

Defence, Industry and Research Strategy

*Development and consolidation of a performant Belgian
Defence Technological and Industrial Base.*

ROYAL HIGHER INSTITUTE FOR DEFENCE



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THE NEED FOR A DEFENCE, INDUSTRY AND RESEARCH STRATEGY

Defence is a key mission of our national authorities. Belgium's security policy is largely based on cooperation through complementary organisations such as the EU and NATO, or at bi- or multilateral level. In order to make a solidary and fair Belgian contribution through a wide range of civilian and military power instruments, Belgium has set out a trajectory for the coming decades with a view to significantly increasing its defence efforts.

Belgium resolutely opts for a more European defence as a major European pillar within NATO. We wish to strengthen the EU as a credible and reliable security actor by contributing to filling the capability gaps at European level and by organising our national capabilities as much as possible with our European partners, through bi- or multinational partnerships. However, in order to build an open European strategic autonomy, it is important to maximise joint efforts as much as possible for organising capability development and supporting our capabilities. The use of identical or similar weapon systems by partner countries plays a crucial role in this respect. Coordinating research, development and production at European level strengthens such a collaborative approach. It lays the foundations for a strong European Defence Technological and Industrial Base (EDTIB). Furthermore, a strong European DTIB is the cornerstone of a more European defence that is capable of autonomously improving security in our own regions and contributing in a balanced way to the trans-Atlantic security partnership.

Belgium acknowledges the need for developing and consolidating a performant Belgian Defence Technological and Industrial Base within the European framework. On the one hand, this will enable our country to contribute to building an open European strategic autonomy in the field of security and defence. On the other hand, it will provide the opportunity to act as autonomously as possible when national responsibilities are concerned.

A full-fledged Defence, Industry and Research Strategy (DIRS) has become more relevant than ever and is in line with the Treaty of Versailles¹, the ambitions of the EU Strategic Compass for Security and Defence² and the policy orientations set out in the National Security Strategy³, but also with the updated EU industrial strategy⁴, the federal government's projects⁵ within the framework of the European Recovery and Resilience Facility and the regional recovery plans.

¹ <https://www.consilium.europa.eu/media/54773/20220311-versailles-declaration-en.pdf>

² <https://data.consilium.europa.eu/doc/document/ST-7371-2022-INIT/en/pdf>

³ https://www.premier.be/sites/default/files/articles/NVS_Online_EN.pdf

⁴ https://ec.europa.eu/info/sites/default/files/communication-industrial-strategy-update-2020_en.pdf

⁵ Including €80 million dedicated to investments in cyber security.

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MISSION AND STRATEGIC OBJECTIVES

The DIRS aims at developing and consolidating a Belgian Defence Technological and Industrial Base that:

- contributes to supporting the national security and defence policy and strengthening the EU's open strategic autonomy;
- positions Belgium as a relevant, reliable and competitive technological partner in European and trans-Atlantic capability development;
- guarantees the degree of national autonomy required in critical domains as regards scientific research, technological expertise and industrial capacity;
- generates the necessary economic and social return in the form of knowledge, technology and employment.

With a view to monitoring the implementation of the DIRS and adjusting it if needed, a number of strategic objectives have been established:

- The Belgian Defence and the FPS Economy are closely collaborating with socio-economic actors, research centres, educational institutions and training centres in the different regions, within the framework of a pragmatic and effective partnership oriented towards research and development, production as well as applying and supporting the Belgian and European security and defence policy in priority domains.
- The Belgian industry, research centres, educational institutions and training centres achieve the predetermined level of ambition in the technological domains prioritised as part of this strategy.
- The economic and social return in the form of knowledge, technology and employment resulting from this partnership represents a multiplier effect similar to that of the other EU Member States.
- The scientific knowledge, technological expertise and industrial capacity with regard to security and defence are protected and enshrined.
- The share of the Belgian Defence Technological and Industrial Base in support of the Belgian and European security and defence policy is proportionate to Belgium's socio-economic position within the EU.

DEVELOPING AND CONSOLIDATING A BELGIAN DTIB

Strengthening the Belgian DTIB in a sustainable manner requires the development of coherent value chains in well-thought-out domains. To this end, we must, in collaboration with our European and trans-Atlantic partners, invest upstream in research on technological building blocks⁶ enabling us to acquire the necessary knowledge and expertise that may be relevant for developing defence-related technological applications and operational capabilities.

The DIRS lays down the domains that are relevant for the Belgian DTIB. On the one hand, this includes direct relevance with regard to capabilities that either will have been acquired by the Belgian Defence within the framework of the Belgian Strategic Vision or are related to the technological priorities set by the Belgian Defence in the long term. On the other hand, it refers to indirect relevance with respect to making the Belgian DTIB a credible and reliable technology partner for capabilities that are essential to build an open European strategic autonomy in the context of European capability gaps or through participation in collaborative security and defence projects. Closer cooperation within the framework of the Permanent Structured Cooperation (PESCO) on defence and security, the European Defence Fund (EDF), the European Defence Agency (EDA) and NATO are of the utmost importance in this respect.

Hence, the Belgian Defence will closely monitor the EU's and NATO's recommendations for technological research as well as capability development, and will do its utmost to facilitate and support early participation by the Belgian industry and research community in multinational partnerships.

In addition to proportionate burden sharing, this should help ensure that we are entitled to claim a share of the benefits yielded by multinational cooperation. Participation in identifying needs from the beginning not only allows technological choices to be influenced with a view to maximum interoperability and economies of scale, but also provides the Belgian technological and industrial fabric with the opportunity to position itself as soon as possible in the value and supply chains of foreign system developers.

The goal is to ensure that 1) our companies as well as knowledge and research centres can compete for participation in defence-related multinational cooperation programmes at European and trans-Atlantic level, 2) they can make a high-quality contribution in terms of knowledge management and expertise as well as research and development, and 3) they can participate in producing, operationalising and supporting future defence capabilities.

In addition, the Belgian Defence will define the levels of national autonomy in specific domains as regards knowledge management and research, development, production and support, in order to take on its national responsibilities, ensure its freedom of action or enhance its adaptability.

⁶ Technology Building Blocks (<https://eda.europa.eu/docs/default-source/posters/28---osra-technology-building-blocks.pdf>).

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By increasing our national autonomy, we strengthen our position in bi- or multinational partnerships, create mutual dependence between participants, and protect our national interests.

In order to achieve this result, a differentiated and impact-oriented

accompanying policy is needed throughout the entire research and development trajectory, ranging from scientific and technological research, development to production, implementation and in-service support. Such a policy is especially necessary in those areas:

- that are essential for capability development of the Belgian defence and security policy in the medium and long term;
- whose future relevance to Belgium's and our European and trans-Atlantic partners' security and defence has been postulated;
- that can contribute to developing and strengthening the Belgian DTIB in a broad sense, in the context of European and trans-Atlantic capability needs in the long term.

To be successful and to generate significant impact, the accompanying policy will include specific policy measures that will focus on the following aspects: informing the stakeholders, facilitating and supporting the partnership between public authorities, companies, knowledge and educational institutions as well as research centres, optimally managing the planned policy measures and allocated budgetary resources, as well as protecting and anchoring the resulting economic and social return in the form of knowledge, technology and employment.

The responsibility for taking contributory policy measures lies with the various competent authorities at federal, regional and community level.

Developing and implementing a full-fledged DIRS with a specific accompanying policy therefore requires optimal interaction and collaboration between the different authorities to allow for efficient and effective support of scientific and technological potential.

GOVERNANCE

For the DIRS and the accompanying policy to be monitored and periodically adjusted as effectively as possible, a three-tiered governance structure is put in place:

- a DIRS steering committee;
- a number of advisory committees;
- a DIRS management unit.

The DIRS steering committee

The DIRS steering committee is comprised of representatives from the FPS Economy and the Belgian Defence:

- Defence
 - Head of Cabinet;
 - Vice-Chief of Defence;
 - Director-General Material Resources – National Armaments Director;
 - Assistant Chief of Staff for Strategic Affairs;
 - Director-General of the Royal Higher Institute for Defence.
- Economy
 - Head of Cabinet;
 - Director-General of the Directorate-General Economic Analyses and International Economy (DG EA&IE).

The DIRS steering committee meets regularly, either in a plenary session or in an ad hoc meeting, depending on the agenda items. It will collectively provide the necessary guidance within each member's respective area of responsibility and may, in collaboration with the Defence Industry Council⁷, also formulate policy recommendations to the authorities concerning:

- the definition of the Belgian security and defence interests and related Key Enabling Technological

⁷ The Defence Industry Council will be chaired by representatives of the Ministers of Defence and Economy and will be composed of representatives of the Ministers of Finance, Sustainable Development, SMEs and Foreign Trade and of the State Secretary for Recovery and Strategic Investments, with top industry experts, science, defence and international law, together with representatives of the FHIC (SFPI-FPIM), will advise the government in strategic guidance of the increased defence effort, so that defence expenditure leads to a strengthening of the technological and industrial base in Belgium.

Applications (KETA)⁸;

- the implementation and/or adjustment of the DIRS strategic objectives;
- the evolution of priority domains and corresponding levels of ambition;
- the development and/or update of the accompanying policy that is necessary for achieving the predetermined objectives.

The DIRS steering committee will be established after the signing of the DIRS memorandum of understanding between the Minister of Defence and the Minister of Economy.

The advisory committees

The DIRS management unit sets up a number of technical advisory committees, composed according to the application areas or the policy measures for which they are requested to formulate recommendations. Besides experts of the Defence departments concerned (capacity managers, materiel managers, domain managers, etc.), representatives of industrial, academic and technology stakeholders that are relevant in the concerned domains may be invited to participate.

The technical committees are organised along the following lines:

- domain clusters organised either vertically around certain capability objectives or horizontally around specific cross-application know-how and technology;
- specific policy measures.

In addition to the technical committees, a specific advisory committee will be dedicated to monitoring and adjusting the strategy. Through the DIRS management unit, this governance advisory committee will assist the DIRS steering committee in shaping and formulating policy recommendations to the authorities. Besides the Defence representatives (e.g. NAD, DGMR, RHID delegates), representatives of industrial, academic and technology players that may be relevant for governance matters may be invited to participate.

Those responsible for the respective policy measures may draw on the committees' expertise through the DIRS management unit to support the development and implementation of their measures.

Annex A provides an overview of the technical committees.

The DIRS management unit

The DIRS management unit is the driving force behind the entire governance system and vouches for a dynamic and effective functioning. The DIRS management unit has a permanent character and is

⁸ <https://economie.fgov.be/sites/default/files/Files/Entreprises/Belgische-belangen-Defensie-en-veiligheidsbeleid.pdf>

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comprised of staff having the requisite knowledge, competences and experience in the field of project and budget management, defence-related research and development, and provision of capability support as part of the Belgian and European security and defence policy. They should also have an understanding of our country's technical and industrial fabric and of the FPS Economy's policy as well as be familiar with the interfederal division of competences in the area of economics, scientific research, innovation and education.

The DIRS management unit comes under the Royal Higher Institute for Defence (RHID) and falls as such under the supervision of the RHID's Board of Directors. The DIRS management unit will, in due course, report to the Board of Directors on the progress in the DIRS' development and operationalisation.

The DIRS management unit reports to the DIRS steering committee in order for the latter to provide the necessary guidance within each member's respective sphere of competence.

The DIRS management unit's mission is to:

- organise and support the overall functioning of the governance system in accordance with the DIRS steering committee guidelines;
- facilitate the establishment and composition of the committees and support their meetings – including those of the steering committee;
- ensure the exchange of information between committees wherever appropriate or necessary;
- oversee the further development of the accompanying policy in support of the DIRS. To this end, the DIRS management unit will proactively develop the necessary contacts with the other authorities at federal, regional or community level;
- develop initiatives and proposals that may contribute to achieving the DIRS strategic objectives and, together with one or several representatives of the advisory committee concerned, present them to the DIRS steering committee;
- implement an effective portfolio management in which resources are allocated systematically. This portfolio management aims to coordinate support at project level among different projects and seeks to enable the development of coherent value chains in well-thought-out domains;
- keep an overview of all the initiatives that may contribute to strengthening the Belgian technological and industrial fabric in the field of defence and security. It acts as a smart hub and aims to strengthen the Belgian technological and industrial fabric in the field of defence and security as well as ties between the authorities, academia and the industry;
- keep an overview of the planning and the use of allocated resources and develop proposals for optimum use of resources available;
- keep an overview of all activities that may contribute to generating economic and social return in

the form of knowledge, technology and employment.

DOMAINS

The domains to be prioritised will be determined on the basis of an iterative prioritisation process summarising the recommendations drawn up from the following perspectives:

- the capability needs of the Belgian security and defence policy;
- the EU's and NATO's priorities regarding defence-related technological research identified on the basis of technology forecasting processes and the focus areas covered by the Belgian Defence R&T policy;
- the technological and industrial potential of defence-related research and development for the Belgian DTIB.

The prioritisation process will rely on constructive input of the stakeholders concerned, especially when identifying several major industrial players that may act as a driving force for start-ups, SMEs and research centres that may make a relevant contribution to the planned research and development projects or may be used to create an ecosystem.

The choices and levels of ambition resulting from the prioritisation process must be reviewed on an appropriate basis, especially when significant evolutions have been detected from one of the predetermined perspectives.

In order to easily establish a link with research and development activities carried out at European level, the prioritisation process will use, amongst others, the Technology Building Blocks and the corresponding roadmaps drawn up within the framework of the European Defence Agency (EDA) Overarching Strategic Research Agenda (OSRA) and Key Strategic Activities (KSA).

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----- ANNEX A – Technical committees -----

Vertical axis

- Maritime mine countermeasures technologies;
- Next generation combat aircraft technologies;
- Advanced military health and human performance;
- Advanced soldier system;
- Ammunition systems/effectors and integration;
- Unmanned intelligent systems;
- Space-related applications.

Horizontal axis

- Defence-related cyber;
 - In-service support and life cycle services;
 - Smart and advanced structures and materials;
 - Energy and environment;
 - Information processing & data management, communications & embedded intelligent systems;
 - Emerging and disruptive technologies;
 - Underpinning technologies;
 - Skills and competences.
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----- ANNEX B – Priority domains -----

- Cross-cutting cyber defence for land, maritime, air and space, with a view to building the desired national autonomy in military cyber capabilities and progressive development of a robust civilian-military cyber ecosystem of excellence;
 - Increased autonomy and robotics in a maritime environment, with a view to application in the field of mine countermeasures and building a mine countermeasures ecosystem of excellence.
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