



Preparatory Action on Defence Research

**2017 Calls for proposals
and
General Annexes**

(based on European Commission Decision C(2017)2262)

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Introduction

Investment in future-oriented European defence research programmes today is a crucial step to maintain freedom of action and the ability to develop the capabilities that will be required tomorrow. Yet up to now, EU funding could only be used to fund research activities with an exclusive focus to civil applications.

The Preparatory Action on Defence Research (PADR) is a first essential step, limited in time and in budget, to test the added value of the EU budget supporting defence research. It will pave the way to a substantial defence research programme within the context of the next multiannual financial framework post 2020.

The main objective of the PADR is thus to test mechanisms that can prepare, organise and deliver a variety of EU-funded cooperative defence research and technology development (R&T) activities to improve the competitiveness and innovation in the European defence industry and to stimulate cooperation amongst R&T actors in all Member States.

The focus of the PADR is on defence research rather than dual-use research; nevertheless it will be complementary with existing EU programmes such as the Specific Challenge "Secure societies – Protecting freedom and security of Europe and its citizens" under Horizon 2020 as well as R&T activities in the Member States and in the European Defence Agency (EDA).

The core of the PADR is a research programme that will be implemented through annual calls for proposals from 2017 onwards for 3 years¹. The calls are based on annual work programmes defined in close cooperation with Member States and adopted by the Commission. The work programme contains a detailed description of the actions (research projects) that will be funded through the award of grants to consortia after the publication of calls of proposals. While the overall responsibility for the management of the Preparatory Action lies with the Commission, EDA will implement the annual work programmes, organise the calls, evaluate the project proposals submitted and manage the research projects funded.

This document contains the 2017 PADR call texts together with budgetary information and General Annexes with relevant information for applicants and the modalities which EDA will use to evaluate the proposals.

In 2017 there will be three calls for proposals. The main focus of the first call (PADR-US-01-2017) lies on the launch of one project of substantial complexity in the area of enhanced situational awareness in a naval environment.

¹ Commission Decision of 11.4.2017 on the financing of the 'Preparatory action on Defence research' and the use of unit costs for the year 2017, C(2017)2262.

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Within the context of research in technologies and products related to force protection and soldier systems, a second call (PADR-FPSS-01-2017) will result in funding one or more projects.

Thirdly, a call for one coordination and support action (PADR-STF-01-2017) is published to start the strategic technology foresight.

This document contains furthermore a call for tender for independent experts for the evaluation of proposals and monitoring of running projects of the Preparatory Action.

Key websites

All information relating to the present calls for proposals can be accessed from the EDA website: <https://www.eda.europa.eu/procurement-biz/procurement/eda-grants>

Information on the Preparatory Action, is available at the following website:

http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=9124&lang=en

EU Budget 2017 – Section III - Item 02 04 77 03 — Preparatory action on Defence Research:
<http://eur-lex.europa.eu/budget/data/LBL/2017/en/SEC03.pdf>

Call – Unmanned Systems

PADR-US-2017

Unmanned systems have an increasing significance for defence worldwide. Within the context of the Preparatory action on Defence research (PADR), research can be supported on unmanned systems which are applicable to all defence domains (air, land and maritime), which enable enhanced safety, survivability and effect and include stand-alone or swarm operation and interoperability with manned platforms. Where relevant, aspects of self-protection should be addressed.

Proposals are invited against the following topic:

PADR-US-01-2017: Technological demonstrator for enhanced situational awareness in a naval environment

Specific Challenge:

In a defence context, naval forces are engaged permanently, including in various types of conflicts, asymmetric or symmetric. They must control their environment in order to scan, detect and analyse as soon as possible the intentions of other forces and potential threats, in order to retain capacity of initiative, freedom of movement and to achieve the desired end-effect. In this respect, maritime Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR), complemented with neutralisation capacities, is a key capability from a strategic or tactical perspective. The ISTAR chain is a critical enabler to the common Recognized Maritime Picture (RMP), for detection, identification, tracking and target acquisition, as well as for strengthening interoperability.

Remotely Piloted Aircraft Systems (RPAS) and other unmanned systems (UXS, in which "X" can stand for "Aerial", "Surface" or "Underwater") operated alongside other unmanned and manned systems can thereby provide significant added value to enhance such situational awareness. Yet efforts are needed for extending, amongst other parameters, the persistence, range and coverage in particular of UAS.

The integration of data from multiple sources operating in a complementary way, and the quality and capability to exchange data in real (or near real) time is needed to improve the interoperability between manned and unmanned systems within existing, multilateral EU defence systems and infrastructures, and with naval platforms and mission systems.

Scope: Enhanced situational awareness in naval operations critically depends on the quality of (a) the sensor suite and (b) the exploitation/sharing of gathered data. Major potential for substantial improvements and step-up exist in these two domains:

- (a) as far as the sensor suite is concerned, a more extensive integration and use of unmanned systems offering enhanced performances and capacities compared to

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commercially available state-of-the-art assets, and operated in a complementary way with other types of platforms and sensors;

- (b) concerning data exploitation and sharing, potential for improvements are linked in particular to the real time or near real time and secured transfer of data.

This topic calls for proposals that convincingly remove technological obstacles, and combine innovation and integration, in order to demonstrate that situational awareness in a naval environment can be significantly improved.

In this context, technology demonstrations in two types of operational situations should be prioritised:

- Persistent Wide Area Surveillance;
- Maritime Interdiction Operations.

These operations cover the first phases of all naval operations conducted from naval ships or vessels. Although these operations might take on maritime security dimensions, they also need to cover genuine defence specific requirements. Specific maritime ISTAR assets are linked to the environment in which systems or equipment are operated such as:

- Environmental conditions are in particular related to adverse weather, high sea levels, or day and night operations;
- Strong electromagnetic fields (aspects of electromagnetic compatibility (EMC) and interference (EMI)), jamming or rupture of communications;
- Deployment in contested environment implies also stealthy and survivability requirements;
- The type of data to be exchanged requires levels of protection appropriate to defence-classified data. Moreover, for the needs of the missions, real time, or near real time exchange and transfer of data are necessary.

The objective of the technological demonstrator is to mature and bring technologies together, for enhancing situational awareness through unmanned systems working alongside manned systems in various complex and extreme environmental circumstances. On the one hand, the focus shall be on the integration of RPAS or other UXS into naval systems (ship interface & combat management system). On the other hand, considering various types of unmanned systems – e.g. aerial, surface and/or submersible platforms – the focus shall be on the transfer of relevant military data and fusing of this data with complementary data from space platforms or manned systems.

These two work-strands shall be conducted in a consistent manner, with the high level objective to improve situational awareness and provide a comprehensive picture of an operational situation enabling management of own assets, monitoring movement, and detection of threats in a contested environment that requires protective measures for cyber defence, electronic warfare, GPS-denial and platform/payload survivability.

More specifically, proposals should balance R&T efforts in the following two areas:

a) Integration in naval systems of close-to-market new or improved existing platforms demonstrator with improved sensors capacity, persistence and autonomy

Taking into account the necessity of increasing ISTAR in high sea naval operations, the use of RPAS or other UXS as platforms with appropriate payloads that would allow the use of improved sensors is expected to constitute a major asset in future capabilities.

Substantial technological progress is needed to develop RPAS or other UXS solutions which would be operated from navy ships and meet a number of defence specific requirements: payload capacity (several types of sensors, at least 2 major sensors on-board, persistence, endurance and range, autonomy and optimisation of operators work-load, EMC/EMI compatibility, operations (including launch and recovery) at sea from navy ships under extreme conditions, survivability, etc.

To achieve the desirable (and affordable) compromise between needs and solutions, and in terms of payload vs. platform, efforts are needed to remove technological obstacles concerning platform technologies, technologies related to the integration into military ship environment, payload and sensors architecture-related technologies, control systems and handling quality, autonomous operation, as well as security aspects.

The project should not aim at developing a new platform but focus on developing key technologies while using existing platforms, as a basis for developing this work strand of the project as well as for the demonstration testing.

Proposals would address aspects such as:

- Platform protection in contested environments;
- Anti-jamming and electronic counter-measures;
- Capability to be launched and recovered from manned platforms also in severe meteorological conditions (objective: up to Sea State 5);
- Autonomy motivated by the need to reduce manning, risk and cost of platform operation. Examples include: Autonomous piloting, anti-collision, automated re-planning and execution, adaptive behaviour, automated fault management systems, local automated sensor processing, local situation awareness without man-in-the-loop, automatic launch and recovery;
- Navigation need for accurate positioning and for establishing redundancy to GNSS;
- High speed secure and real time or near real time communication including cyber protection;
- Operation of the platform under severe climatological conditions;
- Operation of the platform from navy ships under severe sea state conditions;
- Improved sensors and payload capacity;
- Capability of the platform to transport cargo/utility and to drop payloads;

- If relevant, optionally piloted capability to allow maximum flexibility for larger types and demonstrate interaction and operational flexibility between manned, unmanned, optionally manned vehicles. The compatibility with STANAG 4586 (NATO UAV Control System), 4545 (NATO Secondary imagery format), 4609 (NATO Digital Motion Imagery Standard) should be ensured.

Proposals should underline the impact of new or improved existing platforms and of their technological content on, e.g., endurance, range, autonomy, payload capacity and trade-off between size/weight and performances, enhanced sensors performance, resilience and redundancy of Command and Control links and data links.

b) Demonstration of integration of data from multiple sources in a single predefined tactical picture

The demonstration should aim at evaluating the capability of a Maritime Operation Center (MOC) to acquire, exploit, correlate, analyse and disseminate securely sensor data and integrate it into a RMP in Near Real Time (NRT), making use of the current state of the art satellite imagery, Automatic Identification System (space and coastal), naval vessel, manned and unmanned systems.

The integration of data from those multiple sources should improve ISTAR in a single predefined tactical picture allowing faster, independent and more accurate use of combat systems of the naval military systems.

Concerning the data exchange, the main challenge should be placed on the capability to exchange data and ability to switch quickly between classified and unclassified channels with cyber issues. Data can be gathered by sensors on-board the UXS but also from a wider scope of sensor types and assets. Also progressing on the near real-time transmission (a datalink allowing full motion video in particular) remains an important challenge.

In addition, the demonstration may include the use of homogeneous or heterogeneous groups, i.e., mixing UAV with manned fixed and/or rotary wings, USV and/or UUV), equipped with different types of sensors.

Proposals should address aspects such as:

- Determination of data exchange systems C4ISR;
- Multi sensor information fusion;
- Data request for area / time of interest;
- Data analysis, exploitation and visualisation;
- Operation planning and control;
- Integration and interoperability with the vessel command and control (CMS) or a MOC;

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- Integration of sensor information provided by Member States (CISE, MARSUR);
- Analysis of data requests (satellite, unmanned and manned aerial and naval systems);
- High level of data processing integration, on board vehicle and possibly off board;
- Close to real-time transmission (datalink allowing e.g. full motion video) and data fusion with long term history assessment and detection of anomalies;
- Encryption and cyber security for exchange of classified information;
- Simulation aspects for operators.

Proposals should underline (i) the improved interaction/coordination between (semi-) autonomous platforms and man-machine interaction and interface issues, (ii) improved quality of situational awareness compared to that provided by traditional assets (higher quality at lower risk and cost), (iii) impact in reduction of human involvement in operation. Proposals should also demonstrate that naval combat management systems will maximise the exploitation of the potential of unmanned systems through the development of a shared situational awareness. NATO-EU interoperability will be important in that regard as well as interoperability with civil systems if appropriate.

Proposals should therefore also include aspects such as:

- Common architecture of mixed unmanned systems (aerial, surface, underwater) together with communication within the common systems architecture;
- Common Information Exchange Infrastructure based on NATO compliant interfaces as a trusted system to allow to share and retrieve information with different levels of security;
- Swarming behaviours and impact on automated vehicle behaviours and collision avoidance;
- Exchange of specific information regarding target designation;
- Anti-Area/Access-Denial (A2/AD) technologies offset;
- (Service oriented) architecture open to air and land component to build a European C4ISTAR joint/combined system, reconfigurable during runtime;
- Simulation environments for support design, validate solutions, train operators.

The activities of the project should focus mainly on maturing and integrating validated technologies. Part of the project can be carried out by using computer-based modelling and simulation tools, to allow de-risking of the demonstration. Moreover, the project shall provide a full-scale technological demonstration at least in a relevant environment of mixed

manned/unmanned assets. If deemed appropriate, the proposal could include a demonstration in an operational environment, e.g., in conjunction with armed forces².

The proposal should include a high level description of the key performance indicators (KPIs) for the envisaged functionalities and the methodologies on how to measure them. A report with a detailed description of these KPIs and methodologies in view of the demonstrations should be delivered within 6 months after the start of the project.

The implementation of this topic is intended to start at TRL 4 and target TRL not lower than 6 and not higher than 7.

The Commission considers that proposal requesting a contribution from the EU between EUR 32 and 36 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Given the constraints on the yearly budget of the Preparatory Action, full proposals should include upon a single submission the description of (i) a core part which would need a EU contribution between EUR 14 and 16 million from the 2017 budget, and (ii) up to 4 additional research modules with a EU contribution of up to EUR 5 million each that would extend the core project to cover the topic more substantially. These research modules can receive funding from the 2018 budget subject to the adoption of the 2018 financing decision on the preparatory action and subject to the approval of the budget by the EU budgetary authorities. The proposals, including the total indicative budget of the core part and all additional modules will be evaluated in their entirety during a single-stage evaluation procedure.

No more than one action will be funded.

Expected Impact:

- Convincing demonstration of the potential of EU-funded research for defence applications;
- Reliable operation of the proposed solutions in various, complex and extreme maritime environments;
- Substantial gain towards autonomous and safe operation of UXS from navy ships offering suitable potential in term of payload capacity, range and handling quality for operations under adverse conditions;
- Enhancement of maritime situational awareness and command and control capability and secured data exchange and real time or near real time transmission of information;

² A list of EU Member States armed forces that expressed their willingness to facilitate (part of) the demonstration activities can be accessed for information at <https://www.eda.europa.eu/procurement-biz/procurement/eda-grants>. There is no obligation for applicants neither to use nor to restrict themselves to the organisations contained in this list.

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- Development of the European industrial capability in the market segment of unmanned systems for defence capabilities;
- Improved interoperability between manned and unmanned systems;
- Improved interoperability with existing, multilateral EU defence systems and infrastructures, and with naval platforms and mission systems;
- Extended capabilities of a vessel platform, fully integrated with the vessel mission system (CMS and sensors);
- Improved efficiency and cost-effectiveness;
- Informing the shape of future military structures in view of the use of advanced unmanned systems.

Proposals should include a first demonstration of preliminary yet meaningful results during late 2019 (and in any event not before mid-2019) with the second and final demonstration during mid-2020. It is anticipated that both demonstrations should be alongside existing military platforms. The participation of SMEs in the proposal, if relevant, is strongly encouraged and this will be positively evaluated under the “Implementation” criterion.

Type of Action: Research action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

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Conditions for the Call – Unmanned systems

Opening date(s), deadline(s), indicative budget(s):³

Topics (Type of Action)	Budgets (EUR million)	Deadlines
	2017	
Opening: 7 June 2017		
PADR-US-01-2017 (RA)	15.50	5 October 2017 (Single stage)
Overall indicative budget	15.50	

Indicative timetable for evaluation and grant agreement signature:

For single stage procedure:

- Information on the outcome of the evaluation: Maximum 6 months from the final date for submission; and
- Indicative date for the signing of grant agreements: Maximum 3 months from the date of informing successful applicants.

Eligibility and admissibility conditions: The conditions are described in General Annexes A, B and C. The following exceptions apply:

PADR-US-01-2017	(a) at least five legal entities shall participate in an action; (b) these five legal entities shall each be established in a different Member State or associated country; (c) the legal entities referred to in point (b) shall be independent of each other within the meaning described in General Annex C.
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Evaluation criteria, scoring and threshold: The criteria, scoring and threshold are described in General Annex F. The following exceptions apply:

PADR-US-01-2017	To determine the ranking, the score for the criterion 'impact' will be given a weight of 1.5.
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³ All deadlines are at 17:00:00 Brussels local time. The authorising officer responsible may delay the deadline(s) by up to two months.

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Evaluation Procedure: The procedure for setting a priority order for proposals with the same score is given in General Annex F.

The full evaluation procedure is described in the Guide for applicants published on the Participant Portal.

Agreement on background: Members of consortium should identify in the proposal the background for the Action, setting out in detail all existing restrictions on the use or export of this background.

Special report: a special report is requested to be submitted according to the template included in General Annex I.

Consortium agreement: Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.

Call – Research in technology and products in the context of Force Protection and Soldier Systems

PADR-FPSS-2017

Protective equipment for soldiers needs to provide solutions against an increasing variety of threats such as bullets, fragments, flame and flash, noise, laser, detection, CBRN, effects of blast, environmental threats such as hot or cold climates, non-ballistic threats such as blunt trauma, load-carrying systems, small arms and ammunition, communication and improvised explosive devices (IED), optics and sensors are imperative. But single technology solutions to single problems are not ideal. Moreover, additional factors, beyond the functionalities of their equipment, need to be taken into account, in particular cost efficiency.

In the context of the Preparatory Action, the Strategic Cluster on Force Protection and Soldier Systems focuses on research and technological developments related to soldier systems, thereby covering progress beyond the state of current programmes, concentrating on the integration of systems, modularity and other ways to increase soldiers' mobility.

Proposals are invited against the following topic(s):

PADR-FPSS-01-2017: Force protection and advanced soldier systems beyond current programmes

Specific Challenge:

Soldier equipment will increasingly have to meet and adapt to the requirements stemming from their future application in multinational, less and less predictable and very dynamic environments. This introduces important challenges to soldier systems, such as:

- Interoperability of defence systems will be a key capability in the future. For Land Defence Systems, interoperability of vehicles, infrastructures and soldier systems will be based on open standards and joint architectures. This introduces important challenges to soldier systems, such as multi-national interoperability, effectiveness, adaptability to mission and mission intensity, maintaining equipment at state of the art, life cycle cost efficiency, logistic and human resource footprint of force protection.
- The safety of military personnel is a critical element of effective defence and security. The defensive measures as individual ballistic protection remain vital. The current ballistic protection systems for the soldiers are mainly based on the fibre technology and hard materials technology, where high-performance fibres and hard materials (and their combinations) are manufactured into 2D and 3D assemblies to retard the ballistic threat. New solutions and materials like shear-thickening fluids are being implemented into body armour production, but still

not in a commercialisation phase. Despite the efforts in the research area (most of them outside the EU), the shortcomings of commercially available products exist. The main disadvantage of the commercially available ballistic systems is their weight – average weight to area ratio for level IIIA (according to the NIJ Standard) remains about 6 kg/m², for level III is approximately 20 kg/m², for IIIA+ is close to 30 kg/m², and for level IV about 42 kg/m². The inflexibility and design shortcomings to differences in anatomy and protection approaches based only against kinetic energy threats are also important challenges. In this respect, blast protection needs to take into account the use of CBRN agents together with ammunition, explosives or IEDs and the need to detect and protect soldiers from such elements.

- A strong civilian driving force encourages research and development in order to adapt visible appearance. Materials and components exist or are being developed to change the visual appearance of a surface for e.g. display applications. These are, in general, not suited for defence applications. Present and future threats from advanced sensor systems have been analysed. Advanced materials and structures for high-resolution spectral design are developed at universities and industry without knowledge of defence specific requirements. For longer (invisible) wavelengths no such civilian demand exists. Adaptive materials, structures and components in short wave infrared, thermal infrared and radar require specific research. Such adaptive technologies must be compatible with defence specific requirements on endurance and operability.

Scope:

The topic calls for proposals to explore and demonstrate the potential of how technology can further advance and enhance soldier systems beyond current programmes, hence assessing what is the state-of-the-art in one or more of the aforementioned areas. Proposed activities could cover one of the following sub-topics:

(a) Generic open soldier systems architecture

The proposals should propose a definition of architecture ready for standardisation and comprehensively covering soldier systems within their context of operation (group, squad, multi-national, vehicles, etc.). The architecture domain to be considered shall include:

- electronics;
- voice and data communication;
- software;
- human interface devices;
- sensors;
- effectors.

The architecture shall be based on a suitable architectural framework. At the end of the project a technical validation should be performed to ensure that a proposed architecture in terms of interfaces, protocols or standards is technically feasible and to enable delivery of an open, modular and easily reconfigurable soldier system.

Results from relevant NATO (STANAG 4677, STANAG 4619, STANAG 4695, STANAG 4740) and EDA (STASS I & STASS II) activities and studies should be used as baseline for the development of generic open soldier system reference architecture.

(b) Tailor-made blast, ballistic and CBRN protection of military personnel

The proposals should aim at research and technology development in lightweight ballistic and blasting protection allowing reduction at least 20% of weight versus existing commercial solutions for military personnel. The technology should allow achieving optimized protection with effective dissipation of energy and body protected zones. It should enable flexibility and modularity. Proposals should also explore the use of novel materials to integrate CBRN detection and/or protection into military body armour. Relevant advancements in manufacturing techniques, such as 3D printing, might also be investigated.

The activities included in proposals submitted under this sub-topic should clearly differentiate from or go beyond work already covered under Horizon 2020, in particular by the Specific Challenge "Secure societies – Protecting freedom and security of Europe and its citizens".

(c) Adaptive camouflage

Advanced active and passive camouflage methods which are able to rapidly reconfigure or change to various patterns according to the surrounding environment. The camouflage should be active against a variety of present and future threats from advanced sensor systems and observation means, adapted to the needs and the variety of missions of the military users.

Activities are expected to focus on TRL 2 to 3 (for subtopic (a)) and TRL 2- to 4-5 (for subtopics (b) and (c))

The European Commission considers that proposals requesting a contribution from the EU in the range of EUR 1 to 1.5 million for subtopic (a) and EUR 2 to 3 million for subtopics (b) and (c) would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

- Convincing demonstration of EU-wide research cooperation in defence research;
- Promotion of the integration of interoperability standards;
- Enhancement of the effectiveness of military personnel;
- Reduction in life cycle costs.

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Type of Action: Research action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Conditions for the Call - Force Protection and Soldier Systems

Opening date(s), deadline(s), indicative budget(s):⁴

Topics (Type of Action)	Budgets (EUR million)	Deadlines
	2017	
Opening: 7 June 2017		
PADR-FPSS-01-2017	6.78	21 September 2017 (Single stage)
Overall indicative budget	6.78	

Indicative timetable for evaluation and grant agreement signature:

For single stage procedure:

- Information on the outcome of the evaluation: Maximum 6 months from the final date for submission; and
- Indicative date for the signing of grant agreements: Maximum 3 months from the date of informing successful applicants.

Eligibility and admissibility conditions: The conditions are described in General Annexes A, B and C.

Evaluation criteria, scoring and threshold: The criteria, scoring and threshold are described in General Annex F.

Evaluation Procedure: The procedure for setting a priority order for proposals with the same score is given in General Annex F.

The full evaluation procedure is described in the Guide for applicants published on the Participant Portal.

Agreement on background: Members of consortium should identify in the proposal the background for the Action, setting out in detail all existing restrictions on the use or export of this background.

Special report: A special report is requested to be submitted according to the template included in General Annex I.

⁴ All deadlines are at 17:00:00 Brussels local time.

The authorising officer responsible may delay the deadline(s) by up to two months.

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Consortium agreement: Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.

Call – Strategic Technology Foresight

PADR-STF-2017

Europe needs to absorb emerging technologies as quickly as possible in military products and services. Rapidly evolving technological innovation, in civil and defence environment and on a global scale therefore calls for a mechanism to identify key trends and developments. The Preparatory Action on Defence Research will therefore include actions to develop a sustainable strategic technology foresight methodology. In view of the reform of the International Traffic in Arms Regulations (ITAR), an important part in this Area would be to launch a stocktaking exercise of ITAR related components in Europe's armament systems, including in future technologies.

In the context of the development of the future EU-funded defence research programme, these analyses should suggest potential themes, draft initial trends and business models, leading to scoping EU-funded defence research based on scenarios illustrating potential future conflicts.

Proposals are invited against the following topic:

PADR-STF-01-2017: The European Defence Research Runway

Specific Challenge:

The current time period is characterised by rapid changes in many domains – geopolitical, economic, environmental and technological – which have huge effects on the global security situation. For the EU and for EU Member States it is therefore essential to continuously perform strategic technology foresight analyses so as to gain understanding of important trends and their defence and security implications. Essential parts of strategic technology foresight analysis are Horizon Scanning and Technology Watch (HS&TW): the signalling of emerging threats, the identification of emerging technologies and potential opportunities combined with a broad analysis of relevant technological developments. Performing a strategic technology foresight is challenging, not only because it is an activity aimed at a “moving target”, but also because it is not easy to identify and track the wide range of relevant technologies to be addressed in view of:

- the added value of a common European approach in properly covering the full range of technologies and sources;
- the need to build a common understanding of future technology and its impact on defence trends in order to plan and coordinate accordingly our actions;
- the need for an innovative approach with respect to the way these activities traditionally are conducted;
- the growing relevance of the civil technologies for defence and the need to include the developments in the civil sector in the exercise;

- identifying new technologies.

Scope:

This action should aim to support strategic technology foresight in the defence domain of individual Member States and of the EU as a whole by performing joint technology foresight activities supported by methodologies such as horizon scanning, technology watch, scientometric tools, expert consultation activities. The action should focus in particular on identifying emerging defence research areas for potential exploration in the next Multi-annual Financial Framework. The action should propose and validate a methodology and process for strategic technology foresight activities to be carried out cyclically. Such a methodology should take into account similar activities conducted in EDA, NATO and other military and/or civil organisations. Activities that should be considered could include, amongst others:

- Collection of information (national sources, EU research programme, occidental and non-occidental sources);
- Analysis (geopolitical trends, defence and security trends, technology, industrial trends);
- Engagement with European industry trade bodies;
- Evaluation/assessment for defence and security (future scenario-based evaluations such as Disruptive Technology Assessment Games, consultations of technology and military experts, input from “unconventional” groups with an outside view, more creative thinking, ...);
- Defining and setting up strategic trends for the medium and long term;
- Management and controlled dissemination of results (secure web-based access with public and restricted dissemination).

The strategic technology foresight should be coupled to a process and method for scoping EU-funded defence research based on scenarios to illustrate potential future conflicts.

Proposals should include elements to ensure continued monitoring and updating beyond the action's lifetime.

The European Commission considers that proposals requesting a contribution from the EU in the range of EUR 0.8 to 1.0 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

No more than one action will be funded.

Expected Impact:

The action should allow to

- underpin coordination of defence research activities at the EU and national level;

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- prepare the long term agenda for defence research in the EU;
- explore themes for a future European Defence Research Programme;
- underpin coordination of agendas and optimisation of synergies between the EU defence and civil research activities under the next Multiannual Financial Framework;
- test the approach through proposing topics for the Future Disruptive Technologies technology area in the last year of the Preparatory Action on Defence Research.

Type of Action: Coordination and support action

The conditions related to this topic are provided at the end of this call and in the General Annexes.

Conditions for the Call – Strategic Technology Foresight

Opening date(s), deadline(s), indicative budget(s):⁵

Topics (Type of Action)	Budgets (EUR million)	Deadlines
	2017	
Opening: 7 June 2017		
PADR-STF-01-2017 (CSA)	0.95	21 September 2017 (Single stage)
Overall indicative budget	0.95	

Indicative timetable for evaluation and grant agreement signature:

For single stage procedure:

- Information on the outcome of the evaluation: Maximum 6 months from the final date for submission; and
- Indicative date for the signing of grant agreements: Maximum 3 months from the date of informing successful applicants.

Eligibility and admissibility conditions: The conditions are described in General Annexes A, B and C.

Evaluation criteria, scoring and threshold: The criteria, scoring and threshold are described in General Annex F.

Evaluation Procedure: The procedure for setting a priority order for proposals with the same score is given in General Annex F.

The full evaluation procedure is described in the Guide for applicants published on the Participant Portal.

Agreement on background: Members of consortium should identify in the proposal the background for the Action, setting out in detail all existing restrictions on the use or export of this background.

Special report: no special report is requested.

All the results of the action will be made available to the Union for the duly justified purpose of developing, implementing and monitoring Union policies or programmes and to the

⁵ All deadlines are at 17:00:00 Brussels local time. The authorising officer responsible may delay the deadline(s) by up to two months.

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Member States and countries associated to the Preparatory Action on Defence Research for purposes related to the use by or for their armed forces, or security or intelligence forces, including within the framework of their cooperative programmes. Such utilisation shall include, but be not limited to, the study, evaluation, assessment, research, design, development, manufacture, improvement, modification, maintenance, repair, refurbishment, and product acceptance and certification, operation, training, disposal and other post design services and product deployment, as well as the assessment and drafting of technical requirements for procurement.

This topic is complementary with topic "*PADR-STF-02-2018: The European Defence Research Runway – part II*", which is planned for next year (subject to the adoption of the 2018 financing decision and to the approval of the budget by the EU budgetary authorities). Grant agreements under this topic will therefore include the options for 'complementary grants', (including, in particular additional access rights to background and results for the purposes of the complementary grant).

Consortium agreement: Members of consortium are required to conclude a consortium agreement, in principle prior to the signature of the grant agreement.

Other actions

External Expertise

This action will support the use of appointed independent experts for the evaluation of proposals and monitoring of running projects, where appropriate.

Type of Action: Expert Contracts

Indicative budget: EUR 0.1 million from the 2017 budget

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Budget^{6,7}

	Budget line(s)	2017 Budget (EUR million)
Calls		
PADR-US-01-2017		15.50
	<i>from 02.04 77 03</i>	<i>15.50</i>
PADR-FPSS-01-2017		6.78
	<i>from 02.04 77 03</i>	<i>6.78</i>
PADR-STF-01-2017		0.95
	<i>from 02.04 77 03</i>	<i>0.95</i>
Other Actions		
Expert Contracts		0.10
	<i>from 02.04 77 03</i>	<i>0.10</i>
Estimated total budget		23.33

⁶ The budget figures given in this table are rounded to two decimal places.

⁷ The budget does not include administrative expenditures for the management of the Preparatory Action on Defence Research.

General Annexes

A. List of countries and entities eligible for participation and funding

Legal entities established in the following countries and territories for the whole duration of the grant agreement will be eligible to receive funding through PADR grants:

- The Member States (MS) of the European Union (EU), including their overseas departments;
- The Overseas Countries and Territories (OCT) linked to the Member States⁸:

Anguilla, Aruba, Bermuda, Bonaire, British Indian Ocean Territory, British Virgin Islands, Cayman Islands, Curaçao, Falkland Islands, French Polynesia, French Southern and Antarctic Territories, Greenland, Montserrat, New Caledonia, Pitcairn Islands, Saba, Saint Barthélemy, Saint Helena, Saint Pierre and Miquelon, Sint Eustatius, Sint Maarten, South Georgia and the South Sandwich Islands, Turks and Caicos Islands, Wallis and Futuna.

- Norway⁹;

If, due to a change of circumstances, a beneficiary of a grant agreement does not comply with the eligibility/participation criteria, the grant agreement with regard to this beneficiary shall be terminated.

The JRC may participate in actions with the same rights and obligations as a legal entity established in a Member State;

International European interest organisations¹⁰ will be eligible to receive funding through PADR grants.

The call conditions may exclude entities unable to provide satisfactory security guarantees, including as regards personnel security clearance if justified by security reasons.

⁸ Entities from Overseas Countries and Territories (OCT) are eligible for funding under the same conditions as entities from the Member States to which the OCT in question is linked.

⁹ Subject to amendment of Protocol 31 to the EEA Agreement

¹⁰ An international European interest organisation is an international organisation, the majority of whose members are Member States or Norway, and whose principal objective is to promote scientific and technological cooperation in Europe.

B. Standard admissibility conditions and related requirements

1. Proposals must comply with the admissibility conditions set out in this Annex, unless they are supplemented or modified in the call conditions.

To be considered **admissible**, a proposal must be:

(a) submitted in the electronic submission system before the deadline given in the call conditions¹¹;

(b) readable, accessible and printable.

2. **Incomplete** proposals may be considered inadmissible. This includes the requested administrative data, the proposal description, and any supporting documents specified in the call.

3. The following supporting documents will be required to determine the operational capacity for grant proposals, unless otherwise specified in the call:

- A curriculum vitae or description of the profile of the persons who will be primarily responsible for carrying out the proposed research and/or innovation activities;
- A list of up to five relevant publications, and/or products, services (including widely-used datasets or software), or other achievements relevant to the call content;
- A list of up to five relevant previous projects or activities, connected to the subject of this proposal;
- A description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work;
- A description of any third parties that are not represented as project partners, but who will nonetheless be contributing towards the work (e.g. providing facilities, computing resources).

4. Grant proposals must include a draft plan for the exploitation and dissemination of the results, unless otherwise specified in the call conditions.

5. In addition, to the above admissibility conditions, the following related requirements apply.

Page limits will apply to proposals/applications. Unless stated otherwise in the call conditions, the limit for a full proposal is 70 pages, except for coordination and support actions, where the limit is 50 pages.

¹¹ Submission of classified information is excluded from the obligation to be submitted in the electronic submission system.

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The page limits and sections subject to limits will be clearly shown in the proposal templates in the Participant Portal electronic submission system.

If a proposal/application exceeds the limits, the applicant will receive an automatic warning, and will be advised to re-submit a version that conforms.

After the call deadline, excess pages (in over-long proposals/applications) will be automatically overprinted with a “watermark”.

Evaluators will be instructed to disregard these excess pages.

Proposals must be written in a legible font, further guidance on the use of fonts, margins and other page formatting will be included in the proposal templates.

The structure of proposals must correspond to the requirements specified under each section of the proposal template.

C. Standard eligibility conditions

1. Proposals must comply with the **eligibility conditions** set out in this Annex, unless they are supplemented or modified in the call conditions.

A proposal will only be considered **eligible** if:

- (1) its content corresponds, wholly or in part, to the topic description for which it is submitted
- (2) it complies with the eligibility conditions for participation set out in the table below, depending on the type of action:

	Eligibility conditions for participation¹²
Research actions (RA)	At least three legal entities. Each of the three must be established in a different EU Member State or Norway ¹³ . All three legal entities must be independent of each other.
Coordination & support actions (CSA)	At least one legal entity established in an EU Member State or Norway ¹³ .

Two legal entities are considered as independent of each other where neither is under the direct or indirect control of the other or under the same direct or indirect control as the other.

Control may, in particular, take either of the following forms:

- (a) the direct or indirect holding of more than 50 % of the nominal value of the issued share capital in the legal entity concerned, or of a majority of the voting rights of the shareholders or associates of that entity;
- (b) the direct or indirect holding, in fact or in law, of decision-making powers in the legal entity concerned.

The following relationships between legal entities are not in themselves be deemed to constitute controlling relationships:

- (a) the same public investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50 % of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates;
- (b) the legal entities concerned are owned or supervised by the same public body.

¹² Natural or legal persons, groups or non-State entities covered by the Council sanctions in force are not eligible to participate in Preparatory Action on Defence Research. Please see the consolidated list of persons, groups and entities subject to EU financial sanctions, available at http://eeas.europa.eu/cfsp/sanctions/consol-list_en.htm.

¹³ Subject to the amendment of Protocol 31 to the EEA Agreement.

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If one of the applicants is the JRC, or an international European interest organisation (IOEI) or an entity created under Union law, it is considered to be established in a Member State or Norway other than any Member State or Norway in which another applicant in the same action is established.

All the infrastructure, facilities, assets and resources used by the applicants, including subcontractors and other third parties, in actions funded under the Preparatory Action on Defence Research should not be located on the territory of non-Member States or non-associated countries. The use of such infrastructure, facilities, assets and resources shall not be subject to control or restriction by third countries. Applicants shall identify before the signature of the grant agreement all relevant elements and infrastructure to be used in the action.

Where appropriate and duly justified, the call conditions may provide for additional conditions according to specific policy requirements or to the nature and objectives of the action, including inter alia conditions regarding the number of beneficiaries, the type of beneficiary and the place of establishment.

D. Types of action: specific provisions and funding rates¹⁴

Research actions (RA)

Description: Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. Depending on the topic, they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment or rather have their focus on activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include large-scale prototyping, testing, demonstrating, or piloting.

Funding rate: 100% of the eligible costs.

Coordination and support actions (CSA)

Description: Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure and may also include complementary activities of strategic planning, networking and coordination between programmes in different countries.

Funding rate: 100% of the eligible costs.

Indirect costs are eligible if they are declared on the basis of a flat-rate of 25% of the eligible direct costs, excluding eligible direct costs for subcontracting.

¹⁴ Participants may ask for a lower rate.

E. Technology readiness levels (TRL)

Where a topic description refers to a TRL, the following definitions apply, unless otherwise specified:

- TRL 1 – basic principles observed
- TRL 2 – technology concept formulated
- TRL 3 – experimental proof of concept
- TRL 4 – technology validated in lab
- TRL 5 – technology validated in relevant environment
- TRL 6 – technology demonstrated in relevant environment
- TRL 7 – system prototype demonstration in operational environment
- TRL 8 – system complete and qualified
- TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

F. Evaluation rules

1. Selection and award criteria

Selection Criteria

1. *Financial capacity*: The financial capacity of the coordinators and the applicants shall be verified by means compatible with national law.

2. *Operational capacity*: As a distinct operation, carried out during the evaluation of the award criterion ‘Quality and efficiency of the implementation’, the evaluators will indicate whether the applicants have sufficient operational capacity to carry out the proposed work, based on the competence and experience of the individual applicant(s).

Award criteria, scores and weighting

1. Grant proposals will be evaluated according to Article 133 of Regulation (EU, Euratom) No 966/2012 and Article 204 of Commission Delegated Regulation (EU) No 1268/2012.

The proposals will be evaluated on the basis of the following award criteria: (a) excellence (b) impact and (c) quality and efficiency of the implementation.

The aspects to be considered in each case depend on the types of action as set out in the table below, unless stated otherwise in the call conditions:

	Award criteria		
	Excellence <i>The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description in the calls text:</i>	Impact <i>The following aspects will be taken into account:</i>	Quality and efficiency of the implementation <i>The following aspects will be taken into account*:</i>
All types of action	Clarity and pertinence of the objectives; Soundness of the concept, and credibility of the proposed methodology;	The extent to which the outputs of the project would contribute to each of the expected impacts mentioned in the call under the relevant topic;	Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables; Appropriateness of the management structures

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			and procedures, including risk and innovation management; Complementarity of the applicants and extent to which the consortium as whole brings together the necessary expertise; Appropriateness of the allocation of tasks, ensuring that all applicants have a valid role and adequate resources in the project to fulfil that role.
Research actions (RA)	Extent that the proposed work is beyond the state of the art, and demonstrates innovation potential (e.g. ground-breaking objectives, novel concepts and approaches, new products, services or business and organisational models) Appropriate consideration of interdisciplinary approaches and, where relevant, use of stakeholder knowledge.	Any substantial impacts not mentioned in the call, that would enhance innovation capacity, create new market opportunities, strengthen competitiveness and growth of companies, address issues related to climate change or the environment, or bring other important benefits for society; Quality of the proposed measures to: <ul style="list-style-type: none"> • Exploit and disseminate the project results (including management of IPR), and to manage research data where relevant. • Communicate the project activities to different target audiences 	
Coordination & support actions (CSA)	Quality of the proposed coordination and/or support measures.	Quality of the proposed measures to: <ul style="list-style-type: none"> • Exploit and disseminate the project results (including management of IPR), and to manage research data where 	

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		relevant. <ul style="list-style-type: none">• Communicate the project activities to different target audiences	
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* not all aspects are relevant to proposals involving just one beneficiary

2. Scoring and weighting:

Unless otherwise specified in the call conditions, evaluation scores will be awarded for the criteria, and not for the different aspects listed in the above table. For full proposals, each criterion will be scored out of 5. The threshold for individual criteria will be 3. The overall threshold, applying to the sum of the three individual scores, will be 10.

3. Priority order for proposals with the same score:

Unless the call conditions indicate otherwise, the following method will be applied.

If necessary, the panel will determine a priority order for proposals which have been awarded the same score within a ranked list. Whether or not such a prioritisation is carried out will depend on the available budget or other conditions set out in the call text. The following approach will be applied successively for every group of ex aequo proposals requiring prioritisation, starting with the highest scored group, and continuing in descending order:

- a) Proposals that address topics, or sub-topics, not otherwise covered by more highly-ranked proposals, will be considered to have the highest priority.
- b) The proposals identified under (a), if any, will themselves be prioritised according to the scores they have been awarded for the criterion excellence. When these scores are equal, priority will be based on scores for the criterion impact. In the case that the call gives increased weight to impact, this prioritisation will be done first on the basis of the score for impact, and then on that for excellence.
- c) If necessary, any further prioritisation will be based on the following factors, in order: size of EU budget allocated to SMEs; gender balance among the personnel named in the proposal who will be primarily responsible for carrying out the research activities.
- d) If a distinction still cannot be made, the panel may decide to further prioritise by considering how to enhance the quality of the project portfolio through synergies between projects, or other factors related to the objectives of the call or to the Preparatory Action on Defence Research in general. These factors will be documented in the report of the Panel.
- e) The method described in (a), (b), (c) and (d) will then be applied to the remaining ex aequos in the group.

4. Evaluation procedure

1. Calls will be subject to a one-stage submission and evaluation procedure.
2. The evaluation shall be carried out according to Article 133 of Regulation (EU, Euratom) No 966/2012 and Article 204 of Commission Delegated Regulation (EU) No 1268/2012. The evaluation will be based on the assessment of an evaluation committee set up by the European Defence Agency (EDA) assisted by independent experts.

The independent experts will be chosen on the basis of their skills, experience and knowledge appropriate to carry out the tasks assigned to them. The appropriate security clearance will be required before appointment.

Experts competent in defence research or related areas will be identified and selected on the basis of a call for expression of interest. A database of candidates will be established. All candidates included in the database will be required to be validated by the Member State that has issued their security clearance.

When appointing independent experts, appropriate measures will be taken to seek a balanced composition within the expert groups and evaluation panels in terms of various skills, experience, knowledge, geographical diversity and gender, and taking into account the situation in the field of the action.

An expert faced with a conflict of interest in relation to a matter on which the expert is required to provide an opinion cannot evaluate, advise or assist on the specific matter in question.

All exchanges with independent experts, including the conclusion of contracts for their appointment and any amendment thereto, may be done through electronic exchange systems as stipulated in Article 287(4) of Regulation (EU) No. 1268/2012.

As part of the evaluation, a panel review will recommend one or more ranked lists for the proposals under evaluation, following the scoring systems indicated above. A ranked list will be drawn up for every indicative budget shown in the call conditions.

3. Proposal coordinators receive an Evaluation Summary Report (ESR), showing the results of the evaluation for a given proposal.
4. If special procedures apply, they will be set out in the call conditions.

G. Review of ethical, legal and societal aspects ('ethics review')

A review of ethical, legal and societal aspects will be systematically carried out for proposals raising such issues.

This review will verify the respect of legislation, and the compliance with provisions of international law binding upon the Union, and the societal impact of the proposed action.

The review will be conducted by a group of experts on military ethical and legal issues. The appropriate security clearance will be required before appointment. All experts must be validated by the Member State that has issued their security clearance.

The process of the review will be as transparent as possible and ensure that it is carried out in a timely manner avoiding, where possible, the resubmission of documents.

A proposal which contravenes ethical principles or any applicable legislation, or which does not fulfil the conditions set out in the work programme or in the call for proposals may be excluded from the evaluation, selection and award procedures at any time.

H. Actions involving classified information

In the case of actions involving security-related activities, special provisions for classified information (as defined in the Commission Rules of Procedure (*Decision 2015/444/EC, ECSC, Euratom*)) will be taken in the grant agreement, as necessary and appropriate.

It is possible that the output of an action ('results') needs to be classified, or that classified inputs ('background') are required. In such cases proposers have to ensure and provide evidence of the adequate clearance of all relevant facilities. Consortia have to clarify issues such as e.g. access to classified information or export or transfer control with the national authorities of their Member States/Preparatory Action on Defence Research associated countries prior to submitting the proposal. Proposals need to provide a draft security classification guide, indicating the expected levels of classification. Appropriate arrangements will have to be included in the consortium agreement.

I. Exploitation and dissemination of results

Ownership of results

Results are owned by the beneficiary generating them.

Where beneficiaries in an action have jointly generated results, and where their respective contribution to the joint results cannot be ascertained, or where it is not possible to separate such joint results for the purpose of applying for, obtaining or maintaining the relevant intellectual property rights protection, they will have joint ownership of those results. The joint owners will establish an agreement regarding the allocation and terms of exercise of that joint ownership in accordance with their obligations under the grant agreement. The joint owners may agree not to continue with joint ownership but decide on an alternative regime, inter alia by transferring their ownership shares to a single owner with access rights for the other beneficiaries, once the results have been generated.

Unless otherwise agreed in the joint ownership agreement, each joint owner will be entitled to grant non-exclusive licences to third parties to exploit the jointly owned results, without any right to sub-license, subject to the following conditions:

- (a) prior notice needs to be given to the other joint owners;
- (b) fair, reasonable and non-discriminatory compensation will be provided to the other joint owners.

If employees or any party working for a beneficiary are entitled to claim rights to the results generated, the beneficiary concerned will ensure that it is possible for those rights to be exercised in a manner compatible with its obligations under the grant agreement.

Protection of results

Where results are capable of or may reasonably be expected to be capable of commercial or industrial exploitation, the beneficiary owning those results will examine the possibility of protecting them. The beneficiary will, if possible, reasonable and justified given the circumstances, adequately protect them for an appropriate period of time and with an appropriate territorial coverage, having due regard to its legitimate interests, and the legitimate interests, particularly the commercial interests, of the other beneficiaries in the action.

Exploitation and dissemination of results

Each beneficiary that has received funding under the Preparatory Action on Defence Research will use its best efforts to exploit the results it owns, or to have them exploited by another legal entity, in particular through the transfer and licensing of results (see below).

For the purposes of monitoring and dissemination by the Commission or the funding body, beneficiaries will provide any information on their exploitation related activities, and provide any documents necessary in accordance with the conditions laid down in the grant agreement.

All patent applications, standards, publications or any other dissemination, including those in electronic form, relating to results will, if possible, include a statement, which may include visual means, that the action received financial support from the Union. The terms of that statement are established in the grant agreement.

Transfer and licensing of results

Where a beneficiary transfers ownership of results, it will pass on its obligations under the grant agreement regarding those results to the transferee, including the obligation to pass them on in any subsequent transfer.

Without prejudice to confidentiality obligations arising from laws or regulations in the case of mergers and acquisitions, where other beneficiaries still enjoy access rights or may still request the granting of access rights to the results to be transferred, a beneficiary which intends to transfer the results needs to give prior notice to the other beneficiaries, together with sufficient information concerning the intended new owner of the results, to permit the other beneficiaries to analyse the effect of the intended transfer on the possible exercise of their access rights.

Following notification, a beneficiary may object to the transfer of ownership if it demonstrates that the intended transfer would adversely affect the exercise of its access rights. In such a case, the transfer may not take place until agreement has been reached between the beneficiaries concerned. The grant agreement lays down time-limits in this respect.

The other beneficiaries may by prior written agreement waive their right to prior notice and to object to transfers of ownership from one beneficiary to a specifically identified third party.

Provided that access rights to the results can be exercised, and that any additional exploitation obligations are complied with by the beneficiary who owns the results, the latter may grant licences or otherwise grant the right to exploit them to any legal entity, including on an exclusive basis. Exclusive licences for results may be granted subject to consent by all the other beneficiaries concerned that they will waive their access rights thereto. Granting of exclusive licenses does not affect the access rights of the Union, the Member States and Norway.

With regard to results which are generated by beneficiaries that have received funding under the Preparatory Action on Defence Research, the grant agreement may provide that the Commission may object to transfers of ownership or to grants of a licence to third parties established in a third country not associated with the Preparatory Action on Defence Research, if it considers that the grant or transfer is not in accordance with the interests of

developing the competitiveness of the Union economy, or is inconsistent with ethical principles or security considerations.

In such cases, the transfer of ownership or grant of licence can not take place unless the Commission is satisfied that appropriate safeguards will be put in place.

Where appropriate, the grant agreement will provide that the Commission is to be notified in advance of any such transfer of ownership or grant of a licence. The grant agreement lays down time-limits in this respect.

Non-compliance with these provisions will be subject to measures stipulated in Regulation (EU, Euratom) No 966/2012 and Regulation (EU) No 1268/2012.

These provisions do not affect the export of products, equipment nor technologies integrating results, and do not affect the discretion of Member States and associated countries regarding policy on the export of defence related products.

Background

Beneficiaries need to identify the background for their action in any manner in a written agreement. The written agreement must set out in detail all existing restrictions on the use or export of this background. The work programme or the grant agreement may lay down specific provisions excluding any background which is subject to export control or restriction by a third country not associated to the Preparatory Action on Defence Research.

Access rights principles for beneficiaries

Any request to exercise access rights or any waiving of access rights needs to be made in writing.

Unless otherwise agreed by the owner of the results or background to which access is requested, access rights should not include the right to sub-license.

Beneficiaries in the same action need to inform each other and the EDA before their accession to the grant agreement of any legal restriction or limit to granting access to their background. Any agreement concluded thereafter by a beneficiary regarding background should ensure that any access rights may be exercised.

The termination of the participation in an action does not affect the obligation of such a beneficiary to grant access under the terms and conditions established in the grant agreement.

The consortium agreement may stipulate that where a beneficiary defaults on its obligations and such default is not remedied such a defaulting beneficiary does no longer enjoy access rights.

Access rights for implementation by beneficiaries

A beneficiary enjoys access rights to the results of another beneficiary in the same action if those results are needed by the former to carry out its work under the action.

Such access is granted on a royalty-free basis.

A beneficiary enjoys access rights to background of another beneficiary in the same action if this background is needed by the former to carry out its work under the action, and subject to any restrictions or limits pursuant to the above paragraph.

Such access is granted on a royalty-free basis, unless otherwise agreed by the beneficiaries before their accession to the grant agreement.

Access rights for exploitation by beneficiaries

A beneficiary enjoys access rights to the results of another beneficiary in the same action if those results are needed by the former to exploit its own results.

Subject to agreement, such access is granted under fair, reasonable and non-discriminatory conditions.

A beneficiary enjoys access rights to background of another beneficiary in the same action if this background is needed by the former to exploit its own results, and subject to any restrictions or limits pursuant the access rights principles for beneficiaries (see above).

Subject to agreement, such access is granted under fair, reasonable and non-discriminatory conditions.

An affiliated entity¹⁵ established in a Member State or Norway, unless otherwise provided for in the consortium agreement, also have access rights to results and, subject to any restrictions or limits pursuant to the access rights principles for beneficiaries (see above), to background under fair, reasonable and non-discriminatory conditions if those results and background are needed to exploit the results generated by the beneficiary to which it is affiliated. Such access rights need to be requested and obtained directly from the beneficiary owning the results or background unless otherwise agreed in accordance with the access rights principles for beneficiaries (see above) Any such affiliated entity needs to meet the same participation requirements that apply to the beneficiaries of this preparatory action.

The period(s) after the end of the action that a request for access may be made, is included in the grant agreement.

¹⁵ An affiliated entity means any legal entity complying with Article 122 (2) of Regulation (EU, Euratom) No 966/2012. Control may take any of the forms set out in General Annex C.

Access rights for the Union, the Member States and Norway

The Union institutions, bodies, offices or agencies enjoy, for the duly justified purpose of developing, implementing and monitoring Union policies or programmes, access rights solely to the results of a beneficiary that has received Union funding. Such access rights are limited to non-commercial and non-competitive use.

Such access is to be granted on a royalty-free basis.

All Member States and Norway's national authorities enjoy access rights to the Special Report¹⁶ (see below for a general template) of a project that has received funding under the Preparatory Action on Defence Research. Such access rights must be granted on a free of charge basis and transmitted by the Commission or the EDA to the appointed authorities by the Member States or associated countries after appropriate confidentiality obligations are in place.

Member States and Norway will use the Special Report solely for purposes related to the use by or for their armed forces, or security or intelligence forces, including within the framework of their cooperative programmes. Such utilisation includes, but be not limited to, the study, evaluation, assessment, research, design, development, manufacture, improvement, modification, maintenance, repair, refurbishment, and product acceptance and certification, operation, training, disposal and other post design services and product deployment, as well as the assessment and drafting of technical requirements for procurement.

The Commission and the EDA rules on security apply regarding classified information.

Any two or more Member States or Norway that, multilaterally or within the frame of an EU organisation, jointly have concluded one or several contracts with one or more beneficiaries to further develop together results obtained within the frame of a specific action that has received funding under the Preparatory Action on Defence Research, enjoy access rights to the results of the action that are owned by such beneficiary(s) and are necessary for the execution of the contract(s).

Such access rights are granted on a royalty-free basis and under specific conditions aimed at ensuring that those rights will be used only for the purpose of the contract(s) and that appropriate confidentiality obligations will be in place.

¹⁶ 'Special Report' means a specific deliverable of an action summarizing its results, providing extensive information on the basic principles, the aims, the actual outcomes, the basic properties, the performed tests, the potential benefits, the potential defence applications and the expected exploitation path of the research. Any confidential information contained in the Special Report shall be treated accordingly. The content of the Special Report can be defined in the call for proposals and furthermore in the grant agreement. In any case, participants are not required to provide intellectual property in the Special Report.

General template of the Special Report

A. GENERAL REMARK (not to be part of the template)

This Special Report (SR) is intended to be used by the Beneficiaries to provide information to EU Member States on the research performed, which can be used by all EU Member States for the following objectives:

- 1) To provide an understanding of the purpose, outcome and potential applicability of the research;*
- 2) To assess the work performed by the Beneficiaries;*
- 3) To draw up specifications for follow on research or procurement programs, thereby encouraging uptake of EU-sponsored research.*

In this perspective, the information described below is acknowledged as fulfilling the above objectives. Along those lines, the generic content of the SR should be defined in the calls for proposals. In this framework, individual calls for proposals may fine-tune the required content of the SR for a given topic.

While we expect that the SR will generally satisfy the Member States' needs, where they have specific additional information requests, they will be welcome to approach to the Beneficiaries to discuss these needs with no obligation to disclose further information: the terms and conditions of any subsequent disclosure will be subject to bilateral agreement between the Beneficiaries and the relevant Member State(s).

In any cases, the applicants are not required to provide Intellectual property.

This SR will clearly identify two kinds of information:

- 1) Information, if any, which should be treated as confidential and only disclosed by a Member State to its internal services for the purpose of understanding or assessing the work performed by the Beneficiaries. Further disclosures by a Member State shall be subject to prior request to the Beneficiaries, who will remain free to determine whether such request is acceptable and if so, under which terms and conditions.*
- 2) Information intended to be used to draw up specifications for follow-on research and procurement programs. Such information can be transmitted to potential bidders.*

As a general principle, MS should ensure that information will only be disclosed within the national administrations on a need to know basis.

B. GENERAL TEMPLATE

1. BACKGROUND, OBJECTIVES OF THE PROJECT AND STATE OF PLAY

The objective of this section is to explain the original intention of the project, the technical objectives, the composition of the consortium and the role of the Beneficiaries, the grant amount and the used methodology. This should provide elements for a sound organizational, technical and economic overview of the project.

In particular, the Special Report will provide a description of the following:

- Content of the project: synthesis of the technical content and main goals
- Description of the methodology used in the research
- Composition of the consortium: large companies and SMEs, laboratories, etc. and the nature of each Beneficiary's contribution
- Level of classification and procedures for disclosure
- State of play of the object of the project and the criticality of the study, and where relevant, any competing technologies or systems
- Grant amount
- Project duration

2. TECHNOLOGICAL RESULTS OBTAINED REFERING THE OBJECTIVES AND MILESTONES

This section summarises the achieved results compared to the prime objective and the used approach. It consists, where applicable, in a description of:

- The systems related to the technology results, including their functions
- The scientific or technical progress compared to the original state of play; technical milestones and TRL scale may be described;
- The technical challenges solved through the research.
 - A synthesis of the performance obtained with the corresponding testing conditions.

In this section, the Beneficiaries will identify data/information which can be used by the Member States to draw up specifications for follow-on research/procurement programs and which can be disclosed externally to potential bidders to allow them to participate in follow on research/procurement activities.

3. BENEFITS

This section consists in an assessment of the significant benefits that were generated by the research, and may include a description of other potential operational applications and further benefits or advantages.

Various types of benefits can be assessed, in terms of:

- Operational capability enhancement
- Defence systems and equipment improvements
- Cost reductions and possible cost saving opportunities
- Standardisation and interoperability
- Added value for Europe
- Improvement in competences
- Other...

4. POTENTIAL FURTHER DEVELOPMENTS

This section contains suggestions for additional approaches which could further develop or improve the results of the project:

- Future R & D projects, which could further consolidate the achievements of the contract for operational superiority or for strengthening European industrial competitiveness
- Future short or medium term armament programs, which could be launched after the realisation of the project
- Possible opportunities for European cooperation thorough the identification of a follow on program or study

5. ILLUSTRATIONS

Where applicable, this section will contain relevant pictures and/or diagrams illustrating the project.

6. ISSUANCE OF THE REPORT

The interim and final SR shall be provided by the consortium as agreed upon in the grant agreement.
