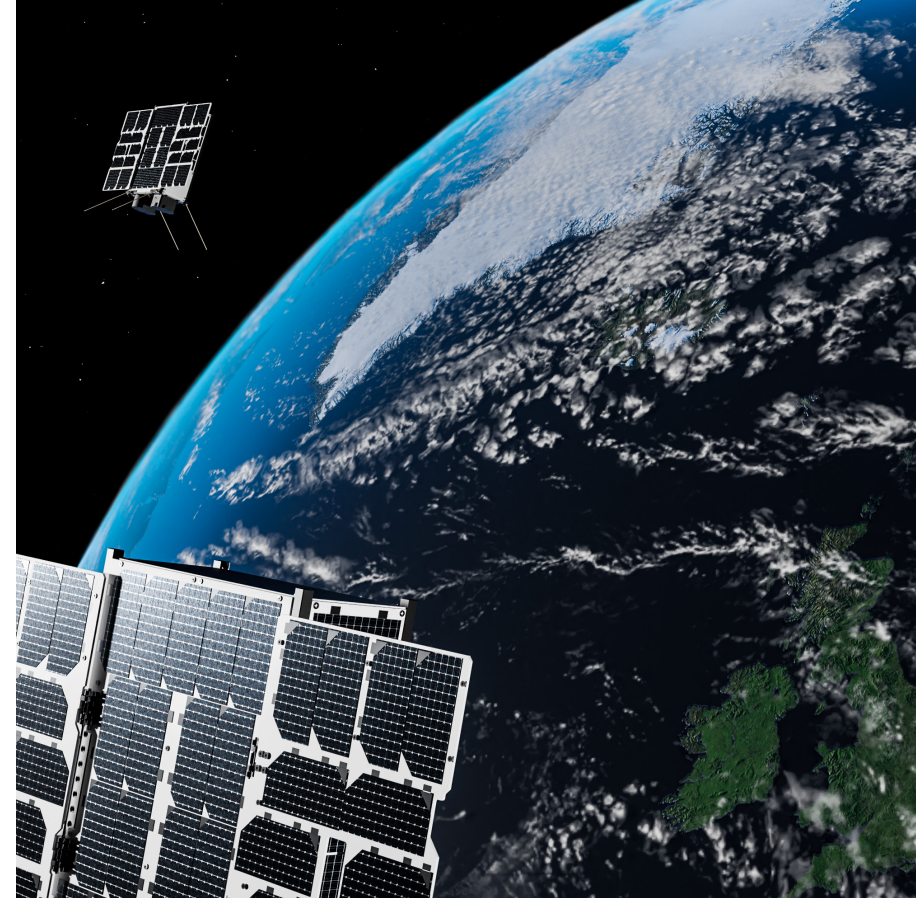
FFI aims to have highly qualified staff who are focused on applying research results. They need to be up to date on the defence sector and national security requirements. FFI staff should be familiar with relevant national and international research communities and should engender trust as representatives of FFI.

FFI aims to have a modern, flexible, and future-oriented infrastructure. We will create arenas that support our ambitions. Our facilities should enable us to conduct R&D&I for the future, provide modern support services, and facilitate internal and external collaboration. FFI has a responsibility at national level for the physical and scientific infrastructure of classified and critical R&D&I.

FFI aims to take new digital technologies on board quickly and effectively. We will utilise data to ensure efficient operations and the development of R&D&I and support services. We will promote the development of staff expertise to ensure that we reap the benefits from new technology.

FFI aims to collaborate closely with its clients, its users, and the defence sector. We will help to ensure that Norwegian industry remains at the forefront of technological development and stays relevant as a supplier of future needs. Together with the defence sector and the industry – through our triaxial collaboration – we will ensure that the Armed Forces have access to relevant new technology and knowledge. We will promote effective solutions and optimal use through testing and experimentation in close collaboration with the users. Our solutions need to be interoperable and standardised to facilitate cooperation with our allies.

FFI's activities are to comply with the UN's Sustainable Development Goals.



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