

Austrian Strategy for EU Defence Research

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Foreword



The European Union has launched for the implementation of the EU Global Strategy (EUGS) 2016 various initiatives and measures to strengthen defence- and security policy. These include the Permanent Structured Cooperation (PESCO), the Coordinated

Annual Review on Defence (CARD) and the European Defence Fund. Thereby a lasting paradigm shift has been executed, to ensure a “Europe that protects” and to support the potential of a European Defence Technological and Industrial Base. The present Austrian Strategy for EU Defence Research constitutes an integral precondition for the national preparation for a common European approach in the field of defence research and development.

According to the proposal of the European Commission, the frame of the next Multiannual Financial Framework (MFF) for the period of 2021 – 2027 includes the European Defence Fund with a budget of EUR 4.1bn for research and EUR 8.9bn for development measures. Complementing this are the Calls of the two preparation programmes, the Preparatory Action on Defence Research (PADR) and the European Defence Industrial Development Programme (EDIDP), which launched in 2017 and are designed to provide lessons learned for a frictionless shift to the full programme post-2021.

For Austria the European Defence Fund presents considerable potential in many sectors and creates the suitable preconditions for a successful participation of Austrian stakeholders in future calls. Specifically the Fund's focus on small- and medium sizes enterprises (SMEs) are of particular interest, as Austria has more

than 100 SMEs with relevance for the defence sector that directly employ 11,000 individuals. The promotion of domestic fields of strength enables public consumers, such as the Austrian Armed Forces, to act in a leading role within Europe by building-up on domestic expertise. Based on the excellence of the Austrian research sector and industry, the Austrian Armed Forces can counter new challenges domestically and abroad, and meet the demands of hybrid threats, cybersecurity and counterterrorism.

The present national strategy takes account of these broad demands and thereby serves the goals of security-, technology-, and economic-policy. The foresighted initiative, which enabled this strategy under lead of the Austrian MoD in an inter-ministerial frame, deserves special thanks. With the Ministerial Council Decision of 22nd August 2018 there also exists a clear commitment on the political level to continue the chosen way and to implement the contents of the strategy swiftly and effectively.

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Federal Minister for National Defence

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1. Preamble

The present „Austrian Strategy for EU Defence Research“ was drawn up on behalf of the Austrian Federal Ministry for Defence in the frame of a one year long development process under lead of JOANNEUM RESEARCH Forschungsgesellschaft mbH and eutema GmbH, with assistance from the Federal Chancellery (BKA), the Federal Ministry of Transport, Innovation and Technology (BMVIT), the Federal Ministry of Digital and Economic Affairs (BMDW), the Federal Ministry of Education, Science and Research (BMBWF), the Federal Ministry of Europe and Foreign Affairs (BMEIA), the Federal Ministry of Finance (BMF), the Federal Ministry of the Interior (BMI), as well as the Austrian Chamber of Commerce (WKO), the Federation of Austrian Industries (IV) and the Austrian Research Promotion Agency (FFG).

This initiative was taken due to various decisions and measures taken by the European Union (EU) to foster the Common Security and Defence Policy (CSDP), which through the European Defence Fund for the first time allocates funding from the EU budget for the whole defence sector, stretching from the area of research to the development of products. This overarching approach with a magnitude of EUR 13bn, according to the European Commission (EC) proposal from 02 05 2018 for the EDF in the Multiannual Financial Framework (MFF) 2021 – 2027, has significant potential for Austria. The present national strategy meets these demands, serves security-, technology- and economic-policy goals and creates the proper conditions for the successful participation of Austrian stakeholders in future calls in the framework of the EDF.

Austrian Strategy for EU Defence Research

2. Initial Situation

The European Council acknowledged in its conclusions from December 2013 on the Common Security and Defence Policy (CSDP) the need for a more integrated, sustainable, innovative, and competitive European Defence Technological and Industrial Base (EDTIB), and laid thereby the foundation for a stronger engagement of the European Union in the area of defence research. In 2016 the European Commission's EU Global Strategy (EUGS) and the European Defence Action Plan (EDAP) both provided further groundwork that emphasizes the contribution of Research and Technology (R&T) to strengthen the EDTIB, and define it as an essential precondition for safeguarding the European community of values.

The EDAP¹, including the "European Defence Fund" (EDF), outlines specific measures within a new structural framework for that purpose. The EDF constitutes the centrepiece, with a "research window", which covers the field of EU defence research, complemented by a "capability development window", including the European Defence Industrial Development Programme (EDIDP). This "capability development window" shall enable the direct transfer of results from research to product development. Therefore for the first time EU funds are earmarked for defence research, as well as for better cooperation of Member States and industry in developing and acquiring technologies with defence relevance.

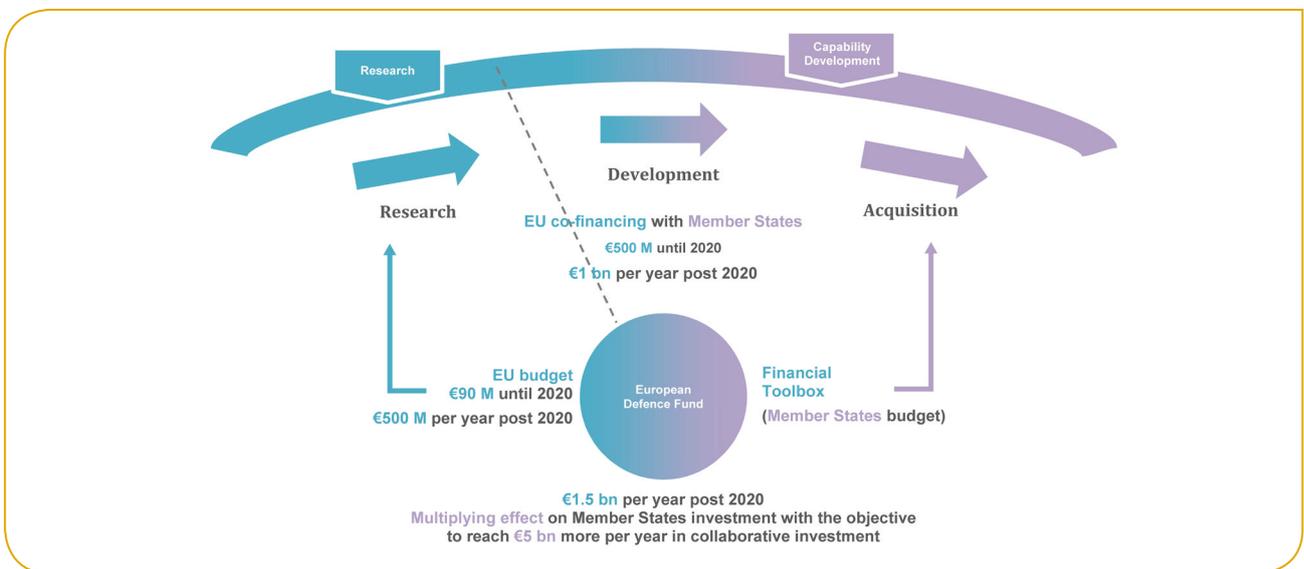


Figure 1: The European Defence Fund, Source: European Commission, COM/2017/0295 final

¹Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: European Defence Action Plan, COM/2016/0950 final, Brussels, 30.11.2016.

The “research window” covers the future “European Defence Research Programme (EDRP)”, for which the European Commission has proposed EUR 500m per year within the next Multiannual Financial Framework (MFF 2021 - 2027). As kick-off, the “Preparatory Action on Defence Research (PADR)” was initiated in 2017, for which a sum of EUR 90m is available till 2019. In comparison, in a first step the “capability development window” could cover EUR 500m for the years 2019 and 2020, as well as EUR 1bn annually for the purpose of co-financing capability development projects after 2021. It is planned that this co-financing shall trigger EUR 5bn of additional investments per year. In addition to the EDF², the EDAP proposes measures to ease the creation of cross-border supply chains, to foster the domestic market for defence products, as well as to utilize synergies between civilian and military initiatives, and instruments, in order to stimulate “dual-use” research. To that matter the European Commission has already opened, or is starting to open, EU financial instruments for the defence sector, such as the European Structural and Investment Funds (ESIF), the EU Programme for the Competitiveness of Small and Medium-Sized Enterprises (COSME) and the European Social Fund (ESF). Beyond that, the European Investment Bank has signed a cooperation agreement with the European Defence Agency (EDA).

Hence for the first time, the whole range from research, to development, and acquisition, will be covered on behalf of the EU with considerable funding and financial instruments of the EC. This integrated approach in a significant dimension offers exceptional potential for the EU, the Member States, and all involved stakeholders from science and industry.

In the 2nd half of 2018 a separate defence research programme “FORTE” is launched on the national level. With it on the one hand adequate capabilities for new threats shall be developed, and on the other hand Austrian players shall be prepared for the EDRP through expanding national research- and innovation-competence. So far defence research is not integrated in the national RTI strategy and therefore, to meet the EU initiative outlined above, adaptations are necessary.

Considering the window of opportunity that has opened, the formulation of a strategy for positioning Austria within European defence research is reasonable and necessary. In the frame of a national approach it is crucial to define how Austria will handle the EU initiative, and how the resulting potentials can be utilized in the most optimized way. Such a strategy shall ensure that a substantial return can be earned from EU funding, that Austrian companies and stakeholders from research can take an advantageous position within the field, and that a contribution for an expansion of the military security of Austria and Europe is achieved.

²Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Launching the European Defence Fund, COM/2017/0295 final, Brussels, 07.06.2017.

3. Framework Conditions

The current Austrian government programme³ outlines “the maintenance and strengthening of capabilities of an independent military national defence, according to Art 79 (1) B-VG” (government programme p. 51). The Austrian Armed Forces (AAF) shall be “consequently oriented towards the protection against conventional and non-conventional attacks”. Since only the AAF are authorized for military defence, its domestic and international operational capability (national defence and overseas deployment) has to be ensured. To guarantee this operational capability, specific defence research focusing on military aspects is necessary.

The growing dependence of the Austrian economy and society on technical infrastructure (e.g. IT-systems, energy supply, water) results in new vulnerabilities, which in many areas (e.g. cyber security) are insufficiently researched. Likewise, new technologies (e.g. autonomous and remotely piloted systems, non-conventional explosives, cyber-attacks) result in new threats, such as for military infrastructure. New technologies also create new opportunities for developing capabilities that effectively counter threats and vulnerabilities. In the light of this, distinct expertise in various technology areas is indispensable for security and defence, and cannot be secured without appropriate research and development. Hence the government programme calls for the expansion of coordinated security- and defence research.

New threats and challenges shall be actively countered by research and development, and in synergy with European partners. This will result in considerable shifts in the field of European defence research. With its new national research programme, Austria has created important preconditions for promoting technology retention and capability development on the national level, also in preparation for future EU programmes. These shifts serve the urgently needed strengthening of the Austrian defence economy as an integral part of the EDTIB.

4. Economic Potentials

As the ex-ante evaluation of the EDIDP by the EC shows, the planned investments by the public hand for the area of defence are expected to have a positive impact on the European economy (gross value added, employment, tax revenue) in general. While the general economic multiplier effect of investments in the defence sector are comparable to the education and health sectors⁴, the impact of the defence sector on research and development is specifically considerable. Some studies state that the impact factor is 12 to 20 times higher than by the previously mentioned categories of public expenditure. Thus not only a significant contribution to the competitiveness of the European industry is to be expected, but also to the future economic growth within the EU.⁵ The same correlation is also expected for Austria, with the same estimated positive economic-, innovative- and growth-impacts being triggered by defence spending.

Investments in defence research therefore not only have a considerable macro-economic impact, but also lead to positive technological spill-over effects, of which the defence as well as the civilian sector of the economy gain from. E.g. the volume of technological externalities of the Eurofighter Typhoon programme was estimated to have been at least USD 7.2bn.⁶

In the scope of the Austrian membership in the EU, implicit contributions to the EDF are carried out. If no national efforts are taken to enable Austrian RTI players for a successful participation in this programme, the Austrian financial contribution from a domestic viewpoint represents “sunk costs”. On the opposite, if a backflow in the dimension of the Austrian share of the EU budget of 2.5% is achieved, this would result in an annual funding volume of EUR 12.5m from the EDRP and thus a total backflow potential of EUR 87.5m for Austria in the period 2021 – 2027. For the EDIDP, with an EU wide annual funding volume of EUR 1bn, under the same assumptions a total backflow potential of EUR 175m is estimated for the period 2021 – 2027.

³Together. For Austria. Government Programme 2017-2022.

⁴Commission Staff, Ex-ante Evaluation Accompanying the document Proposal for a Regulation of the European Parliament and of the Council establishing the European Defence Industrial Development Programme aiming at supporting the competitiveness and innovative capacity of the EU defence industry, SWD/2017/0228 final - 2017/0125 (COD), Brussels, 07.06.2017

⁵Europe Economics, The economic case for investing in Europe's defence industry, London, 2013.

⁶Hartley, K., The industrial and economic benefits of Eurofighter Typhoon, University of York, York, 2008.

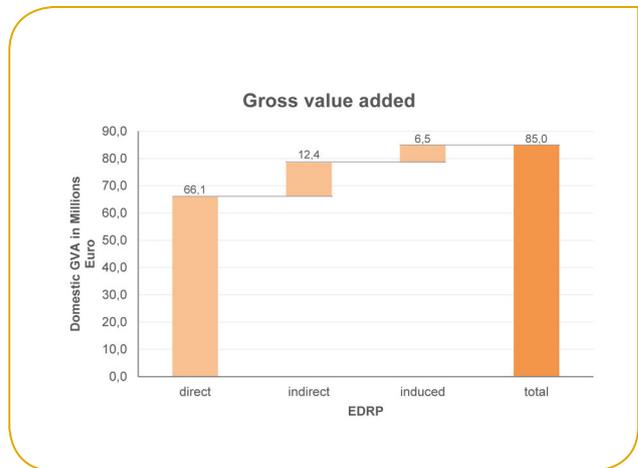
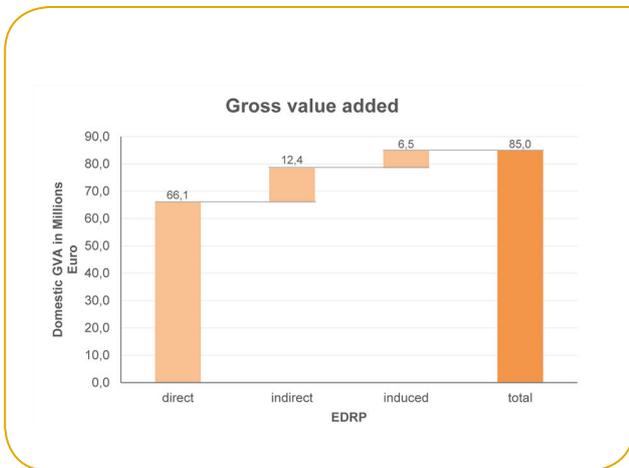


Figure 2: Estimated Gross Value Added induced by the EDRP and EDIDP in Austria

5. Strength Fields in Research and Technology

With the satellite account defence, the impact on added value triggered by these financial backflows can be determined for Austria. The result for the EDRP is an expected total impact on gross value added of EUR 85m, and of EUR 155.4m for the EDIDP. In the case that even a backflow quota of 2.8% is achieved, comparable to Austria's in the programme Horizon 2020, this would result in a total backflow potential of EDRP funds of EUR 98M and EUR 196m of the EDIDP. Hence the expected domestic added value would increase to EUR 95.1m (EDRP) and EUR 174m (EDIDP).

In the core area of defence technology in Austria more than 100 small and medium sized enterprises with an annual turnover of EUR 2.5bn can be identified, which represent more than 11,000 direct and 20,000 indirect employees. This core is complemented by numerous start-ups that offer products and services with relevance for defence technologies.

The field of research is so far characterized by single players from technical universities, colleges and cooperative research institutes.

Though the Austrian landscape of players in the field of defence research displays a high level of fragmentation, strengths in specific technology fields can be identified. The following table gives an

overview of such strengths on the basis of the technological areas of expertise of the Austrian defence research and –industry.

	Field of Expertise	Examples for key technologies and applications
1	Communication, Information Systems and Networks	Mobile, secure and robust broad band communication, service-orientated architectures and management of heterogenic information, as well as “big data” utilization
2	Radiofrequency and Sensor Technology	Sensor based and electronic battle management systems, signal processing, signal control and reduction
3	CBRN (chemical, biological, radiological and nuclear), Protection against Non-Conventional Explosive Devices (counter-improvised explosive device – C-IED), and Robotics	Technologies for detection, identification and surveillance as well as threat and risk management, including decontamination and CBRN-modelling, simulation and counter-measures; unmanned air and ground vehicles (UAV, UGV)
4	Land Systems	Ground platforms as well as other battlefield topics, such as mobility and counter-mobility; integrated, reconfigurable and improvable platforms and mission systems
5	Optoelectronics	Sensor based and electronic battle management systems with electro-optical technology, CBRN real-time identification, laser-radar-technologies (active imaging), electro-optical counter-measures, hyperspectral and multispectral image acquisition and –modification
6	Munitions- and Weapon Technology	Efficient energetic materials, prognosis modelling for new munitions and weapon designs, modelling of detonation and explosive effects, systems for munition and missiles
7	Component and Supply Chains	Micro- / Nano-electronic circuits, system on a chip, mixed signal circuits and other transverse technologies
8	Flight Systems	Weather independent capabilities, precision, flight distance and speed; flight simulation systems
9	Soldier Systems	Weight reduction of equipment, as well as technological innovations in monitoring, protective clothing and survival capability; power supply

These strengths also stand out since there are, in parallel to internationally active enterprises, renowned research institutes with which a close, year-long partnership exists. Austria possesses internationally outstanding companies with technological leadership in niche-fields. Often these are, apart from large industrial firms, specifically small- and medium-sized enterprises, which are successful with unique solutions.

6. Overall Assessment and Challenges

The **strengths** of Austria include the achievements of Austrian companies in the defence sector in specific expandable technology fields. Austrian companies have a high level of organisation and networking within Austria. In the past, Austria displayed outstanding participation and high rates of success in the EU framework programme, namely also in technical fields (e.g. ICT). Excellent RTI-support structures (e.g. FFG, AWS) are available, although they do not cover the defence area yet. Additionally there is available groundwork and experiences in the field of security research, and therefore also a high level of cooperation and coordination by relevant stakeholders (MoD, BMI, BMVIT, security organizations, research promotion, WKO, etc.).

Austria also has clear **weaknesses**. In the last decades the defence domain was poorly funded and there were no noteworthy governmental research- and development programmes for this sector. Furthermore the predominant approach in Austria was the acquisition of complete systems. Ultimately this led to the disappearance of former system integrators and many Austrian companies are now dependent on foreign supply chains. The remaining integrators, as well as suppliers, suffer from the lack of adequate programmes for innovation promotion and have a considerable competitive disadvantage towards other European competitors. RTI-players beyond companies have in the meanwhile often a content-wise and thematic distance to the defence domain – respective structures as well as awareness by the expert audience are almost absent. Innovations, specifically those that would arise from international cooperation, are further complicated by that. Individual RTI-players display high restraint when it comes to defence topics. Hence respective structures and a broad awareness of the topic are missing. Although strategies, programmes and structures exist in the security field, these do not

cover the whole defence domain. The topic represents uncharted territory and therefore institutional- and department-overarching awareness still has to be developed.

The **chances** include, aside from new financial means on the EU and national level, first of all the increased public sensitization for matters of security policy, due to the continuously worsening security environment, and the challenge of refugees and migration in recent years. Therefore a potential exists that so far reluctant RTI-players can be won over for defence research. Austria has in general excellent technological research expertise at its disposal, which in specific areas is also internationally competitive. To utilize these, it is reasonable to adopt existing structures and experiences from related technology programmes on the EU level and in Austria for EU defence research. The planned Austrian defence research programme “FORTE” is designed to add to the build-up of competences in Austria, and offers the potential for synergies and complementarity on the EU level.

The biggest **challenge** that remains is to not miss out on the available chances, since a late catch-up race in this domain is hardly, or only with a high effort, feasible. There is also a threat that other European players are able to adapt faster or better to the new EU activities, which could complicate the participation of Austrian players in a potential thematic leadership role in the programmes, and integration in the respective consortia.

7. Vision and Goals

A national strategy on EU defence research should in its core define existing strengths, weaknesses, potentials, and challenges, and serve the goals of security policy; with the active participation of Austria in EU defence research, technological competences will be built-up and enhanced that take account of contemporary challenges, existing capability gaps, as well as new conflict- and threat-scenarios, and also contribute to the creation of necessary military capabilities in Austria as well as the EU.

Beyond that the strategy shall support the goals of economic and technological policy and enable the proper conditions for a successful participation of Austrian companies and research institutes in future calls of the European Defence Fund.

7.1 Austrian Vision on EU Defence Research

Austria takes an active role in setting-up EU defence research, and thereby adds to the reinforcement of security and defence in the EU as well as Austria, and also utilizes the opportunity to strengthen Austria as business and technology location. With the participation considerable innovation and growth potentials are accessed. This also constitutes a contribution to achieving the EU's new level of ambition in the area of security and defence, and to strengthen the strategic autonomy of the EU. Thereby the EU Global Strategy (EUGS) is supported in three areas: (a) Reaction to external conflicts and crises, (b) build-up of partner capacities, and (c) protection of the Union and its citizens.

Austria utilizes the new opportunities that are created in the framework of the European Defence Fund at its best. To that end the Austrian Federal Government has to create the respective framework conditions. Austrian companies and research institutes are in the position for being strong and appreciated partners in European projects on defence research, utilize the available funds for research, development and acquisition to its maximum, and thereby contribute to European security as well as to the economic and technological strengthening and independence of Austria. The Austrian Armed Forces are a competent and appreciated user and partner in national as well as international projects on defence research.

The achievement of this vision requires a coordinated approach of ministries, research institutes, associations and companies.

7.2 Goals

The successful realization of this vision depends on the achievement of the following goals:

- Development of a RTI-policy that is goal-oriented and capable of operating in the field of defence research and -development; integration in the national RTI-policy, for interest representation as well as for optimized utilization and active policy development
- Empowerment and support of RTI-players (companies and research institutes) for the successful participation in EU programmes

To achieve these goals the following measures in various fields of action are essential.

8. Fields of Action and Measures

The development of an applicable RTI-policy depends on a systematic interconnection with the European level and on securing a sufficient information basis, thus to ensure a goal-oriented RTI-policy in the defence sector. Due the national scope it is necessary that the network within Austria is improved and that given structures are optimally utilized. This concerns all players of the innovation system, such as research, politics, and business.

One of the most important guidelines for a successful strategy is the focus on strengths. For this reason identification and enhancement of existing strengths in research and technology sectors are an important element of the strategy. The quality of research and technology constitutes an important factor for the international compatibility of research and technology cooperation. In addition, the access to and active participation in networks are particularly important factors. This has been displayed in existing participations in European collective research.

In the business domain it is necessary to employ a strategic approach and optimal networking with the proper partners to prepare for the new potentials of EU defence research, the accompanying industrial development programme, and the opportunities in the field of acquisition and economic implementation. Although the industry has respective structures for the most part, they are to be further developed and prepared for the utilization towards improving networks in Austria and Europe. In the area of research institutes it is important to improve the addressed networking as well, but also to minimize existing barriers. Already active individual research institutes can act as role models or "hubs" for so far less active institutions.

It will be specifically important to recruit a pool of available experts in the field of defence research and development that is able provide high quality representation of Austrian interests in committees, in the formulation of strategies and positions, and for the evaluation and further development of the sector. This also includes experts for the evaluation of project proposals, who as important providers of information have a high relevance for successful project participations.

Timely information for Austrian participants and the safeguarding of Austrian interests are furthered in coordination with ministries and support facilities, as well as other RTI-players. The lessons learned from other European programmes show that a swift information flow towards potential participants is particularly important. This information flow has to be supported in both directions though, therefore as well by programme participants towards support facilities and programme committees as in reverse. For this purpose also informal low-level contacts (EU, support facilities, RTI-players) are important.

Additionally, an essential success factor is sufficient knowledge of submission- and implementation-procedures and thus the experience as a referee in the relevant programmes.

In the field of project financing, if need be it is important to ensure adequate co-financing by the public hand, particularly through the improved utilization of national research promotion funds and other national financing instruments. Especially for the utilization of opportunities in the EDIDP regarding the further development of results from research projects, co-financing is required. No additional funds are presumed though.

Finally there is the demand for a consistent, adequate, and by government and industry sustained communication policy, which communicates the need for a stronger Austrian commitment in this field, in order to ensure broad public support.

8.1 Structural Formation and Networking in Austria

- Integration of the topic of (EU) defence research in all relevant policy formulating and advising committees, including an adequate representation of the thematically responsible ministry, as well as integration in the RTI-strategy post 2020
- Integration of the topic of (EU) defence research in all (relevant) national RTI-communication platforms (e.g. ERA Portal Austria and others)
- Integration of defence research in the regular domestic coverage of research and technology policies
- Targeted outreach and support of stakeholders in EU defence research, among else with info events, workshops, and consulting

- Support of Austrian companies and research institutions for identification, preparation, and partner search for defence research projects, by RTI-experts with experience in the field of European programmes (through optimized utilization of existing or targeted build-up of adequate structures)
- Communication of programme goals, state of participation, and support for networking of national and European players in the frame of regular events (e.g. Innovation Summit, Technology Symposium Alpbach, ... and others)
- Creation of thematic clusters in Austrian areas of strength with the participation of companies and research institutes analogous to EDA platforms (e.g. CapTech)
- Establishment of an inter-ministerial platform, including additional relevant stakeholders, for continuous collaboration and cooperation, also in respect of the representation towards EU bodies
- Expansion of internal professional expertise in the field of defence research in the MoD / AAF and other relevant ministries

8.2 Communication and Interconnection with the EU Level

- Competent representation of Austrian interests in all relevant EU committees, including in the programme committee of the EDRP and the EDIDP, as well as timely definition of the national position and continuous coordination between the two areas
- Ensuring informal information flows and processes, as well as optimized coordination of Austrian representatives in networks and EU / international committees
- Networking with thematically similarly oriented member states for securing an aligned approach and timely coordination
- Expansion of the network in Brussels, and optimization of coordination and collaboration of ministry- and industry-representatives on site and, in case of the set-up of a liaison office for research in Brussels, also for the field of defence research
- Expansion of the national expert base, e.g. for the staffing of relevant committees (such as EDA CapTechs), with Austrian ministry-, industry- and research-representatives
- Set-up of a pool of evaluation-experts on the project level (on national as well as EU level)
- Establishment and maintenance of contacts with military system integrators within the EU, regarding the exchange

between them and Austrian players from industry and research, for exploring joint project submission

- Targeted preparation and support of SMEs for the participation in the research and development programmes PADR and EDIDP (2019/2020), for an optimized groundwork for future programmes with relevance to defence research and development after 2021 (build-up of technical expertise, learning experience for consortia formation and project development, networking of relevant players, ...)
- Integration of relevant Austrian players in the European defence cluster network (European Network of Defence-related Regions – ENDR)

8.3 Creation of adequate framework conditions in Austria

- Efficient utilization of existing national instruments for the support of defence research and development projects in Austria
- Ensuring the co-financing of projects in the area of EU defence research from finance institutes in Austria, both from publicly supported and private finance institutes
- Ensuring the readiness of the MoD / AFF for a contribution to EU defence research projects
- Build-up and ensuring of technology monitoring as a basis for future contributions to the programme development
- Optimized utilization of additional relevant EU financing instruments (e.g. ESIF, ERDF, COSME) for projects in defence research and development
- Overarching approach for addressing EDRP and EDIDP on the national level, for the coordination of inputs for the respective programme committees, under consideration of related fields

8.4 Thematic positioning of Austria

- Clear identification of Austrian fields of strength in industry and research, and reinforcement of them with national policies
- Identification and build-up / expansion of national technology clusters analogous to the EDA CapTech structure in close coordination with the Austrian Chamber of Commerce and with

the inclusion of all relevant players from industry, science and research, as well as from the respective divisions in the defence ministry and if applicable from other ministries

- Support for the strategy development of stakeholders, and improvement of liaising (therefore visibility and interaction, networking) with the European and international environment
- Targeted alignment of national and European defence research (complementarity, preparation of topics and stakeholders, ...)

8.5 Accompanying measures

- Active communication policies for information about the topic with a user-friendly internet representation, events, publications and other media outreach
- Installation of an impact-oriented programme-monitoring with brief report cycles
- Ensuring measures and adequate accompanying research in foresight analysis for the preparation of a strategic approach
- Ensuring the optimal utilization of project results in Austria (know-how transfer to MoD, further development / exploitation of results for follow-up activities – development, acquisition, exploitation by industry, synergies with related sectors, ...)
- Close, structural collaboration with relevant players on the national level for the identification of thematic synergies, avoidance of duplication, and the optimized utilization of existing funding possibilities

9. Implementation of the Strategy – Roadmap

For the implementation of the strategy the subsequent, scheduled steps for the individual fields of actions exist until 2021.

Action Field	Measure	Implementation	2018	2019	2020	2021
1. Structural Formation and Networking in Austria	1.1 Integration of the topic (EU) defence research in the relevant policy formulating and advising committees, as well as integration in the RTI-strategy post 2020	Lead: RTI Task Force (BKA, BMF, BMBWF, BMDW, BMVIT)	•	•	•	•
	1.2 Integration of the topic (EU) defence research in all (relevant) national RTI-communication platforms (e.g. ERA Portal Austria and others)	Lead: BMBWF Contribution: BMLV	•	•	•	•
	1.3 Integration of defence research in the regular national reporting on research and technology policies	Lead: BMBFW, BMVIT, BMDW Contribution: BMLV	•	•	•	•
	1.4 Targeted outreach to and support of stakeholders in EU defence research, among else with info events, workshops, and consulting	BMLV, FFG, WKO, IV	•	•	•	•
	1.5 Support of Austrian companies and research institutions for identification, preparation, and partner search for defence research projects, by RTI-experts with experience in the field of European programmes (through optimized utilization of existing or targeted build-up of adequate structures)	BMLV, BMVIT, BMBFW, BMDW, FFG, WKO, IV	•	•	•	•
	1.6 Communication of programme goals, state of participation and support for networking of national and European players in the frame of regular events (e.g. Innovation Summit, Technology Symposium Alpbach, etc.)	BMLV, BMVIT, BMBFW, BMDW, FFG, WKO, IV			•	•
	1.7 Creation of thematic clusters in Austrian areas of strength with the participation of companies and research institutes analogous to EDA platforms (e.g. CapTech)	Lead: BMLV Contribution: BMDW, BMVIT, WKO, IV, FFG	•	•	•	•
	1.8 Establishment of an inter-ministerial platform, including additional relevant stakeholders, for continuous collaboration and cooperation, also in respect of the representation towards EU bodies	Lead: BMLV Contribution: BMVIT, BMDW, BMBWF, BMEIA	•	•	•	•

Action Field	Measure	Implementation	2018	2019	2020	2021
	1.9 Expansion of internal professional expertise in the field of defence research in the MoD / AAF and other relevant ministries	Lead: BMLV Contribution: BMVIT, BMDW, BMEIA, BMF	•	•	•	•
2. Communication and Inter-connection with the EU level	2.1 Competent representation of Austrian interests in all relevant EU committees, including in the programme committee of the EDRP and the EDIDP, as well as timely definition of the national position and continuous coordination between to two areas	Lead: BMLV Contribution: BMVIT, BMDW, BMBWF, BMEIA	•	•	•	•
	2.2 Ensuring informal information flows and processes as well as optimized coordination of Austrian representatives in networks and EU / international committees	Lead: BMLV Contribution: BMVIT, BMDW, BMBWF, BMEIA	•	•	•	•
	2.3 Networking with thematically similarly oriented member states for securing an aligned approach and timely coordination	Lead: BMLV	•	•	•	•
	2.4 Expansion of the network in Brussels, and optimization of coordination and collaboration of ministry- and industry-representatives on site and, in case of the set-up of a liaison office for research in Brussels, also for the field of defence research	BMLV, BMVIT, BMDW, BMBWF, BMEIA	•	•	•	•
	2.5 Expansion of the national expert base, e.g. for the staffing of relevant committees (such as EDA CapTechs), with Austrian ministry-, industry- and research-representatives	Lead: BMLV Contribution: research institutes, FFG, WKO, IV			•	•
	2.6 Set-up of a pool of evaluation-experts on the project level (on national as well as EU level)	Lead: BMLV Contribution: FFG		•	•	•
	2.7 Establishment and maintenance of contacts with military system integrators within the EU, regarding the exchange between them and Austrian players from industry and research for exploring joint project submission	Lead: BMLV Contribution: FFG, WKO, IV		•	•	•

Action Field	Measure	Implementation	2018	2019	2020	2021
	2.8 Targeted preparation and support of SMEs for the participation in the research and development programmes PADR and EDIDP (2019/2020), for an optimized preparation for future programmes with relevance for defence research and development after 2021 (build-up of technical expertise, learning experience for consortia formation and project development, networking of relevant players, ...)	BMLV, FFG, WKO, IV	•	•	•	•
	2.9 Integration of relevant Austrian players in the European Network of Defence-related Regions (ENDR)	Lead: BMLV Contribution: BMDW, BMVIT, BMDW, WKO, IV		•	•	•
3. Creation of adequate framework conditions in Austria	3.1 Efficient utilization of existing national instruments for the support of defence research and development projects in Austria	Lead: BMLV Contribution: BMF, BMVIT, BMDW, BKA	•	•	•	•
	3.2 Ensuring the co-financing of projects in the area of EU defence research from finance institutes in Austria, both from publicly supported and private finance institutes	BMF, BMVIT, BMDW, BMLV, BKA	•	•	•	•
	3.3 Ensuring the readiness of the MoD / AAF for a contribution to EU defence research projects	Lead: BMLV	•	•	•	•
	3.4 Build-up and ensuring technology monitoring as a basis for future contributions to the programme development	Lead: BMLV			•	•
	3.5 Optimized utilization of additional relevant EU financial instruments (e.g. ESIF, ERDF, COSME) for projects in defence research and development	Lead: BMLV Contribution: BMVIT, BMDW, BMBWF, BMF		•	•	•
	3.6 Overarching approach for addressing EDRP and EDIDP on the national level, for the coordination of inputs for the respective programme committees; also under consideration of related fields	Lead: BMLV Contribution: BMVIT, BMDW, BMBWF, BMEIA		•	•	•

Action Field	Measure	Implementation	2018	2019	2020	2021
4. Thematic positioning of Austria	4.1 Clear identification of Austrian fields of strengths in industry and research, and reinforcement of them with national policies	BMLV, BMVIT, BMBFW, BMDW, FFG, WKO, IV	•	•	•	•
	4.2 Identification and build-up / expansion of national technology clusters analogous to the EDA CapTech structure in close coordination with the Austrian Chamber of Commerce and with the inclusion of all relevant players from industry, science and research, as well as from the respective divisions in the MoD and if applicable from other ministries	Lead: BMLV Contribution: WKO, IV, FFG	•	•	•	•
	4.3 Support for the strategy development of stakeholders, and improvement of liaising (therefore visibility and interaction, networking) with the European and international environment	BMLV, BMVIT, BMBFW, BMDW, FFG, WKO, IV		•	•	•
	4.4 Targeted alignment of national and European defence research (complementarity, preparation of topics and stakeholders, ...)	Lead: BMLV Contribution: BMVIT, BMBFW, FFG, WKO, IV	•	•	•	•
5. Accompanying measures	5.1 Active communication policies for information about the topic with a user-friendly internet representation, events, publications and other media outreach	BMLV, BMVIT, BMBFW, BMDW, FFG, WKO, IV	•	•	•	•
	5.2 Installation of an impact-oriented programme-monitoring with brief report cycles	Lead: BMLV Contribution: FFG			•	•
	5.3 Ensuring of measures and adequate accompanying research in foresight analysis, for the preparation of a strategic approach	Lead: BMLV Contribution: FFG			•	•
	5.4 Ensuring the optimized utilization of project results in Austria (know-how transfer to MoD, further development / exploitation of results for follow-up activities – development, acquisition, exploitation by industry, synergies with related sectors, ...)	Lead: BMLV Contribution: BMVIT, BMDW, FFG, WKO, IV		•	•	•
	5.5 Close, structural collaboration with relevant players on the national level for the identification of thematic synergies, avoidance of duplication, and the optimal use of existing funding possibilities	BMLV, BMVIT, BMBFW, BMDW	•	•	•	•

10. Abbreviations

AAF	Austrian Armed Forces	Österreichisches Bundesheer
AWS	Austrian Federal Promotional Bank	Austria Wirtschaftsservice GmbH
BAKA	Federal Chancellery	Bundeskanzleramt
BMBWF	Federal Ministry of Education, Science and Research	Bundesministerium für Bildung, Wissenschaft und Forschung
BMDW	Federal Ministry of Digital and Economic Affairs	Bundesministerium für Digitalisierung und Wirtschaftsstandort
BMEIA	Federal Ministry of Europe, Integration and Foreign Affairs	Bundesministerium für Europa, Integration und Äußeres
BMF	Federal Ministry of Finance	Bundesministerium für Finanzen
BMI	Federal Ministry of the Interior	Bundesministerium für Inneres
BMLV	Federal Ministry of National Defence	Bundesministerium für Landesverteidigung
BMVIT	Federal Ministry of Transport, Innovation and Technology	Bundesministerium für Verkehr, Innovation und Technologie
CapTech	EDA Capability Technology Area	
COSME	EU Programme for the Competitiveness of Small and Medium-Sized Enterprises	
EC	European Commission	
EDA	European Defence Agency	
EDAP	European Defence Action Plan	
EDF	European Defence Fund	
EDIDP	European Defence Industrial Development Programme	

EDRP	European Defence Research Programme	
EDTIB	European Defence Technological and Industrial Base	
ERDF	European Regional Development Fund	
ESIF	European Structural & Investment Funds	
FFG	Austrian Research Promotion Agency	Österreichische Forschungsförderungsgesellschaft
IV	Federation of Austrian Industries	Industriellenvereinigung
MFF	Multiannual Financial Framework	
PADR	Preparatory Action on Defence Research	
RTI	Research, Technology and Innovation	
SME	Small- and Medium-sized Enterprises	
WKO	Austrian Chamber of Commerce	Wirtschaftskammer Österreich

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