



CHIEF EXECUTIVE
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BERLIN SECURITY CONFERENCE 2021

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Vital Choice for Europe: Defence Innovation or Defence Irrelevance

Distinguished Audience, Dear Colleagues,

- It's a pleasure for me to address you at this conference that brings together such a broad range of views from EU member states and institutions, military and security organisations, academia and think tanks, as well as from industry and media.
- As the **title of our conference** indicates, we have all gathered today with the shared interest in developing European capabilities for a credible defence.
- And let me start by stating that the credibility of our defence lies not only in our ability to act, but also our **ability to innovate**.
- Therefore, in my keynote speech today, I wish to **focus on defence innovation**, which I think, is crucial if we want to be a credible and autonomous global security provider.
- Those who don't innovate, they stay behind. This is true for many spheres of life and for defence.

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- Innovation has consistently been, with trade, a major **stimulus to economic growth** throughout the history of mankind. Technological innovation is now more than ever both an **accelerator** of economic competition as well as a **consequence** of it, as both nations and companies strive not to lag behind.
- We have found ourselves in a **technological race** with our partners, our competitors, potential adversaries as well as private sector. The escalating competition between the US and China is now all-encompassing: military, economic and technological.
- To retain a qualitative and sharp edge over competitors and potential adversaries, we must focus on **developing high-end capabilities** to equip full-spectrum military forces.
- Let me remind you that **defence sector** has always been at the **forefront of innovation**.
- There are multiple examples **throughout recent history** of military innovation playing a decisive role of a game changer in international rivalries and conflicts, from the use of radars during 2nd World War, Precision Guided Munitions in 1991 Gulf War, to drones in current battlefields – but also relatively primitive, yet innovative Improvised Explosive Devices used by terrorists.
- With the rapid development of new and often disruptive technologies in the civilian sphere and their fast weaponization, today, more than ever before,

innovation is a geostrategic factor shaping the international security environment and global balance of power.

- Therefore **those who set technological standards today will dominate the future tomorrow.**
- So our choice, the vital choice for Europe, is clear: **defence innovation or defence irrelevance.**
- To fully embrace defence innovation, the EU and its Member States need to do **much more. And do it much more together**, as fragmentation of innovative activities and industrial base is the essential obstacle in our efforts to get a bigger bang for a Euro.
- A lack of dedicated funding is another one. In 2020, we conducted a first ever in-depth **analysis of the European defence landscape** through the Coordinated Review of Defence (CARD) and in addition to capability development, operational aspects and defence industry support, we also analysed the investment in **defence R&T at the European level.**
- In 2020 EU MS spent € 2.5 billion on Research & Technology– which amounts to only 1,2% of the total defence expenditure with tendency for further decrease in 2021-2023 (when the related PESCO commitment sets the bar at 2% of the defence budgets).
- Comparing this numbers with other global actors, we lag far behind in terms of investing in innovation. **And the gap is widening.**

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- Let me give you a couple of examples: the **US Department of Defence** invests at least \$14 billion each year in research and innovation (around 2% of the whole US defence budget) including \$ 3.5 billion for DARPA (Defense Advanced Research Projects Agency). And **Israel** spends 5% of its GDP on this (civilian and defence Research & Development combined).
- With respect to “civilian” innovation, **Google** spends on Research & Development almost 10 times more than EU defence ministries together!
- Given this **innovation imperative**, the question for me is how can EDA best serve the MS and the needs of their armed forces?
- Allow me to underline a few things.
- When it comes to **EDA and defence innovation - we do not start from scratch**. The imperative of technological innovation has been a part of the Agency’s DNA since our founding in 2004 and we remain strongly committed to supporting our Member States in innovating while implementing the EU defence initiatives.
- **Our Coordinated Annual Review of Defence** not only analysed state of play of MS defence spending, defence planning and defence cooperation, but also proposed over 100 collaborative opportunities in capability development and research & technology.
- **Also PESCO**, the Permanent Structured Cooperation, fosters defence innovation through 60 collaborative projects run by pMS as well as through permanent binding commitment of its members to increase the share of

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expenditure allocated to defence research and technology to 2% of total defence spending.

- Already in 2017-18, EDA conducted a **wide analysis of tools and strategies used to foster innovation** (in 32 states including non-EU, organisations such as DARPA, non-defence companies such as Amazon and Alphabet/Google).
- Based on this analysis, EDA developed a **capability-driven, tailored to defence, innovation methodology**. Notably, this proven capability-drive approach relies on EDA tools for technology watch and technology foresight to identify innovative technologies in a forward-looking perspective.
- **EDA CapTechs**, the working groups of defence R&T experts, play a central role in the identification of technological trends and subsequent development of new collaborative project.
- And through this work, **EDA is already delivering on innovation**. Let me just mention, out of our many ongoing projects, some prominent innovative **examples of incorporating emerging disruptive technologies in defence** and supporting a new generation of military capabilities.
 - A first example is the **EuroSWARM** project that demonstrates an efficient and effective operation of unmanned **swarm systems of drones enabled by the AI**.
 - A second example, **PILUM** is developing **Projectiles for Increased Long-range effects Using electroMagnetic railgun**. In the future, this may lead

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to the development of less costly alternatives to missiles for medium range targets.

- My third example relates to **TALOS**, a **new direct energy weapon** that consists of generating **high power laser beam** which can temporarily disable, damage or destroy targets. This technology could provide an effective weapon enhancement for ground, air and maritime operations, typically for defensive missions.
- Allow me to also highlight here the **crucial involvement of industry in EDA's innovation framework**. We will not be able to deliver on defence innovation without the involvement of a vibrant and resilient European Defence Industrial and Technological Base. We need harnessing the huge innovation potential across the EU.
- EDA's work on **prioritisation of EU capability development**, including the monitoring of its implementation through CARD, our role in the PESCO secretariat, link to the European Defence Fund, and our activities in support of EU missions and operations – all that makes EDA a natural operator when it comes to facilitating EU defence innovation.
- Having this in mind, in its Conclusions from May, the Council (FAC) of the EU called for **reinforcing the role played by the EDA in fostering defence innovation**.
- Only few days ago (16 November), the Ministers of Defence discussed possible scenarios on how to strengthen defence innovation in the EU by

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reinforcing the role of EDA, including the **possible establishment of a defence innovation hub** within the Agency.

- Such a **network of defence innovation centres** around Europe would promote synergies with the industrial sector and foster an ecosystem of R&D resources, expertise, and infrastructure in defence.
- Let me address here upfront also the question regarding relations **between EDA's hub and NATO's DIANA project**.
- We took good note of the creation of the NATO innovation fund as part of a wider initiative to support defence innovation in the NATO. We look forward to receiving more information about it from NATO, however, let me underline that EDA already exists and delivers, including on innovation.
- Being in the core of defence community, we are fully aware that there is only a single set of experts in the MS, we will also ensure that **no unnecessary duplication** takes place. Nevertheless, **complementarity should be a two-way street**.
- What eventually matters is the coherence of output and the added-value for our MS; in that respect, a **degree of parallelism is not only inevitable but also positive** ("redundancy") as there is often more than one solution to a given military challenge.
- On that note, allow me to share with you here also some of **our lessons learned on innovation**:
 - First, we need an **innovation-friendly** ecosystem and mindset.

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- Second, a **well-defined purpose** is crucial. In our case, this means **delivering modern and effective capabilities** to the military end user, while not losing sight of coherence with EU prioritisation tools.
- Third, successful defence innovation requires both **disruptive approaches** generating brand–new solutions and **incremental innovation** improving the effectiveness of existing or legacy systems.
- That’s why EDA uses a **360-degree approach to innovation**. The innovation in defence must be encouraged not only in research & technology but also interlinked with capability development, concepts and doctrines, support to operations, training, logistics, services, the environmental dimension, and procurement across all EU Member States.
- Therefore, our innovative approaches are increasingly **mainstreamed across all EDA activities**.
- In that context, two **very important forums** in defence community run by EDA should be mentioned, **Consultation Forum for Sustainable Energy in the Defence and Security Sector** and our recently launched **Incubation Forum for Circular Economy in European Defence**. Both forums work on the development of new and innovative **clean energy technologies**, which could help lower the defence carbon footprint and decrease energy dependencies in defence sector, therefore contributing to the European Green Deal.
 - One of the most prominent project so far coming out of the CF SEDSS is **RESHUB - RESilience Hub Network in Europe**, which is building a

renewable energy harvesting and hydrogen energy storage capability thus facilitate cross-Europe transportation.

- Let me conclude by highlighting my key message of today. The developments brought by innovative technologies are not only changing the parameters of the future battlefield and very possibly the character of warfare, but, above all, are becoming **one of the decisive factors in the global balance of power.**
- **Without innovating and cooperating**, without integrating new technologies in defence systems, without increasing technological resilience, the **EU will lose its strategic advantage over competitors and its interoperability** with our partners.
- In order to build technologically advanced forces at the cutting edge of technology, we **need to jointly leverage innovation, and invest more and together in R&T&I.**
- **We have a window of opportunity to accelerate European defence cooperation.** There is **now political will and more resources** behind the notion of a more capable and effective European defence.