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State of play of the implementation of EDA's pooling and sharing initiatives and its impact on the European defence industry

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DIRECTORATE-GENERAL FOR EXTERNAL POLICIES
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STUDY

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ABSTRACT

This study examines the state of 'Pooling and Sharing' (P&S) at EU and Member State (MS) level. Instead of the demanded change in mindset, we witness another episode in the traditional struggle to make classic defence cooperation work. The marginal results of P&S are not yet adequate to the size of problems. The cooperation initiative misses definitions of success, useful models of cooperation and a permanent monitoring of opportunities and capabilities. MS make progress at a snail's pace: many projects kicked off in the first phase of P&S are still in their early stages and thus do not deliver capabilities. At the same time, Member States paralyse efforts of the EDA. NATO has not performed much better. This underlines that the core of the problem remains the sovereignty question within Member States. The developments have to be seen against the simultaneous evolution of the European defence landscape: budgets and capabilities have been cut further. Member States have lost time and money but most importantly, they have also lost many options to safeguard capabilities through pooling or sharing. The European Parliament should encourage first, a new politico-military flagship project around which defence can be organised, second, an efficiency perspective towards spending and procuring capabilities; third, the discussion on the future of sovereignty in defence; and fourth, a European Defence Review that offers a sober assessment of the current and future European defence landscape, including the opportunities for cooperation. This would enable a public debate on Europe with or without defence.

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Executive summary

The disastrous impact of the fiscal crisis on the EU Member States' (MS) defence capabilities and the unwillingness of the US to continue paying for European defence has forced EU capitals to rethink the way they generate and maintain these capabilities. The recently expanding and **intensifying arch of crisis a**round Europe adds many more tasks to the EUs Security and Defence policy. The impression that more defence money will be available in the future should be balanced against the **continued strain on public and thus defence budgets**. **Time is running out.** By now, Europe has already lost about 20% of its capabilities since 2008. At the same time, it still pays enormous sums for redundancies, national wish lists and wrongly organised multinational procurement. Therefore, the risk of further shrinking military, industrial and technological capabilities in defence remains.

Pooling and Sharing shall provide the solution: as there is no more money available, neither now nor in the future, boosting efficiency remains the only option to keep and possibly rebuild capabilities. The increased efficiency shall result from MS **sharing** systematically: they should provide a capability that is missing in other MS, like airlift, or conduct tasks other MS are not able to undertake, like air policing. To **pool** a capability would mean that contributions by several MS are coordinated to make them available on a more constant basis or in greater numbers compared to individual, uncoordinated contributions, as it is done through the European Air Transport Command (EATC).

Since 2010, the EU has made P&S its official approach to defence cooperation. However, turning P&S into the default mode of defence cooperation implies significant changes: MS would have to move from an ad-hoc and bottom-up approach to a more systematic and top-down one. In essence, what is demanded from national politicians and decision makers is **nothing less than a shift in mind-set: the acceptance that sovereignty is no longer based on the autonomy to decide but on the capability to act**.

Since the 2010 decision, many activities evolved, not only on the national but also on the European level, as the Council has tasked EDA and the HR/VP to support the work on P&S in its military and political dimensions. **This raises the question to what extent change has taken place, meaning whether P&S is on track and has started delivering the results that MS have declared they want to achieve.**

The **emerging defence cooperation framework** shows some distinct characteristics: in **EU level strategic documents EU MS show a mix of realism, illusions and activism:** while the assessment of the situation is realistic and improving, the MS systematically overstate their current or earlier contributions, thereby creating illusions on the magnitude of their engagement. However, they do not tackle the vicious cycle of rhetorical sovereignty and de facto dependency.

The activities within the **multilateral political cooperation frameworks among MS neither point to a change of mind-set taking place, nor have they delivered significant improvement of capabilities so far.** The old logic of cooperation is blocking most multilateral frameworks from going beyond renewing the rhetoric on cooperation. The multilateral cooperation often consists of several bilateral cooperation arrangements. While bilaterals perform better, they cannot suffice when huge efforts need to be made in terms of investment (UAVs) or capabilities (strategic airlift). With the exception of the Ghent- Initiative, none of the frameworks is explicitly linked to the EU.

At the beginning of 2015, 393 **military projects** exist, most of them in the area of training and education, least in transport. However, **a winning formula for P&S can hardly be deduced from them because they all work along the classic logic of cooperation**. Variables like regional proximity and

pre-existing political cooperation seem to enable cooperation. Also, most likely cooperation areas are difficult to retrieve from the data, because what is potentially subject to P&S is still defined nationally.

Multilateral operations pose a rich but mostly neglected source for lessons learned and successful cooperation. Ad-hoc Pooling and Sharing comprise examples in critical areas like CSAR and quick reaction forces – key is a strong framework nation.

EDA's role has been cut back from an innovator to a facilitator: While EDA has kicked off the P&S debate, MS have marginalised the agency, instead of using its full mandate. The **59 projects** EDA is or has been involved in are **too small to influence the general mind-set or the structural determinants of the defence sector**. With a few exceptions such as Air-to-Air Refuelling (AAR) or Medical Support, these projects rather tackle technical and regulatory issues, instead of concrete Pooling and Sharing of capabilities and large-scale projects. While the four flagship projects EU MS have agreed upon during the 2013 Defence Council make some headway, EDA handles only elements of these. The **Capability Development Plan (CDP),** even after its reset in 2014, does not interest MS very much because the CDP is found not to focus on their capability needs or not to reflect the relevant level of ambition.

NATO's defence cooperation framework 'Smart Defence' (SD) shows similarities to the EU-one, especially regarding the problems to motivate MS to engage in cooperation. Important differences are that SD explicitly aims at specialisation and thus addresses the sovereignty issue directly, though with similar success to the EU's. NATO has the mandate to facilitate and manage, but not to fundamentally shape or lead capability development and procurement. The NDPP (NATO Defence Planning Process) is perceived by many as a mature and influential defence-planning tool. However, in reality the **NDPP has adapted to the conditions defined at national levels**, i.e. nationally defined requirements, defence plans and procedures. It does not really guide capability development. NATO has nonetheless learned to use the NATO Summits to push NDPP priorities forward.

P&S can have a significant impact on the industrial dimension of efficiency in three ways: Pooling of demand, pooling of research and development activities (R&D), and specialisation by sharing industrial infrastructure. However, neither has the Defence Council 2013 aimed to push industrial P&S beyond the two flagship projects AAR and UAV, nor have EDA activities led to serious success. **The impact of missing P&S is very obvious: Companies further cut their European business branches by selling key technologies to non-European companies and shift their production focus towards new markets.**

Conclusion: Instead of a mind-set change, we see another episode in the traditional struggle to make classic defence cooperation work. There is a significant gap between the cooperation rhetoric of governments' joint declarations within the EU and what they deliver. The marginal results of P&S are not yet an adequate response to the size of problems. The cooperation framework misses definitions for success and a permanent monitoring of opportunities and capabilities. MS make progress at a snail's pace. At the same time, they paralyse joint defence planning in EDA. While the mis-achievement of the EU is most probably triggered by the dire political-institutional context of the CSDP and CFSP, NATO has not performed much better. This underlines that the core of the problem remains the sovereignty question within MS. Other blocking factors are bureaucratic politics, policy makers who are only interested in short term output, and resources that are widely tied into existing projects for the next years. **The developments have to be seen against the parallel evolution of the European defence landscape: budgets and capabilities have been cut further, MS have lost time and money but most importantly they have lost the option to safeguard capabilities through pooling or sharing; an option that will not return very soon**.

Recommendations: As there is a growing need for a more effective and efficient defence in Europe, the EU should engage in the underlying problems, instead of only scratching their surface: The European Parliament can play a crucial role in this. It can encourage a new politico-military flagship project around which defence can be organised: **fusing the EU-Battlegroups into the Framework Nation Concept**. An efficiency perspective towards spending and procuring capabilities can arrive from using **output measures**. **The discussion on the future of sovereignty in defence** can be kicked off by asking whether European governments want to be autonomous or capable. A **European Defence Review** offers a sober assessment of the current and future European defence landscape, including the opportunities for cooperation. This would enable a public debate on the European defence that we can have, i.e. grounded in realities rather than pipedreams.

1 Pooling and sharing: Preventing a Europe without defence

1.1 The context: Why Europe has to change its approach to defence cooperation

Europe has to avoid the risk of becoming a Europe without effective defence. The US engagement in NATO has for a long time allowed the Europeans to turn a blind eye on the dire situation of European defence. However, the 2011 'Gates- Speech' and the US announcement that it will only provide 50% of NATO's capabilities in the future, leaving the rest to the Europeans, made clear that this comfortable situation is over. Which capabilities it will possess in 20 years' time will be decided in the next few years. If Europe further ignores the consequences of the defence-economic imperative, it will run the danger of losing its operational military capability through an unguided structural shift in the armed forces and defence industry.

Defence decadence meets economic imperative: In 2009, Europe's fiscal crisis hit the already long existing European defence decadence, i.e. the unwillingness of most EU member states to generate appropriate portions/amount of capability for defence. These two developments melted into a new paradigm: the defence-economic imperative. It means that the decisions that Europeans take on military capabilities are less an expression of their strategic priorities but of their budget restrictions. Already, no European state is anymore in a position to carry out military operations alone. In effect, Europe has already lost more than 20% of its capabilities since 2008. At the same time it still pays enormous amounts of money for redundancies, national wish lists and wrongly organised multinational procurement.

The recently expanding and intensifying arch of crisis around Europe adds many more tasks to the EUs Security and Defence policy. However, this has so far not changed much to the depressive state of European defence budgets or capabilities. While all European members of NATO agreed at the Wales summit in 2014 to halt further reductions of their budgets and move towards spending 2% of GDP on defence ([1]) it is highly unlikely that the majority of the NATO allies will spend significantly more. Even if the current threats in the East and South will lead to some additional funds for defence, budgets will remain tight. Soon allies will have to return to the unpleasant reality that is, use your dwindling defence money better: by focussing on priority projects, specialising in distinct military tasks, and seeking efficiencies in collaboration.

Hence, even if cuts in capabilities have become less visible and spectacular, there is still the risk of further structural reductions leading to a Europe without effective Defence in three waves ([2]).

First wave: bonsai and specialised armies: over the next five or so years most European armed forces will continue shrinking as the effects of the financial crisis on public budgets will continue ([3]). As a result, the difference between smaller and larger armies increases even more: smaller armed forces are increasingly forced to specialise in a few areas in which they can still afford to make internationally relevant contributions, such as NBC-defence, but without coordinating these specialisations among them; Capability gaps tend to expand further, rather than narrow, with this

[1] NATO, 'Wales Summit Declaration', Press Release, 05.09.2014, http://www.nato.int/cps/en/natohq/official_texts_112964.htm (last access 30.01.2015)

[2] Adapted from: Mölling, C. 'Europe without Defence', Stiftung Wissenschaft und Politik, SWP Comments 38, November 2011.

[3] Mölling, C. et al., 'European Defence Monitoring (EDM)', Stiftung Wissenschaft und Politik, SWP Working Paper FG3 N°1, January 2014.

type of unintended role specialisation. Large states, on the other hand, will keep reducing their militaries to bonsai armies: while a full range of capabilities is indeed still present, the quantities are far too small to continue operating unilaterally for a longer time. In addition, a modernisation gap is opening up: Cost pressures also prevent the acquisition of assets like tanker and transport aircrafts, which make armies fast, agile, battle-ready, and sustainable. The issue with the reduction in defence capabilities lies less in the mere amount of material and troops lost. Rather, the alarming issue is that the capability architecture is increasingly affected. This structure - consisting of know-how, command and control capacities, as well as equipment and infrastructure for operations - has for quite some time now, only been available if important states jointly provided it. And, step by step, the key capability, the ability to carry out military operations at all, is getting lost, as capabilities in the areas of communications, logistics, and reconnaissance are increasingly absent, as are the so-called 'niche' capabilities like air defence. In this way, gaps in capability and modernisation are also eroding solidarity.

Second wave: defence industrial exodus: In the second wave, within seven to ten years, significant parts of the defence industry will have left Europe. Budget cuts will prevent European states from setting up large, new defence projects. However, whilst the European market is shrinking, all the others are growing, e.g. in Asia and South America. For this reason, industries based in Europe have begun to increase access to these new markets via collaboration, exports and moving production, like Thales who built production sites in India or Airbus in Australia. European firms will then be part of a globalised defence industry. The result will be increased dependencies on non-European partners and supplier countries. Concerns about internal European security of supply with defence goods will then become a side issue.

Third wave: losing technological leadership: In the third wave, in 10 to 20 years, consequences will become visible in Research and Technology (R&T). Europe will have to relinquish its technological lead, step by step, because fewer and fewer new technologies are being developed for defence applications. R&T investments are, diminishing since years in most EU-States ([4]), because unlike the means for equipment or personnel, not tied into long-term future defence budgets. For this reason they might fall more easily victim to abruptly appearing compulsive savings measures.

If the Europeans do not succeed in adjusting to the new conditions, they will continue to lose their military capacity to act – in terms of territorial defence as well as in international crisis management. The more visible the misery becomes, the less Europe can make headway against it.

[4] European Defence Agency (EDA), 'European Defence Data 2013' Brussels, 2015, https://www.eda.europa.eu/docs/default-source/eda-publications/eda-defence-data-2013_web (last access 17.03.2015)

1.2 The Decision: The declaratory shift towards pooling and sharing

Since 2010 EU Member States proclaimed a shift in their approach to defence cooperation: The defence ministers of the European Union launched Pooling and Sharing at their informal summit in Ghent, Belgium, in autumn 2010.

Pooling and sharing in a nutshell ([5])

The term P&S describes various forms of defence cooperation.

Sharing: One or more countries provide their partners with capability or equipment (such as airlift) or undertake a task for another country. If this occurs on a permanent basis, the partners can cut this capability – and save on costs. For example, Germany provides maritime surveillance for the North Sea, thus relieving the Netherlands of this task. NATO states take turns to police the Baltic airspace so that the Baltic countries can save the cost of having their own air forces.

Pooling: Here too, national capabilities are provided to other countries. A special multinational structure is set up to pool these contributions and coordinate their deployment. The European Air Transport Command is one such example. Pooling can occur in the development, procurement or subsequent operation of shared equipment. This enables countries to either obtain a higher number of units or to co-acquire a capability that a state could not supply alone for cost reasons. Examples of joint procurement and operation include AWACS aircraft and NATO's command structures.

Pooling & Sharing can cover the full spectrum of capability development from the identification and harmonisation of military requirements to through-life management and support (including certification and standardisation)

Since then EU-Institutions and Member States have added details and action plans: In November 2011 the EDA proposed and Defence Ministers adopted an initial list of priorities. Since 19 November 2012 the Code of Conduct on Pooling & Sharing complements the actual projects, depicting a series of actions to support cooperative efforts of EU Member States to develop defence capabilities. The Defence European Council of December 2013 requested the Member States and EDA to develop a policy framework to foster more systematic and long term cooperation, presented in November 2014.

In parallel to the further specification of the policy framework, EU and Member States began to implement P&S. The performance in this initial phase was ambiguous, mainly because states have different ideas about which equipment and services can be subject to P&S. However, saving money has rarely been a motivation. The aim was to co-use equipment (such as tanks) or to fill a specific capability gap (such as air transport) that could only be accomplished in cooperation with other states.

In the Council conclusions on military capability development of December 2010, the EU states declared that P&S was a solution with which they planned to save money and increase the military efficiency of their resources. NATO is pursuing similar aims with its Smart Defence initiative, officialised at the Alliance's summit in Chicago in May 2012. Indeed, the activities of the first phase

[5] IISS, (2010) 'Chapter Four: Europe' in The Military Balance, 110:1, 2011, pp.107-8; Major, C. and Mölling, C., 'Synergies between EU and NATO? Specialisation as the litmus test for 'Smart Defence' and 'Pooling and Sharing'', NORDIKA Programme, Fondation pour la Recherche Stratégique, note n°12/13, May 2013.

often did not serve the goal of maintaining joint European military capability, but rather sought to achieve national targets. As a result, the debate on P&S is limited to a few military capabilities. Some initiatives even duplicate or block each other. Only the Ghent initiative was really new and truly European as it provides a framework to which all EU states have subscribed.

1.3 The analytical approach: What has the EU's pooling and sharing changed?

The key condition for success identified by EU governments was a change of mindset. For P&S to make a difference it needed to become more than classical defence cooperation with a new label. The classical framework is characterised by nationalist approaches to military affairs, expressed in the primacy on the relevance of national autonomy of decision and action as well as support to national industry. Here, P&S proposes significant changes: the core change of mindset would imply to move from an ad-hoc approach to a more systematic one, shared my many if not all EU Member States.

Hence the question of this study is as to what extent change has taken place and P&S is on track to deliver the outcomes that Member States have declared they aim to achieve. This change can take many faces. In order to grasps as many outcomes as possible the study takes a wide scope ([6]):

It investigates the state of play of Pooling and Sharing as regards: The concrete initiatives, project by project – Pooling and Sharing; justification, benefits and challenges; link to capabilities' requirements (member states and CSDP); effect on the development of the Defence Technological and Industrial base; the development of the EU's policy framework on Pooling and Sharing; the state of NATO's capability building efforts, and NATO's related policy framework; an assessment of Member States' engagement, and the support to Pooling and Sharing by Union level actors (Council, HR/VP, EDA).

The key questions to these areas are:

- What is the state of affairs?
- Which indications for change can be found: Converging behaviour, understanding of problems and solutions, or even output?
- Is there a systematic approach towards P&S by convergence of Member States Policy approach, use of multinational institutions as instruments – effective employment of tools?

In order to retrieve a potential pattern of systematic change, the descriptive elements will be synthesised. Outstanding examples will be used to show palpable developments.

This study has to manage serious challenges: there is no up to date public assessment available, nor is detailed data on the project from Member States or EU sources. Instead, the actors tell political stories about their performance. Information on the initial phase is increasingly replaced by updated sources, with the latter seeking to rewrite the story of projects. A common memory is not publicly available. This has practical implications for the scope of the study: neither can the parameter that let to a P&S decision be systematically discerned nor can the outcome be systematically measured. Around all data is a cloak of policy that blurs or even prevents the assessment – hence qualitative assessments will necessarily be based on anecdotic evidence.

[6] The following paragraphs incorporate the study specification offered by the European Parliament Secretariat. Due to the empirical data defining the final results, the focus of the study and thus proportion and depth devoted to the individual themes are not equivalent to the original tasking.

There are two levels of analytical work in the study. The large amount of data gathering is mostly offered in the annexes. The synthesising part about overarching patterns, lessons, operations and resulting recommendations has been put into the main part of the study. Through this approach, both objectives should be accomplished: offering a comprehendible picture that allows drawing lessons and offering recommendation from it as well as giving insights into the details that build the basis of the picture. Eventually, the available empirical data defines the final results and answers to the questions, the focus of the study and thus proportion and depth devoted to the individual themes are not equivalent to the original tasking. What has added to this raw picture deriving from data is the necessary qualitative context to put the findings into the historical and political perspective ([7]).

[7] The academic and think tank debate is i.a. reflected in publication like: Biscop, S., and Coelmont, J., 'Military Capabilities: From Pooling & Sharing to a Permanent and Structured Approach', Egmont Royal Institute for International Relations, Security Policy Brief N°37, September 2012, http://www.egmontinstitute.be/wp-content/uploads/2013/09/SPB37.pdf (last access 17.03.2015); Biscop, S., 'Pool it, Share it, Use it: The European Council on Defence', Egmont Royal Institute for International Relations, Security Policy Brief N°44, March 2013, http://www.egmontinstitute.org/papers/13/sec-gov/SPB44.pdf (17.03.2015)
Biscop, S., 'Still on the Defensive: European Military Integration in 2015', Egmont Royal Institute for International Relations, 06.01.2015, http://www.egmontinstitute.be/publication_article/still-on-the-defensive-european-military-integration-in-2015/ (last access 17.03.2015); Overhage, T., 'Pool it, share it, or lose it: an economical view on pooling and sharing of European military capabilities', Defense & Security Analysis, 29:4, 2013, 323-341.; Richter, A. and Webb, N., (2014) 'Can Smart Defense work? A suggested approach to increasing risk- and burden-sharing within NATO', Defense & Security Analysis, 30:4, 2014, 346-359. Valasek, T., 'Surviving Austerity: The case for a new approach to EU military collaboration' Centre for European Reform, April 2011

2 The EU's emerging cooperation framework

Instruments of cooperation among EU countries can be divided into political frameworks, management agencies ([8]), and concrete projects. The term political framework describes joint declarations, agreements or treaties that stipulate a number of concrete cooperation projects. The frameworks illustrate the political will of the involved parties and can lead to the implementation of actual cooperation projects. For example, many bilateral treaties like the Lancaster House Treaties between France and the United Kingdom include a variety of projects. NATO and EDA constitute political frameworks too, because they do not only provide a platform for cooperation but also take an active role in cooperation projects that take place under their roof.

2.1 The political rhetoric of strategic documents

Recent EU Member States capability related decisions (see table 1) reveal five reoccurring themes that may indicate both continuity and change in the way Member States approach defence cooperation.

Table 1: EU-Level Key Documents on Pooling & Sharing

Year	Key Document
2010	Ghent- Initiative
2011	Council conclusions on Pooling and Sharing of military capabilities, 23 May 2011
2012	Council conclusions on Pooling and Sharing of military capabilities, 22 and 23 March 2012
2013	European Council Conclusions, Brussels, 19 and 20 December 2013, EUCO 217/13
2014	Council conclusions on Common Security and Defence Policy, 18 November 2014
2014	Policy Framework for systematic and Long-Term Defence Cooperation, 17 and 18 November 2014,

1. **Political programme**: 'Sustained political will is indispensable, as well as a change of mind set…' EU Member States have signed this statement since 2011.
2. The **division of labour** is always underlined: Member States lead, EU/EDA facilitates.
3. **Procedural programme**: The key documents show a red thread of seeking to improve the set of tools and procedures and to make them more sophisticated. This includes i.e. the CDP and the long-term framework.
4. **Problems & Options**: The documents show an improved understanding of the challenges and options in defence cooperation: especially the urgency for change is recognised.
5. **The NATO Link**: Improving EU-NATO cooperation especially in the area of defence planning is increasingly suggested.

Beyond this, the documents offer a mix of realism, illusion, exaggerations, hopeful activism and denial: While the assessment is realistic and improving, the Member States systematically overstate their current or earlier contributions, thereby creating illusions on the magnitude of their engagement. They also tend to turn new commitments into exaggerations: As the last activity has been great, there will be even less problems for future activities, which consequently will be even greater.

[8] As agents between the political will and its actual implementation, management agencies like the Movement Coordination Centre Europe (MCCE) or the Joint Organisation for Armament Cooperation (OCCAR) offer a platform for coordination between the participating parties.

2.2 EU Member States: Political frameworks and military projects

When one compares the ambitions Member States have declared in their policy objectives with the actual projects, it can be assumed that capability shortfalls will not significantly be mitigated by the cooperation. This is because old style cooperation persists. However, this also supports the prevalence of old logics instead of changing mind sets.

2.2.1 Multilateral political frameworks

Since 2009, EU Member States have launched a new wave of bilateral and multilateral cooperation formats (see table in the annex). Most initiatives build upon already existing cooperation frameworks, which have been around since the 1990s (Weimar Triangle) or even longer (Dutch-German defence cooperation). They can further be divided into regional clusters (NORDEFCO, Visegrád 4) and into clusters based on the Member States' political inclination for cooperation (Lancaster House Treaties, Weimar Triangle) ([9]).

Table 2: most important multilateral and bi-lateral cooperation frameworks

Cooperation Framework	Progress
Weimar Triangle (1992): Germany, France, Poland	□
Weimar Plus (2012): Germany, France, Poland, Spain, Italy	=/□
Visegrád Group (V4) (1991): Poland, Hungary, Slovakia, Czech Rep.	=/↗
NORDEFCO (2009): Denmark, Sweden, Finland, Norway, Iceland	□
BENELUX: Belgium, Luxembourg, Netherlands	=/↗
SEDM (South Eastern Europe Defence Ministerial) (1996)	=/□
Framework Nations Concept (NATO) (2014)	↗
Dutch-German Defence Cooperation (2012)	↗
Polish-German Defence Cooperation (2013)	↗
Franco-Polish Cooperation	↗
Franco-British Defence Cooperation 'Lancaster House Treaties' (2010)	↗

Source: updated data from Voss, Major, Mölling 2013

Progress: In terms of quality, both the depth of cooperation and the institutionalisation of cooperation practices and frameworks vary. Goals are often only vaguely defined and rarely provide a clear roadmap for the intensification of cooperation efforts. While some states readily engage in and deepen cooperation efforts beyond declarations, such as the BENELUX states, other ambitious cooperation frameworks like the Franco-German one and the Weimar Triangle seem to be buried in oblivion. NORDEFCO is even an example for a currently eroding network. While not much outcome is visible until today, the (at least rhetorical) renaissance of cooperation and the continuous search for and initiation of new initiatives may indicate a growing political momentum for bottom-up processes for capability development. They also draw first lessons from the financial crisis and more sensibly take into account the security repercussions of ill-conceived capability cuts.

Bilateralism is the new Multilateralism: When taking a look below the first layer of multilateral cooperation, it becomes visible that multilateral projects often consist of several bilateral cooperation settings. These are more active than the multilateral umbrella. At first glance, bilateralism may appear

[9] The follwoing section builds on the updated information in Von Voss, A., Major, C. and Mölling, C., 'The State of Defence Cooperation in Europe', Working Paper N°3, Stiftung Wissenschaft und Politik, Berlin, December 2013.

to deliver better results: The Franco-British Lancaster House Treaties is alive, even if it is not entirely up to its original ambition (see table in the annex). And some ambitious bilateral cooperation initiatives, such as the German-Polish maritime cooperation, have been initiated in 2013. However, bilateralism does not suffice when huge efforts need to be made in terms of investment (UAVs), capabilities (C-17 Initiative/SALIS or EATC) or political solidarity (EUFOR Atalanta). Experience indicates that successful bilateral cooperation can be the bridge towards strong multilateral cooperation.

The EU-Link: Only the Ghent initiative is really new and truly European as it provides a framework to which all EU states have subscribed. It remains to be seen whether the individual initiatives support or undermine EU-led capability development. Currently, there are mixed attitudes. Moreover, several member states tend to prefer the NATO framework for capability development, in addition or in competition to the EU-led initiatives. Here, better links may not only be necessary but might become more likely in view of the declarations on P&S from the last years.

2.2.2 Characteristics of military projects

In 2015, at least 393 defence cooperation projects involving at least one of the 28 EU Member States are noticeable (see table 3) ([10]). An analysis of these projects allows defining the main characteristics of defence cooperation projects:

There is hardly a winning formula for cooperation. It is difficult to define the necessary mix for these initiatives to succeed. Some **variables play an enabling role**, such as regional proximity and similar geographic size; common strategic culture, pre-existing political cooperation, the alignment of political interests; and finally, defence industrial relations are likely to be supportive if they are asymmetrical (i.e. diverging industrial landscape that will not suffer from a cooperation-induced rationalisation in the industrial sector). However, the baseline is the interest in Member States' governments and military in specific capabilities or political visibility. Hence, defence cooperation on political levels remains bottom up driven and selective, i.e. without taking the European defence architecture and the impact of cooperation into account.

The characteristics show the wide spectrum of forms and areas of application that international cooperation can take. What items and services can be subject to P&S and what has to be kept purely national varies greatly among Member States. They obviously evolve around user groups for equipment, for example around the tank Leopard 2, or specific capability shortfalls, such as strategic transport.

Areas of cooperation: The projects show a serious focus on cooperation in training and education ([11]). They can be clustered into **six categories**: 'Armament and Development' (91 projects), 'Maintenance, Supply and Logistics' (53), 'Operational Capability and Command' (90), 'Surveillance

[10] This assessment is based on an updated and expanded version of the 2011 EP Study: Mölling, C. and Brune, S.-C., 'The Impact of the Financial Crisis on European Defence' European Parliament Study, Directorate-General for External Policies of the Union, Subcommittee on Security and Defence, Brussels, April 2011. The updated assessment includes projects still active and those already finished. The quantitative assessment is of course imperfect for several reasons. However, this approach seems to be the best possible solution to get a first overview on trends and tendencies in European military cooperation.

[11] In addition, the sample does not contain actual training exercises; if they were counted in, the number would be even higher. See e.g. EDA (04.02.2014), EDA Multinational Exercises in 2014, retrieved 19.02.2014 from <https://www.eda.europa.eu/info-hub/news/article/2014/02/04/eda-multinational-exercises-in-2014>.

and Information' (30), 'Training and Education' (117), and 'Transport' (13) ([12]). The distribution shows that training and education appears to be the prevalent reason for cooperation.

Table 3: categories, numbers and distribution of defence cooperation projects with EU-Member State participation

Category	No of Projects	% All Projects
Armament & Development	91	23,2%
Operational Capability & Command	90	22,9%
Training & Education	117	29,8%
Maintenance, Supply & Logistics	53	13,5%
Surveillance & Information	30	7,6%
Transport	12	3,1%
	393	

Source: updated data from Mölling, Brune 2011

Participants: Number and geographical proximity might be a factor for the likelihood of cooperation: The assessed projects contain 151 regional cooperation projects and 137 non-regional ones ([13]). Also, the top five cooperation partners of most countries are their neighbouring countries. Yet, most countries do not have **strong preferences towards a single partner.**

The **time span** between first discussions and the launch of actual projects varies from a few months to several years. In addition, it can be expected that not all projects move from the planning or preparation phase into the phase of active cooperation.

2.2.3 The neglected lessons from cooperation in operations

Trust and experience from two decades of cooperation: For more than 20 years, EU Member States' forces have been cooperating in multinational operations. The many examples of ad-hoc Pooling and Sharing projects resulting from these operations contradict those who argue that two things are impossible to achieve among Europeans: bullet proven, effective cooperation and trust among Member States and armed forces. Particularly the experience in Afghanistan shows that, with leadership of a framework nation, it is feasible to prepare multinational force contingents in such a way that critical capabilities are reliably provided and used for the benefit of all contributing partners:

Multinational formations developed in the critical areas of quick reaction forces, tactical surveillance instruments like UAVs, or helicopter pools for tactical transport and medical evacuation ([14]). The limits to P&S by EU Member States resulted to a great extent from their wide capability gaps. These needed to be balanced by the US, e.g. in the area of strategic reconnaissance, long-range air transport, air-to-air refuelling, precision-guided munitions. Here, transatlantic cooperation is vital while European cooperation was not yet able to contribute much.

There is no systematic knowledge transfer of what has worked in operations into peacetime preparations and exercises. Instead, what states have jointly set up as an ad-hoc solution and then developed into a robust working pattern under real life conditions is often forgotten when an operation ends. Aside from some exceptions, like the pre-deployment joint forces training centre in

[12] In 38 cases, there is more than one category per project, although this redundancy is not displayed here.
[13] A project is defined as 'regional' if the participants share a common border, although this criterion is restricted in case of multinational cooperation to avoid a chain of 'regional' countries stretching across the whole of Europe.
[14] Interviews with former high-level commanders of NATO forces.

Poland (Bydgoszcz), experience does not seriously inform national planning ahead of operations. The effect of learning in the field upon the organisational structures of the force providers has so far been weak. Examples of shared or pooled capabilities or common training do not inform national capability development. A telling example of coalition warfare cooperation and its effect on peacetime arrangements is the – non-permanent – F-16 Expeditionary wing put together by Belgium, Denmark, the Netherlands and Norway. The four NATO members participated with their airborne ground attack potential in the Libya campaign in 2011 ([15]). It is unclear today, however, to what extent they will transform their shared experience with deficits and difficulties (AAR, Target acquisition, precision munitions, EW) into a common effort towards a pooled multinational attack capacity.

The transfer of knowledge about cooperative elements of operations – their successes or failures – into national preparations for coalition warfare should be of major concern to all contributing partners. Besides the ability to prepare for the next challenge, the experience can inform about both, future areas and ways as well as partners for cooperation.

2.3 EDA – institutional role and projects

2.3.1 The EDA: the limits of an intergovernmental agency

EDA has developed from an innovator in P&S into a facilitator. While first debates on P&S on the level of EU-Institutions have been kicked off in EDA in 2009, Member States have channelled the agency's energy into a high number of smaller projects as the only way to fulfil its mission. Since its establishment, EDA has not received any significant additional powers. The 27 EDA Member States are in the driver's seat, but can hardly agree on the direction of the journey.

The risk of overstretch: With the Council Conclusions of 2013, EU Member States allowed EDA to play a crucial role as the implementing agency by involving it in almost all capability related initiatives and projects. However, this may lead to an overstretch of the agency. It is already managing especially the complex implementation of more than 50 multinational projects with only 126 staff and an effectively decreasing budget, describing possibly a much tougher task than many MoDs take on.

Regarding the actual declarations of Member States, to change their mind-set and foster cooperation, **EDA is kept out of the game in two ways**: the small projects Member States allow it to manage will most likely not change the structure or mind-set of European Defence cooperation. Moreover, EDA can only facilitate what is there: but the majority of capability development is national or multinational but does not involve Member States.

2.3.2 Projects: flagships and puzzle pieces

In beginning of 2015, EDA has filed 59 projects on its website- most of them are still active. These projects either result from the Ghent process follow-up or have been taken on board due to political priorities.

The **selection of projects** is de facto guided one of by two principles: Member States define them individually 'bottom up' as a capability requirement, directly or through the CDP, or cross over as a

[15] Valasek, T., 'Surviving Austerity: The case for a new approach to EU military collaboration' Centre for European Reform, April 2011: p. 18.

political priority that can be introduced to EDA at almost any moment. Hence, the selection does not necessarily always incorporate strategic consideration on the EU levels.

The Ghent process follow-up has generated a list of almost 300 project proposals collected by the EU Member States. Out of these, 19 became P&S projects managed by EDA in 2013. They have been integrated into EDA's daily work.

Through a '**Code of Conduct on Pooling & Sharing**' (November 2012), the EDA has aimed to provide an important impetus for further progress. The aim is to develop a systematic approach to cooperative efforts of EU Member States. The Code asks Member States to systematically consider cooperation in national defence planning from the outset and for the whole life-cycle of a capability. Also, it requests from Member States to share opportunities that could be open to P&S as well as to take into account the joint use of existing capabilities to improve the effectiveness and interoperability, and to increase potential savings. Regarding investments, the Code puts forward the idea that P&S projects should be given a higher degree of protection from potential cuts and for necessary investment in R&T for the development of future capabilities. Additionally, the Code aims for more coherence and transparency in cooperative capability development, the EDA facilitating the process by acting as a platform for information exchange. Finally, an annual state of play in P&S initiatives and an analysis of European defence capabilities are to be submitted by the EDA.

Yet, the Code is only politically binding, not legally. While the Member States have signed it, it is up to them to effectively implement it – political will hence remains in high demand. However, there are strong indications that progress in terms of palpable projects or initiatives linked to or influenced by the Code of Conduct are marginal.

The Four Flagships of the Defence Council: (on the state of the projects, see the relevant section in the annex) At the European Council in December 2013, Heads of States and Government endorsed four major capability programmes proposed and prepared by the European Defence Agency; three of these four were on the Ghent list:

- Air-to-Air Refuelling, with the objective of establishing a multinational fleet from 2019; ([16])
- Remotely Piloted Aircraft Systems, with the objective of laying the foundations for a European solution in the 2020-2025 timeframe; ([17])
- Governmental Satellite Communication, with the objective of preparing the next generation in the 2025 timeframe; ([18])
- Cyber Defence, with a focus on technology, training and protection of EU assets. ([19])

[16] Cf. Gareth Jennings (24.11.2014), Europe kick-starts tanker procurement project, retrieved 26.11.2014 from <http://www.janes.com/article/46210/europe-kick-starts-tanker-procurement-project>; Defense Update (24.11.2014), NATO establishes a fleet of multirole tanker transport fleet, retrieved 26.11.214 from <http://defense-update.com/20141124_nato-launches-acquisition-of-multirole-tanker-transport-fleet.html#.VHWkKWNARxK>; EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>; EDA (19.12.2014), European multirole tanker transport fleet takes shape, retrieved 26.01.2015 from <http://www.eda.europa.eu/info-hub/news/2014/12/19/european-multirole-tanker-transport-fleet-takes-shape>.

[17] Cf. EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>.

[18] Cf. EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>; EDA (n.y.), Governmental Satellite Communications, retrieved 19.11.2014 from <https://www.eda.europa.eu/Aboutus/Whatwedo/capability-programmes/governmental-satellite-communications>.

EDA's Capability Development Plan (CDP) is meant to be the 'driver' for the work of all the Agency's Directorates. Thus, the CDP shall be the 'overall strategic tool' in the package of the four long-term strategies. It defines future capability needs from the short to longer term (see also the relevant section in the annex).

However, it shows serious limitation to be an effective support to Member States: Its priorities do not indicate the major capability shortfalls but the list of issues on which the Member States want to work with EDA. Moreover, the CDP only assesses what Member States let EDA know - information between EDA and Member States has been an issue since the setup of the agency. Hence, changes in the CDP do not necessarily reflect growing or closing capability gaps but only changing notifications to EDA. While Member States agreed during the council to foster transparency and information sharing, the principle of voluntary contribution remains intact. ([20])

While the CDP is based on a comprehensive analytical process, the starting point of the process is limited: It is still based on the five illustrative scenarios of the (Helsinki) Headline goal of 2003, which base in the Balkan experience of the Europeans. Hence, many capabilities Member States hold are simply not reflected in the CDP. Therefore, many Member States are not interested in the CDP because it does not focus on those capabilities they think are crucial – in the upper level of the intensity spectrum. These are left to NATO. Thus, they also find the resulting Level of ambition of the EU not realistic.

Moreover, the CDP has less binding power to Member States, compared to the NATO NDPP. This may be partly because of the routine and because of historical reasons. But also because NATO defines targets of an individual country where the EU only notices shortfalls on the collective level. (See also Chapter 4)

Yet, the CDP also has advantages compared to the NDPP. The CDP reflects more those issues the EU Member States struggle with – while in the NDPP the US contributions blur the picture. The CDP's different tracks allow integrating different strands of work, which in NATO are developed in different branches and thus subject to typical rivalry. While SHAPE is responsible for the actual capability picture, ACT is responsible for the future picture. The NDPP however, does not take on board the ACT findings.

2.3.3 Assessing the current P&S Projects within the EDA framework

Currently, the EDA supports 59 Pooling and Sharing (P&S) projects (see table 4). In participating in more than 30 projects, four countries show particular interest in cooperation: Germany, France, Italy and Sweden. A second section of countries actively pursuing cooperation is composed of the Netherlands, Spain, Finland, Belgium, Austria and Norway, which can participate in EDA Projects since 2006.

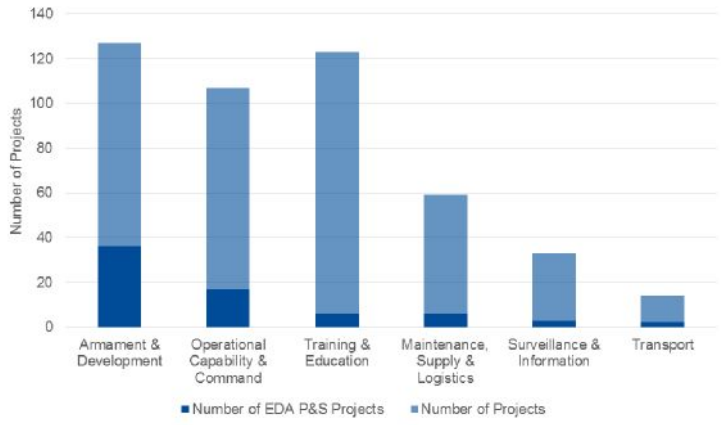
European defence cooperation projects can be clustered in six categories (see table 4 and figure 1). Most of the projects are supposed to foster training and education (29.8%), armament and

[19] Cf. Council of the European Union (18.11.2014), Council Conclusions on Common Security and Defence Policy, retrieved 19.11.2014 from <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/145824.pdf>, p. 2; Council of the European Union (12.11.2014), EU Cyber Defence Policy Framework (15193/14), retrieved 27.01.2015 from <http://www.statewatch.org/news/2014/nov/eu-council-cyber-defence-15193-14.pdf>.

[20] Cf. Council of the European Union (18.11.2014), Council Conclusions on Common Security and Defence Policy, retrieved 19.11.2014 from <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/145824.pdf>, p. 3; EDA (19.11.2014), EDA outlines key priorities of the revised Capability Development Plan, retrieved 24.11.2014 <http://www.eda.europa.eu/info-hub/news/2014/11/19/eda-outlines-key-priorities-of-the-revised-capability-development-plan>.

development (23.2%) and operational capabilities (22.9%). The EDA P&S projects have a slightly different focus: most of them are concerned with armament and development (51.4%) and operational capabilities (24.3%). The last four categories together – training, maintenance, surveillance and transport – make up only one quarter of EDA P&S activities.

Figure 1: Comparison of Pooling and Sharing Projects by Category: Overall ([21]) and EDA



Source: Source: updated data from Mölling, Brune 2011

Table 4: Comparison of Pooling and Sharing Projects by Category: Overall ([22]) and EDA

Category	No of Overall ([23]) Projects	No. of EDA P&S Projects	% Overall ([24]) Projects	% EDA
Armament & Development	91	36	23,2%	51,4%
Operational Capability & Command	90	17	22,9%	24,3%
Training & Education	117	6	29,8%	8,6%
Maintenance, Supply & Logistics	53	6	13,5%	8,6%
Surveillance & Information	30	3	7,6%	4,3%
Transport	12	2	3,1%	2,9%
(more than one category per projects possible)	**393**	**70**		

Source: updated data from Mölling, Brune 2011

Several factors might explain the comparative over-emphasis of EDA projects on armament and development. First, most EDA P&S projects in this category rather concern development than armament and relate to the first stages of development: many projects consist in studies evaluating the feasibility and impact of a new technology. Second, a large number of projects classified as armament and development also concern the EDTIB and the industrial market. Third, one can observe a clustering of projects in the organisational structure of P&S projects within EDA: many training projects, such as NH90, Helicopter Training Programme and Helicopter Tactics Course, have been clustered into 'Helicopter initiatives'. This might explain, though not entirely, why training & education makes up only 9% of EDA projects while it accounts for 30% of overall European defence cooperation projects. In the same vein, several projects such as Modular Medical Units, Deployable

[21] The category „overall' refers to the dataset used in the section on military projects (chapter 3.2.2)
[22] The category „overall' refers to the dataset used in the section on military projects (chapter 3.2.2)
[23] The category „overall' refers to the dataset used in the section on military projects (chapter 3.2.2)
[24] The category „overall' refers to the dataset used in the section on military projects (chapter 3.2.2)

field hospitals etc. have been clustered into 'Medical Support'. The same can be said of Counter-IED projects and the European Air Transport Fleet, which cover previously separate projects.

One can generally note that many projects from the EDA consist in harmonising standards, establishing regulatory frameworks and roadmaps, or simplifying certification procedures. With a few exceptions such as Air-to-Air Refuelling or Medical Support, these projects tackle technical and regulatory issues rather than concrete Pooling and Sharing of capabilities and large-scale projects.

Progress with the four flagships (see also Annex)**:** Since 2013, the EDA supports the development of a European Medium Altitude Long Endurance (MALE) RPAS through a number of projects as well as systems already in service. The work on air-to-air refuelling proceeds quite well: a contract for new air-to-air refuelling aircraft is expected by the end of 2015, the OCCAR is tasked with negotiations on a fleet of A330 MRTT. The initial operating capability is scheduled for 2019; it will be led by the Netherlands and participated by Poland and Norway. Belgium, France, Greece, Hungary, Lithuania, Portugal, and Spain support the project. The development of Governmental Satellite Communication was formally endorsed by the EDA Member States, the preparation phase of a cooperative programme runs until 2016 under the lead of Spain. The project shall be finished until 2025. A probable user group might consist of Germany, France, Italy, Spain, and Great Britain. An EU Cyber Defence Policy Framework was adopted during the Council meeting in November 2014.

3 Is NATO the better framework?

Similar to EDA, NATO has a defence planning cycle, the NATO Defence Planning Process (NDPP) and a policy framework for defence cooperation, called Smart Defence.

3.1 NATO's policy framework: Smart defence

In 2011, NATO introduced the concept of 'Smart Defence', which has similar objectives as P&S. The general idea is again that the Alliance's members can collectively save money while maintaining capabilities if they collaborate with each other. Specifically, smart defence has three main components: Prioritisation, cooperation and specialisation. The first refers to aligning national capabilities more closely to NATO capability goals, while the second key point refers to the pooling of military capability among Allies to save money and enhance interoperability. Yet it is the third component – specialisation – which is the most difficult to achieve as it directly impacts on member states' sovereignty ([25]). To achieve a coherent set of capabilities, NATO's potential role would especially be in coordinating the specialisation process. Yet, ultimately, the implementation depends upon active member state engagement. This is the key challenge for deeper defence collaboration: Member states choose what projects they want to undertake. It is thus essentially a bottom-up approach.

Currently, there are **26 multinational Smart Defence projects** covering a wide range of capabilities. However, most projects are rather 'light': Instead of allowing NATO to manage critical and expensive capability development, the Allies opted for NATO in most cases to facilitate cooperation, like on maintenance of equipment and joint training. The joint procurement of critical equipment has not yet moved up on the states' agendas. These still take place through NATO agencies like NAHEMA, NATO Helicopter Development and Design, Logistic Management Agency which act as management agencies in the interest of the states but without own political significance.

In addition, Smart Defence has given renewed impetus to four ongoing *strategic programmes*: NATO's **Missile Defence**, **Alliance Ground Surveillance** Programme (AGS), NATO **Air Policing**, **Joint Intelligence, Surveillance and Reconnaissance** (JISR). Moreover, the **Connected Forces Initiative** (CFI) focuses especially on a series of measures in the field of education, training, exercises and technology. ([26])

Progress: NATO has finished six projects. However, it is difficult to say whether this in itself is a success. One project increased the availability of helicopters and brought down the costs of operation by some millions. While it succeeded in saving money, it might not have saved as much as it could have. One cannot judge whether alternative approaches could have let to bigger savings. Cooperation in itself does definitely not imply success: it is difficult to term the F-35 a success, given

[25] Giegerich, B. (2012): NATO's Smart Defence: Who's Buying?, Survival, 54(3), p. 70; cf. Major, C. & Mölling, C. (May 2013): Synergies between EU and NATO? Specialisation as the litmus test for 'Smart Defence' and 'Pooling and Sharing', FRS NORDIKA programme, <http://www.frstrategie.org/barreFRS/publications/notes/2013/201312.pdf>, retrieved 15.10.2013.

[26] Viereck, K. (2013): Connected Forces Initiative: Reshaping Priorities, <http://www.act.nato.int/article-2013-1-4>, retrieved 6.11.2013.

the explosion of costs, although so many nations cooperate in the project. There is no indication that SD has given more speed to the implementation of already existing programs. ([27])

Long-time loops: The time it takes from the initial talks to the signing of contracts is rather long. First results from the implementation of newly kicked off projects may only be visible in some years from now. The example of PGM (precision guided ammunition) illustrates this. Based on the lessons from the Libya Operation (Allied Protector), where the lack of sufficient PGM stockpiles was a serious problem, a Smart Defence-project was agreed in 2012. In 2014, a lead nation was found for a project and the participants signed a LoI on PGM-stockpiling ([28]). However, the LoI is not at all a contract. Moreover, in parallel, current inefficiencies will continue to eat up the budget.

The Wales summit has not significantly contributed to capability development: prominent decisions like RAP or VJTF are structures. They do not represent new capabilities but imply to reorganise the existing capabilities to meet fill the structures. This is also documented by the 16 NATO capability priorities that resulted from the NDPP process. ([29])

Blockers for more and better achievements are bureaucratic politics, decision makers, as they are only interested in short term output, and the fact that money is bound in other projects for the next years.

Future perspective: NATO hopes that it can change from its smaller to bigger projects. They hope that e.g. five CEE Countries will team up and align their capability development. They have the same target and the same date for delivery: 2020-25. Thus, the hope is not only cooperation on material means but on training, doctrine etc.

NATO-EU link: While formal cooperation is still difficult, EDA-NATO informal conversation helps to de-conflict at least smaller projects or subprojects.

3.2 The NDPP

The NATO Defence Planning Process (NDPP) is in operation since decades. The most important change after the end of Cold War has been the change from a threat based to a capability based planning. Through several steps, the NDPP arrives not only at capability goals, gaps and requirements but also sets national targets, i.e. bits and pieces every single nation has to deliver to jointly achieve NATO's level of ambition, as well as multinational and collective targets. Moreover, NATO aims to synchronise and harmonise national defence planning and make it more transparent.

Contrary to EDA's CDP, the NDPP mainly focuses on the near term, mirroring the national four to five-year defence plans. NATO's look into the future is seriously limited compared to Allies' national defence and procurements plans. To further develop the NDPP, the next question is how to extend the horizon of the NDPP beyond the near term. Here, the EDA approach could perhaps inspire, if not influence and steer the NDPP adaptation. ([30])

[27] NATO, 'Multinational Projects', Media Backgrounder, June 2014, http://www.nato.int/nato_static/assets/pdf/pdf_2012_10/20121008_media-backgrounder_Multinational-Projects_en.pdf (last access 17.03.2015)

[28] Cf. NATO (04.09.2014), Strengthening cooperation in the munitions sector, retrieved 20.09.2014 from <http://www.nato.int/cps/fr/natohq/news_112550.htm?selectedLocale=en>.

[29] Interview German MoD; Interviews NATO officials.

[30] Drent, M., Zandee, D. & Casteleijn, L. (October 2014), Defence Cooperation in Clusters: Identifying the Next Steps, Clingendeal Report, p.18.

Mixed Success: The NDPP appears to be a mature defence-planning tool. Many refer to it as a strict and influential process. However, in reality the **NDPP is modelled along what is available on the national levels**, i.e. the national requirements, defence plans and procedures. Hence, the NDPP is talking about their problems and requirements. The experience of many frustrating cycles has led NATO to adapt more to the conditions defined by the Member States than that the NDPP has driven national defence planning. Moreover, it is more the new NATO allies in the East that take the process seriously, not the old members in the West. Some countries, like the Czech Republic, have modelled their own defence planning process along the NATO model. Moreover, to achieve results, the **combination of NDPP and summit** has been helpful to get projects at least started. Besides, after a long and painful process of persuasion and experiences, like the Dutch abandoning their MBT without realising the impact on the remaining force elements, Member States increasingly **use the tools NATO offers**. Especially, they begin to discuss their plans. However, the NDPP has **no influence on multilateral procurement** in line with the smart defence initiative. Where NATO is involved or leads longer-term procurement projects, these take place outside the NDPP context on an ad-hoc basis, managed by NATO agencies but not under control of the international staff of NATO. ([31])

The EU-NATO Link: Since many Member States are members of EU and NATO, the proposal to link up EU and NATO defence planning is getting more support because it has become more important as a means to identify cooperation opportunities. However, there is no consensus on how this link should look like. Some Member States prioritise NATO and argue against duplicating defence planning within the EU as this would further complicate their daily work. They may not be willing to report to two organisations and thus choose a preferred framework instead – which for many could well be NATO.

[31] Interview with NATO officials.

4 Left aside: Defence industry

The fragmentation of Europe's defence technological and industrial base (EDTIB) is a serious obstacle to efficient defence investment and capability development in Europe. The traditional national preference of governments, i.e. to buy domestically as long as possible, has led to unnecessary duplications of defence industrial capacities. Not only have countries paid for the build-up of i.e. 17 different armoured vehicle procurement programmes and 23 different versions of the NH-90 helicopter. Moreover, member states pay at least twice for the duplication of industrial structures in Europe: first for the set-up of these structures and second because they pay unnecessarily high prices for defence kit. It is the result of a comparative inefficiency in terms of the output which the Member States preserved by allowing for industrial duplication. Eventually, they get little for the fairly large amounts they invested in defence equipment.

Industrial Dimension: Non-European lifelines: While the government's austerity measures have already affected the industries roughly since 2011, the more serious impact is still to come. European countries will soon have significantly less programmes and equipment – hence, less to earn for industries by production and service, and more overcapacities. This is the outcome of the tension between ongoing nationalist political approaches to defence industry and the inevitably growing globalisation of this business. Industries react to this by reducing defence business, or by transferring it to outside of Europe via exports. These exports have become a lifeline of the defence industry. Key components, technologies and raw materials have to be imported from outside of Europe. Hence, rather than enjoying strategic autonomy, European armed forces have to live with non-European dependencies in their supply lines. These dependencies are likely to increase: the EDTIB may further shrink, since the domestic consolidation into national champions, which some states favour, prevents a further Europeanisation.

P&S on industrial issues would enable serious savings in the whole lifecycle of the product. This can also help to tap into the large savings potential found in the oversized and duplicated national capacities of Europe's defence industries. However, this process must be steered in order to avoid an industrial specialisation by default that has already occurred with capabilities, and to ensure that vital and rare industrial skills are not lost. Moreover, these potentials are only available on the mid- to long-term.

There are three principal ways how P&S can support generating efficiency in the industrial domain and the preservation of critical defence industrial capacities:

1. Pooling of demand: Member States would benefit from economies of scale but also from bargaining power vis-à-vis suppliers and increased competition among different suppliers. This is applicable to the procurement of new kit as well as for the MRO (32) markets on services and products.
2. Pooling of R&D/R&T activities: R&T is often the most costly part of new defence equipment, since economies of scale do not come into effect. Moreover, the argument is that if Member States jointly invest in R&T and thus align interests and requirements, it is more likely that they buy the same equipment afterwards. (33)

[32] Maintenance, Repair and Overhaul
[33] Excellent overview by Maulny, Jean-Pierre & Sylvie Matelly, Pooling of Defence Research and Development, Paris: IFRI, 2013.

3. Specialisation of national industries: More concentration of national defence industrial bases on those things they are globally most competitive in would also make it possible to tap into the large savings potential found in the national capacities of Europe's defence industries. Conversely, the strengths and specialisations of the individual national manufacturers and suppliers provide impetus for a future industrial division of labour in Europe.

Additionally, there is a regulatory dimension in P&S. If the defence package of the European Commission, and especially its procurement directive, would be implemented effectively, it would pave the way for more pooling of demand and cross border sales.

Activities: Related to the EDTIB, the conclusions call for R&T on dual use technologies, a roadmap for defence industrial standards, stronger support of SME access to defence and security markets, and a roadmap for an EU security of supply regime. Of these four aspects envisioned by the Council, most parts have been covered. For example, EDA contributes to the Commission's work on an R&T Preparatory Action related to CSDP, which might be followed by a wider European defence research programme affecting the civil sector as well. Furthermore, the Commission published the implementation of the roadmap for communication COM (2013) 542, aiming at a more competitive and efficient defence and security sector. The European Council also endorsed EDA proposed measures to back the defence industry in Europe, including SMEs, by supporting research and innovation in Europe through prioritisation (list of European critical defence technologies), investment in critical technologies and greater synergies with EU instruments.

Successes in the area have been to a small extent the Air-to-Air refuelling (AAR), with some additional aircraft to be procured. Also, the 'Carl Gustav Ammunition' project has been very successful; in terms of savings, it may only make up for some millions. On the UAV, Member States hesitate to engage on the European level, because of the experience of earlier European projects like the A400M etc. However, Member States so far have not started to engage systematically in P&S. Until today, the objective of P&S projects was to achieve rapid success to create a positive attitude towards P&S. However, genuine savings result from long-term commitment and solidarity.

The almost absence of P&S has influenced the EDTIB nonetheless. The continued nationalism in defence procurement has intensified the further exodus of European defence companies as well as an increasing sell-out of European cutting edge position in defence technology.

One has to expect a further round of industrial consolidation. While this has been a long-term objective of many decision makers, it may not lead to a more competitive European industry. Instead, the buy up of European defence technology and markets through non-European actors may accelerate because especially these actors have the money to buy in. Conversely, European defence companies that have gone global but cannot consolidate their position and will have to reshuffle their portfolio, sell parts of it as well as potentially give up locations around the globe.

5 Conclusions and projections

First, these conclusions offer overarching answers especially with regards to the introductory questions of the study. Second, they also add historical and political context to the findings in order to enable a balanced assessment as well as to offer plausible explanations for the results. Third, they add, anecdotally, future perspectives to one or the other aspect highlighted in the conclusion as the most important question posed by the results is: what to do now.

5.1 P&S is only the most recent phase in the constant struggle to make multinational defence cooperation work

There is no mind-set change: Smart Defence and P&S are both new labels for classic multinational defence cooperation. Looking back in the history of defence cooperation, there is nothing new in what P&S and SD propose. Rather, NATO and later EU had to find political triggers or boosters to interest political decision makers in making an effort for a new project or signing into a new concept. This also means, that a mind-set change was not intended, but a new label to reenergise the activities. Thus, Smart Defence and P&S will fade as political terms, but the essential problem will stay and even aggravate.

5.2 Cooperation has been generally accepted as the best solution but EU Member States do not implement it in a systematic or European spirit

The Pooling and Sharing initiatives caused much hope. Although a glimpse of hope resulted from some examples like the air-to-air-refuelling project, results are not yet adequate to the size of the problems. European efforts like the Ghent initiative again rely on traditional methods of multinational defence cooperation. Hence, the new projects will not add much to the approximately one hundred others that already exist.

The idea that individual states can initiate successful projects to improve collective capabilities for defence (bottom-up-approach) has not yet proven successful. Even in the face of a possible defence bankruptcy, governments hold up the premise of national sovereignty. Their activities are still focused on the national horizon instead of a common one, i.e. a European defence policy. Thus, states are limiting joint projects to particular military capabilities they are interested in, instead of facing the question which contribution to common objectives they could make.

5.3 The contextual shift: CSDP loses significance

Along with the financial and debt crisis, the EU- and CSDP institutions have lost significance. In the framework of CSDP, Member States had assigned the EU the task to improve their joint operational capacity to act. The EU should fulfil this task by improving the availability of Member States' military capabilities, thus organising them militarily more effectively and economically more efficiently. EU actors involved in this context are the High Representative of the European Union for Foreign and Security Policy, the European External Action Service under her leadership, and the European Defence Agency. They are to reduce the redundancies between the defence apparatuses of the Member States, harmonise the defence planning processes, initiate and support cooperation between Member States, and facilitate political decisions on the European level.

However, even before the crisis, the EU and the CSDP were only seldom able to build the relevant framework for political coordination, military cooperation and capability development. They did so even less during the crisis. Rather, the states implemented their alignment plans primarily against a

solely national horizon. When they realised they would not be able to provide the desired military capabilities by themselves, they organised multilateral cooperation frameworks. The EU framework did not play a role or only a subordinated one in these cooperation formats.

5.4 Timelines and windows of opportunity

Europe may be ready to fully harvest the fruits of P&S when it is too late. After five years, we see some progress, even if marginal. However, the development of P&S is a race against the clock: simultaneously, budgets and capabilities keep on being cut. Member States have not only lost time and money but especially opportunities to pool and share that will not return very soon. Due to their first experiences in the last years Member States may be willing to use future windows. However, those windows for cooperation that may open up in the future may lead to much lesser effects in terms of savings and capabilities than the previous generation. Moreover, so far, P&S was driven by short-term objectives and thus short-winded projects. Once these low hanging fruits are digested, it may become apparent that long-term engagements that could deliver later on are missing.

5.5 Documents: rhetoric, reality, and gaps

What the EU has indeed achieved is an ever more sophisticated set of tools and procedures. Moreover, the analysis of problems has improved. Yet, if Member States have really understood that cooperation is essential to keep capabilities, but still do not really buy into it, the only conclusion one can make is that they do not care. The overall policy framework is characterised by bottom-up and voluntary contributions. The problem is that Member States often do not even consider the situation from a European perspective. Hence, they neither see the changes nor the effects of their decisions. Moreover, there is a growing gap: while Member States have understood the urgency to come to terms with defence cooperation, what they have tasked the EDA with was not appropriate.

5.6 An objective measure for success is missing

A systematic catalogue of best practice/Do and Don'ts is missing. This documents the short-winded approach of P&S/SD. Only very few have been willing to invest time and resources in serious studies that could offer benchmarks or at least indications. Hence, the current judgments on success and failure are sometimes based on anecdotic instead of systematic evidence or on opinion. What can even be found are random arguments and common places on defence cooperation that have not and often cannot be verified but are used and believed in the debate. However, there are two strong arguments for rationalising the approach to P&S and making it more objective and verifiable: The end of high defence budgets is real, and second the impact of this as well as of poor decision-making will very probably hit the current generation of decision makers in office. Hence, there is a growing interest to take political decisions that will judged in the near future as meaningful and successful in the light of scarce resources.

5.7 EDA and EU defence planning

The EU cannot provide effective help so far. EU-Defence planning institutions like EDA and EU Military Staff are constantly improving their planning tools. But Member States do not care. Sometimes they even actively block as they especially do not like transparency and information sharing. Occasionally, many even do not know the state of their capabilities themselves, nor would they like others to know about their deficiencies. Therefore, Member States insist that they decide which reality is to be presented to their partners.

EU Member States are caught in a vicious cycle: While they still desperately want to believe in their autonomy and independence, they cannot plan and organise their defence posture individually

because none of them is capable enough. They need more clarity about the contributions from their partners and allies. But they do not want to share information about their own state of defence capabilities and their likely future, not least because it would underline their dependence on others.

Member States try to square the circle: Though unable to plan and organise their future defence individually because none of them is capable enough, they nonetheless resist compromising their self-image until today. This is even true in light of ever-growing challenges from reality: While the defence austerity continues to diminish the means available for defence since 2009, Member States have only proven how robust their self-image is, and that they are willing to bear the destructive consequences on European Defence, i.e. sacrificing capabilities instead of autonomy.

As a result, the EU defence dimension as a whole seems to be paralysed in its response to changes in the environment and in its own defence toolbox: The 'Defence Council' in December 2013, aimed to 'increase the effectiveness, visibility and impact of CSDP' and '…helps to enhance the security of European citizens and contributes to peace and stability in our neighbourhood and in the broader world.' Three months later, Russia invaded another country in the European neighbourhood and changed borders by force.

Member States' insistence on their autonomy has made EU defence planning a non-political exercise, driven by institutional instead of defence logic. Neither has the 2013 'Defence Council' aimed to change this, nor has the Union shown any activity in responding to the significant changes in the European security landscape that have occurred over the last years.

5.8 Sovereignty – The future between autonomy, dependency and capability

The conception of sovereignty is key to the current problems: Austerity increases intra-European defence dependence. Yet, the conception of sovereignty that Member States still maintain does not allow them to recognise these dependencies and thus hinders the Europeans from managing them. For most Member States, sovereignty is not about being capable to act effectively in order to solve problems of their societies. Rather, for them it means to remain the master of the final decision, even if this prevents or diminishes the development of a (European) capability that could tackle their own problems. Hence, Member States prefer autonomy to capability. By doing so, whether consciously or not, Member States actually pretend to be individually able to deal with security risks and threats, and keep them away from their territory, people and political system.

It is thus only logical that with such a sovereignty conception in mind, EU members avoid talking about and engaging in cooperation and specialisation. Accepting specialisation would mean acknowledging that they can no longer assure the national core of the defence task alone. Recognising cooperation inflicts similar headaches: governments would have to admit that their ability to decide and act in security policy does not carry enough weight in view of current security problems.

Yet, states also insist on their individual right to decide because, they argue, they cannot entirely trust their partners: they fear being left alone in an operation because a partner decides to withdraw; not being able to engage in an operation, as a partner with important capabilities decides not to participate; and giving others, who do not make any contributions of their own to security, the opportunity to free ride.

However, over 20 years of experience in NATO- and EU-operation invalidates the fear of these traps: sharing has been a daily business from Bosnia to Afghanistan and Libya, and NATO and EU have gathered experience in managing the political and military caveats. No state would have been able to

carry out these operations alone. Moreover, European states have made themselves dependent in defence industries and defence contractors: states give their sovereignty into the hands of actors that are profit-oriented - but do not trust partners that agree on a common objective?

Thus, states have locked themselves into a vicious cycle: their clinging to national prerogatives eventually increases their dependence upon partners while it also diminishes their military capacity to act. Member States have not been able to prevent capabilities from getting ever more critical, such as by increasing cooperation. The individual defence planning and cuts even further the dependency. While states are rhetorically adhering to military autonomy, reality is catching up: specialisation is already taking place in an uncontrolled way and hence further increases dependency. Already today European states are more dependent on each other than they have been ever before when it comes to military interventions, as demonstrated 2011 in Libya, and again 2013 in Mali.

6 Recommendations

Pooling and Sharing has a future: The expanding and intensifying arch of crisis around Europe adds many more tasks to the EUs Security and Defence policy. The need for a more effective defence in Europe is growing. As budgets will remain tight, this also implies a more efficient European Defence. The unpleasant reality for EU Member States is that, defence cooperation will stay on the agenda. The term may change – from Pooling and Sharing to something new. But the task to define priority projects, specialise in distinct military tasks, and seek efficiencies in collaboration will remain.

For the next round of efforts to make cooperation more successful, the EU should engage in the underlying problems, instead of only scratching their surface. And the European Parliament can play a crucial role in this effort.

6.1 A political-military flagship project: Europeanise the framework nations concept by transforming EU-Battlegroups

The EP should suggest introducing the Framework Nations Concept into the EU, by transforming the EU-Battlegroups (EUBG) into more permanent defence clusters. It would not only help organising and keeping capabilities but support EU-NATO cooperation and re-table the political questions to which EU MS still need to find answers to. The EP should use the Framework Nations Concept to demonstrate the added value of existing defence related instruments within the EU for Member State capabilities.

P&S needs a military core with a political profile to enable states to build up cooperation more systematically – instead of the usual patchwork of rather non-functioning minimal cooperation. The necessary political signal effect and appeal could develop if EU states merge the Battlegroup concept with the Framework Nation Concept (FNC), as it is being implemented in NATO today. This not only lends itself as a good opportunity because most EU states are members of NATO and have approved the Framework Nation Concept. Both are also based on the idea that the states can jointly offer what they alone do not have enough of, such as reconnaissance and transport capabilities.

The FNC's core idea is to build clusters of smaller and bigger MS that coordinate the commitment of key equipment and forces to the cluster on a long-term basis. The 'Framework Nation' takes the lead of such a cluster. It provides the group first and foremost with the military backbone, i.e. logistics, command & control, etc. Into this frame, smaller nations would plug their specialised capabilities, such as air defence or engineer units. Thus, the entire cluster would become more effective and sustainable, that is, capable of carrying out longer and more complex operations. Further, not every nation would have to provide – and pay for – everything; hence, more money would be available to procure what is needed by the

group. The various individual clusters together should then provide a more coherent capability package.

The FNC represents a means to achieve many objectives: it provides a more tangible and realistic answer to the demands of P&S and thus can re-energise coordination in defence and capability planning among European Member States to increase sustainability in such multinational frameworks.

Politically, it also represents a renewed approach to transatlantic burden sharing. Moreover, by aiming to deal with the structural problems Europe's 1.5 mio soldiers have in organising themselves, it also tables the related questions: how much dependence are MS willing to accept in order to ensure interoperability and guarantee access to core capabilities?

Applying the FNC on the Battlegroups would allow for a long-term cooperation of the units currently only operating on a six-month's basis and would equip them with a great bandwidth of capabilities. This way, they would really be deployable in the crises of our times, unlike the Battlegroups so far. The resulting quick deployable brigade of the EU could get an immediate task, namely the protection of and crisis management at the Southern flank. Thus, NATO would be unburdened and could focus on the defence of the Alliance. Essentially, a concept used both in EU and NATO could contribute to an improvement of the all too often bumpy cooperation between the two organisations.

The EP should use this flagship as an example to show which defence related instruments exist within the EU, especially those resulting from the Lisbon Treaty and in which area and how their use can be beneficial to EU capability development.

6.2 Link spending to efficiency: 2% Capability output and top ten contributors

The EP should suggest output criteria for military capabilities to encourage more efficient spending of European taxpayers' money. ([34])

NATO's 2% goal dictates the debate among policymakers and public. The best thing that can be said about the 2% is that it is an arbitrary and crude measure. There is no hope that relevant defence players of the majority of European countries will reach the benchmark anytime soon. However, it dominates the debate because it is so catchy in communication and appears so self-evident that everybody immediately has an opinion on it, even if the dynamics of the numbers game are not always understood. Though NATO is aware of the problem, it has locked governments into a debate that cannot be escaped easily.

Therefore, the EU should help governments by coming up with EU-Output criteria for military capabilities. These could act as an alternative or addition to NATO's 2% goal, in order to better channel national efforts. These criteria are basically already available in EU and NATO: The Alliance's 16 key shortfall areas and the RAP offer pointers where states should direct their efforts. Also the EU holds lists with capability shortfalls and priority areas, like the CDP- catalogue.

There should be political and military level criteria: the political one is to be as easily communicable as the NATO 2% goal. The military level criteria, while linked to the 2%, focuses more on the complex military realities, allowing a fair assessment across the different capabilities.

Political criteria: Shifting from 2% input to 2% output. EU-States should commit to increasing their contribution to European capabilities in EU and NATO by 2% annually over the next decade.

[34] Mölling, C., 'NATO's Two Percent Illusion', Stiftung Wissenschaft und Politik, SWP Comments 36, August 2014.

Such a 2% commitment could take various forms: states could provide certain equipment, say enabler, or increase the readiness of troops. It leaves allies the freedom to determine how to best acquire and keep the capabilities. A successful implementation would improve capabilities by 20% over the next 10 years. Such a rather modest contribution by every EU country can ensure that they deliver constantly, reverse the trend of declining military power and link national choices to the needs of EU and NATO.

A Top Ten list to make output transparent on the military levels: Contributions which prevent deficiencies from reaching critically low levels should be given special priority through a public list that notes top contributors. Some countries have gaps and deficiencies in their capabilities, while others possess considerable surpluses. Both should be compiled in a 'Criticality Ranking'. A point system could honour contributions to scarce capabilities in particular. High surpluses, which indirectly signal wasted resources, would earn minus points.

In order to take into consideration the varying resources of smaller and larger countries, contributions to capabilities should be related to the overall size of the armed forces. This would reward the specialisation of smaller armed forces in important specific capabilities. Conversely, this would make apparent that large armies do not necessarily make a special contribution to collective security.

Finally, there could be a sustainability bonus for states that make an explicit commitment to designate 5–10% of their defence investment to compensate the traditionally high inflation rate in this sector, thereby ensuring that their capabilities would still be available in ten years.

6.3 Discuss the future of sovereignty: Autonomy or capability

The EP should initiate a public discussion on the future of sovereignty in defence among policymakers and the European public. The core themes of the debate should be about autonomy and capability in future scenarios of EU defence organisation and the ways to transfer sovereignty to new actors, both existing and conceivable.

Sovereignty is the crucial element: The way European governments and publics will conceive it, will decide the future of European defence. Put differently, the future of European defence depends on whether the Europeans are able to develop an understanding of sovereignty that enables them to compromise autonomy in order to manage their dependencies. ([35])

As EU MS governments will presumably show continued reluctance to talk about these issues, the European Parliament and possibly national parliaments have to start this debate: They are the holders of sovereignty given to them by their people. Such a debate could focus on the pros and cons of the following four scenarios on the future of sovereignty in defence:

The silent death of European defence will be the consequence if Europeans continue to neglect the dependence. The defence sector would see a decreasing effectiveness, i.e. the need for more investments. Member States would allow only for ad-hoc cooperation. It would only take place if and as long as this is the only way to maintain a national capability.

A return to 19thcentury: The current re-nationalisation of security politics points to the risk that EU-States may increase these dependencies. Governments could be tempted to 'sanctuarise' independence and make it the primary objective of their defence policies. Even if the governments carry on denying interdependence, defence problems will certainly not shrink to a size that national

[35] See: Major, C. and Mölling, C., 'The Dependent State(s) of Europe: European Defence in Year Five of Austerity', in: Biscop, S. and Fiott, D. (eds.) The State of Defence in Europe: State of Emergency?, Brussels, Egmont Paper, 62: 2013, pp. 13-18.

armies can manage them alone. However, military action would immediately become more difficult to organise, or even impossible.

Towards a European Army: The other extreme would be to institutionalise dependence by transferring sovereignty to the EU. It would enable a European army type of organisation of the European military forces to take place. Such a development would certainly be the most efficient way of organising defence. Yet, it is highly unlikely to materialise, for the required common political vision is missing and is not likely to arrive any time soon.

Pooling of sovereignty: A more pragmatic approach to sovereignty would become possible if Member States would not have to agree on what to protect and where to use armed forces. Instead, they would consent on the key notion of sovereignty as the following: to stay capable of problem solving action to pursue common political objectives. In order to regain sovereignty under the condition of dependency, they would pool their problem solving capabilities. Dependencies like responsibilities and access to capabilities would become organised through treaties. These arrangements would build on examples from two decades of operations – in which sovereignty management has been daily business. States can still pursue national levels of ambitions on top.

6.4 Task a European Defence Review

To put European defence cooperation on a more systematic and realistic basis, the European Parliament should either urge heads of state and government to launch a 'European Defence Review' or task such a review itself. ([36])

Europe needs a candid assessment of its current defence posture. Governments need to know what is available today and in ten years' time in terms of capabilities and in terms of industrial base, before they take decisions on how to go forward in European defence cooperation.

Heads of state and government should therefore launch a 'European Defence Review' in order to put the future work on European defence cooperation on a more systematic basis. Such an assessment of the current and future landscape of military and defence industrial capabilities can spur a debate about developments from a truly European perspective. The description of gaps and duplications would enable the development of well-grounded suggestions to identify future areas of cooperation within the EU-context.

As the growing interdependencies among EU Member States' security and defence policies will also become visible, questions about efficient and legitimate ways to organise these political interdependencies need to be discussed.

Such a review would complement the report of the HR on the impact of the changes in the global strategic environment by adding a realistic perspective on the level of ambition the EU can strive for during the next decade, also in view of the next European Security Strategy.

The review should be conducted by an independent commission to keep the process political but detached from national politics, oriented solely on a comprehensive and coherent European perspective on capabilities. It should be delivered within a year.

There is already a mandate for such a review, as the Council in November 2012 requested a coherent strategic reporting to the political level. Moreover, this could represent the necessary first step of the

[36] Linnenkamp, H. and Mölling, C., 'A Doable Agenda for the European Defence Council 2013 - Three Proposals', SWP Comments 2013/C 28, August 2013

'defence roadmap' demanded in the HR's report in preparation to the European Council in December 2013.

Such a review is not comparable with NATO's defence planning process, which is first of all an exercise conducted in secrecy by the 28 ministries of defence of the NATO allies. It is furthermore not meant to inform heads of state and government and enable a political debate among them. Moreover, the US-capabilities blur the picture on the European contribution, and a forward-looking perspective as well as the industrial dimension are almost missing.

Yet, both EU and NATO would profit from such an assessment and debate, as the two organisations have a large overlap in members and both need to improve defence cooperation.

The 2015 June European Council is dedicated to defence. It offers the perfect framework to launch such a review as the precise starting point to improve European defence cooperation based on realistic assessments. If the EU governments still do not feel ready for such a sobering look at reality, it should be the European Parliament that tasks the 'European Defence Review'.

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Annex I: Capability Development Plan (CDP) Priorities, 2011 and 2014

In its aim of providing common objectives for Member States in terms of military capacity and harmonise their operational needs, the European Defense Agency has elaborated the new release of the Capability Development Plan (CDP), which provides a picture of joint military capabilities, requirements and needs. At the EDA Steering Board Meeting 18th Nov 2014, Defence Ministers agreed to a list of priority actions derived from the CDP and their implementation. This succeeds the priority list of 2011.

2011 Priorities	2014 Priorities
1. Counter Improvised Explosive Device (C-IED);	1. Enhance C- IED and CBRNe Capabilities in Operations
2. Medical Support;	2. Provide Medical Support to Operations
3. Intelligence, Surveillance and Reconnaissance;	3. Remotely Piloted Aircraft providing Surveillance (RPAS)
4. Increased Availability of Helicopters;	4. Inter-Theatre Air Capabilities
5. Cyber Defence;	5. Counter Cyber Threats (Cyber Defence)
6. Multinational Logistic Support;	6. Enhance Logistic Support for Deployed Forces
7. CSDP Information Exchange;	7. Enhance Battlespace Information/Communication Services
8. Strategic and Tactical Airlift Management;	8. Intra-Theatre Combat Capabilities
9. Fuel and Energy;	9. Provide SATCOM Capabilities
10. Mobility Assurance.	10. Provide Air and Missile Defence for deployable forces
	11. Maritime Patrolling and Escorting
	12. Naval Surveillance systems
	13. Energy and Environmental Protection
	14. SESAR
	15. Modeling, Simulation and Experimentation
	16. Space based information service

Annex II: Ghent projects and European Defence Council projects

The table below lists project that where generated through the '**Ghent Initiative**' (November 2010) as well as those, that where inaugurated in 2013 by the so called 'EU Defence Council', i.e. the December meeting of the Heads of State and Government of the EU Member States. It shows that most of the projects set up by the Head of State and Government during the European Council 2013 are indeed stemming from the Ghent initiative.

Ghent Projects (2013)	European Council in December 2013,
Air-to-Air Refuelling[37] (AAR)	X
Cyber Defence[38]	X
European Air Transport Fleet (EATF)	
European Air Transport Training (EATT)	
European Multimodal Transport Hubs	
European Satellite Communication Procurement Cell (ESCPC)	X
Helicopter Training Programme (HTP)	
Intelligence Surveillance Reconnaissance (ISR)	
Maritime Surveillance (MARSUR) Networking	
Medical Support/Medical Field Hospitals	
Military SATCOM	
Military Transport Education Initiative	
Multinational Joint Headquarters Ulm	
Naval Logistics & Training	
Naval Reconnaissance/Pooling Maritime Patrol Aircrafts	
Naval Training	
NH90 Projects	
Pilot Training	
Route Clearance Counter-IED (CIED)	
Smart Munitions	

[37] EDA (3.05.2012): Factsheet Air-to-Air Refuelling, <http://www.eda.europa.eu/info-hub/publications/publication-details/pub/factsheet-air-to-air-refueling>, retrieved 15.10.2013.
[38] Hale, J. (24.05.2013), EDA Study Cites Cyber Training, Education, Gaps, in: Defence News.

Annex III: EDA's Flagship projects

To foster the enhancement of military capabilities, especially through Pooling and Sharing (P&S), EDA, Commission and Member States are engaged in four high level projects:

1. A European Remote Piloted Aircraft System (RPAS) until 2020-2025,
2. an air-to-air refuelling capacity (esp. multi-role tanker transport, MRTT),
3. a next generation Governmental Satellite Communication (GOVSATCOM)
4. and the establishment of respective user groups in 2014, as well as a roadmap on cyber defence and respective projects.

Other projects are the development of a policy framework fostering transparency and information sharing, the replication of the EATC model in other areas, and the further development of EDA's Code of Conduct on P&S, including a report on possibilities for pooling projects. A number of actions and roadmaps have been set up:

The EDA supports the development of a European Medium Altitude Long Endurance (MALE) RPAS through a number of projects as well as systems already in service.[39] The work on air-to-air refuelling proceeds quite well: a contract for new air-to-air refuelling aircraft is expected by the end of 2015, the OCCAR is tasked with negotiations on a fleet of A330 MRTT. The initial operating capability is scheduled for 2019, it will be led by the Netherlands with participation by Poland and Norway. Belgium, France, Greece, Hungary, Lithuania, Portugal, and Spain support the project.[40]

The development of Governmental Satellite Communication was formally endorsed by the EDA Member States, the preparation phase of a cooperative programme runs until 2016 under the lead of Spain. The project shall be finished until 2025. A group of potential users might consist of Germany, France, Italy, Spain, and Great Britain.[41] A EU Cyber Defence Policy Framework was adopted during the Council meeting in November 2014.[42]

[39] Cf. EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>.

[40] Cf. Jennings, G. (24.11.2014), Europe kick-starts tanker procurement project, retrieved 26.11.2014 from <http://www.janes.com/article/46210/europe-kick-starts-tanker-procurement-project>; Defense Update (24.11.2014), NATO establishes a fleet of multirole tanker transport fleet, retrieved 26.11.214 from <http://defense-update.com/20141124_nato-launches-acquisition-of-multirole-tanker-transport-fleet.html#.VHWkKWNARxK>; EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>; EDA (19.12.2014), European multirole tanker transport fleet takes shape, retrieved 26.01.2015 from <http://www.eda.europa.eu/info-hub/news/2014/12/19/european-multirole-tanker-transport-fleet-takes-shape>.

[41] Cf. EDA (18.11.2014), Defence Ministers assess EDA progress during the Agency's Steering Board, retrieved 19.11.2014 from <http://eda.europa.eu/info-hub/news/2014/11/18/defence-ministers-assess-eda-progress-during-the-agency%27s-steering-board>; EDA (n.y.), Governmental Satellite Communications, retrieved 19.11.2014 from <https://www.eda.europa.eu/Aboutus/Whatwedo/capability-programmes/governmental-satellite-communications>.

[42] Cf. Council of the European Union (18.11.2014), Council Conclusions on Common Security and Defence Policy, retrieved 19.11.2014 from <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/145824.pdf>, p. 2; Council of the European Union (12.11.2014), EU Cyber Defence Policy Framework (15193/14), retrieved 27.01.2015 from <http://www.statewatch.org/news/2014/nov/eu-council-cyber-defence-15193-14.pdf>.

To foster transparency and information sharing the Council adopted the 'Policy Framework for Systematic and Long-Term Defence Cooperation', complemented by the revised Capability Development Plan (see above) endorsed by the Defence Ministers.[43]

[43] Cf. Council of the European Union (18.11.2014), Council Conclusions on Common Security and Defence Policy, retrieved 19.11.2014 from <http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/EN/foraff/145824.pdf>, p. 3; EDA (19.11.2014), EDA outlines key priorities of the revised Capability Development Plan, retrieved 24.11.2014 <http://www.eda.europa.eu/info-hub/news/2014/11/19/eda-outlines-key-priorities-of-the-revised-capability-development-plan>.

ANNEX IV: Political Frameworks for defence cooperation

Cooperation Framework	Goals	Status 2012/2013	Progress	Status 2013/2014 (January 2015)
Weimar Triangle (1992): Germany, France, Poland	In the military realm: Battlegroups, capability development. Permanent integrated civil-military planning and command capability.	French MoD Le Drian revived the initiative in 2012.	↘	No new initiatives to date. Instead, bilateral defence cooperation between the states prevails.
Weimar Plus (2012): Germany, France, Poland, Spain, Italy	Advance an ambitious European policy in the realm of security and defence. Emphasis: strengthening cooperation efforts on high added-value capabilities, such as air-to-air refuelling.	n.a.	=/↘	To date, no new initiatives have been started.
Visegrád Group (V4) (1991): Poland, Hungary, Slovakia, Czech Rep.	Cooperation in defence and security issues.	Further talks on joint logistics, CBRN defence, helicopter pilot training, joint construction of armoured vehicles and munitions, integrated command and control systems.	=/↗	The V4 countries signed two strategic documents in March 2014, outlining their long-term vision for deepening defence cooperation and harmonising defence planning. Goal of transforming Visegrad Battlegroup into a permanent formation. The Battlegroup will be on standby from mid-2016, under Polish lead.
NORDEFCO (2009): Denmark, Sweden, Finland, Norway, Iceland	Joint training, common procurement, exercises.	Creation of Nordic Tactical Air Transport (NORTAT) wing. Potential amendment of NORDEFCO charter to add industrial cooperation dimension.	↘	Amidst the crisis in Ukraine, Finland and Sweden have opted for closer defence cooperation with each other44, with NATO and the EU, but not primarily via NORDEFCO. In November 2014, the governments of the Nordic and Baltic states approved a plan to deepen defence cooperation and readiness between their militaries.45
BENELUX: Belgium, Luxembourg, Netherlands	Cooperation and integration of defence capabilities	In April 2012, the BENELUX-declaration on cooperation in the field of defence was signed. This was the starting point for the renewal of defence cooperation on a BENELUX level, focusing in particular on naval defence cooperation.	=/↗	Belgium and the Netherlands signed a LoI in October 2013 to combine the two countries' air policing functions. Other steps envisioned are the joint education and training of air force officers, and integrating helicopter commands and air transport units. By the end of the decade, the countries aim for a fully integrated air force.46

[44] Salonius-Pasternak, C. (December 2014): Deeper Defence Cooperation: Finland and Sweden together again? FIIA Briefing Paper 163.
[45] O'Dwyer, G. (29.11.2014): Nordic-Baltic States to Deepen Cooperation. Defense News.
[46] Tigner, B. (18.02.2014): Benelux Nations look towards integrated air force. Jane's Defence Weekly.

Cooperation Framework	Goals	Status 2012/2013	Progress	Status 2013/2014 (January 2015)
SEDM (South Eastern Europe Defence Ministerial) (1996)	Strengthen the politico-military cooperation and to advance the stability and security in South- Eastern Europe by: promoting regional cooperation, strengthening regional defence capabilities as well as cooperation through collective efforts and establishing links facilitating integration into Euro-Atlantic institutions/organisations.	n.a.	=	The SEDM process continues to be a platform for political consultation, no tangible results in terms of technical defence cooperation besides the SEEBRIG (South Eastern Europe Brigade).
Dutch-German Defence Cooperation (2012)	Integration of Air Mobile Brigade, intensify cooperation of GBAD and missile defence, knowledge-sharing on submarine construction	Ambitious roadmap for intensifying army, navy, and air force cooperation	↗	Integration of Dutch army brigade (2,100 soldiers) into Germany division Schnelle Kräfte Plans for further integration of other Dutch divisions Integration of Dutch mechanised brigade into German armoured division47
Polish-German Defence Cooperation (2013)	Integration of combat battalions, intensify maritime cooperation	-	↗	27.05.2013: Declaration of Intent regarding bilateral maritime cooperation naming 28 projects for training, surveillance etc. 29.10.2014: Declaration of Intent regarding bilateral cooperation (exchange and joint training of officers as well as subordinating combat battalions under the other's command)48, preparatory trainings and exercises in January 2015 also with regard to the NATO Response Force49
Franco-Polish Cooperation	? (no DoI or any strategic document available)	-	↗	Since April 2013: Polish-French strategic dialogue (semi-annual meetings on political-military relations)50 Besides/instead of Weimar Triangle, a deepened bilateral cooperation seems to be likely (exchange of staff, joint training and exercises)51

[47] German Army (01.12.2014), Deutsch-niederländische Zusammenarbeit: Inspekteur des Heeres spricht vor Parlamentarischer Versammlung der NATO, retrieved 28.01.2015 from <http://www.deutschesheer.de/portal/a/heer/!ut/p/c4/NYxLC8IwEIT_0W7iA9FbS0G99qL1IqZLE82jLNt68cebCs7AwPANgw8sTmbxoxGfkwl4x876U_8GR8RgXjJTCJCMdeytE0rwNI43Su8g5YViT7-Ct_VpILA5kaxZpuJLjmwkM0yZJaxkZi4E_ICd0k2t9uov_Tm21bm5HLa6udYtTjFWXx-Y_o4!/

[48] German MoD (29.10.2014), Absichtserklärung zu einer Deutsch-Polnischen Heereskooperation, retrieved 29.01.2015 from <http://www.bmvg.de/portal/a/bmvg/!ut/p/c4/NYuxDsIwDET_yE4khsJG6MKCRAdK2dI2ioyapHKdsvDxJAN30hvu6fCFpdHu5K1QinbBJw4TncYPjGH38E6ZywqBIm3imHLAvn5mB1OKTirFRaFCz1YSw5pYlmoyczFAMw5Kt0Zp9Y_-Hu8X87g1zaG9mg7XEM4_iSZ2AQ!!/>.

[49] Polish MoD (21.01.2015), Revolutionary Ideas for Cooperation, retrieved 28.01.2015 from >http://en.mon.gov.pl/news/article/latest-news/2015-01-22-revolutionary-ideas-for-cooperation/>.

[50] Polish MoD (15.01.2015), Polish-French Consultations, retrieved 28.01.2015 from <http://en.mon.gov.pl/news/article/latest-news/2015-01-15-polish-french-consultations/>.

[51] P. Elman, M. Terlikowski (25.01.2013), Balancing Austerity with Ambitions: The (Close) Future of French Defence Policy, retrieved 28.01.2015 from <https://www.pism.pl/files/?id_plik=12783>; P. Buhler (15.06.2014), Warsaw – The growing warmth of Franco-Polish relations, retrieved 28.01.2015 from <http://europesworld.org/2014/06/15/warsaw-the-growing-warmth-of-franco-polish-relations/#.VMjyIGNSlxI>.

Cooperation Framework	Goals	Status 2012/2013	Progress	Status 2013/2014 (January 2015)
Franco-British Defence Cooperation 'Lancaster House Treaty' (November 2013)	Concrete measures in thirteen areas, among others expeditionary forces under alternating command, common usage of aircraft carriers and nuclear research facilities; training and instruction of pilots, and maintenance of A400M; development of UAS	Successful training of French-British Combined Joint Expeditionary Brigade in October 2012. No joint development of aircraft carriers, therefore no interoperability in this area. Joint development of UAS is on hold.	↗	New significant commitments at Franco-British Brize-Norton Summit in Jan 2014:52 Statement of Intent for a future combat air system, which will launch a 2-year, 120 million £ joint feasibility phase Technical arrangements for exchange program for pilot training of A400M and A330 Voyager aircrafts MoU confirming joint orders for a future helicopter-launched, anti-surface guided weapon; 10 million £ contract for development of underwater seabed mines detecting vehicle Continue development of CJEF, cooperation on equipment capability and interoperability Service contract for maintenance of A400M by both ministries signed in December 201453
Framework Nations Concept (NATO)	Transatlantic burden sharing Development of multinational units in order to increase sustainability and help preserve military key capabilities.		↗	New initiative launched by Germany in 2013 Endorsed at NATO Wales Summit in September 2014 Three groups have been formed:54 - With Germany as lead nation, ten Allies will cooperate on logistics support, CBRN protection, fire-power from air, land and sea and on deployable headquarters - Under UK as lead nation, seven Allies (Denmark, Estonia, Latvia, Lithuania, the Netherlands, Norway, UK, [Canada]) will create a rapidly deployable force, capable of conducting the full spectrum of operation. The Joint Expeditionary Force (JEF) can be employed as part of a coalition or on behalf of international organisations such as NATO or the UN. FOC is to be reached by 2018. The lead commando, airborne, aviation, armoured, air and maritime tasks are carried out by UK units. The other nations provide special units and troops, if need be. - A third group of six Allies under Italy's lead will improve stabilisation and reconstruction capabilities, provision of enablers, usability of land formation, and command and control

[52] British MoD (31.01.2014), UK and France agree closer defence cooperation, retrieved 30.01.2015 from <https://www.gov.uk/government/news/uk-and-france-agree-closer-defence-co-operation>

[53] Defense News, 08.12.2014, Airbus to Service UK, French A400Ms, retrieved 30.01.2015 from <http://archive.defensenews.com/article/20141208/DEFREG01/312080011/Airbus-Service-UK-French-A400Ms>

[54] NATO Press Release, 05.09.2014, Wales Summit Declaration, retrieved 30.01.2015 from <http://www.nato.int/cps/en/natohq/official_texts_112964.htm>

ANNEX V: EDA Pooling & Sharing Projects

The following table entails all defence cooperation projects collected on the EDA website. The columns contain the following information:

- **Name of the project:** what is the project name within EDA?
- **EDA project categories:** EDA sorts the projects into different capability categories they should support
- **Participating Member States:** this column lists all EDA Member States taking part in this project, this can include countries which are associated with EDA (e.g. Norway or Switzerland)
- **Status:** some projects are active, some have been completed already, very seldom exact dates are offered on when the project started, has ended or will end
- **CDP relevant:** this column notes whether the project is linked to the capability development plan, i.e. supports the implementation and thus helps to mitigate capability gaps identified by the CDP
- **Overlap with smart defence:** some smart defence project may have similar objectives or are in fact the same project but introduced into both organisation
- **Project goal:** this column notes the different official objectives the project shall achieve

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
Ambassador: Advanced Model-Based Approach to Scalable Multi-Function Radio Frequency (SMRF) Specification, Analysis, Development and Obsolescence Reduction	Research & Technology	NL, FR, UK, DE, SE, ES	Active			To demonstrate the need and the benefit of a modern architectural framework in the definition of new systems and specially those as complex as Scalable Multifunction RF (SMRF) Systems To demonstrate the need and the benefit of a standardised system engineering framework to describe the creation and modifications of SMRF systems To develop roadmaps and way forward for the development of SMRF systems
ALWS: Airborne platform effects on laser systems and warning sensors	Air, Research & Technology	DE, FR, IT, SE, UK	Active			Obtain an understanding of the impact of the adverse propagation environment (engine plume and rotor downwash effect) on the system performance Provide input related to perturbation effects to system level platform survivability modelling tools, through the execution of field trials with full scale platforms Develop simplified models or guidelines capable of estimating performance implications from the perturbations Provide guidelines for determination of optimal location of electro-optical self-protection
Air-to-Air Refuelling	Air, Capabilities	All	Active	No		Overall goal is to increase Europe's air-to-air refuelling capabilities, this is achieved by: Short Term Gap Filling Optimisation of existing assets Increasing the Strategic Tanker Capability by 2020 and beyond
Balanced Defence Industry in Europe	Industry & Market	All EDA Member States, especially BG, CZ, EE, HR, HU, LT, LV, PL,	Active			To stock take the industrial defence capabilities/capacities in the CEE EDA Member States, and to investigate ways to make them more visible in the EU/EDA context To analyse CEE EDA Member States' internal barriers and obstacles to cooperation, and to identify small scale projects, which would match with CEE EDA Member States defence industry capabilities To investigate ways how to boost CEE EDA Member States' capacity to engage in concrete projects and programmes, especially looking at means of better educating and training people working and/or earmarked for

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
		RO, SI, and SK				working in national and international armament cooperation
C-27J Pooled Maintenance and Training	Air	BG, EL, IT, LT, RO	Active			Aircraft maintenance Training of maintenance personnel Sharing of Spare parts Harmonisation of operational procedures and crew training Flexible operational use of the aircraft (Transport, VIP, Firefighting, MEDEVAC, etc) Training facilities and simulators Lessons identified, exchange of best practices and operational experience
Capability Development Plan	Capabilities	All	Active	Yes		Provide a picture of European military capabilities over time Help Member States' defence planners identify priorities and opportunities for cooperation. Look at the long term trends affecting European Defence Identify list of priority actions detailed enough to direct work on capability development
CODABA: Collaborative Database	Armaments, Capabilities, Industry, Information technology	All	Active	Yes		Future Capability Landscaping: CODABA entries will be used for outlining when what capabilities are planned by what nation to be developed in Europe in the future. This is an integral part of the Capability Development Plan (CDP) Facilitating Enhanced Cooperation: On the basis of CODABA entries cooperative, opportunities can be identified and promoted, especially within Pooling & Sharing
CEDS FSP: Combat Equipment for Dismounted Soldier Feasibility Study Programme	Research & Technology, Capabilities, Land	FI, AT, DE, ES, FR, PT, SE, RO	Active (Expected completion: 12/2015)			Demonstration of state of the art technological solution in all CEDS FSP domains Update of the Common Staff Requirements (CSR) for CEDS
Common Staff Target (CST) for Cyber Ranges		AT, CZ, EE, EL, IE, FI, LT, NL	Early 2018 (Full Operational Capability)	Yes		• Increase availability of existing cyber range facilities; • Increase occupation rate and efficiency of existing cyber ranges and platforms; • Mainstream and improve cyber defence training, exercises & testing at European level.
COBID: Comprehensive Battlefield Identifcation	Research & Technology, Land, Protect	n.a.	Completed (06/2014)			Prevent friendly fire and allow forces to identify friend or foe in land based combat situations Review and assess technological concepts for dismounted soldier battlefield identification system and identify options most suitable for collaborative development of an effective dismounted soldier battlefield identification system in the upcoming decade
Counter-IED	Capabilities, Land, Protection	n.a.	?	Yes	Counter IED - Biometrics	The process was started in 2007 when accepted international doctrine stated that Countering IEDs consisted of 6 key operational areas: Detect, Mitigate, Neutralise, Exploit, Predict, Prevent
Defence Industry Data	Industry, Industry & Market	All	Active		Alliance Defence Analysis and Planning for Transformation (ADAPT)	To identify industrial capacities, competencies and capabilities present in Europe, including major industrial players To provide data and information that enables the EDA and Member States to: Understand the main trends and developments of the European defence industry Assess the economic strengths and the competitiveness of European defence industry in the global market Evaluate the impact that defence industry has on growth, innovation and jobs at Member States and European level
DTEB: Defence Test and Evaluation Base	Cooperation Planning Support	All plus Switzerland and Serbia	Active			Providing a framework for and stimulating T&E cooperation Forming a common European DTEB view T&E support to the creation of new Common Staff Targets and Common Staff Requirements Identifying and assessing T&E cooperation opportunities Avoiding duplication of tests

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
						Contributing to T&E specialist skills sustainability
Effective Procurement Methods	Industry & Market, Market, Procurement	n.a.				Develop innovative ways to consolidate the demand side of the European Defence Equipment Market (EDEM) and indeed to identify existing common demand
ELAV: Electric Armour for Armoured Vehicles	Land, Protect, Research & Technology	n.a.	Completed (06/2010)			The potential benefits stemming from the introduction of EA into Armoured Vehicles include: • Increased protection to personnel and equipment • Increased strategic air-transportability Increased tactical mobility
EMWARE: Embarked Middleware	Research & Technology	n.a.	Completed (02/2011)			• The aim of the project is to facilitate the adoption of informed decisions regarding the specification and implementation of Open Architecture middleware in future embarked systems.
EU Multimodal Transport Hubs	Air, Capability, Logistics	AT, BE, CZ, CY, EL, FI, FR, HU, IT, NL, PL, SE, SI	Active	No		Develop a Multimodal Transport Hub System for serving Common Security and Defence Policy (CSDP) and Member States (Member States) purposes through harmonised regulations, procedures and process as well as, Pooling and Sharing of assets and infrastructure in Europe Identify harmonised and simplified procedures for passing border with military personnel and equipment Promote more cost-effective use of European transport assets, best use of existing air/sea/inland infrastructure as well as increased civil military transport synergies Analyse and implement cost saving options for combining a range of logistic facilities and systems Provide access to existing and develop future IT-systems and software for planning and execution of multi-national transports
EU Satcom Market	Procurement, Space	AT, BE, DE, FI, HL, IT, LU, PL, RO, UK	Active	Yes		Provide a cost effective Commercial Satcom solution for participating Member States Reduce costs, ease access, and improve operational efficiency for Member States and EU Operations and Missions.
EATF: European Air Transport Fleet	Air, Capabilities	AT, BE, BG, FI, FR, DE, HR, HU, IT, LT, LU, NL, NO, PL, PT, SL, CZ, RO, ES, SE	Active			To improve the airlift provision within the European Union To develop concrete solutions to better use existing and future airlift assets and organisations made available by the pMS to meet military operational requirements To be able to transport any personnel/equipment by any asset with a minimum of constraints To address the way different types of air transport assets are acquired, operated, supported and managed in the most efficient way
European Armed Forces GO GREEN	Armaments	AT, CY, CZ, DE, EL, LU, RO	Active			To raise awareness of the considerable potential of Renewable Energy within the European Armed Forces and of private investors. To establish a common coherent approach on renewable energy production within the European Armed Forces allowing shared benefits. To minimise implementation challenges and deliver results already in short term. To reduce substantially costs for realisation and time for implementation for each participating Member State (pMS) when benefiting of economies of scale, lessons learned as well as the standard toolbox. To identify the cooperative use of the revenues for re-investment in capabilities for CSDP.
ECOMOS: European Computer Model For Optronic System Performance Prediction	Research & Technology	DE, FR, IT, SE, NL	Active (Expected completion 04/2017)			Computer model to assess the notional performance and to specify an imager and its subsystems for existing/future European defence and security capability development. and will produce Generally accepted and harmonised European computer model for computing detection, recognition, and identification ranges for various types of infrared and visual systems
European Military Airworthiness	Air, Armaments	All	Active			Common regulatory framework Common certification processes Common approach to organisational approvals Common certification/design codes

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
						Common approach to preservation of airworthiness Arrangements for recognition Formation of a European Military Joint Airworthiness Authorities Organisation
ENNSA: European Network of National Authorities on Ammunition	Research & Technology, Capabilities	BE, BG, CZ, DE, EE, IE, EL, ES, FR, HR, IT, CY, HU, NL, AT, PL, RO, SI, SK, FI, SE, UK	Active		Integrating Explosives Safety and Munitions Risk Management (ESMRM)	Identification of national procedures and organisations involved in the different steps of the munitions safety qualification process (i.e definition of specification, assessment, validation, qualification decision, release of information etc). Appreciation, assessment and evaluation of the use and implementation of ammunition safety standards and procedures in relation to pMS military requirements. Analysis of national ammunition safety standards/procedures used or the way that international standards on ammunition safety are being implemented at a national basis. Communication and discussion on ammunition safety related issues Explore possibilities of achieving a level of harmonisation, or to take coordinated action, on ammunition safety requirements and analysis-procedures. Investigation of best practices on ammunition safety analysis-procedures Development of guidelines Sharing and availability of information and expertise on ammunition safety issues Recommendations to the pMS for a coordinated approach, where feasible, or for the improvement of harmonisation, on ammunition safety analysis/procedures (i.e. on testing failure, faulty analysis, etc).
ENTER: European Network on Electro Magnetic Effects Test & Evaluation capabilities Rationalisation	Research & Technology, Cooperation Planning Support	All	Active			Developing the European network of Test & Evaluation capabilities in the area of EME Supporting the mutual understanding of the various national T&E standards and procedures on EME within pMS and Europe Forming a forum to share information, to discuss issues, to make propositions in the field of EME T&E in a spirit of mutual transparency of the provided input Supporting the creation of ad hoc grouping in the field of EME T&E Increasing the European market strength on T&E Providing common training of experts, engineers and technicians Supporting the consolidation of the pMS national capabilities Serving as an example for the creation of a General European Network on T&E capabilities
LAVOSAR II: European Reference Open Architecture Standard for a modern Integrated Electronic Mission System in Military Land Vehicles	Research & Technology, Land	n.a.	Active (Expected completion 11/2015			Analyse background material Define the architectural domain which is complement with NGVA Investigate on specific European requirements to establish a proposal for an update of Open Reference Architecture Standard Update the defined operational workflows and logistic procedures of the LAVOSAR study Investigate a roadmap to harmonise the data exchange procedures on Maintenance, Repair and Overhaul with military and civilian facilities
Future Air Systems	Air, Industry, Industry & Market	All	Active			The strategy aims at developing a truly European defence industry Create industry able to meet operational requirements of the armed forces of the future Work closely with Member States and Industry to create synergies and avoid duplication of efforts
Future Tactical Unmanned Aircraft System	Air, Armaments	DE, ES, FI, FR, PL, PT, SE	Completed (05/2011)			Investigate potential of future tactical unmanned aircraft systems Lead to eventual development and production of systems Focus on maritime surveillance, ISTAR, and other Member State capability gaps
Helicopter initiatives	Air, Capability, Manoeuvre	AT, BE, CZ, DE, EL, FI, HU, IT, LU, NL, PT, SE, UK, NO	Active	Yes	Multinational logistics Partnership – Helicopter Maintenanc	Capability need: shortage of available helicopters for crisis management operations, where terrain (large distances, deserts, mountains) and lack of security (road-side bombs, etc.) set a high demand on helicopter use EDA activity: improve immediate output through the Pooling and Sharing of skills, knowledge and experience among European countries Means: Multinational exercises, annual symposium, synthetic training, 'Train the Trainer' (helicopter instructor training), platform-specific workshops, multinational formation

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					e	Results: between 2009 and 2014, 174 helicopters, 1000 aircrew members and 10.000 infantry personnel have deployed to exercises held in France, Spain, Italy, Portugal and Belgium. 400 aircrew from 12 different countries have also graduated from the EDA Helicopter Tactics Course
HyMUP: Hybrid Manned/Unmanned Platooning	Research & Technology, Land	FR, DE	Active (Expected completion 12/2016)			Help military community to become familiar with heavy unmanned ground vehicles Progressive introduction of heavy robotics in forces, rather than forcing a revolutionary breakthrough Change of military doctrine
ISR: Intelligence Surveillance and Reconnaissance		?	?	Yes		Overcome current shortfalls in European ISR capability by improving networks (interoperability, connectivity), developing new collection capabilities and optimising the use of dedicated platforms and sensors
JDEAL: Joint Deployable Exploitation and Analysis Laboratory	Capabilities, Land, Protect, Training	AT, BE, FR, DE, HU, IT, LU, NL, PT, ES, SE	Active			Improve Member States technical exploitation capabilities Provide a permanent training facility for national and international training in the Netherlands To procure two new deployable laboratories for use by participating Member States Provide a platform for reseach and development - with room for subprojects to be launched under the JDEAL framework
Key Industrial Capabilities - Naval Domain	Industry, Industry & Market, Sea	All	Active			Mapping of key industrial stakeholders in the naval domain (naval industries, technology institutes, supply chain members) Identifying key industrial and technological competences in the naval industrial sector Addressing potential overcapacities in the naval industrial sector Harmonisation of operational procedures and crew training Investigating ways to address the gaps in critical industrial capabilities Promoting and supporting the actions related to strengthening the naval Defence Technological and Industrial Base
Key Skills and Competences for Defence	Market, Industry	All	Active			To define the specialist skills and competences necessary to design, build and support military equipment in the defence sector To build a taxonomy of these specialist skills and competences based on international standards, and to identify the critical skills and competences without which it will not be possible to design, build and support military equipment To identify the current supply of the critical skills and competences on the list through the analysis of those skills and competences available within the EDA Member States' educational sector, government and industry, highlighting existing and future gaps
LAVOSAR I: Land Vehicle with Open System	Research & Technology, Land	All	Completed (01/2014)			Analyse Standards and Best Practices, current and potential future Technologies and other activities in the domain having applicability to an open electronic mission system Create a Normative Framework containing agreed definitions of context and terminology as a basis for more detailed study Study and develop a functional and technical Mission System architecture, making recommendations to form the basis of a common approach used by multiple member states in Europe Study and develop a Business Case supporting an Open Architecture approach
LPAD: Long Precision Air Delivery	Air					No information available on website
MNTCE: Manual Neutralisation Techniques Courses and Exercises	Capabilities, Land, Training	AT, BE, DE, IT, IE, SE	Active			To develop concrete solutions for better use of existing and future airlift assets made available by the pMS for military needs to meet operational requirements; Annual manual neutralisation techniques course Annual manual neutralisation techniques exercise Procurement of specially designed manual neutralisation kits
Manufacturable GaN-SiC-substrates and GaN epitaxial wafers supply chain	Research & Technology	DE, FR, IT, SE, UK	Completed (04/2014)			To reduce the dependence of European defense industry from suppliers outside of Europe and to prevent them from possible delivery restrictions To prove the European ability to establish an industrial supply chain for GaN-based electronics suitable for the needs and applications of the defense industry
Maritime Mine Counter	Capabilities	BE, EE, DE, NL,	Active			Prepare the next generation of mine countermeasures ships

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
Measures - New Generation	, Sea	NO, SE				Work on a set of common requirements to prepare the future generation of mine countermeasures ships and systems
MARSUR: Maritime Surveillance	Capabilities , Engage, Sea	BE, BG, CY, DE, ES, EL, FI, FR, IE, IT, LT, LV, NL, PL, PT, SE, UK	Active	No		Allow dialog between European maritime information systems Improve the common 'recognised maritime picture' by facilitating exchange of operational maritime information and services such as ship positions, tracks, identification data, chat or images.
Medical Support	Capabilities , Manoeuvre	AT, BE, BG, CY, CZ, DE, EL, ES, FI, FR, HU, IT, IE, NL, RO, SE, SI	Active	Yes	Pooling & Sharing Multinational Medical Treatment Facilities	Increase interoperability of equipment, expertise, and training in medical support to CSDP operations Analyse new areas for medical capability development Look at new Pooling & Sharing opportunities Enhance dual use capabilities for disaster relief emergencies
METALESA: METamaterials for Active ELEctronically Scanned Arrays	Research & Technology	ES, DE, FR, IT	Completed (04/2014)			To present critical breakthrough technology with respect to the state of the art, in the field of radar signal processing, systems or applications To demonstrate how novel MetaMaterial (MTM) concepts can be applied to improve limitations or reduce the costs of critical components of modern Active Electronically Scanned Arrays (AESA), for today's military radar systems To increase the efficiency and reliability of future operating radar systems
Modular Lightweight Minesweeping	Capabilities , Research & Technology , Sea	FR, IT, PL, NO	Active			Prove that signatures generated by modular lightweight sources can be accurately predicted using numerical models Modular lightweight sources can be towed by or installed on unmanned vessels Modular lightweight sources are capable of actuating realistic mines Multiple unmanned vehicles can sail together and maintain a predefined formation Multiple modular lightweight sources can generate a complex ship like signature Modular lightweight sources can quickly and easily be reconfigured Unmanned vehicles have sufficient endurance to carry out mine sweeping operations
NM-RS: Networked Multi-Robot Systems	Research & Technology	DE, IT, ES, BE	Completed (07/2010)			Focus on robots to reduce the risk of personal damage or loss of life Increase the efficiency for military operations i.e. reconnaissance, inspection and security
Non-lethal capabilities	Capabilities	ES, FI, FR, NL, SE, AT, BE, CY, CZ, DE, PT, IT	Active (Expected completion: 11/2015)			Elaboration of common military Non-Lethal Capability requirements by: • Investigating already available COTS / MOTS technology • Promoting common research & development of non-lethal technologies Initiating common projects
HPM: Non-Lethal Micro-Wave State-of-the-Art	Research & Technology	n.a.	Completed (01/2015)			The study will cover three major areas of interest in which the systems are evaluated: • Technology • Team working Man-Machine and Machine-Machine-Man • Medical and health related issues • Applicability in selected military scenarios
NLOAS: Non-Lethal Optical and Acoustic Systems	Research & Technology	n.a.	Active (Expected completion 11/2015)			Determine the constraints and restraints in the use of optical and acoustic technology • Evaluate the tactical use of these technologies for warning and deterring.
PIOVRA: Polyfunctional Intelligent Operational Virtual Reality Agents -	Research & Technology	n.a.	?			To Develop a new Generation of CGF able to simulate 'Intelligent' behavior, filling up the gap between user requirements and current available CGF performances. To Demonstrate Dynamic VV&A and Asses Execution of FEDEP Phases in a HLA Federation acting at different levels of resolution. To experiment use of PIOVRA with external models in order to improve local accuracy within large scenario

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						exercises used in JTLS.
RPAS: Remotely Piloted Aircraft System						The roadmap includes four actions: RPAS Certification. In the context of the Military Airworthiness Forum, the Agency is exploring together with national authorities and the European Aviation Safety Agency how to streamline the certification process for military RPAS on the European level. Signature of a Joint Investment Programme on RPAS for Air Traffic Insertion. The programme will focus on technological priorities such as sense and avoid, taxi, automatic take-off and landing, air traffic management interfaces, safe automated monitoring and decision architecture. These demonstration projects will be complementary to the activities of the European Commission in support of RPAS in order to seek synergies. Eight Member States (AT, BE, CZ, DE, ES, FR, IT, UK) signed the programme during the Steering Board. Future European RPAS MALE Programme. Defence Ministers today endorsed the Common Staff Target for Medium Altitude Long Endurance (MALE) RPAS as the basis for those Member States which intend to participate in any future project to develop a Common Staff Requirement; in this context Ministers tasked EDA to prepare the launch of a Category B project. Establishment of a MALE RPAS community. The objective of this community is to exchange information as well as to identify and facilitate cooperation among Member States which currently operate or plan to operate RPAS. At the Steering Board meeting on 19 November 2013 seven Member States (FR, DE, EL, ES, IT, NL, and PL) signed a Letter of Intent to join the Community.
Security of Information	Industry & Market, Market	All	Active			Contribute to removing Security of Information barriers in defence procurement between Member States Establish public web-portal with information on participating Member States Security of Information regimes Mapping and sharing of information on different national, international and institutional regulations, arrangements and agreements on processing, storing and circulating classified information
Security of Supply	Industry, Industry & Market, Market	All	Active			Achievement of an adequate level of confidence in SoS across Europe, including long term assurance of sources of key technologies and willingness of partner governments to facilitate supply Improve Security of Supply among Member States (Member States) Support cross-border contracting and cooperation between Member States Strengthen the European Defence Technological and Industrial Base (EDTIB)
SAM-UGV: Semi-Autonomous Small Ground Vehicle - System Demonstrator	Capabilities, Land	DE, FR	Completed (11/2012)			Developing an autonomous technology demonstrator based on a mobile land system platform and characterised by a modular architecture both in hardware and software The robot should be able to perform CBRN-missions and patrol missions in urban terrain To pick up samples of suspicious objects the robot is equipped with a manipulator arm
Sharing of spare parts		BE, CY, EL, ES, FI, FR, NL, PT, RO, SE, SI, NO			Weapons systems – managing spare parts	Offer a flexible and effective legal framework for sharing of spare parts in peacetime and during Operations; Serve all services of Armed Forces (Land, Air and Sea); Provide opportunities to harmonise procedures and processes amongst participating Member States in all aspects related to sharing of spare parts; Sharing of Services and Supplies are also considered as a project's goal.
Single European Sky	Air, Armaments	All	Active			Ensure that the views and interests of Member States armed forces are taken into account with creation of Single European Sky Evaluate the operational risks and financial implications of SES for military aviation Facilitating the coordination of military views from and in support of Member States and relevant military organisations and to inform military planning mechanisms of the requirements stemming from SESAR deployment.
Smart Munitions		?	Active?	No		Increase Member States' access to a smart munitions capability and decrease overall costs; increase interoperability and interchangeability (sharing and exchanging ammunition); reduce European dependency; Maintain European industrial capabilities
Software Defined Radio	Armaments	DE, FI ,FR, IT, PL, PT, ES, SE	Active			Contributing to the development of a SDR European Standard (based on a partnering between European governmental bodies, defence industries and civil standards organisations) Assessing the different options of custodianship for the next generation of SCA-based SDR Standards

Name of project	EDA project categories	Participating Member States	Status	CDP relevant	Overlap with NATO Smart Defence	Project goal
						Pursuing a worldwide SDR standard where Europe can contribute To promote excellent working relation with the most important SDR stake-holders, in order to ensure portability and interoperability of the various SDR products To allow the best possible coordination among the 'Participants' in the various forums dealing with SDR standardisation
MuRoC: Technologies for multi-robots control in support of the soldier	Land, Research & Technology	n.a.	Expected completion 02/2015			Identify state of play and technology gaps to produce technology roadmaps for topics such as: • Interaction with human behaviour • Team working Man-Machine and Machine-Machine-Man • Trade-offs within the decisional process w.r.t. suitable levels of automation and autonomy and their implications on the situational awareness of the operato Legal/Certifiability implications, i.e. how to guarantee and demonstrate safety
Technology Demonstration Study on Sense & Avoid Technologies for LE-UAVS	Air, Research & Technology					• No information available on website
Unmanned Ground Tactical Vehicle - UGTV (Phase 1)	Land, Research & Technology	FI, FR, DE, HL, IT, PL, PT	Completed (05/2010)			To demonstrate the potentialities of a system for automatic control of a ground vehicle, based on a production platform, providing a comprehensive analysis of performances, risks and benefits To achieve a modular system architecture of a kit for the improvement of different vehicles to unmanned ground vehicles To exploit technologies that are already in use at commercial or prototype level in modern defence systems
Vulnerability reduction technologies for large maritime composite structures (Convince)	Research & Technology	FR, IT, NE, NO, SE, UK	Completed (09/2014)			Improved naval fire engineering methodologies Improved blast performance of naval composite hulls and topsides, whilst maintaining the advantages of composites compared to an equivalent metallic construction at acceptable platform cost

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