



HIGH REPRESENTATIVE
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ANNEX

to the

**JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT, THE
EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND
SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS**

on the Defence Investment Gaps Analysis and Way Forward

ATTACHMENT

SCOPING EU DEFENCE INVESTMENT GAPS

Endorsed by the European Council of 24-25 March, and building on the Versailles Summit declaration of 10-11 March and the Commission's defence and space packages, the Strategic Compass marks a quantum leap forward in the shared ambition to make the EU stronger and more capable in the field of security and defence. Such a stronger and more capable EU will contribute positively to global and transatlantic security and is complementary to NATO, which remains the foundation of collective defence for its members.

The Compass clearly recognises the tectonic shift in the European security architecture resulting from the Russian aggression on Ukraine, and the need to invest more and better in defence to meet the many threats and challenges of today and tomorrow. In finalising the Strategic Compass, Member States decided to incorporate the tasking decided by EU leaders in Versailles as a dedicated objective, to reflect the need for the EU to scale up its efforts to respond to the changed security environment¹.

In light of the adoption of the Strategic Compass, EDA offers below a preliminary analysis of defence "gaps", as a contribution to the work that the Commission will be carrying out in response to the Versailles tasking, anticipating also on the upcoming work that will take place to further adapt, under Member States' guidance, the output of EU defence instruments to the strategic environment. While the "demand side" of the equation must be the starting point, the following preliminary analysis will need to be complemented with proposals and recommendations addressing the supply side, through cooperative solutions, to offer a comprehensive view of defence investment gaps and strengthening measures for the European defence industrial and technological base.

DEFENCE INVESTMENT GAPS

Defence investment gaps can be understood in several ways. At the military and operational level, "gaps" are often interpreted as **unachieved levels of ambition** in terms of force or capability shortfalls sometimes expressed as quantitative targets. From a capability development perspective, "defence investment gaps" may be defined as the difference between a stated national priority and the level of investment effectively committed to that priority. At the political and strategic level, however, gaps should be understood in a more comprehensive way, first in reference to the **shortfalls inherited from past cuts in defence investments**, and second to the **present return of war to Europe**, which stands as a true paradigm shift.

Up to now most European militaries have been largely geared up for low- to mid-intensity operations. This is explained by the **sustained post-Cold War defence reductions**, followed by further cuts after the 2008 economic crisis, and also by the **overall reorientation** away from territorial defence toward crisis management missions and "out of area" interventions.

The conjunction of these two trends, deep budgetary cuts and focus on expeditionary operations, led to severe reductions in overall force volumes, equipment quantities, and stockpiles – now further depleted by the support to Ukraine – as well as a neglect of the capacity to operate full-spectrum. It was presumed that opponents would be low-level and asymmetric, while European forces would always enjoy

¹ "We invite the Commission, in coordination with the European Defence Agency, to put forward an analysis of the defence investment gaps by mid-May and to propose any further initiative necessary to strengthen the European defence industrial and technological base."

information and air superiority. In addition, it was also assumed that existing shortfalls and missing high-end capabilities would be mitigated by non-EU NATO Allies, first and foremost the US.

Several of these assumptions could prove inadequate in the future, with the real possibility of a non-article 5 conflict involving high-intensity warfare and large-scale operations around Europe or beyond, and with the support from US forces possibly constrained by contingencies in other theatres.

Accordingly, **defence investment gaps** should be understood both as **deferred investments** at the national level, but also and more broadly as what is needed at the EU-wide level for Member States to be able to address a situation comparable in scale and intensity to the on-going war in Ukraine. Such strengthening of national capabilities will meet the objectives of the Strategic Compass (including the Rapid Deployment Capacity) and will also directly benefit NATO, which remains the foundation of collective defence for its members. This means being able to conduct the full spectrum of military tasks and **to address a large-scale conflict situation, possibly involving a “symmetric” opponent** on the periphery of the Union or beyond. For the EU, the challenge is how to adjust upward the existing collaborative instruments and processes, to help Member States develop capabilities “at scale”.

MAKING BETTER USE OF EXISTING EU TOOLS

The **Strategic Compass** identifies the need to develop full spectrum forces that **are agile, interoperable, technologically advanced and resilient**. It also calls on the Member States to invest more in **strategic enablers** and advance towards **full spectrum high-end capabilities**.

The goals and overall ambition set out in the Compass have been informed by the **Capability Development Plan (CDP) and the Coordinated Annual Review on Defence (CARD)**, which highlight gaps at both national and EU level, spanning the full capability spectrum. The output of these instruments is coherent with the requirements stemming out of the respective NATO processes, notably the NATO Defence Planning Process, and will enhance the readiness, robustness and interoperability of the Member States’ single set of forces.

CDP and CARD are therefore a sound foundation upon which to build **an analysis of defence investment gaps**. The most comprehensive EU-level source of information on defence investment is **CARD**. Its raw data contains significant information on Member States’ defence investments, including on national priorities and short-term procurement of equipment. **CARD was designed to measure performance against EU capability development priorities agreed by Member States** in the Capability Development Plan. On that basis, CARD identifies collaborative opportunities to close capability gaps across all planning horizons. The political orientations and guidance provided by Member States in the Strategic Compass will be reflected in the upcoming CDP revision, as well as in the next CARD report to be presented to Defence Ministers in November 2022².

However, the **new security environment forces us to speed up** all envisaged efforts in the short term, and to shorten the timelines envisaged to overcome these gaps. While making full use of our instruments (CDP, CARD), as well as our implementation frameworks and programmes (PESCO, EDF), we must

² The decision regarding the next revision of CDP is to be made at the EDA Steering Board in June 2022. The second CARD cycle, reviewing the implementation by Member States of EU Capability Development Priorities resulting from the 2018 CDP and launched before the Strategic Compass was adopted, is currently on-going with a 2022 CARD Report to be delivered in November 2022. The third CARD cycle is expected to start in the Autumn 2023, synchronised with the NDPP Review.

deliver **sharper** (higher end) capabilities and **forward** their delivery as much as possible, preferably in a cooperative way.

Accordingly, the analysis displays findings across three **overlapping time horizons**:

- **First**, an immediate step should be to work on the combat **readiness** of forces and capabilities;
- **Second**, starting in 2022-23 with an impact within the next 5 years, the focus should be placed on **augmenting the mass and volume of existing capabilities**;
- **Third**, in the mid-to-long term, starting as soon as possible but with an impact in 10 years and beyond, the focus should be on **reinforcement and modernisation**: adapting R&T activities and capability development to cope with the possibility of large-scale, high-intensity operations.

Anticipating the expected revision of the CDP, the measures proposed below along three lines of action do not define new priorities but are directly drawn from the results of the EU defence initiatives and complement them. Considering the new security environment, these lines of action focus on **areas** to be investigated and “**scaled up**”.

Care must be taken across all three-time horizons that the material development, i.e. technical and technological aspects of capabilities, is combined with high attention to the recruitment, education, and training of qualified personnel.

ANALYSIS OF DEFENCE INVESTMENT GAPS ALONG LINES OF ACTION

1. BE PREPARED: READINESS INCLUDING REPLENISHMENT

This **first line of action**'s objective is to improve as soon as possible the **combat readiness** of **existing forces and capabilities**. This would also contribute to the **EU Rapid Deployment Capacity**, allowing the swift deployment of a modular force in a non-permissive environment as set up in the Act chapter of the Strategic Compass. Thus, gaps are here areas where efforts are urgently required based on activities conducted with Member States. The focus is on ensuring the availability of **sufficient initial provisions and stockpiles of ammunition** (including specific missiles), initial supplies and logistics support, force protection and mine counter measure equipment, while **training forces**, testing and hardening chains of command, and improving data collection means and information sharing.

This first line of action thus encompasses mainly investing in **training and rapid joint procurement of initial provisions**. Such joint procurement, possibly incentivised at EU level, requires discussing with manufacturers how to increase their existing production lines/capacities. Coordination with NATO will be also important to avoid unnecessary duplications in carrying forward these activities.

2. AUGMENT EXISTING FORCES AND CAPABILITIES

In a **second line of action** starting in parallel, proposed measures – expected to deliver within the next 5 years – are aimed at **reinforcing existing force structures quantitatively and qualitatively** by incorporating cutting edge military capability available on the market or upgrading existing ones. Main efforts should be focused on **areas and enablers** which were **neglected in the past** but would certainly be required in large-scale, high intensity scenarios while also useful for most kinds of operations. These include, inter alia, **augmented capabilities** in air-to-air refueling or counter-UAS, modernisation of fighters, air defences, and artillery, as well as cyber capabilities, communication and information

systems or earth observation and satellite communication. Although Member States have declared in the CARD framework most of these areas as a short-term (next five years) priority, planned investment in many cases does not begin before 2023-2025. In some other cases, these priorities are currently unfunded and are thus unlikely to be delivered in the short-term.

3. REINFORCE AND MODERNISE CAPABILITIES

Beyond the recommendations for short and medium-term activities for Member States and the EU, the analysis should also not lose sight of long-term perspectives: **repairing the past does not mean winning the future.**

Building on the 2020 CARD Report recommendations to reduce the fragmentation of the European capability landscape, the ‘Invest’ chapter of the Strategic Compass stresses the need to plan jointly the next generation of full-spectrum military capabilities and acknowledges the initiatives already undertaken by some Member States, such as next generation Main Battle Tanks or fighter aircraft.

In a **third line of action** focusing on the mid- to long term horizon, filling the investment gaps should remain driven by the risk of a high-intensity, large-scale conflict on the periphery of the Union or beyond. Accordingly, R&T activities and capability development efforts should be adjusted upward as soon as possible, both in terms of overall volume and technological edge.

Ensuring that the reinforcement of defence capabilities is resilient in the long term requires a **cooperative approach** towards **innovation** and **Emerging and Disruptive Technologies (EDTs)**, due to their potentially revolutionary impact on future military capabilities and operations. EDTs commonly include Artificial Intelligence (AI), big data, quantum technology, robotics, autonomous systems, new advanced materials, blockchain, hypersonic weapons systems and biotechnologies applied to human enhancement. For instance, hypersonic weapon systems have recently made their appearance on the battlefield; understanding the underlying technologies across the entire engagement chain (i.e. from early warning to interception to battle damage assessment) will be key to ensuring a timely and effective reaction.

The Focus Areas Main Battle Tanks, Anti-Access/Area Denial (A2/AD), Defence in Space, Enhanced Military Mobility, and European Patrol Class Surface Ships (EPC2S) identified and agreed upon in the CARD 2020 Report remain fully relevant in the current and foreseeable security context. Based on an analysis of inherent collaborative opportunities, they were designed to encourage Member States to address closely together these particular areas (among agreed EU capability development priorities), thus reducing excessive fragmentation. Addressing these gaps would not only structure the EU defence landscape on key future capabilities, but also create, at European level, operational added value through increased interoperability, economies of scale, rationalised sustainability, and simplified deployability.

Complementing these Focus Areas to fully address a more demanding security environment, several additional critical gaps should also be considered and addressed cooperatively. In particular, **Suppression/Destruction of Enemy Air Defence (SEAD/DEAD)** capabilities, that are a serious gap today, will prove key in countering the proliferation of air defences and guarantee EU Member States’ freedom of action. Likewise, **Space Situational Awareness (SSA)** underpins space-based services that are indispensable for the conduct of military operations in all domains. The **digitalisation of ground combat**, including manned/unmanned teaming, and the **multidimensional protection of naval forces** will prove equally critical.

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Bringing the EU capabilities landscape “at scale” with the new strategic environment will require time and dedicated efforts, including sustained budgetary resources. It will be essential in that respect not to lose sight of the twin imperative of **preparing the future** and **working collaboratively** towards an efficient, coherent, and defragmented EU capability landscape. The current momentum to increase defence capabilities should not side-track Member States from pursuing the path of wide cooperation, **nor should repairing the past come at the expense of winning the future**. To maximise efficiencies while strengthening the European Defence Technological and Industrial Base (EDTIB), **filling capability gaps will require not only increased national resources but also EU incentives, mechanisms and frameworks** based notably on PESCO and EDF. In addition, the potential of VAT exemption measures, additional funding programmes, or actionable joint procurement and reinforced security of supply within the EU, should be explored, building on existing roles and available expertise. EDA stands ready to contribute in that respect.

DETAILED LINES OF ACTION

1. BE PREPARED: READINESS INCLUDING REPLENISHMENT

GAPS TO BE FILLED:

- Availability of sufficient initial provisions and stockpiles of ammunition (including specific missiles);
- Initial logistic supplies and logistic support (transport enablers, military engineering, petrol, oil and lubricants supply) to improve our ability to sustain high-intensity combat operations;
- Provisions of force protection equipment adapted to operational context;
- Training and certifying forces, and testing and hardening chains of command;
- Improving data collection means and info sharing.

TO ADDRESS THESE GAPS FOCUS SHOULD BE ON:

- **Training.** Although most of individual and unit training is done on a national or bilateral basis, additional multinational efforts to improve interoperability and efficiency have produced good effects in many specific areas (such as Multi-Domain operations, Airlift transport, Cyber operations, Air-medevac operations, rotary wing operations, RPAS, Space, C4ISR). However, there is a need to further develop quickly unit training at all levels, in complementarity with NATO whenever possible. This requires dedicated platforms for Cyber Exercises, as well as live, joint exercises in all domains (conducting for instance Mine Countermeasure exercises/missions involving EU navies with capabilities in mine sweeping). Combat training would also benefit from investment in simulators and synthetic environment, in order to train as we fight in complex environments. In addition, facilitating the **integration of military air capabilities** in the increasingly congested **European airspace** will be key in ensuring that military aviation continues to train realistically, and is able to operate in peace and conflict times within and from the EU.
- **Rapid joint procurement.** The first concrete measure could be to facilitate rapid joint procurement supporting the key capabilities and items listed above, such as ISR, SatCom, ammunition, transport enablers, logistic supplies, individual protection systems, and mine counter measure equipment. Such joint procurement, possibly incentivised at EU level, requires discussing with manufacturers how to increase their existing related production lines/capacities.

2. AUGMENTATION OF EXISTING FORCES AND CAPABILITIES

RECOMMENDED AUGMENTATIONS BY DOMAINS:

Air Domain

- **Modernisation of fighter aircraft**, flagged as an investment priority by a large number of Member States (MS), would help retain a sufficient overall volume of fighters in Europe – the development of next-generation air fighters should also be accelerated to keep this volume at a sufficient level. Modernising existing fleets should involve upgrading electronic warfare suites.
- **Air Defence-specific effectors** (with associated C2), in particular short range air defence (SHORAD) and ground-based air defence (GBAD), are identified as a priority but currently underfunded. Existing stockpiles of mid- and long-range air ammunitions should be augmented (Precision Guided Munitions and cruise missiles).
- **C-UAS (countering drones)**, is a capability where investments from MS are not at the level making it possible to cope with a growing challenge (declared in CARD as a short-term priority). This capability is constantly evolving, and the current industrial offer remains fragmented and of limited operational use. Although possible, rapid acquisitions would not be able to face current challenges without further development.
- **Weaponised medium-sized drones** have proven their efficiency in manned-unmanned operations. The rapid acquisition of capacities should go along with accelerating the development of future ones.
- Increasing **Air-to-Air Refuelling capability** (more tanker-aircraft) remains a priority even though recent investments have been significant in the EU. As the overall capability is dimensioned for peacetime, further investment should be pursued as called for in the Strategic Compass, building on the experience of the Multinational MRTT Fleet (MMF).

Land Domain

- **Combat Support (notably Artillery and counter Artillery)** is declared as a priority by a large number of MS in the CARD context, but associated budgets remain limited as they are mostly focused on peacetime, training activities.
- **Armoured ground combat, including Main Battle Tank (MBT), anti-tanks weapons, wheeled and tracked vehicles.** The land domain sector in the EU is historically the most fragmented and heavily driven by national considerations. The EU and its Member States should work on upgrading existing capabilities while in parallel developing and refining generic open communication architecture standards in collaboration with industrial players.

Maritime Domain

- **Naval Mine Warfare** is declared as a priority by many MS in the CARD framework, but with a limited level of investment which does not cope with the strategic context. Assuring maritime force protection is a prerequisite to any deployment of naval forces, lessons learned from recent conflicts demonstrate how important it is to be able to do active mine laying and as well to do mine-clearing. Thus, current mine warfare capabilities need to be further increased, keeping in mind that further

development based on unmanned systems is expected to deliver an enhanced capability and require an acceleration of projects, including the related PESCO projects.

Cyberspace Domain

- **Cyber capabilities** (notably Cyber Situational Awareness and information sharing, Cyber Deployable capabilities, improving cyber Exercise & Training, build cyber reserve forces and refreshing reservists through training), will certainly become a more prominent domain, requiring an increased operational engagement. The acceleration of existing related PESCO projects would allow to deliver earlier at EU level. The European Market for cyber security/defence products and services, despite of its existing capacities and ongoing programmes, is still fragmented, dependent on third markets, and does not provide a sound and trusted supply chain. The main challenges are related to estimated labour-force shortage, simulation and training, as well as to the integration of cyber-specific and disruptive technologies.
- **Resilient and interoperable Multi-Domain Command & Control (C2)** capabilities from the strategic down to the tactical level and across all domain boundaries are critical enablers for any military operation and mission. Two key areas have been identified to enhance the related capabilities, (1) contributing to the improvement of EU's cross-domain C2 capacities, and (2) providing a deployable joint interoperable C2 capability readily available for integration to be able to operate more efficiently with international and regional partners.
- **Interoperable communications and information systems (CIS)** Infrastructure including agile Line-of-Sight (LOS) and Beyond-Line-of-Sight (BLOS) Communications – compliant with the Federated Mission Network (FMN) Concept to enable “day one connectivity” – are needed to improve and strengthen autonomous, resilient, interoperable, quick and safe data/communication exchange, transfer and recording CIS and data link capabilities at tactical level.

Space domain

- **Earth observation** reinforces and extends the ability to constantly monitor large areas, typically through constellations of small/mini satellites. This is a priority identified by a limited number of MS with an envisaged investment of €3 to €4 billion before the mid-2020s. The PESCO project Common Hub for Governmental Imagery (CoHGI) could be further strengthened and accelerated, including by an increased level of participation. The fast growth of the number of European enterprises exploiting the open Earth observation satellites' immense amount of data made available through ESA and Copernicus will soon face a bottleneck in terms of skilled graduates. MS should also invest collaboratively to benefit from big data management and analysis through Artificial Intelligence (AI).
- **Satellite communication** remains a critical enabler for Member States' forces and EU CSDP actors to rapidly deploy tactical, operational and strategic communications tools/systems. Complementary to the EU Space Programme with EU GOVSATCOM and the EU Secure Connectivity Programme, and to overcome the heterogeneous distribution of SatCom capabilities across the EU, to reduce dependency on non-EU SatCom service providers and to have quick, secure, resilient and guaranteed access to an enhanced SatCom service portfolio, investment into new constellations, launchers, European Waveforms and SatCom training is key to ensuring and improving resilient Command and Control and information superiority.

3. REINFORCE AND MODERNISE CAPABILITIES

While the second line of action was mainly inferred from CARD data, this third line of action complements the exploitation of CARD, in particular the Focus Areas, with elements derived from the Strategic Context Cases (SCCs) – SCCs guide MS' efforts to implement in a collaborative manner the EU agreed Capability development priorities throughout different time horizons, and incorporate R&T opportunities³.

Reinforcing defence capabilities in an enduring, long-term way will require a coordinated and cooperative approach towards **Innovation** and **Emerging and Disruptive Technologies (EDTs)**, given their potentially revolutionary impact on future military capabilities and operations. While ambitious and resource-intensive research programmes are currently implemented by major world powers, Europe risks lagging behind, potentially facing disruptive surprises in the future. For instance, AI solutions could provide significant advantages in the field of cyber security, by enabling the development of self-configuring networks capable of detecting vulnerabilities and self-patching. AI will also make it possible to organise, combine and analyse large datasets based on imagery or the Internet of Things. Militarily, this will mean improved logistics and operational efficiency, real-time monitoring of assets, predictive assessments of campaign plans, and quicker decision making.

FOCUS AREAS:

- **Main Battle Tanks** (MBTs – *Land Domain*) combine mobility, firepower and protection and are the backbone of land operations. Beyond updating existing fleets in the mid-term, it will be necessary to introduce more modern and capable MBT, benefiting from R&T on hybrid power trains, 360 degrees enhanced shared situational awareness and active protection systems. Developing modular and open platforms that can be easily upgraded and reconfigured in light of technological evolutions will improve interoperability and logistical standardisation as well as security of supply.
- **A2/AD** (*Air Domain*) is a critical capacity to protect citizens, forces and infrastructures, and is also required to ensure freedom of action in a contested air space. The fast increase in air threats, from high end capacities including air precision strikes, cruise and ballistic missiles, to low-speed, low signature threats like swarms of UAS, requires to be able to integrate and combine radars and effectors (rapid-fire, various kinetic and non-kinetic capacities) as active defence systems. Investments are needed in developing capacities to detect (long range radars / early warning) and neutralise adversary systems (notably SHORAD and deployable tactical anti-missiles, hypersonic missiles, directed energy weapons), through integrated C2 systems. An acceleration of the related PESCO project TWISTER would positively impact the capability landscape in that domain. European industry has strong competencies in all dimensions of A2/AD (sensors, effectors, C2). Further investment could scale up production facilities, in particular regarding effectors.
- **Defence in Space** (*Space Domain*) aims at providing and ensuring unconstrained access to space-based services to support all operations in more contested environments. The related PESCO project Defence of Space Assets could be further strengthened to reach these important capabilities, including by an increased level of participation. The EDTIB's dependency on components and materials, as well as the exploitation of AI and on-board processing, are gaps to be tackled by MS.

³ SCCs include R&T opportunities by encompassing Technology Building Blocks (TBBs) stemming from the Overarching Strategic Research Agenda (OSRA).

- **Enhanced Military Mobility** (EMM – *Cross Domain*) enables effective, timely and safe movement and transport of personnel and assets within and beyond Europe. EMM is already a high priority of strategic relevance amongst all MS. High-intensity operations require to consider Military Mobility in a holistic manner, in terms of improved resilience, Air and Sea Lift capabilities (including unmanned systems), logistical support and enhanced Command and Control. In this respect, an acceleration of the related PESCO projects Military Mobility, Future Medium-size Tactical Cargo, and Strategic Air Transport for Outsized Cargo would positively impact the capability landscape.
- The Focus Area **European Patrol Class Surface Ships** (EPC2S - *Maritime Domain*) aims at improving coherence of MS dedicated ships in the future to ensure that military presence and power projection at sea will meet the future challenges of an ever-evolving operational environment. ISR capabilities and the protection of sea lines of communications will benefit from high end and interconnected ships augmented by unmanned platforms for surface and underwater control and electronic warfare. This new class of ship characterised by innovative energy generation technologies and AI-based combat systems will have an impact on both Maritime Situational Awareness and Surface Superiority, adapted to sea basins with possible configurations based on Member States' needs. An acceleration of the related PESCO project EPC would positively impact the capability landscape in the maritime domain. Although characterised by a high degree of fragmentation, the European military shipbuilding sector is highly competitive across the whole range of naval ships and almost the totality of its core systems and components.

ADDITIONAL CRITICAL GAPS TO BE POTENTIALLY ADDRESSED:

The following gaps do not proceed from a comprehensive analysis of these domains but represent key points of concern complementary to Focus Areas, to be further investigated.

Air Domain

- Denying adversaries' freedom of action in areas of operations requires the ability to destroy A2/AD "bubbles" that are more and more effective, based on the proliferation of GBAD systems and their digitalisation. **Suppression/Destruction of Enemy Air Defence (SEAD/DEAD)** capabilities are already today a critical gap, as MS have very few specialised sensors and weapons to locate and target GBAD systems. Suppression will typically require loitering ammunition or UAS swarms, which are costly and complex to develop.

Land Domain

- **Digitalisation of ground combat**, manned/unmanned teaming in combined air support to ground is influencing capability development across all domains. A structured joint and multinational approach will improve interoperability and standardisation amongst land forces as well as with civilian authorities.

Maritime Domain

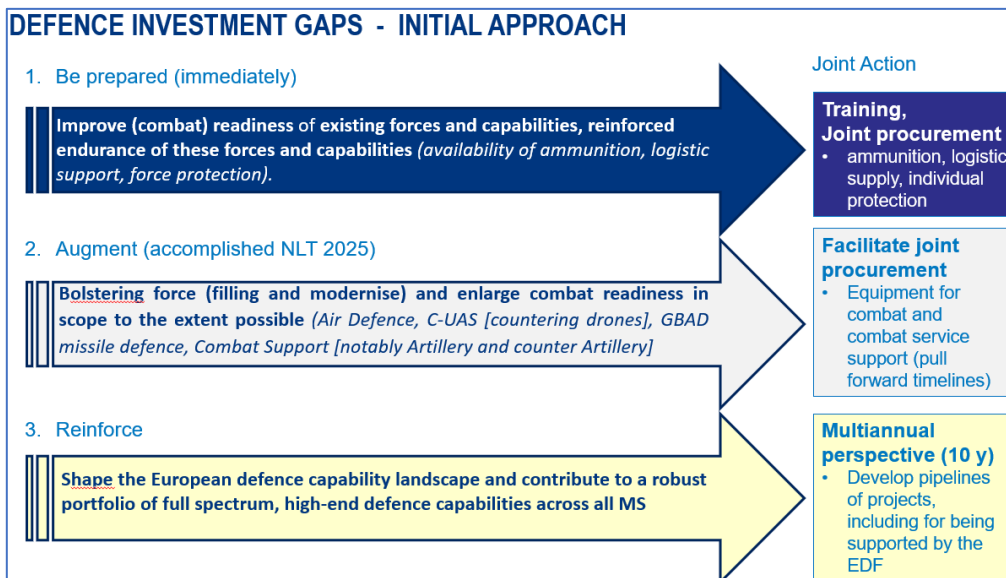
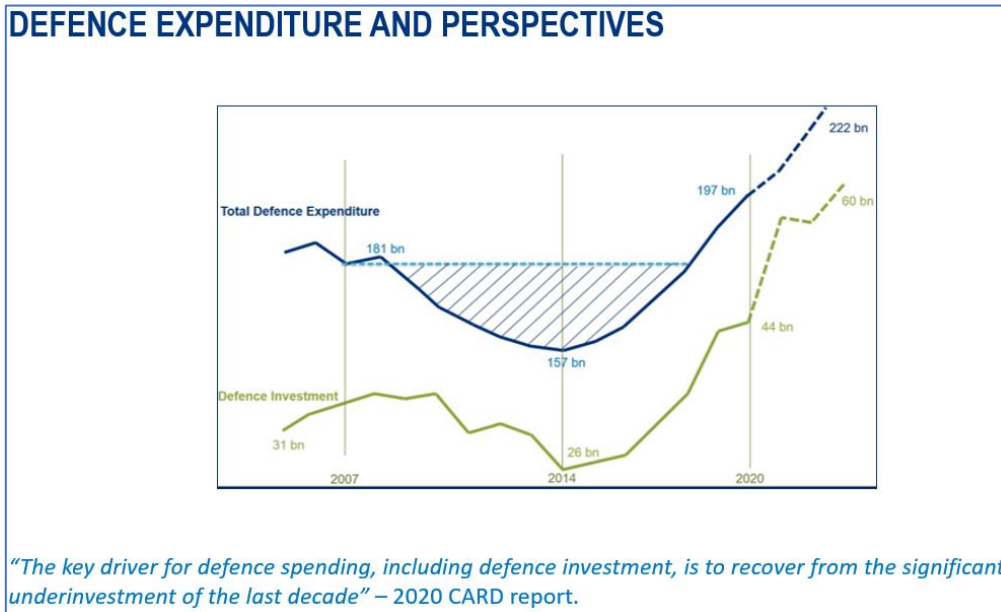
- **Multidimensional protection of naval forces** (*Anti-Aircraft Warfare (AAW), Anti-Surface Warfare (ASuW), Anti Subsurface Warfare (ASW), Maritime Mine Counter Measures (MMCM), Mine Warfare*) will require investments to adapt the related threat detection and mitigation. EU Member States Maritime Patrol Aircraft (MPA) fleets are ageing, and there is a need to accelerate their replacement, notably to ensure ASW role. The EDTIB hosts essential assets in many of these

capabilities, notably leading Anti-Submarine Warfare capabilities at sensors, platforms, underwater communication, and processing software levels.

Space Domain

- **Space situational awareness (SSA)** is an underpinning capability, fundamental to enable all space operations, to protect satellites and to reinforce EU autonomy for detection, tracking, identification and characterisation of space objects. Accordingly, SSA is key to ensuring space-based communication and information services that are indispensable to conduct military operations in all domains.

SUPPORTING GRAPHS



1. BE PREPARED

Combat Readiness, including replenishment

Training

- Training & certifying forces, in all domains (notably Cyber), in realistic & complex environments
- Testing & hardening chains of command

Joint Procurement

- Ammunition (including specific missiles)
- Logistic supplies
- Logistic support (transport enablers, military engineering, petrol, oil and lubricants supply)
- Force protection equipment (individual systems, mine counter measure equipment...)
- Data collection means and info sharing (ISR, SatCom, ..)

2. AUGMENT EXISTING FORCES AND CAPABILITIES

Augment mass & volumes

Land domain

- Combat Support (notably Artillery and counter Artillery)
- Armoured ground combat, including MBT, anti-tanks weapons, wheeled and tracked vehicles

Cyberspace domain

- Cyber capabilities
- Resilient and interoperable Multi-Domain Command & Control (C2)
- Interoperable communications and information systems (CIS)

Air domain

- Modernisation of fighter aircraft
- Air Defence-specific effectors
- Counter UAS
- Weaponised medium sized drones
- Air-to-Air Refuelling

Maritime domain

- Naval Mine Warfare

Space domain

- Earth observation
- Satellite communication

3. REINFORCE AND MODERNISE CAPABILITIES

Address the future

