AI Adoption and its Implications for Organizational Change in the CSDP Framework

Robert Förster (2187973)

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Public Governance across Boarders

University of Twente

WWU-Münster

First Supervisor: Dr. Claudio Matera

Second Supervisor: Dr. Caroline Fischer

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Abstract

This thesis seeks to further the understanding of AI technology in the context of an organization's readiness as it's impact on organizational dynamics remains rather vague and understudied, specifically in the context of public organizations. Moreover, the concept of AI readiness is further refined through its application to a different organizational setting, thus following the call of Jöhnk, Weißert & Wyrtki (2020) to fill this gap. To this end, this thesis asks the following main research question: *To what extent is the AI revolution likely to trigger a CSDP reform both substantially and organizationally?*

To construe the organizational AI readiness factors against the CSDP context, an ethics- and rights-based approach, as well as the body on EU integration theory is chosen. The analysis of CSDP policy documents shows, how the European Commission is exerting increasing influence in the CSDP area through funding of and drawing expertise from private military actors. Furthermore, the newly developed AI readiness framework is used to depict the shortcomings of the current CSDP in terms of AI governance. The dominant position of large defence enterprises coupled with the absence of binding regulatory frameworks in the military application of AI, curtails the participation of civil society and collaborative efforts between SMEs, MS, and other EU institutions.

List of Abbreviations

Abbreviation	Definition
AI	Artificial Intelligence
CARD	Coordinated Annual Review on Defence Report
CDP	Capability Development Plan
Commission	European Commission
Council	Council of the European Union
CSDP	Common Security and Defence Policy
CSFP	Common Security and Foreign Policy
DEFIS	Defence Industry and Space
DG	Directorate General
DGRI	Directorate General for Research and Innovation
EC	European Council
EDA	European Defence Agency
EDAP	European Defence Action Plan
EDF	European Defence Fund
EDTIC	European Defence Technological and Industrial Complex
EEAS	European External Action Service
EU	European Union
EUGS	European Union Global Strategy
EUMC	European Union Military Committee
EUMS	European Union Military Staff

EP	European Parliament
ESS	European Security Strategy
GPT	General Purpose Technology
HR	High Representative of the Union for Foreign Affairs and Security Policy
LAWS	Lethal Autonomous Weapon Systems
MLG	Multi-Level Governance
MS	Member State
NMG	New Modes of Governance
OECD	Organization for Economic Co-operation and Development
PESCO	Permanent Structured Cooperation
PMG	Politico-Military Group
PSC	Political & Security Committee
R&D	Research and Development
SP	Strategic Plan 2020-2024
Strategic Compass	Strategic Compass for Security and Defence
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union

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1. Introduction

Besides climate change and rapid urbanisation, the European Union (EU) identified the evolution of disruptive technologies, such as Artificial Intelligence (AI), as one of the major trends in its Common Security and Defence Policy (CSDP) (Lindstrom, 2020). The European Commission's (further referred to as Commission) AI Act is a first attempt to regulate this novel technology by conjoining it with European values. There is, however, ample debate on "the scope, instruments and governance framework" (Bogucki et al., 2022) of this instrument and policy goals behind it. Henceforth, changes to the organizational structure and policy of the EUs Common Security and Defence Policy (CSDP) are to be expected, especially regarding how the EU governs AI and AI supported systems. This thesis is focused on the organizational readiness needed for the adoption of AI into the CSDP framework, thus contributing to a better understanding of the relevance of AI in organizational studies (Öztürk, 2021). Because of the EU's remaining incapability of deploying force and more recent initiatives under the EU Global Strategy to counteract these developments by enhancing the EU's defence and military command and control (Fiott, 2020) the focus of this study is on the military dimension of the CSDP.

To stipulate how AI is likely to trigger substantial and organizational changes in the CSDP this thesis incorporates three theoretical approaches. After a definition of what AI means in the context of this thesis, the concept of AI readiness is introduced as a necessity to the effective and efficient use and regulation of AI for the organizational context, specifically the policy area of the CSDP. AI readiness as an indicator is important as it provides organizations with a framework to mitigate the risks AI poses and to implement AI successfully into the organization's structure (Jöhnk, Weißert & Wyrtki, 2021). The main theoretical insights in this regard are drawn from the conceptualization of organizational AI readiness as proposed by Jöhnk, Weißert & Wyrtki (2020) but adapted to the specific CSDP context. This also helps to test the framework against a different organizational type from the one originally considered by those authors and, as the authors argue, to differentiate the readiness factors in the specific organizational context of CSDP. Since the AI readiness factors are correlated to ethical issues this thesis' theoretical background is also informed by the Principled Artificial Intelligence project as postulated by Fjeld et al. (2020) to refine the AI readiness factors. As a last theoretical backdrop, the existing theoretical body associated with the CSDP policy area is applied to show what challenges emerge from the adoption of AI in the context of defence and governance. The CSDP is classically associated with an intergovernmental approach to security and defence dependent on individual Member State (MS) initiatives. Recent ambitions by the Commission and the European Council (EC), however, show that the EU institutions do not only promote an integrative approach of security and defence towards the EU institutional framework through regulations and soft modes of governance (Engelbrekt et al., 2021) but also closer cooperation and cohesion of MS actions in this field. This introduces new actors (private(-military) and civil) to the landscape of the CSDP adding to its complexity, but also raises ethical and governance challenges.

In order to analyse the extent to which the EU's CSDP is adapting to the AI revolution whilst being vigilant of the human rights repercussion defence policy may have, the following main research question and set of sub questions have been identified:

Main research question

To what extent is the AI revolution likely to trigger a CSDP reform both substantially and organizationally?

Sub questions

1. What are the prerequisite factors for an effective and efficient adoption of AI in the CSDP?
2. What are the ethical challenges and implications associated with the adoption of AI into the CSDP?
3. How does the EU integrate private military actors into the CSDP framework?

The objective of the first sub question is to explore the organizational AI readiness factors relevant for the CSDP. To this end, the second sub question will aid in construing these factors based on ethical and EU values. Moreover, this has the purpose of reflecting on the EU integration literature to specify the analytical framework on the backdrop of Liberal Intergovernmentalism, Neofunctionalism, Multi-level Governance, Federalism, and the New Modes of Governance. The final sub question is used to, on the one side, reveal the current organizational and power structure of the CSDP and, on the other side, stipulate what governance issues arise from the integration of private military actors. Together, the sub questions will inform the coding scheme used to analyse the chosen policy documents. In order to address and answer them, the analysis will be conducted through a Content Analysis using Atlas.ti as an analytical tool.

This thesis continues as follows; In the second chapter, the theoretical background of this thesis will be discussed. Continuing, the third chapter elaborates the research design, the method of data collection, the method of data analysis, and presents the Coding Scheme deduced from the theoretical background. The first part of the fourth chapter discusses the relevant organizational AI readiness factors for the CSDP. Moving on, the analysis of the actors in the CSDP is conducted based on sub question three. As a last step in chapter four, the AI readiness of the CSDP is assessed based on the previously elaborated factors. The thesis concludes with the fifth chapter and a discussion on future avenues for research.

2. Theoretical background

As a first step, a definition of what constitutes a technology and how AI relates to this definition is presented. A technology can be defined as an accumulative product of knowledge and skills which are translated into processes and objects to achieve a certain goal (de Weck, 2022). Thus, emphasizing the designed and material, as the processes depend on some form of external, material aid, character of technology (Agar, 2019). In this regard, AI is a technology in so far as it is designed to achieve a specific goal through the help of material means. As an example, if the goal is to improve pattern recognition of drones, implementing AI powered software can help achieve better outcomes. However, the implementation depends on external factors such as the quality of cameras, sufficient computing capabilities, but also the know-how of the operator. In the broader context of digital technologies, AI is different from the digital technologies that have been implemented in the past (cf. mobile technologies), as well as unique and individualistic in its applications (Kurup & Gupta, 2022; Sciberras & Dingli, 2023). This individuality creates a multitude of possible definitions for what exactly AI is, however, they can be tailored to the specific context AI is applied to. To this end, Kurup & Gupta (2022) give an intriguing definition for the organizational context: “AI is defined as the capability to recognize, understand, derive insights, and learn from the data to meet the strategic goals.” The EU uses a similar definition with the additional notion that AI is a system designed by humans to achieve a complex goal in the best way possible through data-driven reasoning and filtered through pre-set parameters (Stephens & Vashishtha, 2021). These definitions entail a minimum degree of autonomy needed for AI systems to operate efficiently and effectively, which is precisely why AI is unique compared to other digital technologies (Öztürk, 2021). Applied to the organizational context and adoption process, this postulates a set of challenges. The application possibilities of AI are ramified by its nature as a general purpose technology (GPT), which requires a certain degree of knowledge of this technology as well as goal setting finesse to have a clear indication of what means are necessary to attain it. Moreover, AI as both a radical, in the way that it yields the potential to disrupt the organizational environment, and complex innovation since it affects a multitude of sectors equally (Demircioglu & Audretsch, 2018), will impact the dynamics and environment of the organization, thus demanding change of the internal procedures and structures to adapt to the new possibilities and challenges AI poses (Öztürk, 2021; Stephens & Vashishtha, 2021).

This introduces the concept of AI readiness as a necessity to the effective and efficient adoption of AI into organizational processes, specifically the policy area of the CSDP. Here, readiness is broadly defined “as the state of being ready and able to act” (Stephens & Vashishtha, 2021), but also the ability to transform organizational structures (Jöhnk, Weißert & Wyrtki, 2020). To further refine the concept of AI readiness and in order to apply it to the specific policy area of the CSDP, this thesis is informed

by a threefold theoretical background:

Firstly, the main theoretical insights are drawn form the conceptualization of organizational AI readiness factors as proposed by Jöhnk, Weißert & Wyrtki (2020), however, further refined by the body of readiness and innovation literature and adapted to the specific CSDP context. The authors identify 5 readiness factors which are necessary for an efficient and effective AI adoption, namely: *Strategic Alignment*, *Resources*, *Knowledge*, *Culture*, and *Data*. A discussion on these readiness factors follows in the analysis section.

Secondly, as these factors touch upon ethical concepts, such as data protection and processing, this thesis incorporates an ethics and rights-based approach using the Principled Artificial Intelligence project as postulated by Fjeld et al. (2020). This has two distinct merits; On the one hand, this provides for a framework on AI ethical issues which can be used to further construe the AI readiness factors and, on the other hand, integrates a global comparative perspective on AI ethics, positively affecting the comprehensiveness of this thesis. Moreover, concepts revolving around AI-enabled systems themselves pose ethical questions regarding the degree of autonomy and how they identify, track, and target individuals during CSDP missions (Fiott & Lindstrom, 2018) as is the case with Lethal Autonomous Weapon Systems (LAWS) and other advancements towards General AI. As mentioned in the introduction, the EU is making efforts to regulate these issues by binding them to European values and ethical standards. The Commission's AI Act is an example of such a regulatory framework and will be used to integrate the European viewpoint on the ethics of AI, specifically regarding the military use of AI, into this thesis.

Lastly, these general (e.g., strategic autonomy) and specific (e.g., LAWS) challenges AI poses in the CSDP context come with a set of governance issues which can vary across different application areas (Büthe et al., 2022). Therefore, the crux is to regulate AI in a way which, on the one hand, ensures that potential benefits of this digital technology can be fostered and, on the other hand, mitigates potential harms and risks. In combination with the abovementioned ethical considerations, this thesis draws from the existing theoretical body on governance practices that fit within the CSDP policy area as well as mechanisms of the European integration process. This has the purpose of showing how the CSDP functions and what challenges emerge from the adoption of AI in the context of defence and governance. Moreover, this aids the translation of the AI readiness factors into the organizational context of the CSDP.

This policy area is classically associated with the liberal intergovernmentalist approach to security and defence. Here, the individual MS are the drivers of the integration process through their bargaining initiatives to represent, achieve, and establish national interests on the international stage. Supranational institutions such as the Commission or the EC are in this regard actors that the MS delegate some competences to in order to have an entity that exerts external control over the adherence to the commitments made by the MS, called credible commitments (Weidenfeld, 2013). However, recent developments in the Common Security and Foreign Policy (CFSP) at large challenge this notion of the Commissions sole role as an agent to the MS. Riddervold (2016) shows in her analysis of the Commissions involvement in the policy domains of the EU Maritime Security Strategy and the Atalanta mission that the Commission is circumventing restrictive formal structures such as unanimity voting and the veto power of each MS through own bargaining initiatives and, most importantly, "informal co-operation, expertise and the ability to present convincing arguments". As the CSDP is governed through the same intergovernmental instruments and because of the Commission's comparable role in the governance of AI in the CSDP, similar developments are expected. In terms of AI readiness, the Commission's shift away from an agent of the MS towards agency of its own will likely trigger further change in the organization and roles of the actors in the CSDP.

Liberal Intergovernmentalism's direct anti-thesis is the neofunctionalist perspective, specifically regarding the nature of and interaction between different actors. The successful cooperation (meaning to achieve goals based on the lowest common denominator) of so-called pressure groups (national, economic, and societal actors), supranational technocrats, and the political elite of the MS leads to spill-over effects which promote further integration in other policy areas that ultimately creates supranational institutions such as the Commission. Thus, the level of integration is dependent on what paths the actors took in the past. Since most advances in AI technology are made in the private and not the defence sector (Fiott & Lindstrom, 2018) not only does the economic output lie in the hands of private actors but most importantly the knowledge about such AI technologies. Actors from the AI

sector belong to both the pressure groups but also to the supranational technocrats, challenging the notion of such clear-cut categories. From this neofunctionalist perspective, the implementation of AI will bolster the relative power of private actors over other actors in the CSDP area, thus necessitating a special focus on private actors in construing the AI readiness factors.

Complementary to this, the Multi-Level Governance (MLG) approach puts similar importance on the supranational institutions within the EU organizational framework, however, emphasizes that the EU is a political system of its own and that the MS are in direct competition to the institutions. Additionally, the MLG accentuates the non-hierarchical structure of international cooperation with no single actor governing the others. Especially non-state actors are given much attention to, as they exsert influence over governance issues through lobbying initiatives. Through the engagement of these various actors in the policy-making process, mutual dependencies form (Stephenson, 2013). The competitive nature between EU and MS relations can, on the one hand, lead to research and development (R&D) of AI solutions on both levels, further complicating coordination and cooperation especially challenging the notion of sincere cooperation. On the other hand, private actors, granted that they act rational and profit oriented, will most likely concentrate their influence on the level that assures the highest economic output, which is the EU level. Hence, the dependency between private actors and the EU institutions can offset power imbalances in the bout between EU and MS.

In contrast to MLG, Federalism reinstates a hierarchical structure of governance between the local, regional, national, supranational, and global level which is in constant flux as competences and sovereignty do not remain statically with one level (Weidenfeld, 2013). This piecemeal federalisation introduces the concept of subsidiarity. Subsidiarity is a concept used to ensure a minimum degree of autonomy of a lower-level authority in relation to a higher authority (e.g., MS and EU; local government and MS). Under Article 5(3) of the Treaty on European Union (TEU), EU institutions are allowed to intervene if the issue at hand affects a non-exclusive competence area, cannot be dealt with effectively by a MS, or can be implemented more successfully on the Union level (Pavy, 2023). The area of security and defence still falls within the reign of the MS. The Commission, nonetheless, holds special competence in the CFSP in regard to its definition and implementation. Coupled with the fact that most R&D in AI is rather cost and resource intensive, hence not likely achievable by a single MS, the Commission has a legal basis to accumulate more competences in the CSDP. Conversely, this strips competences away from the MS but also the regional and local levels which could negatively affect the representation of and democratic control through civil society.

At large, the integration theories offer insights into the potential governance and implementation of AI, distinctively in the interaction between the actors involved. However, due to AI's complex and disruptive nature, as well as the rather fuzzy character of the private sector actors that promote AI applications the explanatory power of these integration theories is challenged. AI readiness is used as an analytical tool to curtail this issue by providing an in-depth view on a set of factors that are necessary for the integration of AI into the CSDP area, vice versa unveiling the many facets of the EU integration process of this specific policy area.

In addition to these integration theories this thesis incorporates approaches from the New Modes of Governance (NMG) literature to highlight the governance areas that AI as a disruptive and complex innovation influences and to further construe the AI readiness factors in terms of what governance issues the CSDP faces. The NMG approaches used are participatory, collaborative, and data governance which are further specified in the AI readiness factors section of the analysis.

3. Methods

In the following section this thesis' research design is discussed while also presenting and explaining the relevance of the sub-questions (SQ). Afterwards, the methods of data collection are shown. The section concludes with an explanation on why the content analysis is chosen for the purpose of data analysis and the presentation of the coding scheme.

3.1 Research Design

A qualitative research design using textual analysis is chosen to explore the substantial and organizational impact AI has on the CSDP framework. The central point of textual analysis is to unveil the many interpretations a single text can have and show which are most likely to capture the essence of that text (Given, 2008). Hence, meaning is translated through the analysis of the specific content of a text and its social situatedness in the broader context. The qualitative approach allows the researcher to study the object of interest more flexibly and openly and to let new ideas and concepts emerge from the analysed data. This design fits the research question as it allows for a deductive approach towards the extraction of the meaning behind the main theoretical concept of AI readiness in the form of codes. Moreover, this deductive method is applied to the literature on the ethics- and rights-based approach as well as the theoretical backdrop of the EU integration theories and NMG literature in order to identify the structural specifics and subtleties (Given, 2008) of the CSDP context that would otherwise go unnoticed in the conceptualization of AI readiness. In this sense, the deductive approach helps to integrate the concept of AI readiness into the specific context of the CSDP policy area and test it against this different organizational type.

To this end, as a first step, a framework is needed to measure the impact AI has on the substantial, meaning the fundamental concepts the CSDP is build on (cf. TEU), and organizational level, regarding the CSDP structure. These factors are a necessity to the successful adoption of AI into the CSDP, thus binding them to the measures of effectiveness and efficiency because, considering the special nature of AI as a GPT, they must ensure that AI is used to benefit the policy objectives regimented in the treaties without impeding on the functioning of the CSDP. Thus, the first SQ relevant for this thesis is:

SQ 1. What are the prerequisite factors for an effective and efficient adoption of AI in the CSDP?

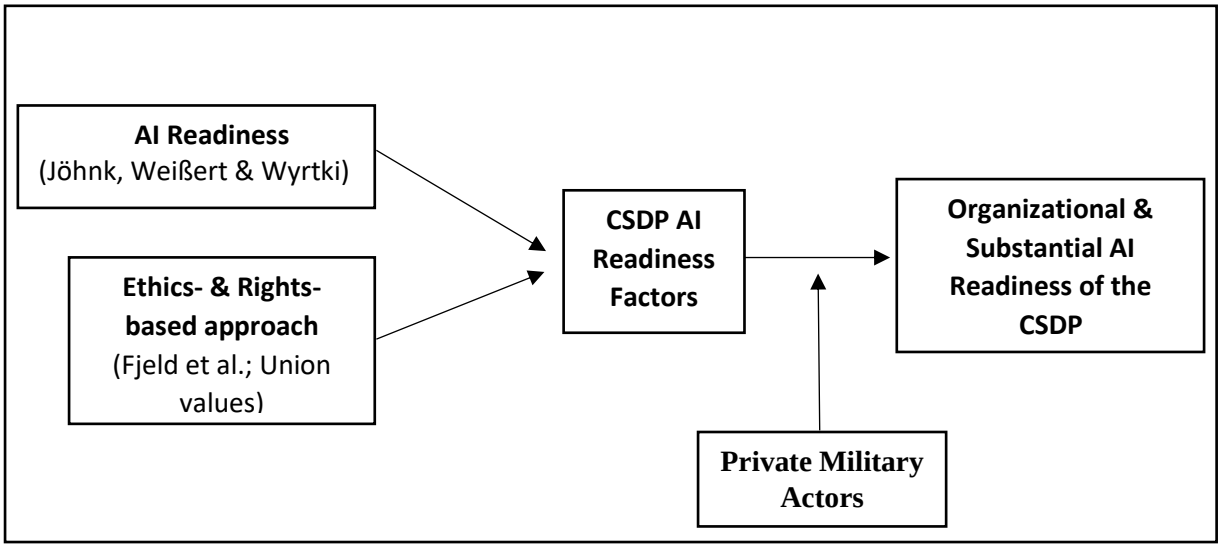
Furthermore, as the EU views itself as a future global security actor with the goal of promoting European values and ethics (EUGS, 2016) this entails that the notion of AI readiness must be linked to the ethical concepts the EU bound itself to. However, specifically in the secretive military and security context ethical challenges arise regarding the adoption and use of AI systems. Therefore, the ethics- and rights-based approach can aid in formulating the AI readiness factors for the specific CSDP area. In this regard, the second SQ asks:

SQ 2. What are the ethical challenges and implications associated with the adoption of AI into the CSDP?

Lastly, private military companies play a major role in the R&D but also marketing and deployment of AI systems. Thus, it is expected that they have influence on the processes of the CSDP. This influence has implications for the governance and ethics of AI, namely in how the EU will deal with the integration of private actors into the CSDP. In essence, this thesis acknowledges the special role of private actors in the CSDP as drivers of AI implementation, hence a factor that needs to be accounted for in the AI readiness paradigm. This leads to the third and final SQ:

SQ 3. How does the EU integrate private actors into the CSDP framework.

Figure 1. Research Design



3.2 Data Collection

As mentioned above, the main documents for this thesis are EU policy documents and working papers. These are retrieved from the EUs official databases to ensure that the material is as close to the source as possible. The documents are mainly drawn from the Commission and Commission related work groups, however, also include the EC and European Parliament (EP) as sources. Of special interest for the analysis are the Coordinated Annual Review on Defence Report (CARD), the European Defence Action Plan (EDAP), the European Security Strategy (ESS), the Strategic Compass for Security and Defence (Strategic Compass), the Strategic Plan 2020-2024 (SP), the EU Global Strategy (EUGS), the Capability Development Plan (CDP), and the Commission's AI Act. These documents will give further insights into what goals the EU wants to achieve in terms of AI regulation and use, and how it plans to get there. The analysis of these documents will show how the in the theory section of this thesis mentioned EU integration mechanisms are put in practice regarding the governance of AI. Moreover, they entail the specific economic mechanisms such as the European Defence Fund (EDF) and the roles of the different actors. In combination with the Treaty of European Union (TEU) and the analysis of an emerging European Defense Technological and Industrial Complex (EDTIC) by Csernatoni (2021), this helps in answering the questions of how the EU goes about integrating private-sector actors into the CSDP. Further information on the actors and institutions of the CSDP is retrieved from the official webpages of the EU institutions.

Since AI is a fast-changing technology with new applications and systems surfacing in ever shorter and irregular intervals, so do policies that try to regulate these novelties constantly change and need to be reworked. The policy documents for the analysis section of this thesis were retrieved on the 1st of June 2023.

Besides the framework proposed by Jöhnk, Weißert & Wyrtki (2020) this thesis uses the existing body of readiness and innovation literature to both refine the AI readiness factors in the specific organizational context of the CSDP and clarify the concept of AI. The data on the ethical- and rights-based approach is retrieved from the Principled Artificial Intelligence project advanced by Fjeld et al. (2020) in combination with the above-mentioned policy documents and working papers.

The data retrieved from the above-mentioned documents are subject to the analysis as described in the following section of the methodology.

3.3 Data Analysis

To analyse the data this thesis uses a content analysis approach in combination with Atlas.ti 23. Using Atlas.ti as an analytical tool reflects the rigor and comprehensiveness of how research is carried out by keeping a transparent account of how the documents were coded and if any issues arose during the process (Ronzani, 2020), thus also ensuring the reproducibility of the research. It, moreover, helps with the storage and editing of larger data sets, thus positively affecting the comprehensiveness of the analysis procedure.

The content analysis is a methodology to accumulate data into similar themes and to conceptualize them to study patterns and the relationship of the themes (Given, 2008). Especially regarding larger data sets, this helps to reduce the amount of data for the analysis and to focus on what is being said in the texts (Flick, 2016). This thesis uses the content analysis to deduce the key themes and topics from the above-mentioned literature, while being guided by the set of SQs.

The coding scheme starts with the overall themes deduced from the AI readiness factors (*Strategic Alignment*, *Resources*, *Knowledge*, *Culture*, *Data*) and is then sub-divided into categories (code groups) that are necessary requirements of AI readiness. These categories are then used to inform the specific codes which define the characteristics of the necessary requirements. The codes are applied to the documents mentioned in the Data Collection section to retrieve the information on AI readiness of the CSDP. Through this approach, 5 themes, 18 categories, and 60 codes were identified, as presented in Table 1 below. Moreover, by using this method, the concept of AI readiness is operationalized and can be a used as a predictor of how AI is governed in the CSDP and, in line with the logic of textual analysis, show what is still missing to get there (Given, 2008).

Some of the categories postulated in the original framework are not part of the coding scheme as they do not fit the CSDP context, videlicet: AI-business potential, Customer AI readiness, and Top management support.

Table 1. Coding Scheme AI readiness

Theme (AI Readiness Factor)	Category (Code Group)	Code
Strategic Alignment	Goal-Alignment	Integration objectives of the treaties; Policy initiatives; Policy goals; Policy instruments
	Civil Society Involvement	Participatory governance; Collaborative governance; Diversity; Platform of engagement
	AI-process Fit	Flexible regulatory framework; Precise regulatory framework
	Data-driven Decision-making	Automation of tasks; Standardization of data-input
	Accountability	Designers of AI; Developers of AI; Deployers of AI; Monitoring entity; Human-in-the-loop; Actors/Institutions; Military use of AI
Resources	Financial Budget	Monetary mechanisms

	Personnel	Experts; Consultants; Inclusiveness of design
	Military (-IT)-Infrastructure	Computation capacities; Compatibility with existing infrastructure; Operability of military
Knowledge	AI-awareness	Understanding of AI systems; Professions; AI societal impact; AI economic impact; AI organizational impact; AI impact general
	Upskilling	Complexity of AI systems; Retraining opportunities
	AI-ethics	Rule of law; Democratic values; Human rights; Ethical by design; Union values
Culture	Innovativeness	Individual-level experimentation; Individual-level problem-solving skills; Individual-level risk-taking
	Collaborative Work	Sincere cooperation; Subsidiarity; Distribution of benefits; Sharing of costs; Relevant stakeholder group; Private military actors
	Change Management	Learning from past mistakes; Path dependency; Foresight
Data	Availability	Data regulations
	Quality	Accuracy of data; Consistency of data; Validity of data
	Accessibility	Actors that have access to data; Access restrictions; Cyber security capabilities
	Flow	Automation of data flow

Likewise, the coding scheme is used to unravel the relation between the actors and institutions operating in the military dimension of the CSDP and the respective policy instruments they use. In combination with the network editor tool in Atlas.ti 23 a visual picture of these relations is created (cf. Fig. 2), further benefiting the comprehensiveness of this thesis.

Because of the deductive approach of creating codes taken in this thesis, the application of the codes to the actual data may reveal unaccounted for characteristics or that some codes are not applicable. Any changes made to the original coding scheme are reported in a procedural coding memo to be found in the appendix.

4. Analysis

The chapter starts with the formulation of the five relevant AI readiness factors based on the above-mentioned theoretical framework by Jöhnk, Weißert & Wyrtki (2020) in combination with the relevant

ethical aspects of AI governance, as well as the concepts drawn from the EU integration and NMG literature that play a role in the CSDP. This has the purpose of testing and construing the AI readiness factors against a different organizational type from the one originally propositioned by the authors and to inform the coding scheme which is used in the analysis of the EU policy documents and working papers as mentioned in the methodology section of this thesis (3.2). The analysis continues with a discussion on and mapping of the relevant actors in section 4.2, also based on the EU policy documents coupled with the legal foundation provided by the TEU. Through this approach a comprehensive picture of the institutional framework within the CSDP is given, specifically showing how private actors are integrated. This chapter concludes with section 4.3; the analysis of the indicated EU policy documents and working papers based on the AI readiness factors to answer the main research question.

4.1 AI Readiness Factors

In order for the CSDP to be ready and able to act upon the organizational changes that AI brings with it, five readiness factors are presented as follows; First, *Strategic Alignment* which entails what conditions are necessary for change on the organizational level in regard to, among others, its goals and processes. Secondly, the relevant material and immaterial *Resources* are discussed. Next is the *Knowledge* complex that specifies the change capabilities necessary on the individual level, coupled with the ethical requirements. Next to last, the *Culture* category describes the relation and interaction between the various actors involved, especially in terms of MS and the EU institutions. Lastly, the essential *Data* requirements are presented.

Because of the special nature of the CSDP, some of the categories originally proposed by the authors need to be reworked or excluded so that the framework can be operationalized for this specific context. This is done through the amalgamation of EU integration theory and ethical concepts, while also keeping the minutiae of AI in mind.

4.1.1 Strategic alignment

Starting, the organization must contemplate and identify whether the adoption of AI technology benefits its overall goals. In the context of the CSDP this means that policy initiatives taken, and goals set by the actors must align with the relevant policy and integration objectives of the treaties as these reflect the codified goals of EU policy. A closer look at the policy instruments the actors use will give an expansive picture of the connections between actors and their goals.

This thesis puts emphasis on the role of civil society in the governance of AI as each individual is likely to be impacted by AI technologies. Drawing from the NMG literature, participatory governance entails that each citizen has the right to partake in "the democratic life of the Union" (Art. 10(3) TEU), which includes the CSDP. Additionally, the collaborative governance approach, based on the logic that only through different actors from different sectors societal issues can be resolved (Ansell & Torfing, 2015), assigns a comparable role to actors from civil society. From an ethics perspective, especially in the development phase of AI systems, a diverse portfolio of actors from different societal backgrounds is important to bolster the systems inclusiveness (Fjeld et al., 2020).

Shifting the focus, the future workplace will incorporate collaborative efforts between human workers and Narrow AI that specify in automating routine tasks such as data analysis so that the human worker can focus on solving complex tasks (Carson & Hruska, 2023). On the structural level of the organization this requires a certain degree of standardization in terms of data input (Jöhnk, Weißert & Wyrtki, 2020), enabling more efficient and adaptable decision-making processes. Here, the authors advocate a shift towards data-driven decision-making since the systems themselves are based on data processing models.

How AI fits the organizations processes depends on the regulatory framework around it. To this end, Fjeld et al. (2020) propose regulations that can be tailored to the specific AI application and are flexible in the sense that they can be changed if new issues arise. Moreover, a precise regulatory framework can support competition and innovativeness.

Because of the rather diffuse nature of the power-complex within the EU and CSDP, issues of

accountability arise. Here, the concept of accountability comes into play as a necessary control mechanism in the governance of AI. As AI brings together many different actors and institutions from multiple sectors, there is no clear hierarchy visible in who should be responsible for what. To this end, the Organization for Economic Co-operation and Development (OECD) and G20 propose that "accountability should adapt to the context in which the technology is used" (Fjeld et al., 2020). For the CSDP this can be translated into sharing accountability among those who design, develop, and deploy AI technologies, chiefly in the military application. In addition to this, a monitoring entity that operates independently from the other actors and linked to judicial bodies can help with assessing the impact of new AI technologies but also their harm and risk management. Specifically in regard to the military dimension it is important that some form of human control over the otherwise autonomous decision processes of AI systems (e.g., unmanned aerial vehicles) is exserted in order to keep the goals of the AI aligned with those of the operators.

4.1.2 Resources

Besides Strategic Alignment the organization must assess its preparedness in terms of and accessibility to its resources. One of the reasons why AI developments usually originate from the private sector or through collaborative ventures of multiple stakeholders is the high cost associated with new AI innovations, especially the acquisition and maintenance of enough computation capacities. Consequently, an adequate financial budget is decisive for an efficient and effective AI implementation. As entailed above, the compatibility with existing IT-infrastructure constitutes one of the backbones for AI system operability because it is impossible to run AI related programs without enough processing power or data storage (Jöhnk, Weißert & Wyrtki, 2020).

Additional to material resources, fostering a diverse human resource profile including experts and consultants from different professions positively influences adaptability and innovativeness (Mohammadi, Broström & Franzoni, 2017). This is also reflected in what Fjeld et al. (2020) call 'Inclusiveness of Design' as diverse sets of proficiencies positively affect the inclusiveness of the design of AI systems, ultimately benefitting the accuracy of the through- and output of AI systems.

4.1.3 Knowledge

General AI is likely decades away from where we stand right now, but Narrow AI has already found its way into business operations. Thus, the work environment of the near future will shift away from a merely human-centric towards a collaborative platform, where human and AI-based agents work interdependently with one another. While adding to the complexity of the work environment, this also enables a multitude of different actors to make collaborative work possible (Denis, Ferlie & van Gestel, 2015). Since not all actors in this network have professional backgrounds in machine learning, neural networks, or other specific AI applications a basic level of understanding and awareness of AI systems is key to the employee's acceptance of such systems, which can be acquired through upskilling (Jöhnk, Weißert & Wyrtki, 2020). Moreover, as AI applications are likely to become more complex in the future this might interfere with the ability to understand the through- and output of such systems, thus, prompting the need for intelligible information (Fjeld et al., 2020). In the CSDP context, this means that the individuals within the institutions and private companies, must not only understand the AI capabilities but also its impact on society, economy, and the organization itself. This also applies to the organizational level at large.

On the 24th of March 2016 Microsoft had to shut down its newly developed AI based chat bot "Tay" as it reproduced racist, antisemitic, and homophobic statements after just 24 hours of interaction with the userbase of the social media platform Twitter. The AI system itself did not have any filters in place to make own judgements and critically think about the information it is being fed (Kraft, 2016). Because of, among other things, biased training sets or false values prescribed to certain variables AI systems such as Tay generate unethical outputs. Consequently, AI based systems must have some form of ethical measures in place to circumvent these false outputs and legitimise their use. These measures can either be external in the form of rules and regulations or internal to the structural design of the AI

(cf. ethical by design). Such measures include reference for the rule of law, democratic values, but also human rights (Fjeld et al., 2020).

4.1.4 Culture

The culture-complex of AI readiness is generally linked to the concept of innovativeness. Innovativeness is based on the levels of "experimentation, risk-taking, and diverse problem-solving skills" (Jöhnk, Weißert & Wyrtki, 2020) exerted by individual organizational members to adapt more easily and faster to potential external circumstances that require them to do so. Moreover, as Demircioglu & Audretsch (2018) point out, this is correlated to the employees' level of innovativeness and creativity, the ability of the employees to work collaboratively within workgroups, the organization's capability to respond to external circumstances posed by complex environments, and the cooperation with external actors.

For the CSDP context it is beneficial to look at the collaborative work between the various actors within the policy processes. Especially the principle of sincere cooperation defines a treaty objective that incentivises collaborative work between the MS and EU institutions. Adding to this, the impact of AI technologies, specifically its benefits, ought to be distributed equally among the different actors (Fjeld et al., 2020), including the local and regional levels of the MS. Moreover, the costs associated with the deployment of AI systems need to be shared equally among the actors. From another perspective, collaborative work also entails the engagement of developers and users of AI systems with "relevant stakeholder groups" in terms of consultancy. These groups include policymakers and representants from the scientific and societal community.

Additionally, an organization that has learned from its past mistakes is more likely to succeed in implementing AI, thus revealing the importance of change management capabilities (Kurup & Gupta, 2022). Because of AI's everchanging nature, some degree of foresight must also be exerted to anticipate potential mid- to long-turn impacts on organizational structures.

4.1.5 Data

Data, similar to AI, has a complex quality inherent to it as it is not constrained to a single policy domain but rather applicable to all contexts. In today's data economy, data "is a resource that can be turned into an economic asset and from which economic value can be derived ", which is also reflected in the EU's economy (König, 2022). As all AI applications, such as machine learning and pattern recognition software rely on data as its accelerant and foundation (Carson & Hruska, 2023) it is imperative that the following features are satiated.

To enable AI systems to operate smoothly and oriented towards organizational legitimacy and integrity, fast and diverse data sets must not only be readily available and accessible but also need to satisfy certain quality and ethical standards. The quality measurement can be further trifurcated into the component accuracy, consistency, and validity. The accessibility and ethical standard also encompass a structure such that it is clear who in the organization can access what data sets and use them in AI applications, nonetheless, without severely restricting the flow of data within the structural complex of AI systems. Here, cybersecurity capabilities become important to protect data from unwanted external influences. This is evermore important in the military dimension of the CSDP because data leaks or the inability to access data due to formal constraints can cause detrimental issues during CSDP missions.

4.2 Actors in the CSDP

Under Art. 22 TEU, the EC identifies the strategic interests and objectives of the Union. Moreover, it defines the general guidelines for the CFSP, including matters with defence implications (Art. 26 TEU). The main decision-making institution of the CSFP is the Council of the European Union (Council). It frames the CSFP based on the general guidelines given by the EC and defines the measures necessary to implement them (Art. 26(2) TEU). To this end, the Council has a set of preparatory organs at its

disposal, some of which are specifically important to the military dimension of the CSDP and the implementation of AI, which are presented in Table 2. The working parties and preparatory organs show that coordination and cooperation between the MS is encouraged by the Council in the CSDP.

Table 2. Preparatory Organs of the Council

Preparatory Organ	**Purpose**
Political & Security Committee (PSC)	As per Art. 38 TEU, the PSC monitors the international landscape concerning the CSFP and CSDP areas. It contributes to the definition of policies and assesses the effectiveness of Union institutions, while also commanding the EU battlegroups.
EU Military Committee (EUMC) & Staff (EUMS)	The EUMC is chaired by the chiefs of defence of the MS and is the highest military body set up within the Council. Besides providing military advice to the PSC, the development of military capabilities, as well as planning and executing of military operations under the CSDP are part of its mandate.
Politico-Military Group (PMG)	Complementing the PSC, the PMG prepares and monitors Council conclusions and their effective implementation regarding political aspects of EU military and civil-military concepts, capabilities, and operations. It is chaired by a representative of the HR.
Working Party on Dual-Use Goods	As of now, this working party is regulating nuclear centrifuges, harmful viruses, and cryptography programmes. However, under Council regulation No. 428/2009, Art. 2(1) provides a broader definition that includes dual-use capabilities of software and technology, which relate to AI.
Horizontal Working Party on Enhancing resilience and Countering Hybrid Threats	The target of this working party is supporting coherence and cooperation by building resilience in the areas of strategic communication and tackling of disinformation. Especially considering AI, the flow and quality of data is imperative to the system's functioning, thus tackling these threats a high priority.

The High Representative of the Union for Foreign Affairs and Security Policy (HR) functions as the link between the different institutions. He conducts the CSDP as mandated by the Council through own proposals (Art. 18(1) TEU) but is also the watchdog during the implementation of EC and Council decisions. As per Art. 36 TEU, the HR has a consultation responsibility towards the EP regarding the evolution of policies in the CSDP and must ensure that the views of the EP are taken into consideration. One of the main agencies that is supporting the work of the HR is the European External Action Service (EEAS) which also collaborates with the other diplomatic services of the MS (Art. 27(3) TEU). Besides these diplomatic services, the staff of the EEAS includes members of the Council and the Commission. In this collaborative endeavour, the EEAS publishes the Strategic Compass which identifies the challenges and threats to the Union, assesses the strategic environment, and sets out to improve the EU's ability to act decisively. Similar in its focus on collaboration but with more emphasize on the

identification of concrete capability developments, the European Defence Agency (EDA), which the HR is the head of, ensures coherence among the "new cooperation tools" (EDA, 2023) CARD, EDF, Permanent Structured Cooperation (PESCO), and the Capability Development Plan (CDP). Specifically, PESCO is an instrument through which the MS can exert their power as it is intergovernmental by nature, however, operates based on legally binding commitments from the MS. In combination with the CDP, PESCO connects the MS with institutional bodies of the EU, namely the EEAS, EUMS, and EUMC.

The Commission overlooks all processes within the CFSP but lacks its classical function as a watchdog. In this regard, its powers are limited to safeguarding the *acquis communautaire* and ensuring the consistency of Union action. It is formally prevented from playing a role during the implementation stage of new policies in this area because the CFSP is not a legislative act (Art. 29 TFEU). It, however, exerted its power in the past to ensure an effective implementation of CFSP decisions. Moreover, through own bargaining initiatives and other tools such as expertise (cf. the Atalanta case) the Commission has gained agency over the policy-making process in the CSDP (Riddervold, 2016). The Commissions influence extends even further due to its funding capabilities. Here, the Directorate General (DG) for Defence Industry and Space (DEFIS), specifically in its implementation and oversight function over the EDF coupled with its goal of building a single European defence market under the EDAP, shows the Commissions influence through the co-financing of defence capability R&D. Conjointly, the DG for Research and Innovation (DGRI) frames an agenda for the MS, by ways of the SP, that entails the steps needed to achieve these goals, while also providing a platform for private and societal actors (European Research & Innovation Days) to communicate and set up potential collaborations. This again showcases how the Commission is using expertise as a tool to circumvent restrictive formal structures in the CSDP, while also utilizing a new instrument that is collaborative platforms. Exemplifying further, the DGRI provides funding (10B Euros) to start-ups and small to medium-sized business (SME) from the MS, through the European Innovation Council. On the one hand, this demonstrates how the Commission is exerting more influence in the CSDP by attaching regional private military companies to its funding mechanisms, hence actively influencing what disruptive technology capabilities are researched. On the other hand, in the context of the AI paradigm this means that the Commission is benefitting from the complex nature of AI as it is impossible for a single MS to achieve sufficient capabilities on its own due to expertise needed in R&D, deployment, and maintenance and the high costs associated with these ventures.

The establishment of multi-sectoral collaborative platforms or the contracting of private-military companies to influence AI regulations (Borde & Huelss, 2023; Cihon, Schuett & Baum, 2021) show that the Commission is incentivizing the integration of private actors into the CSDP. Regarding the SMEs, small scale private military actors are expected to become increasingly more important in the CSDP structure. Accordingly, new actors besides the large defence enterprises have found their way into the CSDP processes over the past 10 years. To this end, Table 3 (Appendix C) gives a comprehensive overview on what capabilities were developed by which actor under the European Defense Industrial Development Programme (2019–2020) launched by the Commission. Contrary to the notion above, the capabilities chosen were still in the hands of the large defence enterprises with some involvement of SMEs. What is striking is that the enterprises are originating from the national defence industrial bases of the economically more dominant MS such as France, Germany, Italy, and Spain. This shows that, although the Commission is increasingly getting a grip on CSDP policy processes, the intergovernmental nature of the CSDP prevails. Moreover, most of the innovations are collaborative efforts between different MS, again corroborating the need for partnership in the R&D of AI.

As an interim conclusion, what can be noted is that the actors have widened their channels of influence, especially the Commission, to respond more effectively to challenges posed by disruptive technologies and cease opportunities to strengthen their powers conferred by the Treaties. The CSDP framework, due to new policy initiatives of the institutions and the focus on private military actors, has become more vibrant. The analysis of the actors also depicts how the bargaining for power between the institutions and MS takes place. Here, AI plays a crucial role as it is the reason for needed change in the organizational structure of the CSDP. This impact, however, is rather indirect as AI itself is not triggering the change but rather the policies and economy around it.

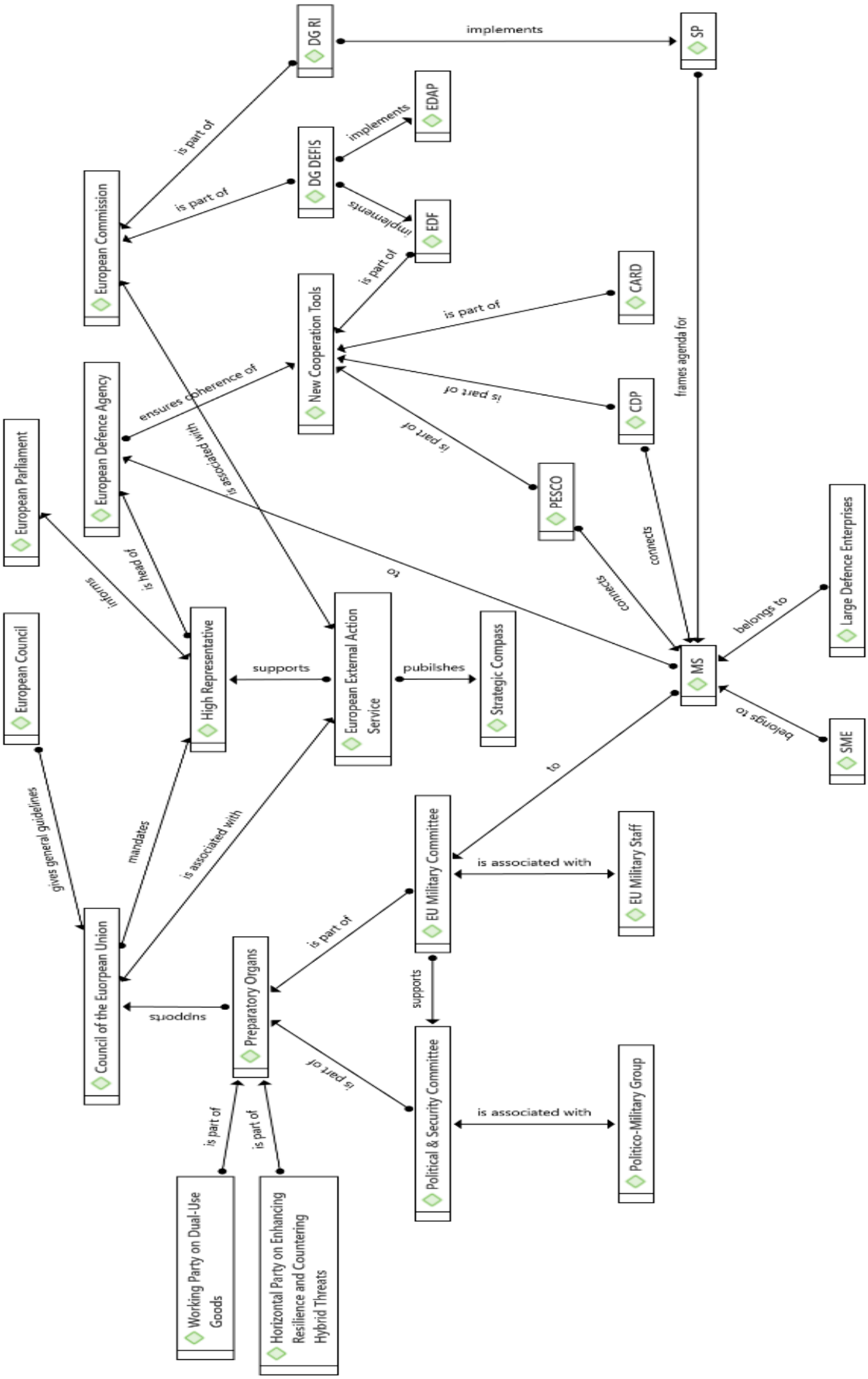


Figure 2. Actors in the CSDP

4.3 AI readiness of the CSDP

4.3.1 CSDP Strategic Alignment

The overarching goal within the CSDP is strategic autonomy in the sense that the EU is more independent regarding its military economy as well as capability R&D in general, while at the same time still committing and contributing to NATO goals. Art. 42(2) TEU, based on the principle of subsidiarity institutes that the CSDP should be complementary to the MS' commitments made to the NATO framework. Here, the establishment of an EDTIC is the main mean of achieving this goal as it seeks to foster collaboration and cohesion among the different actors in the CSDP, specifically in defence spending. At the same time, this ensures that the unique features of each MS economy are considered. To this end, AI is not used as a technology with a singular purpose, but rather as a potential strategic enabler (Fiott & Lindstrom, 2018), for instance in its ability to improve EU defence production capacities (Scipione, 2021). More specialized uses for AI include "Exoskeletons or improved situational awareness sensors" (CARD, 2022) for soldiers, drones and area-access and area-denial (A2/AD) systems, as well as "Intelligence, Surveillance and Reconnaissance […] capabilities" (CDP, 2018). Together with the workplace at large it is in these environments that standardized data-input is implemented.

In general, the EU is keen to collaborate with and integrate actors of civil society in the governance of AI. Here, the Commission expects spill-over effects from the civilian to the defence industry regarding innovativeness (EDAP, 2016). However, the principle of participatory governance, which also extents to the CSDP area (cf. Art. 10 + 11 TEU) conflicts with the way in which the integration of civil society takes place. It is evident that civil society is only represented directly in the organizational structure of the CSDP through the EP (cf. Fig. 2), which does not have any formal powers within the CSDP. In addition, the policy platforms that do include representants from civil society are dominated especially by the large defence enterprises of the MS (cf. Borde & Huelss, 2023). Coupled with the embeddedness of AI in the civil and private sectors, this negatively impacts "insights and democratical control" (Newlove-Eriksson & Eriksson, 2021) but can also amplify the already present fear among civil society of the potential disruptive impact of AI on military applications (Horwitz, 2017). Even in the case that civil society actors are present in the policy discourse, their participation does not go beyond providing information to the Commission in the form of consultancy (Kutay, 2015). The neglection of civil society in the military application of AI does not only affect the inclusiveness of these systems but imperils democratic and ethical consensus on emerging AI technologies such as LAWS.

The type of regulatory framework around AI use is also broadly discussed in the analysed documents. Under the EUGS, the EU turns towards its global partners to establish internationally binding rules for the use of AI. Similar precise regulations are called for in the realm of cyber security (Strategic Compass, 2022) and when it comes to the capabilities in general (CARD, 2022) so that the industry can invest towards their development (cf. Büthe et al., 2022). On the side of flexible regulations, a policy that is active and adaptive in nature can be tailored to the specific AI application it is trying to regulate while also ensuring accuracy over time (ESS, 2003; CARD, 2022). This can foster coherence among the different policies in the long-term as they are re-adjustable. The SP, CARD, and Strategic Compass identify that the issues around cooperation in the development of new capabilities stem from complex legislative procedures. The current framework is in this regard too time-consuming for MS to participate in. Yet, the CSDP lacks any legally binding act that could function as a potential precise regulatory framework since it is excluded from the scope of the current proposal of the Commissions' AI-Act. Because of the dual-use nature of AI, spill-over effects from the civil to the military sector can be expected, hence, concepts such as 'ethical by design' may be reflected in military AI systems, however, merely by chance.

As to accountability, the EU has yet to establish a binding legal framework for the CSDP that, on the one hand, regulates the degree of responsibility of the actors and, on the other hand, installs a monitoring entity. In general terms, the EU acknowledges co-responsibility as a global actor (EUGS, 2016). Applied to the AI context, the EU seems to be willing to at least elaborate on possible accountability issues with other global players. With focus on the internal procedures, the EU sees the MS as the possible holders of accountability since they are the actors that "specify the requirements and

act as contracting authorities, regulators and, often, as supporters of exports." (EDAP, 2016). Solley leaving the MS with the responsibility of regulating AI, however, stands in conflict with the principle of sincere cooperation as different national legal acts influence the economic competitiveness of the respective MS, incentivizing competition and not cohesion among MS industries.

Although investments should gravitate around human-centric AI systems (SP, 2020) and in spite of the EPs call for not developing autonomous weapon systems that lack sufficient human control, no legal commitments were made to this end.

4.3.2 CSDP Resources

The EDF coupled with MS increased defence expenditure provides the groundwork for sufficient monetary resources to the R&D of new AI capabilities. Nonetheless, this is overshadowed by the backlog created through shortcomings in the defence spending of the MS over the past years. According to CARD, specifically the cyber and digital area is the one that lacks behind the most. The Strategic Compass draws similar concerns as to the state of digitalization and cyber-capabilities of the CSDP, thus, as a first step towards AI implementation it is necessary to update the existing IT-infrastructure.

Much in the same sense, the collaborative efforts between private-military and civil actors set-up through the EU institutions are the preliminaries for a diverse human portfolio. Moreover, under the EUGS more collaboration between international fora is incentivized. The integration of new technologies and working methods into the workplace of the Commission as well as gender equality standards (SP, 2020) accumulate to greater inclusiveness of potential AI capabilities developed in these frameworks. Nonetheless, the collaborative efforts mentioned above again suffer from the dominating position of large defence enterprises. Also, CARD shows that there is still a lack of experts in the field of research and technology.

4.3.3 CSDP Knowledge

As Csernatoni (2021) shows, the actors within the CSDP are aware of the impact AI has on the organizational and economic structure of the CSDP. On the one hand, as an increased budget is necessary for the implementation of AI, the Commission ceased this opportunity to create the DG DEFIS and implement the EDF, further supranationalizing the CSDP. On the other hand, because of globalization pressures, the defence industry further expanded into the CSDP organizational structure. Additionally, the involvement of MS has increased in this policy field as they individually lacked the funding needed for new defence capabilities. This needed support also extents to the knowledge about AI systems, which prompts the emergence of new collaborative platforms within the CSDP structure. The plans on what capabilities to develop encoded in the CARD and CDP also reflect a certain level of understanding towards the functioning of AI systems both on the organizational and individual level. What is striking but in line with the findings so far is that there is no indication of what impact AI might have on the societal level, which again exemplifies the disregard of civil society in the CSDP.

In terms of upskilling the workforce, the EU sets out to retrain existing staff through joint exercises with EU, MS, and transnational actors, especially in the area of cybersecurity and expertise in AI. This approach also includes training the future workforce in universities through initiatives such as ERASMUS (EDAP, 2016). Adding to this, new skillsets will emerge through "the fusion of different civil-military technological domains" (Csernatoni, 2021) as a product of inter-sectorial, collaborative work around AI systems.

In contrast to the absence of a binding legal framework for the use of AI in the military domain, the EU is committing to its obligations towards NATO and the UN, specifically in consideration of the rule of law and human-rights. Furthermore, the EU is employing an 'ethical by design' approach in the development of AI systems under the Horizon Europe project (SP, 2020). Regarding democratic values, the same impediments as in the *Strategic Alignment* section (4.3.1) apply due to the lack of civil society oversight in the CSDP area.

4.3.4 CSDP Culture

Detailed information on individual level problem-solving skills and risk-taking can be stipulated from the use of exoskeletons and situational awareness sensors for soldiers during CSDP missions. These two can, in the military sense, benefit the soldiers problem-solving skills (as they have more information to work with and are accompanied by AI systems) and can increase the level of risk-taking as exoskeletons inherently bring decisive advantages with them on the battlefield. However, information on individual-level experimentation and innovative behaviour outside of the soldier category cannot be drawn from the analysed policy documents.

Besides actors from civil society, the Commission uses the EDF to integrate SMEs as industrial sector actors into the defence economy of the EU. Comparable to the underrepresentation of civil society, SMEs are prevented in many ways to play a leading role in the policy processes of the CSDP, infringing on the principle of collaborative governance. Firstly, the dominant position of large defence enterprises creates further power imbalances to the detriment of SMEs and the diversity of AI systems. To this end, lobby groups can use their established networks and expertise to quickly snatch projects tendered through the EDF off the competing SMEs. This issue is amplified through the direct award mechanism that allows the Commission to reward the private actor, and thereof the MS the company belongs to, for being the fastest which usually benefits established actors from economically dominant MS (Csernatoni, 2021). This creates unequal distribution of benefits. Secondly, as per SP, the most promising SMEs are equipped with additional funds and resources. In reality, these funds are not sufficient for the SMEs to scale-up and integrate into the defence supply chain (EDAP, 2016). These monetary instruments used by the Commission show venture-capitalist tendencies as they follow the rational of investing in high-risk areas without regard to artificially inflating the perceived value of these technologies, leading to rapid disinvestments in case the technologies do not match the envisioned outcome. This can, ultimately lead to bankruptcy of the SME, further diminishing diversity and collaborative work.

The relation between the MS and the EU is build on the principle of subsidiarity and sincere cooperation. Here, the EU implements instruments that both safeguard the MS' sovereignty by handing over ownership of the developed military capabilities to the MS while encouraging them to more cooperation around R&D and financing. The MS remain as the stakeholders of the relevant capabilities but are bound by the principle of sincere cooperation to make them available to the EU for the implementation of the CSDP (Art. 42(3) TEU). Nonetheless, the intellectual property rights, as well as the economic benefits stay with the respective MS the private military companies have their headquarters in, as there are no distribution mechanisms to be found in the analysed documents.

Shifting the focus on cooperation amidst MS, the CARD report correlates increased defence spending with more avenues for cooperation among the MS. However, it is also wary about MS potentially opting for solutions that benefit them in the short term but might have negative impacts in the long run, thus threatening the equal distribution of benefits and the inclusiveness of the design of AI systems. MS tend to collaborate only when their national structures are already able to provide for solutions on their own. Thus, minimizing the incentive to collaborate in the first place. This, however, changes with AI because of the complexity and high cost associated with the R&D. Additionally, time-pressure incentivizes the MS to opt for solutions of private actors from outside the EU. This might bring issues of accountability with it.

Although the policy documents set goals for the short-, mid-, and long-term, they usually revolve around best-case-scenarios. This reflects the common theme of setting very ambitious goals, such as pushing for more integration towards a European military Union while, at the same time, safeguarding MS sovereignty in defence matters. Nonetheless, the actors are aware of the many shortfalls the current CSDP faces, mainly insufficient funding, outdated digital infrastructure but also a lack of cooperation. Here the CARD emphasizes that through the new cooperative frameworks such as PESCO, path dependencies form which will strengthen future collaborative endeavours.

4.3.5 CSDP Data

The CARD report has identified that the cyber domain remains less funded compared to other domains in the CSDP. In spite of that, the institutions are making efforts to overcome these shortfalls by increasing cyber resilience of IT systems (EDAP, 2016), upskilling the workforce on matters of cyber security, and ensuring the robustness and trustworthiness (cf. accuracy, validity, and consistency) of data (Strategic Compass, 2022). Adding to this, the EU is implementing a unique mix of hard cybersecurity capabilities (e.g., firewalls, protecting IT infrastructure from outside influence) and soft cybersecurity capabilities (e.g., sanctions), which can be used both preventive as well as interventive. Measures regarding who has access to what data are not regulated yet in the policy documents, potentially infringing the quality and use of data sets.

Both the Strategic Compass and CARD see the cyberspace as a "field for strategic competition", accentuating the need for less legal and procedural barriers to allow better flow, openness, and availability of data. The achievability of this goal depends on the information and communication technology infrastructure but also the restrictiveness of the policies (EUGS, 2019). Specifically in the data flow segment, the CARD sets out the goal of closer MS cooperation and greater interoperability of their digital systems.

The integration of private actors from outside the EU does not only bring with it issues of accountability. As the algorithms are not trained on the same data sets and under the same rules used by the EU, the quality of the data suffers as it is not possible (even with full transparency due to the millions of data points used in big data analysis) to verify its validity, accuracy, and consistency.

5. Conclusion and Future Research

The aim of this thesis was to explore the extent to which the AI revolution is likely to trigger a CSDP reform both substantially, meaning the fundamental concepts the CSDP is build on (cf. TEU), and organizationally regarding the CSDP structure. To this end, the conceptualization of organizational AI readiness as proposed by Jöhnk, Weißert & Wyrtki (2020) was used to construe a set of factors that gave detailed insight into the substantial and organizational processes within the CSDP regarding the governance of AI. Using the second SQ, this framework was tailored to the specific governance mechanisms and ethical challenges in the military dimension of the CSDP. Here, the Principled Artificial Intelligence project advanced by Fjeld et al. (2020) in combination with the existing theoretical body on governance practices that fit within the CSDP policy area as well as mechanisms of the European integration process aided in the construction of a coding scheme that allowed for a focused but rigorous analysis of the policy documents. Moreover, the third SQ enabled this thesis to conduct an analysis on the integration of private military actors into the CSDP, which revealed intricate mechanisms used by the Commission to exert influence on the organizational level of the CSDP. This also helped unraveling the governance issues associated with the military application of AI.

The approach of this thesis is unique as it tested the concept of organizational AI readiness against a different organizational type (the political system of the EU) from the one originally considered by the authors. Doing so has proven the flexibility of the original framework if differentiated to fit the specific context.

The analysis is conducted mainly on the macro and, to some extent, the meso level. Since the private military actors emerge from the MS economies, looking closer at the industries of the MS in a comparative fashion would benefit the validity of the results. Furthermore, the focus of this thesis is on the military dimension of the CSDP, thus neglecting the civilian complex of CSDP operations. Because of the embeddedness of AI in both the civil and military sector, an analysis on the AI readiness of the civil dimension of the CSDP would also advance the understanding of the impact of AI further. In addition to this, as the analysis has revealed, the Commission expects spill-over effects from civilian AI capability developments towards the military sector, thus begging the question of how concepts such as 'ethical by design' really influence AI development in the military dimension. For the sake of comprehensiveness and due to the military context, this thesis drew from a limited pool of ethical concepts, not including some that might be interesting for future assessment of AI such as privacy or fairness.

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Appendix A

Units of Analysis: EU Policy Documents and Working Papers

1. Council of the European Union. European Security Strategy - A secure Europe in a better world. https://www.consilium.europa.eu/en/documents-publications/publications/european-security-strategy-secure-europe-better-world/
2. Csernatoni, R. (2021). The EU's Defense Ambitions: Understanding the Emergence of a European Defense Technological and Industrial Complex. Carnegie Europe. https://carnegieeurope.eu/2021/12/06/eu-s-defense-ambitions-understanding-emergence-of-european-defense-technological-and-industrial-complex-pub-85884
3. European Commission. (2016). COM(2016) 950 - Communication from the Commission to the European Parliament, the European Council, the European Economic and Social Committee and the Committee of the Regions - European Defence Action Plan. https://www.eeas.europa.eu/node/17316_en
4. European Commission. (2020). Strategic plan 2020-2024 – Research and Innovation. https://commission.europa.eu/publications/strategic-plan-2020-2024-research-and-innovation_en
5. European Commission. (2021). Proposal for a Regulation of the European Parliament and of the Council laying down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0206
6. European Defence Agency. (2022). 2022 Coordinated Annual Review on Defence Report. https://eda.europa.eu/what-we-do/EU-defence-initiatives/coordinated-annual-review-on-defence-(card)
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Appendix B

Procedural Coding Memo

Date	Change
14.06.2023	Preliminary coding scheme
16.06.2023	Adding the code "Actors/Institutions" to the *Accountability* category
	Adding the code "Foresight" to the *Change Management* category
	Adding the code "Subsidiarity" to the *Collaborative Work* category
17.06.2023	Adding the code "Policy goals" to the *Goal-Alignment* category
	Adding the code "Policy instruments" to the *Goal-Alignment* category
	Adding the code "AI-impact general" to the *AI-Awareness* category
	Adding the code "Compatibility with existing infrastructure" to the *IT-Infrastructure* category
19.06.2023	Changing "Private actors" in the *Change Management* category to "Private military actor"
	Adding the code "Military use of AI" to the *Accountability* category
	Changing the category *IT-Infrastructure* to *Military (-IT)-Infrastructure*
	Adding the code "Operability of military" to the *Military (-IT)-Infrastructure* category
20.06.2023	Adding the code "Platform of engagement" to the *Civil Society Involvement* category
	Adding the code "Ethical by design" to the *AI-ethics* category
	Adding the code "Union values" to the *AI-ethics* category
21.06.2023	Final coding scheme

Appendix C

Table 3. The Preparatory Action on Defence Research 2019 selected Proposals

Name of Proposal	Description	Industry Participant(s)
ARTUS	The Autonomous Rough-terrain Transport UGV Swarm (ARTUS) project will develop a technological feasibility concept and demonstrator for a small swarm of intelligent and autonomously operating unmanned ground vehicles to support infantry platoons during their missions.	DIEHL BGT Defence GMBHCOKG (Germany)
OPTIMISE	The innOvative PosiTIoning systeM for defence In gnSs-denied arEas (OPTIMISE) project will propose an Autonomous positioning, navigation, and timing toolbox, offering a set of emerging technologies—or a smart combination of disruptive technologies—as well as a backbone software architecture to integrate them.	MDA Italia SPA (Italy) Sener Aeronautica Sociedar Anonima (Spain) STAR NAV (France)
PILUM	The Projectiles for Increased Long-range effects Using electroMagnetic railgun (PILUM) project is a feasibility study on the use of the electromagnetic railgun as a long-range artillery system, examining the possibility of integrating it into terrestrial and naval platforms.	DIEHL BGT Defence GMBH CO KK (Germany) ICAR S.p.A. Industrial Condensatry (Italy) NAVAL Group (France) NEXTER SYSTEMS (France)
CROWN	European Active electronically scanned array with combined radar, communications, and electronic warfare functions for military applications: CROWN will design, develop, and test a compact, lightweight, multifunction radiofrequency system prototype that integrates radar, electronic warfare, and communication in one single system, without any end-user restrictions.	Indra Sistemas SA (Spain) Thales DMS France SAS SAAB AB (Sweden) Leonardo S.p.A (Italy)
AIDED	Artificial Intelligence for Detection of Explosive Devices (AIDED). The armed conflicts in Afghanistan, Iraq, and Syria have seen a dramatic rise in the use of improvised explosive devices and land mines by adversaries.	
QUANTAQUEST	Quantum Secure Communication and Navigation for European Defence: The project will develop quantum sensing for navigation and timing without relying on Global Navigation Satellite Systems and quantum communication to secure command, control, communications, computers, intelligence, surveillance, and reconnaissance.	Thales SA (France) Leonardo S.p.A. (Italy) Lionix International BV (the Netherlands) Telespazio SPA (Italy) Thales Alenia Space France SAS (France)
INTERACT	The Interoperability Standards for Unmanned Armed Forces Systems project aims to create a basis for a future European interoperability standard for military unmanned systems. The technical knowledge and operational experience available in Europe on control, monitoring, and application of unmanned systems will be integrated for the concept definition of a future European cross-industry interoperability standard.	AIRBUS Defence and Space S.A. (Spain) Indra Sistemas (Spain) Leonardo S.p.A. (Italy) MBDA France Safran Electronics & Defense (France) Thales SA (France)

Source: Csernatoni, R. (2021). The EU's Defense Ambitions: Understanding the Emergence of a European Defense Technological and Industrial Complex. Carnegie Europe, p. 41.