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This book has been specially published to celebrate the first 10 years of the European Defence Agency. The result of several months of research, interviews, informal discussions and archive research, it aims to offer an exclusive insight into European defence matters.

Divided into three main sections, the book aims to provide readers with an overview of European defence cooperation, its history and achievements, seen through the lens of the European Defence Agency. In the first chapter, we review the road to European defence cooperation, from the first attempts of the late 1940s through to the birth of the European Defence Agency in 2004.

A second section is dedicated to showcasing some of the Agency's most successful or promising projects and efforts. Because history is not only a succession of dates and events, the dozen "success stories" put forward in the book attempt to shed a different light on a decade of EDA activity. From Counter-IED to remotely air piloted systems, air-to-air refuelling, to cyber defence, we go through some of the past achievements and future milestones of the Agency.

Finally, we have gathered a wide selection of opinions from key government, industry, and academic experts sharing their analysis, advice, and concerns about the way forward in European defence matters. More than fifteen Prime Ministers, Ministers of Defence, CEOs, and leading researchers have agreed to contribute to this first-of-its kind publication.

We would like to extend our gratitude to everyone who contributed to the production of the book and we hope that you will enjoy reading it.

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Part 1



# Inception

# Inception



## The road to European defence cooperation

The idea of a collective European defence is as old as the story of European integration itself. From the ashes of World War 2, it wouldn't take long to see an incredible idea emerge: what if European countries, busy stitching their wounds after half a decade of devastating conflict, could start cooperating on defence issues and promote peace together?

Iconoclastic as it sounded at the time, the idea was nevertheless at the heart of some of the very first post-WW2 treaties that were drafted to banish any possibility of war from the continent. In March 1947, a Treaty of "Alliance and Mutual Assistance" was signed in Dunkirk by France and the United Kingdom. The two countries vowed to "cooperate closely with one another as well as with the other United Nations in preserving peace and resisting aggression", in a move that was primarily aimed to prevent any possible future German aggression in Europe.

The following year, in March 1948, the signature of the Treaty of Brussels saw the extension of this initial effort to three additional countries: Belgium, Luxembourg, and the Netherlands. The signatories made their intent even clearer. Stating that this Treaty was meant to "afford assistance to each other [...] in maintaining international peace and security and in resisting any policy of aggression", they summarised their alliance as one for "collaboration in economic, social and cultural matters, and for collective self-defence".

### The European Defence Community failure

These first small steps towards European defence cooperation were soon to be overshadowed by a much more ambitious endeavour. In the summer of 1950, Jean Monnet, then General Commissioner of the French National Planning Board, expressed his will to organise European defence on a supranational basis, an initiative inspired by French foreign minister Robert Schuman's plan for establishing the European Coal and Steel Community (ECSC) that would eventually come into effect in 1952. At the same time, the United States of America were also asking their European allies to plan for the rearmament of West Germany.

The proposal for what was known as the European Defence Community (EDC) was submitted by French Prime Minister René Plevin to the National Assembly in October 1950. It called for the creation of a European Army to be placed under supranational authority and to be funded by a common budget.

A European armament and equipment programme would be drawn up and carried out under the authority of a European Defence Minister, who in turn would operate under a European Defence Council.

The ambitious idea was supported by most Western countries. The initial Plevin plan called for integration of France, West Germany, Italy, and the Benelux countries into the EDC, but the initiative also drew support from the United Kingdom and the USA after modifications were made to the initial proposal, especially regarding the introduction of German units into the future European Army. The EDC Treaty was signed in May 1952 by Belgium, France, Germany, Italy, Luxembourg, and the Netherlands. Dwight D. Eisenhower, then NATO's Supreme Allied Commander Europe (SACEUR), supported the EDC project as an effective way to maximise European military potential.



**1949**  
The signature of the North Atlantic Treaty would shape defence in Europe for decades



**1950**  
The European Coal and Steel Community (ECSC) was proposed in 1950 by French foreign minister Robert Schuman



**1950**  
René Pleven submits the European Defence Community proposal to the French Parliament



**1951**  
Following the example of the ECSC, some called for the organisation of European defence on a supranational basis



**1951**  
The ECSC treaty is signed



**1963**  
The Elysée treaty signed by France and West Germany marked a tangible will for cooperation in the armament domain

Although sceptical at first, the United Kingdom eventually gave its agreement to the initiative. “Her Majesty’s Government in the United Kingdom of Great Britain and Northern Ireland believe that the European Defence Community will be an essential factor in strengthening the defence of the free world through the North Atlantic Treaty Organisation, and desire to establish the closest partnership with it”, stated an official British statement in April 1954, adding that “the United Kingdom will also join in developing a common policy in technical fields such as training, tactical doctrine, staff methods, logistics, and standardisation of equipment”.

However, a devastating blow was dealt to the European Defence Community in August 1954 when the French National Assembly rejected the Treaty, refusing even to discuss the matter.

France’s position was met with considerable consternation in Western Europe and the United States, not least because this rejection came from the very architects of the EDC plan. Over the next decades European integration in defence would take place primarily in the framework of NATO. In 1954, the North Atlantic Council formally approved the accession of the Federal Republic of Germany to the North Atlantic Treaty Organisation, finally settling the difficult question of Germany’s rearmament in the post-WW2 environment.

THE ROAD  
TO EUROPEAN  
DEFENCE  
COOPERATION

1949

1963

## The Cold War

In 1954, the original 1948 Treaty of Brussels was modified in order to allow for introduction of West Germany and Italy into the original five-member club. This effectively led to the creation of the Western European Union (WEU), an organisation which would play a small yet tangible role in shaping European Defence throughout the Cold War era. Involved in debates in the late 1950’s and early 1960’s regarding the presence of nuclear weapons on European soil, the WEU also played the role of a liaison between the United Kingdom and European institutions until London decided to join the European Community in 1973. But the major influence of NATO in defence and security matters in Europe meant that the WEU would be eclipsed to the detriment of a true European dimension of defence in the first decades of the Cold War.

A number of bilateral efforts aimed at strengthening the European defence industry were also launched in that period. Signed in 1963 by France and West Germany, the Elysée Treaty marked a tangible will for cooperation in the armament domain. More than a decade after the failed attempt to launch the European Defence Community, Paris and Bonn used their political

strength to kick-start an ambitious partnership between the two countries’ defence industries. Called Euromissile, the initiative aimed to develop new anti-tank guided missiles as well as air defence systems that would equip both nations’ armed forces. This political effort gave birth to the Milan and Hot combat missiles, as well as the short-range air defence Roland system. However, it eventually failed to establish an interdependent missile industry across both banks of the Rhine. Similar projects were undertaken in other domains, such as the Anglo-French SEPECAT Jaguar tactical strike aircraft that entered service in the Royal Air Force and the Armée de l’Air, but this was again a purely bilateral initiative.

However, it wouldn’t take long for some European nations to realise that future cooperative defence programmes might demand a shift from strong management by a single government to some sort of joint project control. Founded in February 1976 by the European members of NATO, the Independent European Program Group (IEPG) was envisioned as an international coordinating body whose main mission would be to foster cooperation on armaments procurement.



**1958**  
The Treaty of Rome led to the founding of the European Economic Community



**1991**  
The European Council in Maastricht called for the creation of a European Armaments Agency



**1997**  
The Amsterdam Treaty planted the seed of the Common Foreign and Security Policy

1958  
1997

Using the IEPG as a forum for annual discussions, the defence ministers of the 13 member nations (all European members of NATO, except Iceland) set out goals and targets in the field of military requirements, system concepts, and collaboration. Their objectives were three-fold: to strengthen the contribution of European allies to the common defence of the NATO alliance; to improve the European technological base; and to balance US-European defence trade. The IEPG set out to conduct a number of studies, such as the European Aeronautical Cooperation Study and the European Defence Industry Study.

The fall of the Soviet Union and the return of the Warsaw Pact countries to the European fold raised new questions about the purpose and direction of defence in Europe. This was compounded by the eruption of a crisis in Europe's direct neighbourhood. In 1991, with Yugoslavia on the verge of imploding, Luxembourg's Foreign Minister Jacques Poos declared that "the hour of Europe has struck." However, instead of providing a coordinated and effective response, the Balkan crisis exposed both a lack of cooperation and a lack of relevant military capabilities in Europe.

What was effectively a European crisis was only resolved by NATO and, principally, US action.

The declaration agreed by Western European Union Ministers in Maastricht on 10 December 1991 called for further examination of the possibilities for enhanced cooperation in the field of armaments, with the aim of creating a European Armaments Agency. At their meeting in Bonn in December 1992, the Defence Ministers of the 13 IEPG countries decided upon the transfer of the functions of the IEPG to the WEU, while agreeing on a set of principles for this transfer: all 13 nations should be entitled to participate fully with the same rights and responsibilities in any European armaments cooperation forum; there should be a single European armaments cooperation forum; armaments cooperation in Europe should be managed by the National Armaments Directors of all 13 nations, who will be accountable to the Ministers of Defence of those governments. They also agreed to maintain links with the European Defence Industries Group, or EDIG, set up in Brussels in 1990 as an international association drawing its membership from all the national defence industry associations of the WEU.

## The WEAG is established

At the meeting of the WEU Council of Ministers in Rome in May 1993, participants agreed on a number of organisational aspects of the transfer, which were subsequently adopted formally by the Council. The Western European Armaments Group (WEAG) was born. Growing to 19 Member States by 2000 (Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Turkey and the United Kingdom), it would live on until 2005. Among its objectives, the Group sought to strengthen the European defence technological and industrial base while making more efficient use of resources, for instance through an increased harmonisation of requirements.

As early as 1993, the WEAG created an ad hoc study group to "examine all matters related to the possible creation of a European Armaments Agency", or EAA. This stemmed from a WEU Maastricht declaration following the 1992 Treaty that spoke of a requirement to examine further proposals for enhanced cooperation in the field of armaments, with the aim of creating a European armaments agency. A number of missions considered potentially suitable for such an agency were identified, and the work of this ad hoc study group contributed to the

agreement by defence ministers in November 1996 to establish the Western European Armaments Organisation (WEAO) as a WEU subsidiary body.

The view that a new Europe needed a new approach to foreign and security policy was made clear in the series of treaties signed over the next two decades. Firstly, in 1992 the Treaty of Maastricht created the Common Foreign and Security Policy (CFSP), which would deal with all questions relating to the security of the Union, "including the eventual framing of a common defence policy, which might in time lead to a common defence". The CFSP was further reinforced in 1997 when the Amsterdam Treaty incorporated the Petersberg Tasks into the policy, outlining the areas and ways in which EU Member State's militaries could be used through the policy. This effectively opened the way for the WEU to be integrated into the European Union.

In the same year, during a meeting in Erfurt, WEAG ministers discussed European armaments cooperation could be enhanced through a dedicated agency; they worked on a "Masterplan for the European Armaments Agency" that was eventually approved in Rome in November 1998 by Ministers as a basis for further development.

## The Letter of Intent and the emergence of OCCAR

Meanwhile, a few European countries kept experimenting with new ways to strengthen their defence industry in the face of shrinking budgets and US competition in export markets. On 6 July 1998, six nations (France, Germany, Italy, Spain, Sweden, and the United Kingdom) signed a Letter of Intent (LoI), concerning "Measures to Facilitate the Restructuring of European Defence Industry", with a Framework Agreement signed in 2000 and ratified in 2001. This inter-governmental treaty, signed

outside of the European Union framework, was nevertheless another example of increased European cooperation in the armaments field.

The LoI's declared objective was to tackle a number of hot topics that were deemed crucial for the future of Europe's defence industry: security of supply; export procedures; security of information; research and technology; intellectual property rights; harmonisation of military requirements.

The overarching goal was to create the political and legal framework necessary to facilitate industrial restructuring in order to promote a more competitive and robust European Defence Technological and Industrial Base, or EDTIB. An Executive Committee of senior officials was established, with each LoI nation chairing it in turn on an annual basis and meeting several times a year to assess the progress being made.

At the same time, European nations were still trying to gather their efforts in order to enhance efficiency in the armament domain. In December 1995, France and Germany decided to move forward together by putting in place new cooperation rules, known as the Baden-Baden agreements. This first Franco-German framework soon attracted interest from Italy and the United Kingdom and based on these principles, they

## The creation of CSDP

The political push for Europe to fulfil its role on the global stage, including defence and security issues, gained extra momentum with the joint UK-French declaration of Saint-Malo in December 1998, only a few weeks after the first informal meeting of EU Ministers of Defence in Pörschach, Austria.

In Saint-Malo, the French President and UK Prime Minister jointly called for a European foreign policy that would allow Europe to play its full role on the international stage. To achieve this, they argued that the EU must have the capacity for autonomous action, backed by credible military forces, to respond to international crises. This view was endorsed by the other Member States at the European Council in Cologne, 1999, which declared that the EU needed to be given the means and capabilities to assume its responsibilities for a common European policy on security and defence.

went on to set up the Organisation Conjointe de Coopération en matière d'Armement, or OCCAR, established by an administrative arrangement on 12 November 1996. Its aim was to provide "more effective and efficient arrangements for the management of certain existing and future cooperative armament programmes". The Defence Ministers of the founding nations then signed a treaty, the "OCCAR Convention", that came into force in January 2001. The organisation would later be joined by Belgium and Spain. For the following years, the main mission of OCCAR would be to manage the A400M program, which would take up the large majority of the organisation's resources. Other programs such as the FSAF family of surface-to-air missiles, the FREMM frigate or the Tiger helicopter would also end up being managed by the multinational organisation.

This initiative was to be pushed by Javier Solana, who became the first Secretary General of the Council and High Representative for Common Foreign and Security Policy of the European Union in 1999. While in the same year, Member States agreed to a set of military capability targets to be completed by 2003, known as the Helsinki Headline Goal. The following year brought further progress in the establishment of an effective EU foreign and security policy, with the agreement to permanently establish the Political and Security Committee (PSC), EU Military Committee (EUMC), and EU Military Staff (EUMS).



## The birth of an Agency

Established by the European Council in December 2001 following the Laeken Declaration, the European Convention (also known as the Convention on the Future of Europe) was a body intended to include the main EU “stakeholders” in a major brainstorming exercise about the future direction of the European Union. Its final purpose was to produce a draft constitution for the EU to finalise and adopt. Former French President Valéry Giscard d’Estaing was appointed Chairman of the Convention, with former Italian Prime Minister Giuliano Amato and former Belgian Prime Minister Jean-Luc Dehaene acting as Vice-Chairmen. Its members were drawn from the national parliaments of Member States and candidate countries, the European Parliament, the European Commission, and representatives of Heads of State and Government. It was this period that saw a renewed impetus for the creation of a European Defence Agency.

### A push from industry

Running parallel to that political roadmap, some major aerospace and defence companies in Europe started lobbying for a strong armaments agency that would be able to overcome the shortfalls of all previous initiatives in the domain. “One of the main eye-openers was the pullout of some partner nations from the A400M program”, Michel Troubetzkoy, then EADS (now Airbus Group) senior-vice president in charge of European affairs for the aerospace and defense group, recalls. “We said to ourselves: never again! From our perspective, OCCAR didn’t have the right political dimension to prevent this kind of issue, and this was the starting point of our call for a stronger European body in the field of armaments.”

There were other issues at stake for the defence industry, as the former EADS representative outlines. “European defence budgets were declining, especially in the research & technology area. At the same time, the US was boosting its R&T effort through its Defense Advanced

Research Projects Agency (Darpa). In fact, a European Darpa was what we called for”, Troubetzkoy remembers. “Considering the fact that a strong political momentum for more European cooperation had been in the air since St-Malo, we really thought the time was right for a new Agency.”

Rapidly joined by French defence electronics company Thales, EADS started its lobbying effort towards EU representatives and especially the nascent Convention to sell the idea of what was then referred to by the industry as a ‘European Security and Defence Research Agency’. “In 2002, we organised a dinner that gathered more than 200 representatives from national parliaments and from the Convention”, Troubetzkoy points out. “I personally asked Valéry Giscard d’Estaing to consider, after the failure of the EDC in 1954, a new political impetus for defence cooperation in Europe through the creation of a dedicated Agency. He told me he would take up the challenge.”

2001  
2004





## Defence and the Convention

This bold move from industry representatives partly contributed to the creation of a dedicated “Working Group on Defence” within the Convention in September 2002. Chaired by Michel Barnier, then European Commissioner in charge of Institutional Affairs for the European Commission in addition to his Regional Affairs portfolio, its official mandate included investigating “the possibility of setting up an arms agency whose tasks (research, development, acquisitions) and operating methods would have to be studied in detail”, while acknowledging that “there [was] in fact currently no cooperation on armaments at Union level”. The document went on to state that “if real progress is to be possible in terms of military capabilities, efforts must be made not only at defence budget level, but also at the level of procurement so as to achieve economies of scale, and at the level of arms research and development”.

“The time was right”, Christine Roger, former French Ambassador to the PSC who at the time was heading Michel Barnier’s private office in the European Commission and was directly involved in the proceedings of the Convention Working Group on Defence, recalls. “Member States all seemed willing to move forward, the industry wanted it as well - there was a wide range of good reasons to make this new Agency a reality. It was a simple idea and a good one”, she sums up. As part of its process, the Defence Working Group went on to interview a number of high-level representatives from the Member States’ ministries of Defence, governments and industries. Again, EADS used this forum to make its pitch for a strong Agency, with one of its Vice-President in charge of strategic coordination for the aerospace and defence company, presenting his ideas - some of which would make their way to the report of the working group finalised in December 2002.



Michel Barnier, then European Commissioner in charge of Institutional Affairs and Regional Affairs, chaired the “Working Group on Defence” set up within the Convention in September 2002. The group’s official mandate included investigating “the possibility of setting up an arms agency whose tasks (research, development, acquisitions) and operating methods would have to be studied in detail”.



2001  
2004



The inaugural session of the European Convention took place in February 2002

THE BIRTH OF AN AGENCY

“The WEAG geometry was deemed too complex at the time, and one of the problems we identified was that it lacked the support of real decision making structures”, Christine Roger, who is currently Director for Home Affairs at the Council of the European Union, points out. “The idea of setting up a new Agency was a consensus builder in the Convention working Group on Defence. Greece was really supportive at the time, which is in line with the decisive initiative shown thereafter by the European Council in Thessaloniki in June 2003, during the Greek Presidency”.

In its final report, the Convention working group laid out some of the foundations of what would become the European Defence Agency we know today - although the final name wasn't there yet. “The setting up on an intergovernmental basis of a European Armaments and Strategic Research Agency was supported by many in the Group”, the official document stated. “The Agency's initial tasks would be to ensure the fulfillment of operational requirements by promoting a policy of harmonised procurement by the Member States, and to support research into defence technology, including military space systems.

The Agency would incorporate, with a European label, closer forms of cooperation which already exist in the armaments field between certain Member States (OCCAR, Lol). The Agency should also be tasked with strengthening the industrial and technological base of the defence sector. It should also incorporate the appropriate elements of the cooperation that most Member States undertake within the WEAG.”

The working group laid out a few ideas regarding the way this future Agency could interact with its stakeholders. “All Member States which so wished could participate in the Agency, the composition of which would not be linked to other, limited forms of defence cooperation”, the final report explained. “Certain Member States could constitute specific groups based on a commitment to carry out specific projects”, which could also “be opened up on an ad hoc basis to countries which are not members of the European Union”.



Former French President Valéry Giscard d'Estaing acted as chairman of the Convention



The 2003 Thessaloniki European Council pushed for the creation of the European Defence Agency



At the time, Javier Solana was acting as High Representative for the CFSP

### Thessaloniki and the birth of EDA

The Convention officially finished its work in July 2003 with the publication of a Draft Treaty establishing a Constitution for Europe. Running parallel to the Convention effort, Member States representatives were also busy preparing the European Council that would take place in Thessaloniki in June 2003. It was foreseen that the event would also see a push towards a new intergovernmental agency in the field of defence - although, as Christine Roger points out, the Convention and the Council efforts on the matter were largely disconnected. Meanwhile, further momentum was added by the defence industry with the publication in April 2003 in British, French, German, and Spanish daily newspapers of an open letter co-written by BAE Systems, EADS and Thales' CEOs. Titled “Time to Act”, it urged greater consolidation of the European defence industry through the creation of a new European armament and strategic research defence agency, seen as the best platform to launch major future defence and security programs.

In its final conclusions published in June 2003, the Thessaloniki Council made it clear that a new European Defence Agency was on the agenda and would soon become a reality. “The European Council [...] tasks the appropriate bodies of the Council to undertake the necessary actions towards creating, in the course of 2004, an intergovernmental agency in the field of defence capabilities development, research, acquisition and armaments”, the final declaration stated. The overall objective of the new body was briefly explained: “This agency, which will be subject to the Council's authority and open to participation by all Member States, will aim at developing defence capabilities in the field of crisis management, promoting and enhancing European armaments cooperation, strengthening the European defence industrial and technological base and creating a competitive European defence equipment market, as well as promoting, in liaison with the Community's research activities where appropriate, research aimed at leadership in strategic technologies for future defence and security capabilities, thereby strengthening Europe's industrial potential in this domain”.

## The Agency Establishment Team

The next step would be to actually set this new agency in motion. Nick Witney, who would become the first EDA Chief Executive in 2004, played a central role in that process. He shares his recollections of the period: "During the second half of 2003, under the Italian presidency of the EU, a working group was convened in Brussels to make a reality of this and I was the British representative. As the deputy head of the UK MoD's strategic affairs directorate, I travelled to Brussels regularly in the second half of 2003 to meet with my counterparts."



The consensus around the Agency was clearly still there, notably between Paris and London. "This may sound surprising now, considering that relations between the two countries really became tense after the strong French opposition to the Iraq campaign in 2003. However, there was a clear agreement between London and Paris that an Agency would be a good thing and that we would make it happen, even if there was no clear understanding at the time of what the exact role of the Agency should be, or its position on the institutional grid", Nick Witney recalls. "The only thing we had was a half sentence from the Thessaloniki Council, which served as a blank screen onto which different people projected different aspirations. The only way out was to establish a special project team, and this was decided in November 2003."

The Agency Establishment Team (AET), was to finalise its report by April 2004 in order to submit it for approval by the Council during the summer. "The question then arose - who would head the team? London and Paris each put forward their candidate, initiating a standoff that lasted two and a half months from November to late January -

a period during which I sat on a packed suitcase in London. But meanwhile, time was running out because the team was supposed to deliver its report at the end of April, and almost half the time was consumed doing nothing", Witney points out. "I am not sure how the choice was finally made in my favour but at the end of January the call came, and I moved immediately to Brussels. There I found waiting for me in the Kortenberg building a small office with a computer, a malfunctioning telephone, and a pile of CVs."

"From the CVs I quickly selected a team of about a dozen people", Witney recalls. Accommodation was another issue and the AET finally found some open-plan space on the top floor of the Kortenberg building, home of the EU CSDP structures. Working from there, the team had a constant relation with an ad hoc representative group of all EU Member States, which they met with every two weeks. "It was a useful interaction", Witney explains, "because it allowed us to reassure them but also to get their fingerprints on what we were doing to make sure they couldn't repudiate it at the end". The previous autumn's efforts to progress the Agency had focused on trying to draft its legal basis. The team's approach was to concentrate instead on substance, working to develop a consensus on what exactly the Agency would do, and how it would do it. While the British argued the Agency should mainly focus on capability development, the French pushed for a predominant armaments role. "Our job in a way was to demonstrate that the Agency was able to do both, and moreover by doing both it could succeed better in each", Nick Witney explains.

Reflecting this debate, the European Defence Agency name was finally adopted because "it was short, accurate, and unconstraining", Witney says, and also because anything more specific could have been seen as trying to push the Agency one way or another. By the end of April the team was able to submit its blue-print for the new institution, clearing the way for member state diplomats, skillfully guided by the Irish presidency, to finalise the legal documentation.

## Towards the Joint Action

A number of draft paragraphs were submitted to Member States and went back to the AET between May and June. By the middle of June the text was sent to the Relex group of the Committee of Permanent Representatives (COREPER), in charge of drafting the Joint Action that would officially create the European Defence Agency. On 12 July 2004, the European Council formally adopted this Joint Action, turning the Thessaloniki and the Convention promises into reality. The decisive final discussion was at a COREPER meeting which took place in Luxembourg in late June. "We drove back to Brussels to my flat where the team was waiting for us - champagne was on ice and we had a wonderful party!", Witney says. "Looking back, I think this and my subsequent three years as the Agency's first Chief Executive was the most rewarding period of my entire professional life", he adds. "Personally rewarding, too - a number of my team colleagues have become friends for life."

A Chief Executive had to be chosen for the Agency, as there was no automatic right for Witney to get the position. Javier Solana, then High Representative of the EU for Foreign Affairs and Security Policy and acting Head of EDA, had to write to Member States to propose Nick Witney as a Chief Executive, a nomination that was quickly approved.

The second half of 2004 was dedicated to putting everything in place. Hilmar Linnenkamp joined Witney as Deputy Chief Executive, and in October the first four functional directors were nominated: Capabilities director Pierre Hougardy, Research & Technology Director Bertrand de Cordoue, Armaments Director Carlo Magrassi, and Industry and Market Director Ulf Hammarstrom.

"We knew that by the autumn of 2004 we would be thirty-something strong and would need space for that", Nick Witney recalls. "But all the Council administration was able to offer at the time were two or three offices in the Justus Lipsius building, two offices on the other side of rue Froissart and some other spaces in different locations around Brussels - but I felt we had to stay together". The situation was eventually settled when the Council managed to find accommodation for the nascent Agency. "I later went down to see them and they told me they had just found 30 offices available in the Justus Lipsius", Witney says. A few months later, in 2005, the Agency would permanently settle in its current Rue des Drapiers headquarters, very close to downtown Brussels.

Accommodation issues aside, the first months were dedicated to putting the whole legal framework and institutional structure of the Agency in place. In autumn 2004, EDA's Steering Board, made up of Defence Ministers from each Member State, met for the first time. They approved the budget for 2005, the first annual Work Programme, and the official structure of the Agency.

THE BIRTH OF AN AGENCY



# 10 | years in 50 dates

## 2004

12 July 2004

The European Council formally adopts the Joint Action that officially creates the European Defence Agency. Shortly after, Nick Witney is appointed Chief Executive of the Agency by Javier Solana, EU High Representative for the Common Foreign and Security Policy.

## 2005

The new Agency sets up a strategic framework for defence, built around three main pillars: Research & Technology Strategy; Armaments Cooperation Strategy; and European Defence Technological and Industrial Base Strategy, headed by a Capability Development Plan. At the same time, the European Defence Agency adopts a capability-driven approach, where capability needs and requirements would drive the whole chain of defence cooperation.

EDA begins work on the creation of an European Defence Equipment Market (EDEM).

April 2005

The Steering Board agrees that the Agency should gradually take over the activities of the Western European Armaments Group (WEAG) and the Western European Armaments Organisation (WEAO) by the first quarter of 2006.



“Absorbing the work of WEAG and WEAO into

EDA will give R&T collaboration a much stronger political impulse”.

Nick Witney, EDA Chief Executive (2005)

November 2005

EDA Steering Board of Defence Ministers approves an “intergovernmental regime to improve the transparency and promotion of competition in the European defence equipment market” together with a “Defence Procurement Code of Conduct”.

December 2005

The first R&T contract is awarded by EDA to a consortium led by Patria for a study regarding remotely piloted air systems (RPAS), technologies and focusing on “Digital Line of Sight & Beyond Line of Sight Data Links”.

# 2006

## February 2006

The first EDA Annual Conference gathers high-level officials from Member States and EU institutions, providing the first major opportunity to engage with stakeholders around the Agency's new agenda.

## March 2006

An administrative arrangement is signed with Norway, enabling the country to take part in EDA projects and programmes.

## April 2006

Measures to support the implementation of EDA's "Defence Procurement Code of Conduct" are approved. Shortly after, the Executive Committee of the Aerospace and Defence Industries Association of Europe (ASD) agrees to co-sign the Code of Best Practice in the Supply Chain (CoBPSC), committing its members to abide by this Code when it is technically and financially viable in its subcontracts.



From left to right: Hilmar Linnenkamp (EDA Deputy Chief Executive), Thomas Enders (ASD president), Gunther Verheugen (European Commissioner for Enterprise and Industry), Javier Solana (Head of EDA) and Nick Witney (EDA Chief Executive) during a 2006 keynote speech.

## July 2006

A Code of Conduct for promoting competition in defence procurement is launched and subscribed to by all EDA Member States.

## October 2006

Work begins on the first Joint Investment Programme (JIP) on Research and Technology. The programme set out to study 18 technologies relating to five military capabilities focused on protecting the Armed Forces (see page 67). Nineteen countries join the 55 M€ programme, including Norway.



The 2007 EDA Annual Conference focuses on the European Defence Technological and Industrial Base

# 2007

## January 2007

Bulgaria and Romania join the European Defence Agency.

## February 2007

The second EDA Annual Conference takes place, this time focusing on the European Defence Technological & Industrial Base (EDTIB). This lays the ground work for the approval of Europe's Defence Technological and Industrial Base Strategy in May the same year.

## May 2007

Alexander Weis, who was previously acting as Chief of Staff in the Directorate General of Armaments of the German Ministry of Defence, is appointed as EDA Chief Executive by Javier Solana. He takes office in October.

## December 2007

The Agency signs first contracts under a new R&T Joint Investment Programme dedicated to Force Protection, representing a total investment of more than € 13 million.

"Strategies are needed - they provide direction and define aims - but, naturally, they themselves do not deliver capabilities. We need concrete programmes and projects to turn theory into practice. This is where I want to see change".

Alexander Weis, EDA Chief Executive (2007)





## 2008

### May 2008

Defence Ministers launch the Agency's second Joint Investment Programme, on emerging technologies that may negatively impact the battlefield (Disruptive Defence Technologies). Eleven countries join the project, investing a total of 15.5M€.

### July 2008

The Steering Board endorses the initial version of the Capability Development Plan (CDP), developed in close cooperation with participating Member States, the Council Secretariat and the EU Military Committee with the support of the EU Military Staff. A driver for the work of all the Agency's Directorates, the CDP is designed to be a strategic tool and to define future capability needs from the short to longer term. The CDP intends to inform national plans and programmes, but is not a supranational plan. It is designed to be constantly refreshed to take into account evolving strategic challenges as well as Member States' potential new priorities.

### November 2008

A declaration of intent is signed by 12 countries to establish a European Air Transport Fleet (EATF), with the objective of reducing European air transport shortfalls by all means available. At the same time, ten Member States plus Norway agree to work together for the future replacement of their maritime mine countermeasures (MMCM) capabilities.



Launch of the MIDCAS project during the 2009 Paris Air Show



## 2009

### March 2009



The fourth annual conference of the Agency focuses on shortfalls in helicopter capabilities. It paves the way for the approval of the Helicopter Training Programme a few months later, in November. The same month, the first EDA Helicopter Exercise is hosted in the French Alps, marking the beginning of a series of successful rotary-wing training events that are now hosted by partner Member States on an annual basis. (see page 63).

“The Helicopter Training Programme is another tangible result of the European Defence Agency’s work. It will deliver immediately more helicopter capabilities, which we all know is a continuous shortfall in deployed operations”.

Javier Solana, Head of EDA and High Representative of the EU for Foreign Affairs and Security Policy, 2009



Work is launched on the establishment of a Procurement Cell to coordinate EU Member States’ orders of commercial satellite communication services. Beginning as a three-year pilot project, this successful initiative will later evolve into what is now known as the EU Satcom Market.

### June 2009

A technology project focused on MID-Air Collision Avoidance Systems (MIDCAS) is initiated by France, Germany, Italy, Spain, and Sweden under EDA umbrella during the Paris Air Show.

### July 2009

The Defence and Security Procurement Directive is adopted by the European Parliament and the Council. It sets community procurement rules which are adapted to the specificities of the defence and security sectors. It allows, for example, the use of the negotiated procedure with publication as the standard procedure and provides special provisions for security of supply and security of information.

### November 2009

Catherine Ashton is appointed as High Representative of the Union for Foreign Affairs and Security Policy and Vice-President of the European Commission. Starting 1 December 2009, she acts as Head of the European Defence Agency and leads its Steering Board.



“The Agency has quickly reacted to the needs of European Defence Ministers, who are looking for opportunities

to work closely together in order to improve capabilities while budgets are under pressure. Pooling and sharing offers potential for savings, while increasing interoperable capacities”.

Catherine Ashton, Head of EDA and High Representative of the Union for Foreign Affairs and Security Policy (2010)

## 2010

### February 2010

The annual conference focuses on civil-military cooperation under the heading “Bridging Efforts - Connecting Civilian Security and Military Capability Development”.

### April 2010

A “Wise Pen Team” of five admirals submits its report to the Ministerial Steering Board regarding Maritime Surveillance needs in support of CSDP, effectively paving the way for EDA’s work as part of the Marsur program (see page 77).

### July 2010

The European Defence Agency and the European Commission co-organise a conference dedicated to Unmanned Aircraft Systems (UAS). Over 450 senior government officials and industry representatives gather to discuss the potential of UAS for European users, their economic, technological and industrial impact, as well as a common European way forward.



“There is now a widespread understanding that the “pooling and sharing” of military capabilities - doing more together - is an effective response, if not the only possible response, to the financial and military pressure we face. It allows us to deliver more with less. It has become a must, rather than an option”.

Pieter De Crem, Belgian Minister of Defense, 2012

### November 2010

A new cooperative idea arises under the Belgian presidency of the EU. Following an initial German-Swedish food for thought paper known as the “Ghent initiative” and presented during an informal meeting of the Defence Ministers, the concept of “Pooling & Sharing” national military capabilities emerges. It will guide the Agency’s actions and projects for the following years.

An EDA Ministerial Steering Board in 2011



## 2011

### January 2011

Claude-France Arnould succeeds Alexander Weis and becomes the Agency's third Chief Executive. She joins initially from the European Council, where she was Deputy Director-General for the Crisis Management and Planning Directorate (CMPD), integrated in the EEAS in 2010.



“Pooling & Sharing should not be a pretext to reduce efforts. It is a way to harness and maximise investment. My message is that Pooling & Sharing is not excuse to invest less; rather, that it offers a way to acquire together what is out of reach individually and get more efficiency in the employment of these capabilities. Defence effort must remain at the right level in order to ensure European defence is strong and sustainable”.

Claude-France Arnould, EDA Chief Executive (2011)

### July 2011

A new EDA initiative is launched on Effective Procurement Methods in order to find innovative ways to consolidate the demand side of the European Defence Equipment Market. (see page 81).

### September 2011

The Theatre Exploitation Laboratory reaches initial operating capability in Afghanistan. This successful EDA project launched in 2010 aimed to develop and build a forensic laboratory to analyse Improvised Explosive Devices (IEDs) recovered from incidents.

The European Defence Agency and the European Commission sign a European Framework Cooperation (EFC) coordination letter. Through this signature, both institutions agree to harmonise their research activities in this specific case in the field of Chemical, Biological, Radiological and Nuclear protection.



EDA helped develop a Counter-IED laboratory that deployed to Afghanistan in 2011



Part 1 | Inception



# 2012

## March 2012

A framework for cooperation is signed between the European Defence Agency and Switzerland, enabling Swiss participation in EDA's projects and programmes.

## June 2012

The first European Air Transport Training event (EATT2012) organised by the Agency takes place in Zaragoza, Spain, bringing together tactical air transport assets from six Member States.



The first EU Satcom Market contract was signed in 2012

## July 2012

The Agency signs an administrative arrangement with the Organisation for Joint Armament Cooperation (OCCAR), ensuring closer collaboration between these two major actors in European defence cooperation.

## September 2012

The first framework contract is signed with industry as part of the European Satellite Communications Procurement Cell (now EU Satcom Market).

## November 2012

Defence Ministers endorse a Code of Conduct for Pooling & Sharing, thus ensuring that a cooperative approach for the entire life cycle of the product will be considered whenever a Member State is thinking of developing a new capability (see page 57).

Ministers of Defence of twelve Member States sign the Helicopter Exercise Programme Program Arrangement for a duration of ten years.

Spain hosted the first European Air Transport Training Event in 2012



An administrative arrangement brought EDA and Occar closer in 2012



High-level roundtable discussion during the Agency's annual conference in 2013

# 2013

## March 2013

Herman Van Rompuy, President of the European Council, addresses the defence community at the European Defence Agency's annual conference, dedicated to long-term Pooling & Sharing solutions.



"Defence cooperation is not about the management of decline, it is quite the opposite. It is the way to ensure we remain cutting-edge and fully play our role in the future!"

Herman Van Rompuy, President of the European Council (2013)

## April 2013

The Steering Board approves an Agency initiative to promote the best use of European Structural Funds (ESF) by defence actors with six dual-use pilot projects.

Member States approve the establishment of a dedicated programme for the military implementation of the Single European Sky ATM Research (SESAR) Joint Undertaking. EDA is in charge of coordinating military views and of identifying potential operational and financial risks for military users.

## June 2013

The European Defence Agency and the European Aviation Safety Agency (EASA) sign an arrangement for enhanced cooperation between the two structures, specifically covering harmonisation of military aviation safety requirements with a focus on airworthiness.

## July 2013

Croatia joins the European Defence Agency on 1 July.



The first collective European Air-to-Air Refuelling clearance trial took place in September 2013



The 2013 European Council put defence high on the agenda

### September 2013

The European Defence Agency, Italy and the Movement Coordination Centre Europe (MCCE) jointly organise the first collective European Air-to-Air Refuelling (AAR) clearance trial on the Italian KC-767, in order to improve Europe's global AAR capabilities.

### December 2013

EDA signs an administrative arrangement with the Serbian Ministry of Defence, enabling Serbia's participation in the Agency's projects and programmes.

Focused on defence matters, the European Council of December 2013 provides a new impetus and high-level support for the Agency's work. EDA is given a wide range of tasks, including responsibility for four key programmes: air-to-air refuelling, remotely piloted aircraft systems, cyber defence and governmental satellite communications. The Council also gives EDA various tasks to help strengthen Europe's defence industry - increasing SME participation and dual-use research, and improving European certification and standardisation.



"We have significant experience of collaborative projects and we have real, concrete, demonstrable success stories. The longer Member States are involved in working together, the greater the level of trust that develops and therefore the clearer and swifter the path to success".

Peter Round, EDA Director Capability, Armament & Technology (2013)

# 2014

## January 2014

The European Defence Agency puts a new structure in place as of 1 January 2014 in order to better support Member States in a rapidly evolving environment. The Agency is re-organised in three operational directorates: Cooperation Planning & Support; Capability, Armaments & Technology; and European Synergies & Innovation. This is meant to facilitate prioritisation of tasks and improve operational output.

## February 2014

The first EDA-supported dual-use project, called "Turtle", receives European Structural Funds (see page 81). Developed by a consortium of Portuguese SMEs, research institutes and universities, its aim is to produce new robotic ascend and descent energy efficient technologies to be incorporated in robotic vehicles used by civil and military stakeholders for underwater operations.



"Because SMEs often find it difficult to access EU funds, the Agency supports industry in its attempts to access European Structural and Investment Funds (ESIF) to develop dual-use technologies. In addition to raising awareness through dedicated workshops, the Agency has provided technical support to project holders through an EDA handbook on ESIF".

Denis Roger, EDA Director European Synergies and Innovation (2014)



## May 2014

Claude-France Arnould signs a procurement arrangement with General Sir Adrian Bradshaw, Operation Commander of EUFOR Althea and Deputy NATO SACEUR, in direct support of an EU operational mission. Under this arrangement with EUFOR Althea, EDA assumes a lead role in administering the procurement procedure of air-to-ground surveillance services in Bosnia-Herzegovina.



## June 2014

The European Defence Agency and Saab Dynamics AB sign a multi-annual framework agreement for the provision of different types of ammunition for the 'Carl-Gustaf' recoilless anti-tank weapon, with an estimated value of up to €50 million. This framework agreement comes under a procurement arrangement signed in 2013 between EDA and Estonia, Latvia, Lithuania, the Czech Republic, and Poland.

## July 2014

The Agency celebrates its tenth birthday.



Part 1 | Inception



The Agency is established in its current rue des Drapiers offices since 2005

Part 2



# Building together

W I N G S   F O R   T H E   F U T U R E



## Wings for the future: the Agency's work in the field of Remotely Piloted Air Systems

Remotely Piloted Aircraft Systems (RPAS) have been at the forefront of media attention since the beginning of the 2001 war in Afghanistan - although they had been around for much longer in European inventories. The use of these assets, more commonly known as "drones", in asymmetrical operations has brought a revolution to commanders and troops on the ground by providing them with a "bird's eye" view of the battlefield. This led a lot of European countries to invest in the procurement of such systems, and for some of them in Medium-Altitude Longue Endurance (Male) RPAS in order to fulfill their intelligence, surveillance, and reconnaissance (ISR) missions. In the meantime, many civil applications have been found for these vehicles, in areas as diverse as fire-fighting, infrastructure surveillance, border control, or disaster monitoring.

### A Pioneer Project

"Taking into account the vital importance of this capability, EDA has promoted RPAS as a "Pioneer Project" since 2013", Jean-Youri Marty, EDA RPAS programme manager, explains. "At the European Council that was held in December last year, Heads of State and Government acknowledged that work in that field should be considered a priority and identified RPAS as one of the four key programmes for EDA to develop", he stresses.

The Agency has so far divided its work in the RPAS field into five main areas. The first one aims to integrate these remotely-piloted vehicles in civilian "non-segregated" airspace. So far, the use of RPAS has mostly been done in an operational environment where the need for safe interaction with commercial aircraft was not a priority. However, this could change rapidly as the need for the military to use European airspace for training, transit, or mission purposes and civil applications for RPAS are gaining momentum and it is expected that the demand from commercial users will rise significantly over the next ten years.



Through several initiatives, EDA is now contributing to this effort in close cooperation with Member States, the European Aviation Safety Agency (EASA), and the European Space Agency (ESA). There have already been several achievements in different fields, and a Joint Investment Programme was launched in November 2013 with ten contributing Member States to fund future research & development work in areas critical to the emergence of new RPAS functions and subsystems.

## Sense and Avoid

Launched in 2009, the €50M Mid-Air Collision Avoidance System (MIDCAS) is conducted by five EDA Member States to develop a “sense and avoid” capability that will enable future RPAS to navigate safely in non-segregated airspace and to autonomously avoid collision with other aircraft. It has already delivered promising results, with successful final flight tests expected in the second half of 2014.

Meanwhile, another collaborative project called Enhanced RPAS Autonomy (ERA) is under preparation; it will address issues related to certifiable automatic take-off and landing, automatic taxiing, and emergency recovery procedures while

## Building a user community

Considering that the number of RPAS is still limited in Europe, but also fragmented among different Member States, EDA is coordinating a “European Male RPAS User Community” composed of seven Member States who signed a Letter of Intent in November 2013. This initiative provides European RPAS users with a dedicated forum to exchange information

## A new RPAS for the 2020s

Perhaps the most crucial work strand for the future of Europe’s RPAS capabilities is EDA’s involvement in the shaping of a common Male unmanned aerial vehicle for 2020 and beyond. By then, a lot of Member States will need to invest in new assets if they want to keep their intelligence, surveillance, and reconnaissance capabilities credible. Working together on this major programme might yield considerable benefits from operational, technical, financial, and industrial points of view.

A Common Staff Target was already endorsed by the Steering Board in November 2013. The Agency is now working on the elaboration of a Common Staff Requirement that could lay the basis of a future RPAS to be fielded by EU Member States

at the same time supporting the standardisation process of these key RPAS functions.

The certification of RPAS is also an important pillar of EDA’s work in this domain. Established by the Agency in 2008, the Military Airworthiness Forum (MAWA) aims at exploring the best ways to improve and streamline the certification process for military aircraft (see page 85) and in particular RPAS at European level, bringing together the Member States’ national military airworthiness authorities and EASA. With this framework already firmly set up, the Agency expects that common military certification procedures and requirements should emerge in the 2018-2020 timeframe.

and facilitate cooperation, while at the same time sharing operational experience and best practices for operating such systems. Moreover, it aims to identify cooperation opportunities in the field of training, logistics and maintenance, enabling cost reduction and improved interoperability.

in the 2020-2025 timeframe. This would not only ensure benefits from cost-sharing and operational efficiency perspectives, but it would also allow the European industrial base to maintain and develop its competences in the crucial area of military air systems, which support thousands of high-skilled jobs throughout Europe.

During an EDA Steering Board held at Ministerial level in May 2014, France confirmed its intention to take the lead on this key activity. This Common Staff Requirement will aim to turn military needs into operational and technical requirements, taking into account the technological, industrial and financial dimensions of the potential solutions that will be identified over the course of this process.

### The five pillars of EDA’s work on RPAS

- Air Traffic Insertion
- RPAS Certification
- Cutting edge technologies for future RPAS
- European cooperation for operational support
- Future EU Male program



Should this future drone be equipped with one or two jet engines? Will it be stealthy enough to evade enemy radars? Which payloads will it be able to carry? How far will it be able to detect and identify a potential target? All these questions will be addressed by the Member States who will show an interest in joining the programme, in order to draw the portrait of a European Male RPAS for the 2020s. This preparation phase could deliver solid outputs as early as 2016 and provide nations with the right set of tools to proceed with this new collaborative programme.

In the meantime, EDA has launched work to identify priority areas for future research & technology investment on remotely piloted air systems. Considering that about half the cost of building a complex ISR RPAS is related to sensing payloads and data exploitation solutions, European excellence in these areas is deemed necessary for future industrial competitiveness in the global marketplace. Without action the risk is high that Europe will become dependent on other countries’ suppliers for such technologies. Investment in “high-end” RPAS systems should therefore be considered as an appropriate way to sustain European skills in the military air systems domain, while paving the way for future manned fixed-wing military aircraft developments.

Shaping Europe’s future RPAS landscape is a multi-faceted challenge, as these various strands highlight. “All these issues have to be tackled at the same time in order to significantly improve Member States’ RPAS capabilities”, Jean-Youri Marty stresses. “The Agency is working to support each of these activities individually, while promoting global consistency among the different actors.” The future of European civil and military remotely piloted air systems is at stake.

“Operational, financial, technological, regulatory, and industrial issues all have to be tackled at the same time in order to significantly improve Member States’ RPAS capabilities”.

Jean-Youri Marty, EDA RPAS Programme Manager

## Working with DeSIRE

EDA’s work on the safe insertion of RPAS in non-segregated airspace, has already yielded concrete results: the DeSIRE (Demonstration of Satellites enabling the Insertion of RPAS in Europe) project, funded jointly by EDA and the European Space Agency (ESA), took to the air in April 2013. A Heron 1 medium altitude long endurance drone was used to perform a series of test flights in order to demonstrate the ability of an RPAS controlled through a satellite communication link to safely share the sky with other airspace users. This was a real success for all parties involved, including the industry team led by the Spanish company Indra. Early in 2014, EDA and ESA signed a new framework agreement to extend their cooperation as part of the DeSIRE II program; this will further demonstrate the integration of RPAS systems in complex environments through the use of secure satellite-based command and control links.



## FUELLING THE FIGHT



## Fuelling the fight : increasing European air-to-air refuelling capabilities

Developed in the early days of the Cold War to provide global reach to strategic bombers, air-to-air refuelling (AAR) aircraft, or “tankers” as they’re more commonly known, have proven absolutely essential for air operations over the past few decades. Many European air forces chose to equip themselves with such a capability during the Cold War in order to provide their fleet of fighter-bombers with the persistence needed over enemy territory, and these ageing tankers are for the most part still in service today.

“No gas, no go” has been a common motto amongst tanker crews for decades. This leitmotiv has proven true in every major operation since the Gulf War in 1991 : the number of fighter/bomber sorties that a country or a coalition is able to generate on a daily basis is directly dependent on the number of AAR aircraft that will be put in the air to provide the former with the fuel they need to conduct their missions.

### Major shortfalls

However from recent operations a bleak picture has emerged of European capabilities in the AAR domain. “Today Europe is able to field around 40 tanker aircraft of 10 different types, which, when compared with the US resources of over 550 tankers of four types, is a clear indication of the European shortfall in this field”, explains Laurent Donnet, Programme Manager at EDA. Moreover, in times of crisis and war there is still an absolute dependence on American assets in the domain : during operations over Libya in 2011, 80% of all AAR missions were flown by US aircraft, no change from the Balkans in 1999.

To address this shortfall, AAR was endorsed in 2011 by the European Defence Agency Steering Board as one of the initial eleven Pooling & Sharing projects. A subsequent board meeting held in March 2012 saw Ministers declare their willingness to support further development of air-to-air refuelling capabilities through better coordination between Member States. These capabilities, like all those developed in an EDA framework, will be available for potential use during EU, NATO or other operations.



During the European Council meeting of December 2013, the work on AAR was recognised as one of the four key capability projects for EDA to focus on. “The Agency has developed a global approach to that problem with three main objectives : to increase the overall AAR capacity ; to reduce fragmentation of the European fleet ; and to optimise the use of existing assets and organisations” stresses Philippe Rutz, Project Manager Pooling & Sharing at EDA.

## Tomorrow's multirole tankers

Perhaps the most ambitious strand identified as a long-term solution aims to increase the European strategic tanker capability in 2020 and beyond. Taking advantage of the planned retirement of ageing aircraft, some Member States have agreed to consider acquiring new multi-role tanker aircraft together. Led by the Netherlands, this initiative could lead to the acquisition and operation of a multinational tanker fleet that will help to streamline European inventories, while reducing the existing shortfall.

The tankers of the 21st century represent a real technological leap compared with their 1950s ancestors, which are for the most part still in service today. These "new-generation" aircraft significantly enhance the AAR experience by providing increased availability, enhanced mission systems, and greater offload rates.

By acquiring a modern tanker, the Member States' capabilities would also be vastly expanded. Indeed, the inherent modularity

## Improve the existing

In the meantime, other concrete steps have been taken in order to improve Europe's AAR landscape. This is especially true for technical and operational AAR clearances, which are necessary for a fighter aircraft to refuel from a specific tanker. Lack of AAR clearances not only makes refuelling operations impossible but also creates massive problems for planning and tasking air operations, as was the case for the operations over Libya in 2011.

At the initiative of the Agency, a first collective European AAR clearance trial was held in Italy in September 2013 and drew significant interest from participating nations. Taking place in Decimomannu, Sardinia, this initiative was co-organised by the Italian Air Force, who provided a KC-767 tanker aircraft and

of these latest-generation tanker-transport aircraft means they will be capable not only of conducting AAR missions, but also be equipped for strategic transport, medical evacuation, cargo deployment, or humanitarian relief.

In early 2014, EDA sent out a Request for Information to tanker aircraft manufacturers in order to provide Member States with a better understanding of the market and of the technical solutions available. A contract award could happen as soon as the end of 2015 and would mark a major step forward for cooperative capability development in Europe. The Agency has already drafted important documents such as technical specifications, concept of operations, and concept of support for this future capability, paving the way for the signing of a Memorandum of Understanding and a contract expected for the end of 2015. This work is undertaken in close cooperation with OCCAR and the NATO Support Agency (NSPA).

was attended by the French and Swedish Air Forces who took advantage of the campaign to get their operational AAR clearances against the new Italian tanker. Organising collective campaigns facilitates the certification procedures for Member States, increases interoperability, and saves time as well as human and financial resources.

This first collective clearance campaign was followed in April 2014 by the first edition of the European Air-to-Air Refueling Training (EART) exercise, organised jointly by EDA, the European Air Transport Command, and the Netherlands. For the first time in Europe, this exercise provided tanker crews as well as receiving aircraft with the opportunity to share and refine their flight and tactical procedures on a dedicated exercise.



Jeanine Hennis-Plasschaert is the Dutch Minister of Defence. The Netherlands are leading a European acquisition project for new tanker aircraft

This first edition saw the participation of three Member States: Germany, the Netherlands, and Italy. It was organised on the back of exercise "Frisian Flag", a large-scale tactical exercise gathering dozens of combat aircraft every year and offering a realistic operational environment.

Short-term air-to-air refuelling solutions are also being explored by the Agency to address the European AAR shortfall. Solutions could be found through the leasing of existing platforms or the contracting of commercial AAR aircraft which are available today. Although no Member State has so far showed an interest in these proposals, EDA strongly believes that such solutions provide an excellent dormant capability, and should be further investigated. Establishing synergies with existing national capacity, such as the UK fleet of Voyager aircraft, is also under consideration.

As the last two decades have clearly demonstrated the third dimension plays a crucial role in winning tomorrow's conflicts: strategic and tactical transport, reconnaissance, air defence, and precision bombing all require the kind of global reach and persistence that can only be provided with support from air-to-air refuelling capabilities. But today, most of Europe's tanker fleet is ageing and obsolete, thus gravely impacting these aircraft's availability. If Member States want to be able to play a substantial role in future air operations while reducing their dependence to the United States in the AAR domain, there is only one way forward: doing more and better together. Starting today.

"We are aiming to increase the European tanker capability by 2020 and beyond through a multinational multirole tanker fleet".

Laurent Donnet, EDA Programme Manager Air-to-Air Refueling



About 40 tankers of 10 different types are in service with European air forces today

Since 2011, air-to-air refuelling is handled as a Pooling & Sharing priority by EDA





## SECURITY IN THE DIGITAL AGE

## Security in the digital age : Cyber Defence and EDA

In the beginning there were sticks and stones. Then, through the slow introduction of new techniques, these primitive weapons gave way to ever more elaborate tools of destruction until, more than 3000 years ago, mankind took to the sea to wage its first naval battles. Many more centuries would pass before warfare entered a new era with the advent of the first flying machines, which ultimately extended the theater of operations far into the third dimension, and ultimately to outer space.

### The fifth element

What revolutions shall we expect for the future of warfare? Way before it became part of our everyday lives, when it was only known to a handful of military engineers as an experimental network called Arpanet, the internet was envisioned as a way to disseminate strategic information rapidly over considerable distances. Cyberspace was born. Today, it is widely recognised as the fifth domain of warfare, equally critical as the four other physical domains to the success of military operations. "We have to recognize that cyber is a real operational domain, just like land, sea, air, and space", stresses Wolfgang Röhrig, Cyber Project Officer at the European Defence Agency.

How is this new revolution affecting the ways wars are fought? Might the safety of European citizens be at risk because of invisible, speed-of-light attacks launched from a computer located in a far away location? Even today, almost half a century after the first packet-switching network went online, some of these questions remain unanswered. However, a great deal of effort is ongoing to try and assess potential threats in the cyberspace, on which armed forces have now become largely dependent to conduct their missions.

As early as 2011, the European Union Member States participating in the Agency had already raised awareness by making it one of the top ten priorities for military capability development. This had an immediate consequence: at the end of 2011, an EDA Project Team was established to work on this issue. It gathered contributors from the Ministries of Defence and relevant actors from the civilian world around a single table.

Released in February 2013 and endorsed by the Council in June 2013, the Cyber Security Strategy for the European Union then emphasised that "cyber security efforts in the EU also involve the cyber defence dimension". Later that year, the Council marked cyber defence as one of the four key capability development priorities for the European Defence Agency. The message was clear: Member States agreed that this new field of defence has to be treated as a capability development priority through cooperation - a statement confirmed by Heads of State and Government in December that same year, during the European Council. They based their decision partly on a study commissioned by EDA in 2012, in which the Agency aimed to establish an in-depth understanding of cyber defence capabilities across European member states.

## Humans after all

The results of this study painted a complex and diverse picture of cyber defence capabilities at EU level and within the Member States, but clearly helped EDA to enhance its understanding of the topic. "Following the findings of EDA landscaping study, the EU placed emphasis on human factors in cyber defence", Wolfgang Röhrig, Programme Manager for Cyber Defence at EDA, explains. "Behind every cyber-attack is an astute mind. For the time being, humans are our first (users) and our last (Cyber Defence Specialists) lines of defence. For both attackers and defenders, the technology is the means with which they try to fulfill their objectives and achieve their aims. In that sense, there is no

## Force generation

"Like in other fields of defence, when it comes to cyber, Member States are still the key to force generation", Wolfgang Röhrig stresses. "They will be the ones asked to provide cyber defence capabilities for an EU-led operation". With that in mind, EDA is also working on cyber defence situational awareness kits that could be deployed to headquarters in order to provide a common set of cyber defence planning and management tools.

In order to ensure a coherent capability development path, it will be crucial to precisely target research and technology efforts on specific military aspects. EDA is therefore working on a Cyber Defence Research Agenda (CDRA) that will take a detailed look at this issue and craft



Admiral Juan Francisco Martínez Nuñez chairs the Agency's Steering Board of Capability Directors. He is also Director General of the Dirección General de Política de Defensa (DIGENPOL).

difference between the cyber domain and the physical ones."

Through a number of concrete initiatives, the Agency is already involved in several cyber defence projects. This is particularly true for training, an important topic on which EDA has conducted a Cyber Defence Training Need Analysis in order to build a proper curriculum that would address the needs of armed forces across Europe. Increasing the availability of virtual training center and exercise ranges is also considered as a good way of enhancing cyber defence specialists training through a collaborative approach.

an R&T roadmap for the upcoming 10 years. These efforts shall be coordinated with other EU stakeholders such as the European Commission or the European Space Agency, through the European Framework Cooperation (EFC).

Other activities are also undertaken by EDA to try and stimulate European cooperation on cyber defence. These include the organisation of a technical forum envisioned as a platform for collaborative discussion and planning on future R&T projects regarding cyber. This forum is dedicated to information and communication technology has already proven that there is a strong requirement for a common approach on cyber defence modeling and simulation (M&S).

## Detecting the threat

The Agency is also at work in the field of what is known as Advanced Persistent Threats (APT) Detection. Governments and their institutions are among the most prominent targets for APT malware, often linked to cyber espionage. The problem is that these intrusions are either discovered too late, or sometimes not at all. Recognising the fact that early detection is crucial for a concept of APT risk-managing, EDA has launched in 2013 a call of proposals for first analysis and possible solutions.

All these initiatives converge towards a similar objective: enhancing the Member States' abilities to defend and protect themselves against potential threats emanating from the cyberspace. As our societies become increasingly more reliant on the digital world, this new challenge has to be taken seriously. The success of tomorrow's military operations will undoubtedly depend on it.

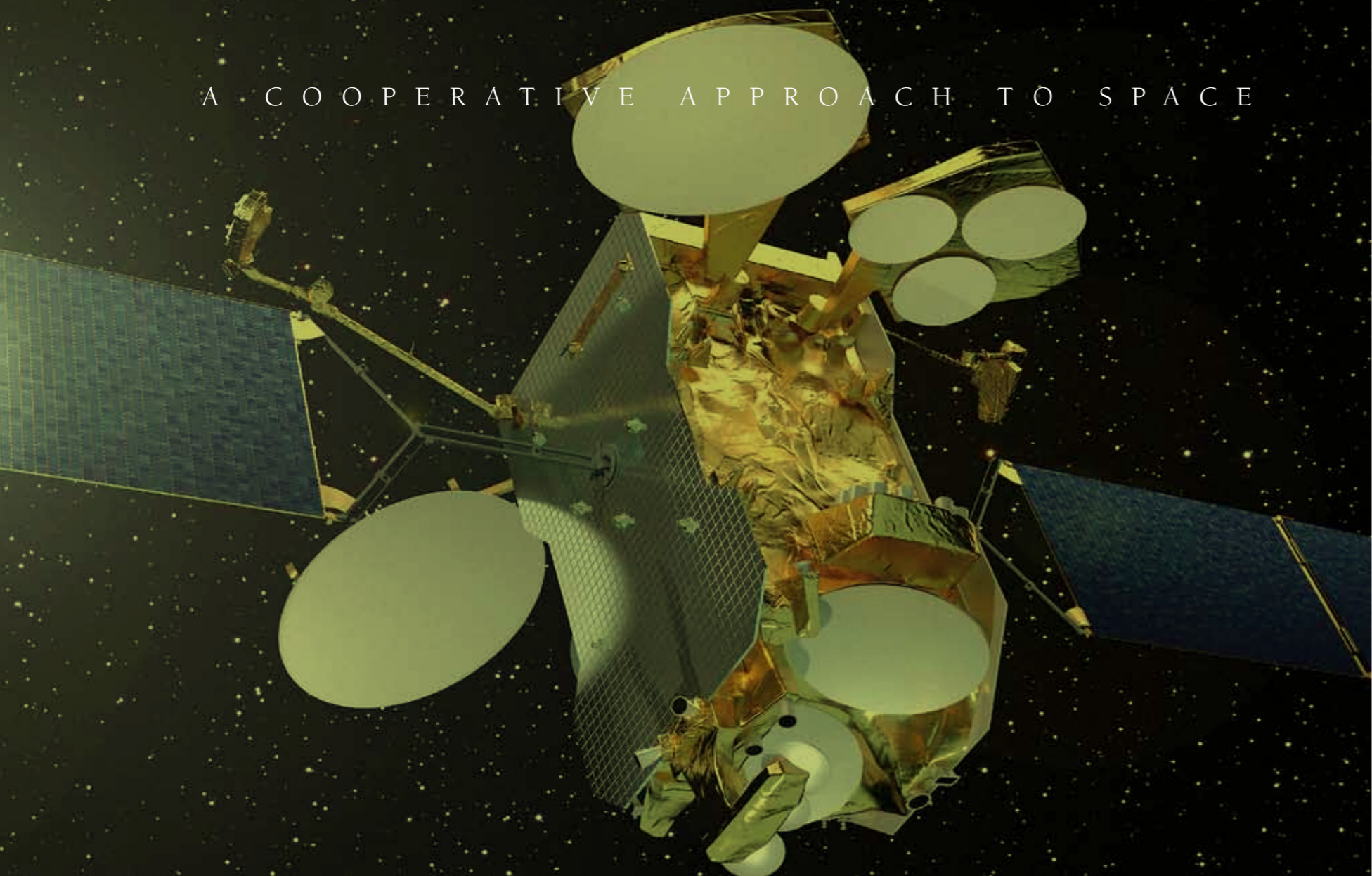


"We have to recognise that cyber is a real operational domain, just like land, sea, air and space".

Wolfgang Röhrig, EDA Cyber Project Officer



## A COOPERATIVE APPROACH TO SPACE



## A cooperative approach to space: satellite communications

Modern warfare, humanitarian relief, strategic communications, automated navigation, precision strikes, emergency response, intelligence, surveillance, and reconnaissance... The contributions of satellites to European defence and security are so numerous that it would probably take more than a page of this book to list them all. But while space has become a key enabler for civil and military missions over the past decades, it remains a domain where European Member States are facing a number of capability gaps. This is especially true in the field of satellite communications (Satcom), which have proven absolutely essential to the success of modern operations.

The increasing dependence on those satellite links, which can be crucial to control a remotely piloted air system flying several thousand kilometers from its base or to access highly sensitive information at the speed of light, has created a boom in demand from governmental users. While some of this demand can be addressed by state-owned satellites, whose acquisition and exploitation comes at a significant national public investment, other ways exist to provide troops on the ground or other customers with this crucial capability.

### Signals from space

This is precisely what the European Defence Agency has been doing for a number of years as part of its core mission, which is to help Member States to improve their defence capabilities through increased cooperation. In November 2011, an Agency Steering Board held at ministerial level identified Satcom as a Pooling & Sharing priority, thus paving the way for concrete achievements in that work strand.

The world of Satcom is usually split into three categories. The term MilSatcom is used to define satellite communications providing guaranteed access to armed forces through highly protected systems. A second segment, known as GovSatcom, aims to offer a high level of guaranteed access with resilient, robust, and partly secured links to a variety of users, both civil and military.

The third segment refers to the non-guaranteed access to satellite communications, generally procured on the commercial market on a pay-per-use basis.

The European Defence Agency's first concrete task was to put in place a "pay-per-use" cell in order to improve Member States' access to ComSatcom capabilities. "The original idea was to offer a "one-stop shop" for Satcom procurement", Jure Bauer, EDA EU Satcom Market Project Officer, recalls. "The added value was to allow countries without such capabilities to benefit from a pooled procurement of commercial satellite communications services", he adds.

The European Satellite Communication Procurement Cell (ESCPC), was born. Declared fully operational in May 2013 and renamed "EU Satcom Market" in 2014 to better reflect its mission, it has since been joined by 10 Member States and is still growing. Through this cell, participating countries are able to lease bandwidth from commercial operators. A key aspect is that by pooling their demand, participating Member States, through EDA, are able to obtain better market conditions and thus save on significant operational costs. As of late 2014, almost €2 million worth of orders have passed through this procurement cell, and many countries have shown their interest to join the club. This shows that contributing Member States can benefit from easier access to ComSatcom capabilities in order to fulfill their national needs or to enhance their contribution to CSDP missions.

## Maximising synergies

Beyond this successful pooling and sharing initiative, EDA is also working on ways to significantly improve Member States' capabilities in the field of GovSatcom. This work is conducted in close cooperation with other European actors, particularly the European Commission, in order to maximize synergies with the civil domain but also the European Space Agency (ESA) whose active role over the past 50 years has been crucial in making Europe the world-class space player it is today.

What is this really about? "We are helping to prepare the next generation of GovSatcom satellites that could become operational in the 2020-2025 timeframe", explains Gérard Lapierre, Satcom Programme Manager at EDA. "At the same time, we want to optimise the use of assets available between now and the middle of the next decade", he stresses. The European Defence Agency was tasked with a clear roadmap by

Member States: gather the key operational defence needs from Member States in order to craft a Common Staff Target (CST) summing-up the satellite communications demand for European actors involved in CSDP operations. This work, completed in the middle of 2014, will pave the way for a more comprehensive set of a requirements - and the associated business case - to best answer European countries' needs in the field of GovSatcom.

With over 35 000 direct jobs, the competitiveness of Europe's space industry is a key enabler for future developments in the space domain. A collaborative approach to current and future space and defence programmes is therefore paramount in order to secure these high-skilled jobs through innovation, research & development (R&D) projects, applications, and services.

## Bridges to space

Bridges exist with other work strands within the Agency. This is especially true for Remotely Piloted Air Systems (RPAS) (see page 41), which have become increasingly significant consumers of Satcom bandwidth in today's operations. The commanders' needs for a 24/7 "bird's eye" view of the battlefield has put great stress on the satellites links tasked to relay the images captured by the remotely piloted systems to headquarters located on the other side of the planet.

On a similar note, control of these RPAS "beyond radio line-of-sight" also implies the use of a Satcom link to relay information from the ground control station to the vehicle itself. As part of a joint project with ESA, the European Defence Agency is working on the DeSIRE demonstration in order to prove that such a satellite link can be certified to allow for RPAS flights in non-segregated airspace - that is,

in an airspace where the general air traffic is present. This project has already delivered tangible results and a second phase has been launched to further prove the concept.

"Space is embedded in virtually all military capabilities, in our very ability to decide and conduct operations".

Florent Mazurelle, EDA Space Policy Officer



€2 million of orders have been passed through EDA's European Satellite Communication Procurement Cell since its creation

The space industry represents about 35 000 direct jobs in Europe



"We are working today to address the Member States' needs of the next decade".

Gérard Lapierre, EDA Satcom Programme Manager

## More than just satellites

The Agency's work in the space domain extends beyond the area of satellite communications. Global navigation satellite systems (GNSS) are also a key enabler of civil and military missions, allowing real-time accurate positioning. These systems have effectively replaced the map and compass used a few decades ago: Europe is on the verge of having its own operational solution in the form of the Galileo constellation. A civilian system under civilian control, Galileo will nevertheless be equipped with a "Publicly-Regulated Service" whose encryption and robustness is of interest to governmental users. In this context, the Agency is encouraging joint discussions with Member States and the Commission on potential future military requirements.

Satellite imagery is also a topic of interest within the Agency: EDA is actively cooperating with the EU Satellite Center to support the operational capability of CSDP by investigating solutions to increase European decision-makers' access to imagery and geospatial capabilities.

The Agency is involved in Space Situational Awareness (SSA), a domain whose civil-military potential has been illustrated with the adoption of Joint Common Staff Targets in cooperation with ESA and the Commission. EDA is de facto the only EU actor who can support Member States in joining forces for developing much-needed capabilities in Europe. Following the identification of both military and civil needs, EDA activities are currently focusing on the development of a cooperative Recognised Space Picture, developing the military aspects of SSA in more detail.





STRONGER TOGETHER

## Stronger Together: a Code of Conduct on Pooling & Sharing

It all started in 2010. At an informal ministerial meeting organised under the Belgian presidency of the EU in November, Germany and Sweden came up with a bold proposition: what if European Member States, instead of diluting their efforts in the face of declining defence budgets, started considering a systematic approach to cooperation in the defence domain? "There are great profits to be made by finding ways of sharing expenses and burdens", went the German-Swedish "food for thought" paper prepared for the meeting.

With this document emerged a new approach that would soon be summed up in two words: "pooling" and "sharing". These, according to the writers of what would later be known as the Ghent initiative, could become the main instruments for increasing defence cooperation at the European level. "Pooling of capabilities is one way to increase efficiency and cost-effectiveness", went the paper. "Another instrument is role- and task-sharing, where national capabilities are made available to other partners", the document added.

In many ways, some of the objectives outlined in this bilateral declaration had already been pursued by EDA for a number of years. This was, for example, true of research & technology (R&T), a domain in which the Agency had been very active as a way to foster cooperation early in the development of new capabilities, or in the field of multinational training and exercises. The creation of an European Air Transport Fleet (EATF) framework in 2008 also clearly indicated that Pooling & Sharing had been in the air for some time already, even if the term hadn't been coined by then.

However, other initiatives had yet to get off the ground. Immediately after the November 2010 meeting, the Agency started identifying key areas where progress could be made quickly. This process was conducted in close cooperation with the European Union Military Committee (EUMC) and other EU actors, with the aim of identifying common operational requirements.

At EDA Steering Board meeting in November 2011 EU Defence Ministers formally endorsed a list of 11 Pooling & Sharing opportunities in areas as diverse as air-to-air refuelling, medical field hospitals, maritime surveillance, and satellite communications.

With these Pooling & Sharing opportunities clearly identified, it then became necessary to think of the best way forward in order to turn words into projects and deliverables. In April 2012, after a shared understanding that the initiative would not be successful if it were done simply on an "ad hoc" basis, four Member States - Belgium, Finland, Greece, and Luxembourg - suggested a more structured approach to these efforts. The idea of a "Code of Conduct" on Pooling & Sharing was born. To be implemented on a national and voluntary basis, this code was intended to provide Member States with a set of guidelines to enhance their defence capabilities through increased cooperation at the European level.

In September 2012, during an informal Ministerial meeting in Cyprus, the Agency prepared a paper outlining suggestions for this code. Two months later, on 19 November 2012, the Code of Conduct was approved by Defence Ministers (see full text on page 57). "The Code of Conduct facilitates cooperation and makes Pooling & Sharing sustainable now and in the future", Claude-France Arnould EDA Chief Executive, stressed at the time.



Defence Ministers approved the Code of Conduct on Pooling & Sharing in 2012

The next step was for this Code to be implemented by EU Member States. A number of them quickly developed specific arrangements to implement some or all of the actions contained in the Code of Conduct. Some Member States, such as Sweden or France, went as far as to integrate some of the Code's recommendations in their own national defence planning; in 2013, a French Defence White Paper stated that future capabilities would only be developed nationally if it was cheaper and more effective than doing so via multinational cooperation.

However, taking into account its inherent "work in progress" status, the Code of Conduct needs to be reviewed regularly in order to make sure its guidelines are in accordance with Member States' defence planning processes, and also to keep them informed about the status of ongoing Pooling & Sharing projects within EDA. The first such review took place in late 2013, only weeks before the European Council addressed defence issues in December of that year.

There was evidence of progress, but obstacles remained. Significant differences in concepts of operations, training or maintenance, hampered development of cooperation in areas that are promising for Pooling & Sharing, such as

training or education. The non-alignment of national budget cycles, coupled with ongoing budget constraints, also hampered systematic cooperation between Member States.

The European Council of December brought a new dimension to the Agency's Code of Conduct on Pooling & Sharing. During the meeting, the High Representative as well as EDA were invited to put forward a new policy framework for systematic long-term defence cooperation. Building on the Code of Conduct, this framework is expected to consolidate its recommendations and guidelines while providing an overarching strategy for their successful implementation. Addressing aspects such as streamlined programme management, early coordination in new programmes or increased cooperation throughout the service life of an existing equipment, this framework should take Pooling & Sharing to the next level, securing even more support from Member States, and allowing them to be stronger, together, for tomorrow's conflicts.



Lena Erixon chairs the Agency's Steering Board of National Armament Directors. She is also Director General of the Swedish Defence Materiel Administration (FMV)



Part 2 | Building together

## The Code of Conduct on Pooling & Sharing

As approved by Member States on November 19, 2012

### Introduction

The objective of this Code of Conduct is to support cooperative efforts of EU Member States to develop defence capabilities. The actions herein are aimed at mainstreaming Pooling & Sharing in Member States' planning and decision-making processes. They are to be implemented on a national and voluntary basis, in line with defence policies of Member States.

### Pooling & Sharing

Systematically consider cooperation from the outset in national defence planning of Member States.

Consider Pooling & Sharing for the whole life-cycle of a capability, including cooperation in R&T, minimising the number of variants of the same equipment, to optimise potential savings, improve interoperability, and rationalise demand.

Promote where possible the expansion of national programmes to other Member States to encourage the cooperative development of increased capabilities, and facilitate operational deployment.

Share opportunities that could be open to Pooling & Sharing.

Consider the joint use of existing capabilities by Member States to optimise available resources and improve overall effectiveness.

### Investment

In accordance with national decision-making processes:

When a Pooling & Sharing project is agreed, endeavour to accord it a higher degree of protection from potential cuts.

Harness efficiencies generated through Pooling & Sharing in order to support further capability development.

Endeavour to allocate the necessary investment to support the development of future capabilities, including R&T, taking advantage of synergies with wider European policies, including regulatory frameworks, standards and certification.

### Coherence

Pursue coherence between regional clusters of cooperation, including bilateral and ongoing multinational initiatives, to avoid major gaps or possible duplication and to share best practice, using EDA as a platform for information exchange.

Increase transparency, share expertise and best practice on cooperative capability development and capability priorities among Member States to enhance the opportunities for cooperation and greater interoperability. Mapping of projects open to cooperation would be supported by EDA tools, such as the Capability Development Plan and the database of collaborative opportunities (CoDaBa).

Benefit from information through EDA when conducting national defence reviews, for example on Pooling & Sharing opportunities and the impact of budget cuts (an assessment of possible consequences on the European capability landscape).

### Assessment

EDA to submit to Defence Ministers an annual state of play of Pooling & Sharing, on the basis inter alia of inputs/reports from Member States and the EUMC, focusing on new Pooling & Sharing opportunities and also comprising: an analysis of the capability situation in Europe; progress achieved; obstacles; the impact of defence cuts and possible solutions.

## EATC, an example of Pooling & Sharing

Inaugurated in Eindhoven, Netherlands, in September 2010, the European Air Transport Command (EATC) is one of the best examples of successful Pooling & Sharing. The original idea was simple: facing a drastic reduction of their fleet of military fixed-wing transport aircraft, European air forces could greatly benefit by pooling their resources in order to meet their operational needs.

Declared fully operational in November 2013, EATC now manages about 50 missions every day. It has shown its value not only for peacetime missions but also during major operations such as the French campaign in Mali in 2013, which saw the involvement of many European tactical airlifters whose missions were tasked through EATC. Six Member States have so far chosen to pool some or all of their transport aircraft through EATC: Belgium, France, Germany, Luxembourg, the Netherlands, and Spain.

EATC was cited by Heads of States and Government in the Council conclusions of December 2013 as a model for cooperation. Since 2010, EDA has worked in close cooperation with EATC in various domains such as the organisation of multinational exercises (European Air Transport Training and European Air-to-Air Refuelling Training) or through working groups dedicated for instance to the concept of employment of future multirole air-to-air refuelling aircraft.



“The European Defence Agency is an output and capability-driven organization. We focus on supporting our Member States with concrete programs and projects. Today's operations are multinational ones, and it is thus imperative that our trainings are as well”.

Rini Goos, EDA Deputy Chief Executive



## Building trust for the battlefield: exercises and training

“Train like you operate, operate like you train” is a popular saying among air forces worldwide. Indeed, they have long recognised the need to train their personnel in an environment as realistic as possible, in order to replicate the conditions that they might encounter one day on the battlefield. This need is even more acute today since the cost of operating military aircraft, for instance, has become too high to allow “wasted” flight hours and thus have pushed countries to try and set up the most representative exercises in order to get the best value for their money.

The European Defence Agency has been working for a number of years in that domain, which was recognised very early as an excellent Pooling & Sharing opportunity. Common training might not only bring substantial cost savings: it also is an effective way to develop interoperability between Member States, which has always been a core mission of the Agency. By training together, they will be better prepared to operate together on the battlefield and to solve capability shortfalls, especially in the field of missing common procedures.

Over the years, the exercises coordinated by EDA in close collaboration with a number of key partners and host nations have become go-to events in a number of fields including helicopter training, military air transport, and most recently air-to-air refuelling. The importance of these initiatives is such that the Agency recently set up a dedicated “Education, Training & Exercise” Unit within its new Cooperation, Planning & Support Directorate.

### European rotors

The Agency’s Helicopter Training Programme (HTP) has been a major success in that regard. In fact, exercises are one of the three main pillars of the Helicopter Exercise Programme (HEP) arrangement signed by 13 participating Member States in November 2012. Together, the Member States agreed to work for the next ten years on the improvement of deployable helicopter capabilities for overseas operations.

As of late 2014, seven exercises supported by EDA have been organised in order to provide relevant tactical training to hundreds of helicopter pilots from across Europe. These capability-focused exercises seek to provide crews with an environment as realistic as possible and to prepare them for the conditions they might encounter in a future theatre of operations. But they do not only focus on flying operations: training personnel make the most of the crucial phases of planning, briefing then de-briefing complex missions that is crucial to the success of future operations.

Perhaps the most visible output of EDA’s efforts in the field of rotary-wing training comes in the form of the “Hot Blade” and “Green Blade” series of exercises that have now been organised for a number of years, following the success of an initial “Azor 2010” event that took place in Spain and which, at the time, was probably the biggest European helicopter training exercise since the end of the Cold War. In total, more than a thousand crews and a hundred helicopters have taken part in EDA-supported exercises since they were initiated by the Agency.



Portugal has hosted three successive editions of the “Hot Blade” helicopter exercise

BUILDING TRUST FOR THE BATTLEFIELD



For three years in a row, Portugal has been the host nation of the “Hot Blade” exercise, which has provided the participants with a “high, hot, and dusty” environment not unlike the one they were expected to encounter when deployed to Afghanistan or Africa, for example - in fact, some participating Member States integrated the event into their own pre-Afghan deployment buildup.

### Tactical airlift

For decades, Western fighter pilots have been able to improve their skills by joining large-scale tactical exercises, such as the famous “Red Flag” organised several times a year by the United States Air Force, or the Tactical Leadership Programme held in Spain in a NATO framework. But the same cannot be said for airlift: today in Europe, airlift training remains a largely national issue. But since joint operations have now become the rule rather than the exception, the need to train together gets bigger every day.

EDA’s European Air Transport Fleet (EATF) initiative - signed by 20 nations in 2011 - was created to alleviate existing shortfalls in airlift and to develop solutions to better use existing assets. One of the working groups developed a project aimed at increasing opportunities to train together and to exchange best practices.

This ambitious roadmap paved the way to the first European Air Transport Training (EATT) exercise in 2012. This first edition took place in June 2012 at Zaragoza airbase, in Spain. Organised in close coordination with the EATC - which, as a centre of excellence, provided the vast majority of the air transport experts - it gathered six nations (Belgium, Czech Republic, France, Germany, the Netherlands, and Spain) which brought 8 aircraft and 14 crews to the event. Several countries attending as observers for this first event then decided to join, a testimony to the exercise’s relevance for their air forces.

The latest edition of EATT was held in June 2014 at Plovdiv airbase, in Bulgaria. It brought together more than 460 participants, 19 crews, and 10 transport aircraft from 10 different countries. About a hundred missions were conducted in

These events were joined by an increasing number of participants, thus proving the success of the “à la carte” approach promoted by the Agency for projects that can be joined by any Member State based on its operational needs. The latest edition of Hot Blade, held in Ovar airbase in July 2014, gathered more than 20 rotary-wing aircraft from six different countries, for a total of 3 000 military personnel involved.

a variety of scenarios and training disciplines: airdrops, low-level flying, night operations... As with previous editions of EATT, the main objective was to achieve national training objectives while improving interoperability between crews from different nations.

After the successful EATT events of 2012 and 2013, it became more and more obvious that dedicated courses and training events were needed among European air forces. In September 2014, the 1st EAATTC (European Air transport Tactics Training Course) took place in Zaragoza (Spain), providing an advanced training capability to the European air transport community. Three similar courses and a training event will take place in 2015, allowing more than 40 crews from 15 countries to train together, sharing common procedures and qualifications.

“We’re trying to improve interoperability between our Member States’ helicopter crews, because there is a very good chance that they will have to work together on the same battlefield in the years to come - and we truly mean working together, integrating national capabilities into a multinational coalition”.

Andy Gray - EDA Helicopters Programme Manager



### Fuel for thought

A similar path was followed by the Agency in the field of air-to-air refueling (AAR), a capability in which major shortfalls have been identified among European Member States since the 1990’s (see page 45). Only a few months after the European Council’s December 2013 decision to make air-to-air refuelling one of the four top capability development priorities for EDA, an exercise was launched from Eindhoven airbase, in the Netherlands: European Air Refueling Training 2014, or EART14, organised in close cooperation with the European Air Transport Command and the host nation, the Netherlands.

The primary goal of this exercise was to get participants proficient in their AAR qualifications with their own assets, but more importantly to improve multinational tanker planning, tasking, and operation among European Member States. Three countries joined this first edition of the event with their tanker aircraft: Germany, with an Airbus A310 MRTT; the Netherlands, with

a KDC-10; and Italy, which brought one of its new Boeing KC-767s. In order to provide tanker crews with an environment as realistic as possible, EART14 was organized in the framework of a large-scale fighter aircraft exercise called “Frisian Flag”.

EART14 focused on several training points, including rendezvous procedures, tactical formation flying, as well as planning processes for larger scale refueling operations. It gradually evolved with sorties becoming increasingly complex day after day, starting from single-ship missions to evolve into large-scale Composite Air Operations (COMAOs). Ultimately, it went to show that air-to-air refuelling was another area where multinational training could yield huge benefits for Member States, allowing them to pool resources and share knowledge in order to be more efficient in future operations.

“Training events are important: they allow us to pool resources and share knowledge, meaning ultimately that we can work better. We have to train together because one day, we will probably have to fight together. We’re building trust today for tomorrow’s conflicts”.

Massimo Guasoni, EDA Head of Education, Training and Exercises Unit



7 helicopter exercises conducted as part of the Helicopter Training Programme

First edition of the European Air Refueling Training (EART) in 2014

10 Member States involved in the latest European Air Transport Training (EATT14) exercise

A total of 62 flying crews have benefitted from EATT exercises since 2012

7 Member States and 27 crews took part in the 1st European Air transport Tactics Training Course (EAATTC) in 2014



## RESEARCH & TECHNOLOGY

# Innovation for the long run: Research & Technology

To all things there is a beginning, and military capabilities are no exception. Every single piece of equipment, be it from a combat aircraft, an infantry fighting vehicle or a patrol ship, started its life somewhere in a laboratory, with scientists and engineers running countless tests and studies before reaching a breakthrough: a material more resistant to heat and pressure, a new semiconductor technology with advanced properties, or an innovative networking architecture. In the field of defence like in any other sector, research & technology (R&T) is the cradle of innovation, the essential phase where future capabilities are being shaped.

Defence R&T has been under significant financial pressure in recent times, with European defence data suggesting a 20% reduction over the last five years. An easy target when it comes to budget reductions, investment in research & technology is nevertheless crucial for the long-term health of the European defence industry, as well as for the capabilities that will come into service in the next decades. It is worth keeping in mind that big military programs often extend over a considerable period of time: for instance, almost 30 years passed between the first studies on what was then called the Future International Military Airlifter and the first flight of the A400M, in 2009.

## An extensive toolbox

The European Defence Agency has a crucial role to play in stimulating R&T cooperation among its Member States. And since its creation in 2004, EDA has developed a comprehensive set of tools to do so. "The Agency's toolbox is flexible enough to provide solutions for maturing technologies up to various levels of readiness", Denis Roger, European Synergies and Innovation director, explains.

Technology Readiness Level (TRL) is a type of measurement system used to assess the maturity of a particular technology. Each technology project is evaluated against the parameters for each technology level and is then assigned

a TRL rating based on the projects progress. There are nine technology readiness levels, TRL 1 being the lowest (the very beginning of scientific research) and TRL9 describing a quasi-operational system.

So far, the Agency mostly focused on assisting Member States to develop and enhance critical technologies at TRLs ranging from 3 to 6. To ensure that the most important projects are prioritised, EDA has broken down its R&T initiatives into Joint Investment Programmes (JIP) and other specific, ad hoc projects. While JIPs typically involve a large number of participating Member States with a common budget of more than € 10 million, smaller projects can be built around only two nations.

Launched in 2007, the first EDA Joint Investment Programme focused on Force Protection (JIP-FP). With a budget of 55 M€ and the cooperation of 20 Member States, it was broken down in several calls for proposals in order to address different capability goals related to the global Force Protection issue: collective survivability, individual protection, secured wireless communication, data analysis & fusion, and mission planning.



These resulted in 18 projects which, thanks to industrial co-funding, brought the total programme value to €74M. Although the programme formally ended in 2013 with results being presented at a research conference in Athens in December, follow-on activities are now carried out by a number of Member States who incorporated some of those results into their national R&T roadmaps.

Another major JIP was for Innovative Concepts and Emerging Technologies (JIP-ICET).



Rather than focusing on a specific application like JIP-FP, JIP-ICET addressed an array of lower TRL technologies (TRL 2-4) that have good potential for future defence capabilities. Signed by 15 Member States for a total value of €15,5M (€19M including industrial participation), JIP-ICET consisted of twelve projects aimed at identifying and pursuing disruptive ideas associated to technology areas such as nano-materials and structures, remote detection and health monitoring.

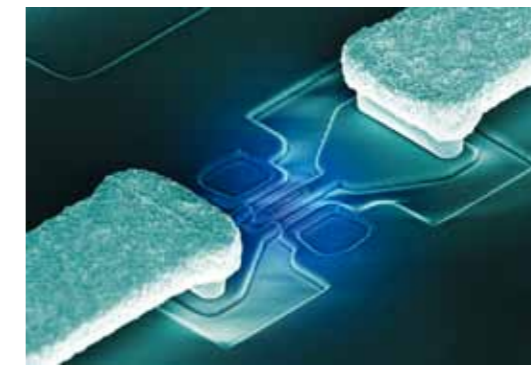
### Networking is key

Completed in 2013, the ICET programme was also considered a success in terms of technological achievements. "Another equally important benefit was the major role it played in promoting networking between different R&T entities at European level - another key objective for the European Defence Agency", Denis Roger points out. These JIPs indeed provided a great opportunity for a large group of countries to engage in multinational European defence research projects, to strengthen personal contacts between research teams, to establish cooperation with military end users from other countries and to build platforms for future cooperation, inside or outside of EDA.

Building on the success of these projects, eight Member States decided to launch a follow-on ICET2 JIP in January 2013 with a new set of research goals for a total budget of over €5 million. These include various areas such as artificial intelligence driven systems for data & information fusion, energy storage technologies or active controls for flow and mixture of gases - technologies that are all inherently dual-use and could also benefit the civil community in the future, as is often the case with low-TRL defence R&T.

### Dual-use

Another JIP was launched in 2013 to address protection against Chemical, Biological, Radiological and Nuclear (CBRN) threats. This investment programme is monitored by a Management Committee chaired by EDA and comprising Member State representatives. Representatives from the European Commission are also involved, as the JIP CBRN is fully coordinated with the civilian research under the so-called European Framework Cooperation. Fourteen different projects were identified within the areas of CBRN detection and identification, CBRN sample handling, Modelling and Simulation of CBRN protection architectures, protection, and decontamination.



As this example illustrates, research & technology in the defence realm calls for cooperation with non-military actors. The question of dual use technologies - areas in which new technology defence spin-off benefits can be applied to a wide range of industrial and user needs - is one that dominates current thinking. To that end, the European Defence Agency is constantly seeking greater collaboration with the European Commission and agencies such as the European Space Agency, particularly regarding synergies

in the area of critical technologies. Discussions are on-going to further exploit the Commission's 'Horizon 2020' Framework Programme, for example, of which the key enabling technologies and its ensuing reindustrialisation projects may have promising effects for defence. The same goes for the European Structural and Investment Funds (ESIF) where the Agency's work so far demonstrated the potential of this important EU tool to fund dual-use R&T projects (see page 81).

As an example, an area where there is potential to access resources outside the military community for developing dual-use technologies is Remotely Piloted Aircraft Systems, or RPAS (see page 40). Although armed forces are currently the main users of such a capability, the civil and governmental market for use of RPAS is likely to show exponential growth once the problems of air traffic insertion regulatory environment are resolved. This is a clear example where the greater maturity on the defence side can be beneficial to the civil sector, providing a real dual-use approach that benefits everyone involved is undertaken.

Jan-Olof Lind chairs the Agency's Research & Technology Steering Board. He is also Director General of the Swedish Defence Research Agency (FOI)



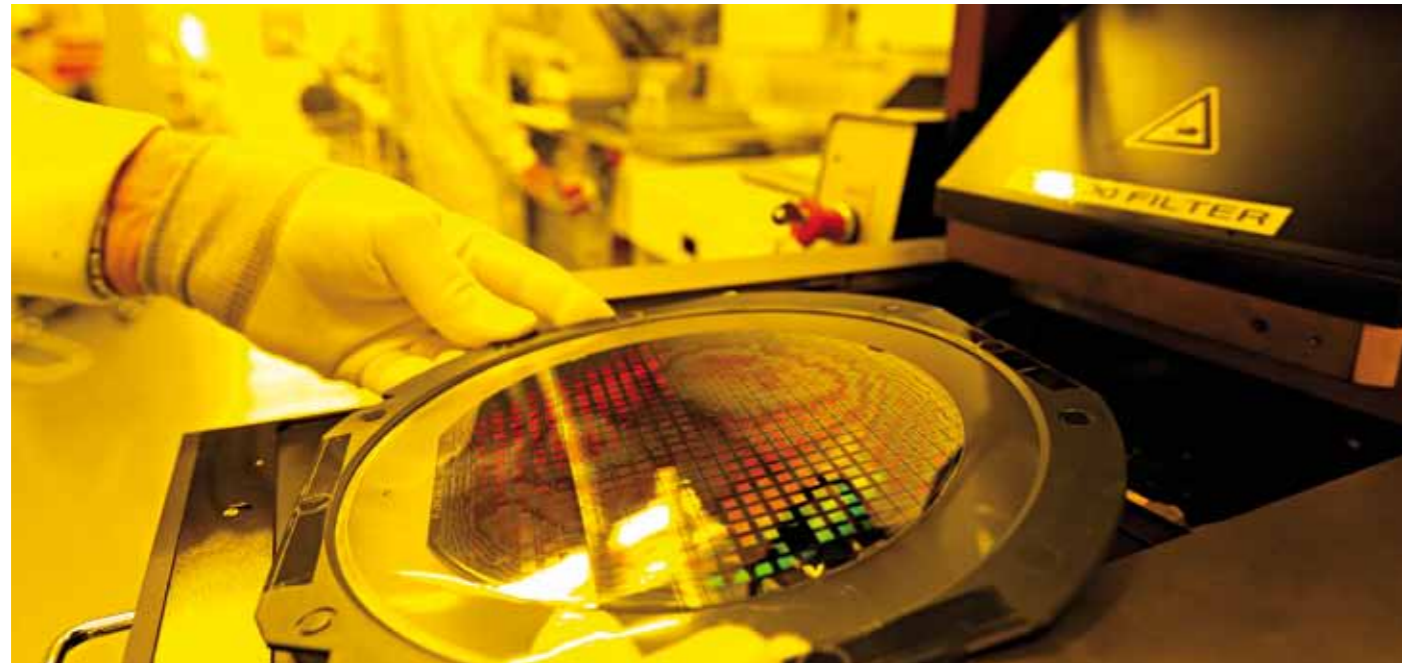
## A la carte

Work on Unmanned Maritime Systems (UMS) is another testimony to the Agency's successful work in the field of defence R&T. Ten EDA participating Member States as well as Norway decided to commit to this four-year program in 2010, investing €53 million in the programme which aimed to bring "plug and play" technology into a wide range of applications - ranging from propulsion and sensor management to command & control and mine detection - to existing and future UMS. The overall programme include 15 separate projects supported by a varying number of contributing Member States. The overall UMS effort is also expected to feed the Maritime Mine Counter Measures (MMCM) programme, targeting an initial capacity by the end of this decade.

The fact that only small number of contributing nations can support a project, which in turn can be joined at any time by other countries under an "opt in" scheme, is also a key piece of the puzzle for the Agency's efforts in R&T. These have been divided in a number of Capability Technology,

or CapTech, areas (See opposite page), each benefitting from a roadmap and a strategic research agenda with the objective to have technologies mature when needed by the military as identified in the Agency's Capability Development Plan providing agreed priorities.

A lot of different R&T topics are addressed by CapTechs. Take components, for instance: the work undertaken in the field of Gallium Nitride (GaN) semiconductors technology is crucial to provide Europe with the strategic design, development and production autonomy it needs in that domain. While GaN technology is key to improve the performance and functionality of radars, communication antennas and other electromagnetic systems, it is highly unlikely that access to this critical technology outside of Europe can be guaranteed.



## Critical technologies

In order to map the technologies most critical to the European defence sector, the European Defence Agency has drawn a list of Critical Defence Technologies (CDT) that was endorsed in June 2014 during an EDA Steering Board. Meant as a reference for future prioritisation of R&T activities, this list will be continuously updated over time, both internally within EDA and externally with Member States. The list focuses on several "clusters", covering R&T areas such as materials, components, sensor subsystems or CBRN technologies, among others.

There is a need now to invest in industrial qualification of parts of the value chain and bring the technology to applications. Together with the industry and Member States, EDA has already invested close to €100 million in this field to make sure it will be available to European armed forces in the years to come. The same goes for other areas, such as Mixed Signal Circuits and System on Chip integration. Technologies like advanced Field Programmable Gate Arrays integrated circuits specifically designed for defence and space-constrained applications are a crucial enabling technology that needs to be matured in Europe in order to bring dividends in terms of unrestricted supply, efficiency and cost for future equipment. Because just as current operational weapon systems have been developed on the basis of R&T investments made 15, 20 or 30 years ago, the decisions taken today will undoubtedly shape the armed forces of 2040 and beyond.

Since the creation of the Agency in 2004: Around €600 million have been invested by the Agency and Member States through more than 80 project and programme arrangements

In addition, 5 Joint Investment Programmes have benefited from an investment of over €100 million

## The Agency's twelve Capability Technology areas, or CapTechs

- Communication Information Systems & Networks
- System of systems, Battlelab and Modelling & Simulation
- Aerial Systems
- Ground Systems
- Naval Systems
- Energetics, Missiles and Munitions
- Materials & Structures
- Technologies for Components & Modules
- Radio-Frequency Sensors Technologies
- Electro-Optical Sensors Technologies
- CBRN Protection and Human Factors
- Guidance & Control



DEFUSING THE SITUATION

## Defusing the Situation: EDA's Work to Counter Improvised Explosive Devices

They have proven to be one of the most lethal weapons during the war in Afghanistan, which often brought them at the forefront of public debate: improvised explosive devices, or IEDs, have killed thousands of coalition soldiers fighting on Afghan ground since 2001, the single biggest cause of fatalities for allied forces involved in this campaign. These “roadside bombs”, as they are sometimes referred to, have become the iconic weapon of asymmetrical warfare, providing hostile forces with a relatively easy and cheap way to wage destruction in theaters of operations abroad or even on the homeland. Even if they gained a lot of public attention because of the war in Afghanistan, IEDs are nothing new: they have been used for decades in a variety of conflicts, ranging from World War I to the Troubles in Northern Ireland, or the Vietnam War, the latter seeing the emergence of the expression “booby traps” to define this category of weapons.

It is therefore only logical that armed forces worldwide have long been trying to counter this proliferating threat, and Europe is no exception. Over the years, the European Defence Agency has developed several activities that focus on enhancing European Member States’ capabilities to fight the IED war - an objective that has repeatedly been earmarked as a capability development priority by the Agency’s stakeholders. “These efforts in the field of Counter-IED, or C-IED, have led to a number of tangible results, some of which have become a testimony to the relevance of the Pooling & Sharing approach actively promoted by the Agency”, Joerg Hillmann, Land & Maritime Domain Head of Unit, explains.

### Success in the lab

This is especially true of exploitation, a term that encompasses the recording and analysing of information related to events, scenes, technical components, and materials used in an IED attack. The objective of C-IED exploitation is to gather technical and tactical information about the attack whilst at the same time identifying the IED “supply chain” in order to gather intelligence about those involved in the IED network. These exploitation related activities are designed to support all the other key operational activities in the C-IED effort: predicting the activity, preventing further incidents, detecting IEDs, and having the means to safely neutralise them.

In order to provide Member States with better C-IED exploitation capabilities, the European Defence Agency has worked in close cooperation with several national Ministries of Defence to launch an ambitious project known as the Multi National Theatre Exploitation Laboratory

(MNTEL). This deployable laboratory, built by Spanish company Indra and delivered to EDA in mid-2010, specifically aimed to enhance “Level 2” exploitation capabilities, which focus on the intermediate processing of IEDs in theatres through forensics investigation.

Led by France and supported by Austria, Italy, Luxembourg, Netherlands, Poland, Romania, Spain, and Sweden, the MNTEL project was funded through EDA’s operational budget and thus managed to gather support from all EDA participating nations. “From a technical point of view, the solution designed by Indra consisted of several transportable ISO containers housing the exploitation equipment. This configuration enabled the laboratory to be deployed in less than a week and to withstand extreme weather conditions”, Hillmann points out. The MNTEL consists of four main modules: biometric analysis (latent finger print recovery);

electrical circuitry (primarily radio parts); media recovery (focused on the mobile phones often used as IED triggering devices); and chemical analysis.

In July 2011, the laboratory was deployed in Afghanistan by a French contingent. Initially located at Camp Warehouse in Kabul, at the operations

### From Kabul to Soesterberg

But this wasn't the end of the success story. While the MNTel was saving lives in Afghanistan, the Agency's C-IED experts already started discussing with a number of interested Member States about a potential extension of this one-of-its-kind initiative. In May 2013, a new program the Joint Deployable Exploitation and Analysis Laboratory (JDEAL) was initiated. Under Dutch lead, its aim was to establish a permanent IED exploitation training facility in the Netherlands, staffed by a permanent multinational team, whilst at the same time procuring two additional deployable labs for use in contingency operations.

### Train & prepare

The fight against IEDs is not just about the exploitation phase. For this long-term battle to be successful, one has to take into account all three phases of the counter-IED cycle: detection, exploitation, and attack of the network. As early as 2009, the Agency initiated a number of training events and projects in order to increase Member States' skills and awareness in the field of IED detection. Several "train the trainer" courses were organised in order to disseminate the competences required for battlefield operations. These focused on basic search, but also on a skill known as Ground Sign Awareness, in which the slightest of details (a broken twig, a variation in grass colour) can allow a trained operator to go back to the original source of the IED and to track its maker back to his lair. Several such courses have been conducted since 2012 in the Ireland.

centre for the multinational International Security Assistance Force (ISAF), the MNTel successfully proved its worth in a NATO environment. It was then redeployed at Kabul International Airport in March 2013, before leaving the country in the first half of 2014. During that time, more than 6.000 different IEDs were forensically examined.

Eleven EDA Member States as well as Norway gave their support to the project and set it into motion. In July 2014, the original MNTel lab which had been deployed for three years in Afghanistan was shipped back to the city of Soesterberg, in the Netherlands, where the new training facility was officially launched in the autumn. The two additional deployable labs, which will benefit from even more advanced capabilities than the original MNTel laboratory, should become operational in 2015.

From 2014, these training events also focused on raising the awareness of police and armed forces teams regarding homemade explosives - an activity undertaken jointly with Europol.

Another interesting EDA venture in the field of C-IED is the Manual Neutralisation Techniques, Courses & Exercise project (MNT C&E). This project involves five nations: lead nation Austria, Germany, Ireland, Italy, and Sweden. The main idea behind this initiative is simple: in situations where there is no time to deploy the sophisticated remote-controlled tools that are otherwise used to defuse the explosive (for instance because it is attached to a weapon of mass destruction or located in a dense urban area where evacuation of civilians is not possible), highly-trained operators need to handle the threat with their own hands - a situation where the room for error is nonexistent.

#### The six key operational areas of Counter-IED

- Detect
- Mitigate
- Neutralise
- Exploit
- Predict
- Prevent

Noting the fragmentation of training programmes previously conducted at a national level, participating Member States welcomed Austria's initiative to establish the project which is based on a series of courses and exercises to improve European skills in this critical domain.

For that purpose, special kits have been purchased to allow the training to be as realistic as possible; this sophisticated explosive ordnance disposal equipment can not only be used to train personnel, but will also function

as an "emergency response" capability if a real situation had to be dealt with, in which case, these kits would be made available to all European Member States.



"The fight against IEDs is an overarching issue for EU Armed Forces operating abroad as well as civilian actors involved in security operations. The European Defence Agency is the best place for close cooperation on this crucial topic".

Joerg Hillmann, EDA Head of Land & Maritime Domain Unit



# BRINGING EUROPEAN NAVIES TOGETHER

## Bringing European navies together: Maritime surveillance

European seas know of no borders, and their control has always been of strategic interest for EU Member States - 23 of which are coastal countries. In that perspective, surveillance of maritime areas has long been a core mission of the European Union. For a number of years, the European Defence Agency has been working on a solution to bring together maritime surveillance information gathered by different European navies, whose systems had not been designed from the outset to communicate with each other. As early as November 2005, a ministerial Steering Board requested EDA to “establish the situation concerning current Defence assets and propose options for future collaborations, focusing in particular on the interface with European security and border control”. The Agency initiated the Marsur (Maritime Surveillance) project in September 2006 with a simple yet ambitious plan: to create an integrated network using existing naval and maritime information exchange systems.

### Increasing global maritime security

From the outset, the Agency focused its efforts on bringing together the information most relevant to the civil-military framework that would help increase the EU’s global maritime safety and security: tracking of commercial vessels by military-operated systems such as coastal radars, sensors or radio-equipment. The overall aim was to improve the common “Recognised Maritime Picture” by linking up existing military maritime network and systems, fostering the exchange of data, information, and knowledge. The network aimed to allow the exchange of operational maritime data: vessel tracks, ship position reports, identification data... Although, in theory, any kind of data could be passed over the network.

Fifteen Member States supported the Marsur project when it was launched in 2006: Belgium, Cyprus, Germany, Spain, Finland (leading the initiative), Greece, France, Ireland, Italy, Lithuania, the Netherlands, Poland, Portugal, Sweden, and the United Kingdom. The actual expert’s work started with the drafting of a Common Staff Target, which identified what the participating Member States wanted to achieve. The expressed aim was “to develop a solution that fulfills the need for a coherent common Recognized Maritime Picture (RMP) for CSDP maritime missions and tasks, while maximising interoperability through the use of best practice”. From the very beginning, the focus of Marsur was on a “smart” solution, not on the large-scale deployment of new networks. The intent was to pool and share existing resources within European navies, rather than design and procure new ones.



Commander Pasi Staff is chairman of the Marsur initiative



## Bridge between two worlds

From the very beginning, a link between the civil and military worlds was required, with the objective to simultaneously support CSDP operations and homeland security issues. From the outset, one of the major tasks of the Marsur team was to ensure the creation of a viable link between the work of the Defence community and what was already being developed by the European Commission. In the summer of 2009, the Agency contracted a “Wise Pen Team” of admirals who looked at the overall problem of maritime surveillance from an external perspective, applying their experience to the Marsur initiative and playing the role of a key enabler in fostering cooperation between the different EU maritime surveillance stakeholders.

After an extensive phase of refining requirements and identifying the best technical solutions to effectively fuse data coming from a variety of national maritime surveillance centers, participating Member States agreed to launch a first live demonstration of a basic Marsur network. Several industrial partners were identified and contracted to conduct technical studies on the project. This successful proof-of-concept demonstration took place in Brussels on 30 June 2011. It showed connections between systems from Finland, France, Italy, Spain, Sweden, and the United Kingdom, thus validating the architecture that had been defined

to put together the data coming from different countries. The concept was demonstrated to more than 150 attendees, including various stakeholders from the European Union as well as NATO.

Following this first tangible result, the launch of a more extensive “live phase” was decided by seventeen Member States in October 2011 - Malta and Spain joining the original 2006 pool of supporting Marsur nations, as well as Norway. This technical arrangement aimed to further develop a capability fulfilling the need of maritime surveillance information sharing and networking whilst maximising interoperability and standardisation. The overall aim was to build on the success of the initial 2011 demonstration to set up a comprehensive and operational network between all the participating Member States.

Running parallel to the live phase effort, a programme was set up in October 2012 by 12 Member States (plus Norway) in order to address the technical dimension of the Marsur initiative, such as automatic exchange of information, improved user interface, secure connections, or the development of transportable stations allowing for more flexibility of use. In return, this programme would benefit from the operational experience and the lessons learned from the Marsur live phase.

### The case for integrated European maritime surveillance:

**23 out of 28 EU Member States are coastal states**

**EU Member States are responsible for the control of a coastline over 90 000 kilometres in length, bordering two oceans and four seas.**

**90% of the EU's external trade is transported by sea**

**40% of its internal trade is transported by sea**

**More than 400 million passengers pass through EU ports each year**

**Around 300 public authorities are involved in maritime surveillance activities in the EU**

(Source: European Commission)

## Partnerships

While refining Marsur's design and architecture, the European Defence Agency and its partners continued to work in close cooperation with other EU maritime surveillance stakeholders: EEAS, DG MARE, FRONTEX, DG ENTR... The overarching idea being to promote Marsur as the Defence “layer” of the Common Information Sharing Environment (CISE) initiative, and to make it work in conjunction with other “systems of systems” such as EuroSur (border control), SafeSeaNet (traffic control), or VMS (fishery control).

In 2014, the European Council further acknowledged the need for a more structured approach to these topics by endorsing a full-fledged “European Maritime Security Strategy” whose objective is two-fold: first, to provide a common framework for relevant authorities at national

and European levels to ensure coherent development of their specific policies and a European response to maritime threats and risks; second, to protect EU's strategic maritime interests and identify options to do so.

Meanwhile, the European Commission keeps working on the CISE project, a long-term roadmap aiming to fuse data coming from the Member States' national maritime surveillance networks in order to enhance the global “picture” at European level, while avoiding duplication of efforts. According to the Commission, about 40% of maritime surveillance information in Europe is collected several times by different nations, and 40% to 80% of this information is not shared amongst the interested users. By eliminating that duplication of work, savings of up to €400 million per year could be made.

## Way ahead

Following a thorough process of development and testing by participating Member States, the Marsur architecture reached its Final Operational Capability in the autumn of 2014, marking the full implementation of the system by its users who have been properly trained.

Potential extensions of the system are already being considered. In 2014, the European Defence Agency assessed the growth potential of the Marsur based on a global “landscaping” exercise of the different existing maritime security authorities systems of operation in order to conduct an interoperability assessment on connectivity with Marsur, to identify the associated technical requirements and to identify areas where synergies between systems can be exploited.

With Marsur, the European defence community has developed an ideal tool to maximise its future contribution to the protection of maritime borders, taking a further step towards more effective and cost-efficient surveillance of Europe's seas.

Increased cooperation and sharing of data will help cope more efficiently with real time events at sea such as accidents, pollution incidents, crime, or security threats. A brilliant example of the Pooling & Sharing strategy actively promoted by the European Defence Agency, Marsur makes sure that all relevant and willing military actors can come together and share data, starting today.





BUILDING FOR THE FUTURE

## Building for the future: Europe's Defence Technological and Industrial Base

Europe has a world-class defence industrial base supporting the majority of its current capability requirements. A major enabler for the Common Security and Defence Policy (CSDP), this industrial base also generates more than 400 000 direct and 960 000 indirect jobs across Europe - many of them high skilled - and has a turnover of €170 billion. But shrinking military budgets, a lack of large new equipment programmes and declining research & development (R&D) expenditure all have a detrimental effect on this European Defence Technological and Industrial Base (EDTIB).

The EU-wide 2009 defence and security procurement directive as well as the directive on intra-EU transfers of defence products acted as real game-changers to orient the Agency's support to the EDTIB. Both decisions significantly changed the overall market environment and brought the bulk of defence procurements under the rules of the internal market.

### Cooperation work

The necessity of increasing support to the industrial base was acknowledged during the European Council of December 2013. In its conclusions, the Council stressed that "the EDTIB should be strengthened to ensure operational effectiveness and security of supply, while remaining globally competitive and stimulating jobs, innovation and growth across the EU." It also encouraged EDA to work in close cooperation with the Commission on a roadmap to implement a new course of action in this domain.

One strand of work focuses on improving the security of supply within the European defence and technological industrial base. In November 2013, the Agency's Steering Board approved a dedicated Framework Arrangement for Security of Supply addressing a broad spectrum of national requirements, both in peacetime and times of crisis. Acting as a clearinghouse, the European Defence Agency is meant to facilitate national implementation of this framework arrangement in a coherent manner, while analysing issues related to sectorial security of supply in conjunction with the defence industry.

In line with the conclusions of the European Council of December 2013, the Agency will contribute to the establishment of a comprehensive EU-wide Security of Supply regime.

In the run-up to the December 2013 European Council, Defence Ministers agreed on a number of actions to further consolidate and stimulate the defence industrial base. Increased support to Small and Medium Enterprises (SMEs) was one of them. Following the adoption of an action plan in March 2013, EDA is working to strengthen defence SMEs and enhance opportunities for small businesses along the whole supply chain. These small companies often lack the manpower to screen European-wide opportunities: to help with this issue, the Agency developed a tool called the Defence Procurement Gateway. This internet-based platform is meant to ease access to information related to defence procurement, including business opportunities both at EU and national level, while improving transparency in the European defence equipment market.

## Unlocking Europe's potential

Similarly, because SMEs often find it difficult to access EU funds, EDA is supporting industry in its attempts to access European Structural and Investment Funds (ESIF) to develop dual-use technologies. These were created in order to implement the policy of the EU by reducing economic disparities at a regional level. Over the current programming period that runs from 2014 to 2020, more than €185 billion have been earmarked as part of the European Regional Development Funds (ERDF), one of the ESIF funds under which research and innovation activities can be supported.

Is there a way to access this significant budget in order to sustain the European defence industry through the development of dual-use technologies? For a number of years, the European Defence Agency has been trying hard to come up with an answer to that strategic question until it finally achieved a breakthrough in February 2014: the date marked the first time that an EDA-supported dual-use research initiative, project "Turtle", accessed European Structural and Investment Funds.

## Supporting SMEs

Today, EDA is trying to strengthen its support to SMEs by organising seminars, informative sessions and regular working groups involving representatives from Member States, industry and the academic world. Early in 2014 the Agency also published a handbook that is the go-to guide for defence stakeholders in need of practical information regarding access to Structural Funds for dual-use projects.



"Europe needs to play a role in globalisation, and our industry is one major European asset, thanks to thirty years of constant effort and investment".

Jean-Paul Herteman, president of AeroSpace and Defence Industries Association of Europe (ASD) and CEO of Safran

"It is important to recognise that we are not creating process or looking for more structural funds", clarifies Vassilis Tsiamis, in charge of ESIF support within the European Defence Agency. "What we are doing is helping defence actors to address their projects and to develop the application folders which will ensure that the respective national or regional authorities will recognise the benefits SMEs can bring", he adds, noting that "the projects selected to move forward must also reflect the larger priorities of the European Union".

The Agency is now working on a comprehensive roadmap to increase its support to the European Defence Technological and Industrial Base (EDTIB). One of the goals is to assess the degree to which European Territorial Cooperation on dual-use technology projects can be part of cross-border programmes financed by the European Regional Development Fund (ERDF), the idea being to create an even larger pot of financial resources on which to draw.

The European Defence Agency has demonstrated that European Structural and Investment Funds can be considered as a complementary tool to boost research and innovation for dual-use technologies and that their potential benefits for Europe's defence industry are considerable.

### The European defence industry

400 000 direct and  
960 000 indirect jobs  
across Europe

A turnover of  
€170 billion

An R&D  
multiplier effect  
12 to 20 times higher  
than in other sectors

### The European Defence Agency provides:

Support to Small and  
Medium Enterprises

Support to  
regional research  
and technology  
development

Support to dual-use  
research

"Looked at from all directions, we are in a win/win situation here. We are supporting Small and Medium Enterprises, we are supporting regional research and technology development while simultaneously stimulating dual-use research".

Vassilis Tsiamis, EDA ESIF project officer



## Effective procurement: a case study

In June 2014, the European Defence Agency and Swedish company Saab Dynamics AB finalised a multi-annual framework agreement for the procurement of different types of ammunition for the "Carl-Gustaf" multi-purpose weapon system. With an estimated value of up to €50 million over five years, and possible extension of two more years, this deal aims to provide multiple customers with that type ammunition through a pooled procurement initiative. Estonia, Latvia, Lithuania, Czech Republic and Poland will benefit from the project, which was kick-started in March 2013 by a Steering Board decision.

Under this innovative arrangement, the Agency acts as a central purchasing body, taking the leading role in the procurement procedure. EDA is also in charge of managing the framework contract in order to optimise the effects of pooling demand.

This case presents useful opportunities for pooling of demand due to the communalities of the ammunition. Common procurement was seen as the best option by contributing Member States to yield economies of scale, cost reductions, and efficiency in spending. This solution allows contributing Member States to purchase ammunition according to their national needs while coping with different budget cycles. The agreement also allows other EDA Member States to join the initiative at a later stage.





## Flying safer, together: military airworthiness

How do you determine that an aircraft is safe for flight? How can you ensure that it will stay airworthy throughout its operational career, despite major repairs, upgrades, or overhauls? Can several nations agree on a common standard of airworthiness if they are operating the same type of military aircraft?

Questions like these have been at the centre of the debate for a number of years in air forces around the world, and Europe is no exception. The increasing complexity of new military aircraft, coupled with the need to maintain ageing fleets up to the latest standards of airworthiness, has been a real challenge to tackle for the aviation community. Recognising that this was a hot topic where more cooperation could solve part of the problem, the European Defence Agency started working on the subject very early.

### A European matter

Airworthiness has long been a European issue. Indeed, since its creation in 2003, the European Aviation Safety Agency (EASA) has been responsible for developing and maintaining a regulatory framework ensuring that all commercial transport airplanes flying in European airspace are airworthy and safe. However, military aircraft are not covered by these regulatory activities. Instead, each Member State addresses the issue individually.

Established in 2008 by Defence Ministers, EDA's Military Airworthiness Authorities (MAWA) Forum sought to accurately harmonise European military airworthiness regulations. This successful initiative has been a great vehicle for cooperation, in line with the Agency's core mission. The basic idea is really quite simple: to gather representatives from each of EDA participating Member States' National Military Airworthiness Authorities (NMAAs) around the same table in order to develop synergies between national processes and, eventually, save costs for as many users as possible.

Indeed, significant cost-savings can be achieved through a cooperative approach to military airworthiness: "an EDA-supported study demonstrated that the use of harmonised

certification procedures for the development phase of a multinational military aircraft could yield at least 10% savings for both industry and government, and up to 50% reduction over the life of the programme", Jan Plevka, MAWA Forum Chairman, explains.

Harmonising procedures and regulations could also facilitate a variety of collaborative activities. "A European approach towards military airworthiness would increase the effectiveness of in-theatre support by allowing a pool of multinational spare parts and engineering staff", Jurgen Stegmeir, EDA Deputy Director and Standardisation & Certification Head of Unit, stresses. It could also have a positive effect on the levels of safety of European military aircraft through harmonisation of best practices.

The role and functions of the MAWA forum have been defined in a "European Harmonised Military Airworthiness Basic Framework Document", approved by 22 Member States so far. This document aims to clarify the principles of a common approach to military airworthiness while addressing issues such as mutual recognition between national authorities, an essential step for achieving significant benefits from this regulatory harmonisation.



However this forum does not have the authority to impose regulations on individual nations; participating Member States retain their sovereignty for military airworthiness, as well as the responsibility to implement these regulation on a timescale of their choice.

### Tangible results

So far, this strategy has already led to a number of tangible. Progress was made in the adoption of a pan-European airworthiness standard known as EMAR, for European Military Airworthiness Requirement. To date, the MAWA forum has developed and approved three different sets of EMARs, each covering a unique aspect of airworthiness: initial aircraft certification (EMAR 21); aircraft maintenance (EMAR 145); and maintenance training organisations (EMAR 147). Other EMARs are in the process of being approved in areas such as maintenance personnel licensing or continuing airworthiness management.

A testimony to the relevance of European cooperation in this domain, some Member States have already agreed to jump aboard the EMAR train and to use the Agency's harmonised standards for the in-service support phase of their new A400M military transport aircraft.

Meeting several times a year, the MAWA forum has created a number of task forces dedicated to certain topics and requiring specific subject-matter expertise. Participation in these Task Forces is on a voluntary basis, and their work is then approved by the MAWA forum.

This is of importance because by 2020, six European Member States will be operating this aircraft: Belgium, France, Germany, Luxembourg, Spain, and the United Kingdom. Early cooperation on that matter is therefore paramount, and further collaborative opportunities are being explored for other commonly operated military aircraft types such as the NH90 helicopter or the C-27J tactical airlifter.

The next step will be to make sure that the approved EMARs on type certification, maintenance, and training are totally implemented into national military airworthiness regulations. This could then allow for mutual recognition of type certificates - the document issued to signify the airworthiness of an aircraft design - which in return could unlock potential new aviation-based Pooling & Sharing opportunities among Member States. The Agency is now at work with Member States to try and achieve this milestone by the end of 2015.



## Collaborations

In June 2013, EDA and EASA signed an agreement to enhance cooperation between the two agencies. This arrangement specifically covers the harmonisation of military aviation requirements, with a main focus on airworthiness. This increased cooperation is deemed important because of future challenges related to the emergence of "dual-use" platforms like remotely piloted air systems, or RPAS.

The relevance of this initiative was confirmed by the Ministerial Steering Board of EDA in November 2013: a political declaration was adopted which tasked the Agency, in close coordination with Member States and other relevant actors, to determine the European framework conditions necessary to support

the certification of military RPAS. EDA was also tasked with engaging the European Commission to develop harmonised certification standards based, to the maximum extent possible, on those used for civilian certification.

Industry is also involved in the European Defence Agency's work on that topic. From the outset, the MAWA Forum has made sure that the Aerospace and Defence Industries Association of Europe (ASD) airworthiness committee is fully involved in the development of EMARs, and given access to relevant documents for comment. In return, the industry is invited to share best practices and lessons learned from collaborative multinational programmes such as the Tiger, NH90, Eurofighter or A400M.

### Europe... and beyond?

What if one day, the regulatory framework put in place by EU Member States could be exported outside of European borders? At a time where multinational programs become the rule rather

than the exception, the next step could be to extend the regulatory system put in place by EDA in order to influence contracts signed with non-European nations.



"The European Military Airworthiness Requirements (EMARs) produced so far smartly combine civilian expertise with military particularities, whilst fully respecting of national sovereignty. These concrete and extremely valuable results will be considered as references even outside the EU and could be used as a model for developing similar initiatives in other military domains".

Giampaolo Lillo, EDA Cooperation Planning and Support Director

## Seven objectives in the MAWA roadmap

Common regulatory framework

Common certification processes

Common approach to organisational approvals

Common certification/design codes

Common approach to preservation of airworthiness

Arrangements for recognition

Formation of a European Military Joint Airworthiness

Authorities Organisation

# EYES TURNED SKYWARD



## Eyes turned skyward: creating a Single European Sky

“Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.” What was true for Leonardo da Vinci 500 years ago is true for an ever increasing number of Europeans today, with more than 9.5 million of them taking to Europe’s sky in 2010 alone. This trend does not show any sign of abating, with the total number of passengers expected to almost double by 2030.

Despite this expanding demand, Europe’s air traffic management (ATM) remains stuck in the past. Until recently, despite the inherently international nature of flying, ATM remained a predominately national issue with each Member State managing its own air space in coordination with Eurocontrol. However, this intergovernmental approach has proved ineffective in dealing with the rapidly growing number of flights, causing longer flight times, increased chances of delay, higher costs for European businesses and passengers, and raising safety concerns. The deficiencies of this system are estimated to cost as much as 4 billion EUR per year.

### A Single European Sky

Recognising that a more cooperative approach is the only logical way forward, the creation of a Single European Sky (SES) was first proposed by the European Commission in 1999. After consultation with Member States, the SES project was officially launched in 2004 to help rationalise air traffic management in Europe. The project aims to organise airspace into functional blocks, based on traffic flows rather than national borders. Such a project is only possible with common rules and procedures at a European rather than national level. These changes, will help increase capacity and safety while reducing costs and carbon emissions.

Overhauling the existing system is no easy task, it requires radical change and the introduction of the latest technologies into ATM operations. This necessitates active and constructive cooperation between a wide range of industrial players and stakeholders. In order to support this effort the SESAR Joint Undertaking (SJU), a unique public private partnership, was launched in 2007 by EUROCONTROL, the EU, and industry to coordinate and concentrate all relevant research and development efforts in the Union.

SESAR unites around 3 000 experts in Europe and beyond in an effort to make the SES a reality by developing technologies and procedures for a new-generation of the ATM system capable of enhancing performance. SESAR exploratory research activities are performed in order to move potentially beneficial ideas from low maturity levels towards industrialisation and deployment. This includes various research with civil-military implications, such as those regarding automation in ATM or integration of remotely piloted aircraft system (RPAS) into SES.





## The military implications of SESAR

In these areas and others it is important to ensure that the viewpoints and needs of EU Member States' militaries are considered: after all military pilots share the same sky as their civilian counterparts. In order to ensure that the effects on military aviation are understood and taken into account, Member States have set the European Defence Agency a series of different tasks relating to the project. Maria Mas Rueda, Programme Manager for the Single European Sky at the European Defence Agency assessed EDA's role, "the Single European Sky is designed to make Europe's skies work more effectively, our role at EDA is to support this while ensuring that the needs of military aviation are taken into account," she said.

The Agency was originally given responsibility at its Steering Board in November 2010 to evaluate the operational risks and financial implications of SES for military aviation. This role was further extended in May 2013 with the adoption of an implementing regulation that set the ground for EDA work at the policy level of SESAR. The regulation provided EDA with the task of 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.

### Aims for the Single European Sky:

Enable a **3-fold increase** in capacity that will reduce delays both on the ground and in the air

Improve safety by a factor of **10**

Enable a **10% reduction** in the effects flights have on the environment

Provide ATM services to the airspace users at a cost of at least **50% less**

Why European ATM needs updating

The European air navigation system is worth **€8.6 billion a year**

In 2010, the European ATM system controlled **9.5 million flights** and on busy days, **33 000 flights**.

The forecast foresees this increasing to **nearly 17 million flights per year by 2030** and **50 000 flights** on busy days.

In 2010 there were **19.4 million minutes delay** for en-route flights. On average, each flight was **49 km longer** than direct flight.

Estimated costs of fragmentation of airspace amounts to **€4 billion a year**.

Source: European Commission

## A new team within the Agency

To support this work a programme was launched by 22 Member States on the "Military Implementation of SESAR." This included the establishment of a dedicated SESAR cell, composed of four national experts from the contributing Member States, to provide in-house expertise at EDA. They coordinate with MODs to ensure that the military views and requirements are taken into account in the implementation of SESAR.

The Single European Sky is a huge and complex project, it is essential that the views and implication for all users and stakeholders are taken into account. The European Defence

Agency has been recognised as the place to coordinate military inputs for SESAR. In order to ensure that this feedback reflects the interests of all military stakeholders a three-step consultation mechanism with NATO and EUROCONTROL has been established, so that a consolidated position can be provided to the Commission. This runs alongside the SES/SESAR Military Implementation Forum (SMIF) which includes NATO nations, the European Commission, EUROCONTROL and SESAR JU. This coordinated approach has already proved useful in the first batch of SESAR to be implemented - the Pilot Common Project (PCP)."

## Looking to the future

As the Single European Sky evolves, EDA's role will too. Already EDA is looking to generate collaborative research projects based on the PCP with the possibility of obtaining funding from the European Commission.

EDA will also look at mitigation measures as alternative means of compliance or equivalence for its Member States' militaries based on performance requirements stemming from the assessment of the implications of SES and SESAR.



"The Single European Sky is ultimately about making Europe's skies work better. Our role at EDA is to support this while ensuring that the needs of military aviation are taken into account".

Maria Mas Rueda, EDA Single European Sky Programme Manager

### Military aviation in Europe

Over **8 000 military aircraft** based in Europe (not including USAFE)

**238 different military aircraft types** flying in general air traffic (GAT) in Europe in 2012

More than **118 000 military flights** in general air traffic (GAT) in Europe in 2012

Over **250 000 military flights** in operational air traffic (OAT) in Europe.

Source: EUROCONTROL

Part 3



# Opinion



Nick WITNEY  
Senior Policy Fellow - European Council on Foreign Relations  
Former EDA Chief Executive



### “Parva sed apta”: ten years of European Defence Agency

Last December, the EU’s Heads of State and Government, meeting in the European Council, turned their attention to European defence - for the first time in five years. The 2,000 word summary of their conclusions referenced the European Defence Agency more than a dozen times. Across the range of defence support issues, from capabilities to research to equipment development and acquisition, embracing even discussion of the defence industrial scene, Europe’s leaders set out their agenda, and then charged EDA to deliver it.

As one who was “present at the creation”, this of course fills me with pride. It certainly looks like a vindication of the high hopes which I and my comrades on the original project team had for what this Agency might become.

Looking back, we had an extraordinarily free hand: the 2003 European Council in Thessaloniki had called for the creation of an “agency in the field of defence capabilities development, research, acquisition and armaments”, but beyond this minimalist specification the design was up to us. The press ran stories of tension between London and Paris as to whether the new institution would ‘really’ be about bolstering Europe’s military capacity, or its armaments industry. But to the project team it seemed evident that the answer was ‘both, and more.’

The new-born European defence project had already been endowed with political and military institutions. What it now needed was a ‘back office’, focussed on providing the wherewithal to sustain these new political and military ambitions: a place where the synergies between all aspects of what might loosely be termed the infrastructure of defence could be identified and exploited - and where, crucially, member states could cooperate to achieve what none could manage by itself.

For this was to be an ‘intergovernmental’ agency, directly funded and controlled by those member states who chose to join it. The agency could function as a conscience, and as a catalyst: but the money and the decision-making power remained firmly in the hands of its ‘share-holders’, and the agency’s success or failure would ultimately turn on the willingness of those member states to make use of the opportunity the new agency represented.

And it is this final consideration which mitigates my pleasure at the central place EDA so clearly enjoys in today’s European defence landscape. For there can be no concealing that the political climate in which today’s EDA must operate is significantly less supportive than at the time of its conception and birth.

Even for those who were involved, it is hard now to recall how optimistic everyone then was - not just about the shiny new European Security and Defence Policy, but about the European ‘project’ as a whole. Economic and Monetary Union was in the works; a new Constitution for the Union was in preparation; and the near-doubling in size of the Union by the biggest and most ambitious enlargement to date was in prospect. Internationally, this story of success was widely admired, even seen as the paradigm for relations between states in the 21st century; and even European ministries of defence, the last bastions of defensive nationalism, were slowly acknowledging the logic of cooperation. member states were jostling to join the new Battlegroups initiative. After all, we had all just signed up to the new European Security Strategy’s injunction to be ‘more active, more coherent and more capable.’



In such a climate, it was relatively easy to get the key principles agreed - to secure, that is, common assent that greater pooling of efforts and resources was essential; that Cold War 'heavy metal and high explosive' must be replaced by more modern, and useable, capabilities; that manpower numbers must be cut, to allow greater investment in research and equipment; and that both demand and supply must be increasingly consolidated in a European defence market that worked on a continental scale.

Getting member states to follow words with deeds was, of course, altogether harder (the highlighting in last December's summit communique of the urgency of joint European action on unmanned aviation recalled to my mind the frustrations of trying to move from 'something must be done' to concrete action in just this domain almost a decade earlier). But a tide was running, and everyone knew its direction. How different today, in the depressed aftermath of the Great Recession. Over the last half-dozen years, as defence budgets have been cut across Europe and member states have made increasingly clear, with decreasing signs of embarrassment, their reluctance to participate in any serious crisis management operation, I have watched with admiration as my successors at the Agency have somehow contrived to maintain its relevance and centrality.

The 'somehow' has of course been a process of continuous adaptation, to changed circumstances and different member-state needs. Today, EDA quite rightly focusses less on major new collaborative procurements (for which the budgets no longer exist) and more on new fields for cooperation such as helicopter aircrew training, or maritime security. In this way it continues to more than earn its corn, and provide invaluable support to such occasions as last December's European Council discussions, at a time when other sources of inspiration, apart from the Commission, were conspicuously absent. And if grumpy old men like myself feel that the Agency has nonetheless yet to fulfil the great ambitions we had for it ten years ago - well, the same alas is true of the European defence 'project' as a whole.

For ultimately - and despite Claude-France Arnould's heroic efforts - the Agency cannot make its own weather. To change the metaphor, it is a fine instrument with the capacity to make some splendid music - but it is nothing without hands willing to pick it up and play it. And it is anyone's guess when, indeed whether, such conditions will again obtain.

As Europe gradually recovers from recession, it is reasonable to hope for the gradual restoration of optimism and ambition. The new leadership team in Brussels could make a huge difference, too (at time of writing the identity of the new High Representative, who is also of course Head of the Agency, is not yet known). The daily news of mayhem and the collapse of security and public order in what we once termed 'our' neighbourhood, coupled with the Obama administration's very evident determination to force Europeans to take more responsibility for their own security, may slowly induce European capitals to take defence more seriously and to do it - since there is now no other way - together. Alternatively, the present declinist political mood may endure, the internal divisions within the Union caused by the economic crisis may never fully heal, and the currently-prevailing 'heads down' school of strategy may continue to hold sway.

So EDA passes its 10th anniversary with plenty of question-marks over its future. What are not in doubt, however, are the energy and determination of the Chief Executive and her staff; the fitness of this small institution ("parva sed apta", as the inscription over the entrance to the Bagatelle chateau in Paris reads) to continue to shepherd Europe's defence establishments towards more effective programmes and practices; and the Agency's potential to deliver really transformative developments in Europe's defence capacity - if only its member states decide that that is what they want.

And as for a place to start - what about ensuring that another decade does not go by without an effective, common European effort to achieve unmanned aviation?

## How should the security of supply be tackled by European Member States to maintain a healthy defence industrial base?

Proper levels of national, regional and European security of supply can only be maintained through competitive defence companies with processes, systems, products and services to match. We Europeans don't presently seem to be doing so well in this respect especially in light of the rather slim global successes of some of our spearhead technologies. One shall however always keep in mind that it is the industry's responsibility to stay competitive but at the same time it is the member states that should provide good, transparent level playing field and new programs for the enterprises.

### Fragmentation takes a toll on the efficiency of the industry and the use of resources

There is good reason to believe that the defence industrial base in Europe has lost at least a part of its competitive edge in the international scene and will continue to do so as new competition emerges. Many believe that this can be largely contributed to the rigid pan-European industrial structure. We should have seen this coming earlier. Has it been a miscalculation of the managements and stakeholders to believe that this industry is different from all the other industries that have gone global? Most probably that is the case.

It is not a new revelation that our base has for long been too fragmented to be really efficient. This is closely linked to our customers' behavior. Our so-called launch-customer base is and has also been a very diverse group. With a variety of doctrines and national strategic aims and political ambitions, the European home market often represents a moving target for the industry.

### Security of supply needs may be more regional than we think

Purely from a geographic point of view, the nature and context of security of supply differs from nation to nation and region to region. Also alliances play a particularly important role here.

Heikki ALLONEN  
Chief Executive Officer, Patria



One could further more say that the nations with outdated, limited or practically non-existing industrial capabilities in industries have different needs for security of supply than those equipped with a developed industry. Particularly evident this is ever increasingly important IT- and cyber capabilities.

Procurement processes reflect often national security of supply requirements. Some member nations have learnt the hard way that interpretation difficulties emerge nowadays often in procurement programs and have developed their processes to a new level, some have so far been fortunate enough to have stayed out of the way of harm and are therefore still applying practices that don't meet the present international levels. Unification of practices would be welcomed by the industry.

It is generally assumed that the over-all security of supply on national level is less relevant for the leading industrial nations with direct access to a wide spectrums of modern technologies. These nations and their representatives are often also seen and heard as the opinion leaders when it comes to criticism of demanding technology transfers and issues related to industrial participation in one form or another. This criticism is not always appreciated in nations with a narrower technological base.

It is obvious that there is no quick fix to the security of supply dilemma on European level. Should one therefore try to strive first for regional security of supply solutions instead of trying to collect everything under one umbrella? Perhaps so, as it often is also natural that regional requirements for security of supply generally are closer to one another. And at the same one could argue that when a crisis emerges, all the nations in a given region will be faced with similar supply challenges simultaneously. Going regional would in any case be a move to the right direction in terms of optimizing funds and resources.

### Are the security of supply needs changing?

They are. As an example: More and more of the new technological development that is taken into military use originates from civilian sources. This also translates into a simple notion that dual-use systems, products and services will in the future make their inroads deeper into the defence industries and form an integral part of security of supply for the nations.

There is a reason to believe that governments and defence forces will continue to concentrate on their core skills and outsource more of non-core parts of the operations. This despite the fact that these non-core parts may still be critical for their national Security of Supply. We are facing an era of slight "demilitarization" in this respect and will see new players in the game. This development could also open new avenues for the member states to evaluate their joint strategies.

### To conclude:

- Security of supply is a national priority and responsibility, not primarily a corporate liability
- The nature and context of Security of Supply differs from nation to nation and is dependent on geography, doctrine, alliances and resources.
- It is a higher priority issue in nations with modest technological and financial resources and will therefore be interpreted in different ways in different member states
- Common Security of Supply on European level is presently most likely one bridge too far but regional solutions may and should emerge within the near future

### Are the governments taking distance to defence industries that form a key component of Security of Supply?

There appears to be a trend in respect to governmental ownership in defence industry whereby the governments are gradually diluting their exposure and taking distance to both national and international defence industries allowing market forces to take more control. How does that reflect on the security of supply patterns in Europe? No doubt this improves the efficiency and productivity of the industries but at the same time it pushes the companies deeper into a landscape where compromising the use of their assets, capacity and skills in the name of national security of supply becomes difficult if not impossible.

One should suspect that this development highlights the importance of common understanding of the key drivers behind the security of supply needs among the political decision makers in the future. And it furthermore represents another challenge for the allocation of funds and resources in the budgets.

### Will the industry be able to change fast enough?

The industry may not be sitting in the driver's seat when Security of Supply decisions are made but it is in the best interests of the industry to find sensible structural industrial solutions that can better serve the needs of the upcoming Security of Supply demands. So be it. Our main challenge is in overall competitiveness.

So far there is only little evidence that would encourage one to believe that we would be able to react fast enough. But on the other hand - and as seen in so many industries before - it only takes some cleverly executed moves to get the ball rolling. And it goes without saying that the member states play a leading role when planning and executing the moves necessary.

- Governments will perhaps be in a lesser of a role in future defence industries but will play a crucial role in setting the national perimeters for Security of Supply
- Our industry's prime target needs to be the ability to compete successfully on international markets while at the same providing transparently Security of Supply-related products and services to national purposes.
- The member states are positioned to enable more efficient use of resources allocated to security of supply - on top of which they can act as enablers of a more competitive European defence industry

## It's time to do more with more

This is no secret: European air forces, armies and navies are lacking critical military capabilities. And everywhere among our Member States, defence budgets are squeezed, year after year. Yet recent events on our borders tend to prove that the notion of a peaceful and stable Europe might be much more fragile than we all seem to think.

### This trend has to be reversed

Several times during my mandate as HR/VP and Head of the European Defence Agency, I have stressed that "defence matters". And it matters more than ever today, as Heads of State and Government themselves acknowledged at the European Council in December 2013. Why does it matter? Because the security of citizens should not always be taken for granted. It matters because our strategic interests can be at stake. And it also matters because our European Defence Industrial and Technological Base, a sector that represents almost half a million highly skilled jobs in the EU, needs to be preserved.

How do we make sure the gaps in our military are filled? We have to face a harsh reality: none of these capabilities will come cheap. Complex military systems are expensive to acquire, operate and sustain. But if we want to be able to face tomorrow's challenges - that is, if we want to take our full responsibilities - we have to increase our common effort in defence spending.

### We need to do more with more

This doesn't mean we need to invest in our defence the same way we have done in the past. We now have the tools, the expertise and the institutional framework to spend much more wisely and effectively in our collective defence. The European Defence Agency's first and foremost mission is to foster systematic defence cooperation among Member States. I cannot stress this enough: cooperation is the only way to acquire and sustain capabilities that would otherwise be out of reach of individual countries.

**Catherine ASHTON**  
High Representative of the Union for Foreign Affairs & Security Policy/Vice-President of the European Commission



The defence industrial base also require our support. Large companies as well as Small and Medium Enterprises are a major source of innovation, and they're working today on tomorrow's technological breakthroughs, thus ensuring the independence and the global competitiveness of our defence industry. Together with the Commission, the European Defence Agency is working on action plans to guarantee that they will be able to hold their own for the years to come, through innovative research projects and dual-use synergies.

In the meantime, we have to push the boundaries of European Defence cooperation on new capabilities. Until today, it has been limited to the development and acquisition phases. But we now need to extend that into the in-service phase - a phase that often represents two-thirds of the life-cycle cost of a modern military system. At the same time, this could avoid the emergence of expensive national variants and derivatives. Make no mistake: the days of designing, building and supporting three combat aircraft programs, fourteen different types of frigates or eleven infantry fighting vehicles in Europe are over. Now the risk is to have none.

This consolidation of demand will be only be achieved through clear political will, expressed from the very top. This is what the December 2013 European Council provided us with. We now have to work to deliver concrete results in order to address our shortfalls and prepare the future. But if we are to do more, we clearly need more.

National defence budgets have reached record lows in recent years. This cannot go on without posing a serious risk to our territorial defence, our ability to deploy, and our industrial base. By applying the European Union's comprehensive approach and its ability to act in a joined-up manner to future capability developments, we can ensure that Member States efforts' are channeled in the most effective way to deliver concrete solutions to our troops.

In areas as critical as Remotely Piloted Aircraft Systems or Air-to-Air Refueling Aircraft - capabilities that have proven absolutely critical for the success of modern operations - Europe is clearly not able to fulfill its own needs. If we want to reverse this by 2020-2025, decisions have to be made today, not tomorrow or the day after. In these times of extreme budgetary pressure, there are of course no easy choices. But is there an alternative? If European Member States want to act as a security provider and play a role on the world stage, the answer is straightforward: either we invest in those capabilities, or we lose them entirely. There is no middle ground here.

If we all agree that defence matters, and that the security of our citizens depend on it, there can be only one solution. We will do more with more. We have the resources, the know-how and the institutional framework to achieve it. Now it's time to move forward together.

## What is your vision for the European Defence Agency in 2024?

In today's rapidly changing global environment, Europe needs a coherent geopolitical perspective, empowered by a solid and self-sustained Common Security and Defence Policy.

A renewed European Security and Defence perspective is not a "luxury", but a historical necessity imposed by an unstable and potentially threatening international and regional environment.

A common and convincing European answer to defence and security issues, is the foundation which will continue to support the process of European integration as well as our shared economic interests.

The development of CSDP means that we have to foresee all necessary actions needed to offer, not only political support, but also the institutional and legal basis to facilitate the parallel development of the defence industry sector, which will provide the tools for the interactive synergy between policy and supporting means.

Decreasing defence budgets and increasing international competition manifest the need that member-states cannot afford to go alone. Heads of States and Governments confirmed at the European Council last December that the renewed interest of Europe, in promoting deeper defence and security cooperation, is the beginning of a new European Defence future.

The task in front of us is not easy, given the fiscal restraints that most European countries face. Nevertheless, the mission of EDA is to pool resources and provide shared solutions that will guarantee the sustainable development of the European defence industry.

**Dimitris AVRAMOPOULOS**  
Greek Minister of National Defence



The Agency was established in 2004, and hence Greece has supported the ongoing work of the Agency. The Agency has played a crucial role in strengthening the European defence capability and has improved Europe's ability to respond to crises.

The security of Europe is linked to global security and any shortcoming of the first, has an impact on the latter. Europe needs a clear geopolitical perspective about its place in the international arena, supported by a truly Common Security and Defence policy, for internal, as much as for external reasons. Every European citizen should understand that European cooperation in the defence sector is not just another European project. It has become one of the most crucial pillars for democracy, integration, cohesion and growth in Europe.

The European Union should strengthen its role as a provider of stability, prosperity and security, not only at the regional level, but globally as well. The sovereignty of European nation states depends on the sovereignty of Europe.

Greece has always placed emphasis on the historic necessity and the political importance of the European cooperation in the field of defence, as a key political priority for the future of Europe. It is not a matter of coincidence that, the last time that Europe focused on defence issues, was ten years ago, when again Greece held the Presidency of the European Council.

Greece, during its Presidency of the Council of the EU focused among other issues, on maritime security and capabilities development through the defence industry. The results of our efforts, in parallel with the geopolitical turmoil in Ukraine and the Middle East, obliged us to take initiatives, always on the basis of full respect of the institutional role of EDA as well as the autonomy of the member states.

It is also very important to continue work on the cooperative capability projects agreed last December, where the European Defence Agency plays without a doubt a key role. EDA projects, activities and mechanisms in the Research & Development area, offer an excellent opportunity for the European defence industry. In the area of military capability development, our view is that it is necessary to harmonize future capability requirements, increase transparency of national defence planning and develop regional synergies for capability development, in order to collectively address the future threats.

As we have already stated, if we work together we can achieve synergies of scale, overcome the current fragmentation of the European defence market, achieve greater cost-effectiveness and ultimately enable Europe to maintain a competitive defence industrial and technological base.

The European Defence Agency has been playing a very important role in supporting the Common Security and Defence Policy (CSDP). The Lisbon Treaty has reinforced the Agency's mission and at European Council of December 2013, EDA received a clear mandate.

EDA's bright future remains on the hands of the participating member states. I would like to assure you, that Greece, as a member state, will always actively support the work and mission of the Agency, in order to achieve what we commonly pursue, that is a united and strong European defence, playing a key role in advancing and protecting European and international security.

I believe that we must combine ambition with realism in order to shape the CSDP agenda for the forthcoming years. Now, it's time for implementation and it's also important to start delivering fast, so as to maintain the momentum gained.

Our vision must be the transformation of the European Defence Agency into the European Union's official policy pillar for defence and security. A pillar for action, independent and parallel to political and economic integration. In other words, it is time, for the European Defence Agency to become Europe's dedicated organization for security.

From now on, the military/defence arm of the Union should move towards the direction of a more effective cooperation with all partners, global and regional, in the spirit of complementarity, mutual support and cohesion of all actions responding to all challenges in internal and external security.

It is my belief that in this way, we will be able to guarantee security, peace and prosperity in Europe, in our region and world-wide and we will re-discover as European citizens the path towards our shared political future.



Michel BARNIER

Commissaire européen en charge  
du marché intérieur et des services



## Pour ses 10 ans, l'Agence européenne de défense est plus nécessaire que jamais

Je lis parfois dans la presse que l'Europe de la défense serait totalement inexistante. Ce n'est pas exact. Même si elle recouvre des perceptions très différentes selon les Etats membres, l'Europe de la défense a franchi depuis 10 ans des étapes très significatives, de la création de l'Agence européenne de défense (AED) en 2004, à la suite de la stratégie européenne de sécurité aux décisions du Conseil européen de décembre 2013, en passant par la création du Service européen d'action extérieure (SEAE) par le Traité de Lisbonne en 2009.

La création de l'AED, recommandée par la Convention européenne dont j'avais eu l'honneur de mener les travaux sur les questions de défense, était devenue non seulement un impératif, mais aussi une demande pressante des Etats membres, au premier rang desquels les principaux Etats producteurs d'armement. Il était devenu évident pour tout le monde, en 2002-2003, que la fragmentation des marchés, l'absence de coopération, de programmes ou de recherche en commun était un handicap trop lourd pour répondre aux exigences d'une politique de sécurité et de défense commune ambitieuse, basée à la fois sur des capacités crédibles et interopérables et sur une base industrielle et technologique européenne compétitive.

Dix ans plus tard, le monde est sans aucun doute devenu encore plus complexe. Les foyers d'instabilité sont clairement identifiés aux portes de l'Europe : des opérations sont en cours dans la bande sahélo-saharienne, en Centrafrique et en Irak ; la Syrie, l'Ukraine ou la Libye restent des sources d'inquiétudes majeures pour les Européens ; le terrorisme, les trafics ou les cyber-menaces, qui sont désormais une réalité, posent des questions évidentes de sécurité.

Dans ce contexte, plus aucun de nos Etats européens ne peut désormais se permettre d'entrer seul sur un terrain pour y mener de manière isolée une opération militaire dans son intégralité. Les exigences technologiques croissantes, les coupes dans les budgets militaires et la diversité des menaces rendent indispensables la coopération et la mutualisation des moyens entre européens, en cohérence avec l'OTAN. L'Europe, en 2014 sans doute plus encore qu'en 2004, a un rôle central à jouer. C'est ce qu'ont reconnu les chefs d'Etat et de Gouvernement lors du dernier sommet européen consacré à la défense.

Ce rôle, quel est-il ? En matière de défense, les prérogatives sont et resteront toujours du ressort des Etats. Eux seuls conserveront le pouvoir de décider d'engager leurs forces. Cette autonomie de décision et d'action est une partie intégrante de leur souveraineté et n'est donc pas discutable. Pour autant, reconnaissons que cette autonomie ne sera qu'incantation si elle n'est pas soutenue par des capacités réelles et la hauteur de nos ambitions déclarées.

Mais comment assurer ces capacités dans un climat d'austérité et contraintes budgétaires ? Je suis convaincu que seule la coopération européenne peut fournir la solution. Cela ne signifie pas construire une armée européenne ; cela consiste à identifier les capacités dont nous aurons besoin individuellement et collectivement dans les années à venir et les programmes de recherche et de développement que nous pouvons mener ensemble.

Cette question capacitaire déborde largement le seul cadre des opérations de politique de sécurité et de défense commune (PSDC) : conserver les capacités nécessaires, c'est préserver l'autonomie stratégique de l'Union européenne, c'est-à-dire sa capacité à dans le domaine civil (télécom, sécurité, agriculture, etc.). Je porte cette conviction européenne depuis plus de 10 ans : la coopération et la mutualisation dans le domaine capacitaire est une question de survie pour continuer à jouer notre rôle dans le monde.

Forts de ces dix années d'existence, jetons sur l'Agence européenne de défense un regard lucide, mais juste : son parcours, que j'ai suivi de près tout au long de ces années, a rencontré les difficultés inhérentes à la mise en place de toute nouvelle structure au positionnement original. De la difficulté des gouvernements à céder une partie de leurs prérogatives en matière d'armement à des conceptions très éloignées du rôle des institutions européennes, la tâche a rarement été simple. Je pense encore aujourd'hui qu'il subsiste une certaine méfiance à l'égard de l'AED. Méfiance bien naturelle de la part de 27 Etats membres avec des orientations, des histoires, des alliances et des organisations militaires différentes, mais méfiance qui se traduit par des ressources encore trop limitées et qui pèse sur sa capacité à mener à bien de nombreux projets.

Placés au cœur de grands débats jamais tranchés sur le bon équilibre à trouver entre la souveraineté nationale et la mutualisation européenne, la défense européenne et l'OTAN, il faut néanmoins reconnaître aux dirigeants successifs de l'Agence l'immense mérite d'avoir su installer cette structure dans le paysage militaire européen.

Les débats menés au Comité directeur, les documents de travail, codes de conduite et recensements capacitaires menés depuis quelques années permettent de définir ensemble des orientations stratégiques plus cohérentes.

Si l'on doit se projeter dans le futur, je pense que nous devons d'abord opérer un rapprochement plus étroit entre l'AED, le SEAE et la Commission européenne. Comme le souligne le Livre blanc français sur la défense : "[l'UE] n'a pas encore tiré parti de tous les moyens dont la Commission et les Etats membres disposent". Le SEAE et l'Agence restent des structures encore "jeunes", dont les pleines capacités n'ont pas encore été totalement exploitées. Quant à la Commission européenne, elle n'a véritablement investi les questions de défense que depuis 2007, à l'occasion de la présentation des directives "transferts" et "marchés publics", puis à l'occasion des travaux de la Task Force que j'ai menés avec mon collègue et ami Antonio Tajani et une douzaine de directions générales de la Commission.

La préparation du Conseil européen du 19 décembre 2013 a été l'occasion de mieux positionner ces acteurs dans une architecture cohérente, en valorisant les spécificités et les compétences de chacun. Il nous faut maintenant poursuivre ce travail. C'est pour moi la clé pour concrétiser les engagements du Conseil européen et pour lancer les nouvelles initiatives fortes dont l'Europe de la défense a besoin.

Dans ce cadre, le rôle de l'Agence est pivot : siège de l'expertise capacitaire, elle est une véritable force de proposition et d'impulsion, auprès des Etats membres, pour des projets de coopération, comme c'est actuellement le cas sur le ravitaillement en vol, la cybersécurité ou les drones. Il est certain que, dans ce cadre, l'Agence devra disposer d'une enveloppe budgétaire plus importante pour se doter d'un pouvoir d'entraînement vis-à-vis des Etats membres dans le lancement de projets de Pooling & Sharing. Elle devra tout autant s'appuyer davantage à la fois sur la Commission et sur le SEAE pour les enjeux de marché et la compétitivité de la base industrielle ou pour le lien entre la PSDC et les autres politiques de l'Union.

Mais son rôle devra être également élargi, dans le respect du cadre fourni par le Traité actuel.

Si la volonté politique existe, je pense que nous devons envisager, un jour ou l'autre, la fusion de l'Agence européenne de défense et de l'OCCAR, dans une vraie structure intégrée capable d'identifier les besoins, de mener des programmes de développement et, pourquoi pas, d'acheter en commun des équipements pour le compte des Etats membres qui le souhaitent. Cette nouvelle structure devrait pouvoir développer et acquérir des équipements en propre pour les mettre à disposition des Etats membres, tout en en organisant la maintenance et en assurant la formation des utilisateurs nationaux ou des "Battlegroups" qui doivent enfin voir le jour dans les années à venir.

Nous avons, à l'époque des travaux de la convention, élaboré la notion de coopération structurée permanente, reprise ensuite dans le Traité de Lisbonne, mais jamais mise en œuvre jusqu'à présent. Dans une Europe où les coopérations bi- et multilatérales en matière de défense sont nombreuses (Lancaster House, NORDEF, Benelux, voire LOI, etc...), je continue à penser qu'il serait souhaitable que l'Agence puisse également héberger de telles coopérations. Ce serait la preuve que l'Europe de la défense se construit, étape après étape, mais de manière déterminée.

**Joachim BITTERLICH**  
Ambassador (ret), Former European, Foreign and security  
policy advisor to Chancellor Helmut Kohl



## The future of EU-Defence: a strategic roadmap "Europe 2020"

The European Council of 19/20 December 2013, the first meeting of the European Heads of State and Government with a thematic debate on defence - a new starting point for EU-Defence or a missed opportunity?

Ten years of the European Defence Agency - an anniversary to be proud of? A glass half full or still half empty? At least some real progress has been made or launched in the last years after times of stagnation and frustration.

"Defence matters" these were the opening words of the Conclusions of the Council meeting and "the European Council is making a strong commitment to the further development of a credible and effective CSDP." At least a signal of hope accompanied by a series of concrete priorities and tasks for the European Commission, EDA, and the Member States for next years.

However this is clearly not yet sufficient when taking into account the realities of a world which has become not only insecure but dangerous. Our national defence budgets are under financial pressure and the temptation to rely on the "peace dividend" of the last two decades has to be considered as neither sustainable nor efficient!

We should not dream and ask for the immediate realisation of the vision of an European Army, this would be politically logical and the very last step of a development to launch now and to accelerate if we have the political will to strengthen again not only our own defence and security, but that of NATO too - and to be able to defend, if necessary and as last resort, in the most efficient way our vital interests by military means.

But how to overcome the national reflexes and egoism that still prevails and governs this crucial area of European integration? It is an area in which we have not even reached the same state of

consensus or political will that the majority of EU Member States did under Franco-German leadership on the eve of Maastricht in 1991 or once again in 1999.

Beyond the Conclusions of last December what should be the next essential steps in order to enable us to take this fundamental decision?

1.

The EU should concentrate first on making real progress in order to reach a "division of labour" in essential areas of defence, in other words the key approach should be "pooling and sharing." In particular, the example of the European Air Transport Command should be completed and extended to other sectors.

This means common procedures, the identification of priorities and needs, in the field of defence planning, should be coordinated by EDA in close cooperation with its Member States.

This means we should accept, at least to a certain degree, the specialisation of European national forces. To support this EDA should be enabled to buy military goods and services upon request of Member States, which could be used at their disposition for concrete operations.

Such a goal would require in parallel a significant change with regard to procurement, armament, and the relationship with the defence industry. The basis would have to be the constitution of a real European defence market including a "European preference."

We should encourage - as we did in the past with Airbus - the creation of a European defence industry with less but more profitable European actors; these efforts should be supported by applied research.

All European actors need to be aware that doing this requires improved efficiency and a deep change in our thinking and actions regarding both procurement and industry!

Under the current financial circumstances, which will not change in the foreseeable future, a purely national defence industry has in most cases no future. As an example, it is no longer possible, and it is a waste of money, for France to still buy only national armoured vehicles and Germany to still buy only German! We have to radically change our approach and “buy European” even if this means a concentration of our industries, which would otherwise not be able to survive in the long run!

In this regard, I fully subscribe to the analysis of Wolfgang Ischinger who underlined in a contribution to the German newspaper Frankfurter Allgemeine Zeitung (September 1, 2014)\* that “the existing fragmentation is irresponsible, with regard to the financial situation and budgets as well as to the capabilities and the interoperability of our systems.”

In parallel we have to thoroughly reexamine our schemes and systems of maintenance in order to improve the operational readiness of our armed forces. The recent reports about the state of key military material of the German Bundeswehr are shocking, the overall state of the German armed forces seems to be more than alarming, if not irresponsible. That the key material of the German armed forces, diplomatically expressed, is to be only “partly ready for operational use” - if we accept that less than one third still means partly! I am sure, objective reports will not show other armies to be in much better shape!

This new common approach would have to include a procurement and accompanying control system which is much more efficient than our national systems have been to date. The national Courts of Auditors could be helpful in this area, but more importantly the presence of private auditing companies should be a fact of life from the first day of procurement and throughout the product’s life time!

## 2.

Bearing these steps in mind, the EU Defence could create in parallel common specialised command structures and common operational units being able to act in their specific areas. This was more than two decades ago the idea of the European Corps. However, up till now these have not been used in their originally intended capacity.

We could begin - beyond this Corps or the German-Dutch Corps - to establish European special forces which would be able to intervene under specific missions or as the first units to prepare for a wider campaign.

\*“The Ukraine - crisis and the security of Europe”, Frankfurter Allgemeine Zeitung, September 1, 2014, page 6.

## 3.

The next steps of our common roadmap should consist first in better coordination, then in harmonising, as far as possible, our national systems and rules for armament exports. I am aware of the political sensitivities regarding harmonisation, but it would be an unavoidable step to accompany and control this new European defence industry.

At the same time we should proceed towards unifying military intelligence with a coordination cell at the level of the HR for Foreign and Security Policy with specialised units in the member states.

The implementation of this roadmap with its three major fields should take place till 2020.

A realistic proposal or just a dream? No, it is just the necessary first response to the decline of our national military budgets, not only in the past few years but since the nineties. Today these budgets are below the level necessary to sustain armed forces able to be used in areas of conflict and/or in the interventions that we have been witnessing at the international level since the end of the cold war.

We have to realise, we have not got the peace dividend we expected, the world around us is not becoming more peaceful, in fact quite the opposite is happening!

Based on the progress we have made by 2020 within these three major fields, Heads of State and Government would then be able to decide whether to implement, by 2025, the last steps towards a European Army or to stick to the progress achieved so far.

Running in parallel, a similar process of integration should take place in the field of the Common Foreign and Security policy. The first phase of the establishment of the EEAS has made a certain number of difficulties abundantly clear, but at the same time the added value of a permanent coordination of European diplomatic efforts.

The development of the last decade has been underlining the need to improve our civilian capabilities, this should include a review of our development policy to ensure that it is executed as a powerful arm of our common foreign policy.

NB, especially for German eyes I have to add:

This way forward is not at all incompatible in particular with the German internal constitutional rules of parliamentary approval before the use of German military forces and of their control. It is nevertheless clear that in particular the permanent information of the competent commissions of the Bundestag and the procedures will have to be considerably improved.

## European industrial champions: a proven means to sustain strategic autonomy in Europe

The strategic geo-political environment is constantly evolving, even at our borders, and the international challenges to tackle are more diverse with new centres of power emerging. In this context of instability the European Union and its Member States have to assume and exercise greater responsibility. This objective was underlined by the European Commission in its Defence Communication and fully endorsed by the Heads of State and of Government.

To achieve this level of ambition, strategic autonomy in Europe is critical and must be sustained. This will allow European countries to intervene and respond with credibility, being able to rely on an appropriate mix of civil and military capability. This approach will actively contribute to further the Common Security and Defence Policy and in addition demonstrate the valid contribution made in both capability and operational terms by the Europeans in NATO. This objective is all the more pressing in a time of perceived relative disengagement by the US from the European continent and its peripheral interests. More often the question for a more balanced sharing in the capability burden on either side of the Atlantic is being raised, with the Americans placing increasing demands on their European allies to step up. A credible response by European Member States is an expression of solidarity to our allies.

Strategic autonomy is not just an abstract theory. Strategic autonomy means first and foremost assuring freedom of action, i.e. owning the capabilities to effectively conduct military operations, with the ability to make full autonomous use of such capabilities, including the capacity to operate, maintain and upgrade them without recourse to third parties. Strategic autonomy means also security of supply, i.e. ensuring a technical and industrial base that affords for sustained and responsive levels of procurement

necessary to support the Armed Forces. Finally, strategic autonomy means mastering of key and critical technologies, a vital component in delivering effective military capabilities on which freedom of action and operational advantage depend. The European Defence Technological and Industrial Base is therefore a crucial element of strategic autonomy.

Nevertheless, given the economic climate, with almost all European countries continuing to reduce their defence budgets to help address broader financial difficulties, it is unlikely that individual Member States can bear this effort alone. Moreover, except where specific capabilities are considered to be held on a strictly national basis, the overwhelming scope of our defence industrial core should be focused within Europe. In this respect the development of European industrial champions is key and should be considered as an effective means to sustain strategic autonomy in Europe. Such an approach offers potentially wider benefits including the improved affordability of military capabilities and greater industrial competitiveness. Three key factors are nonetheless required for such a strategy to be successful: critical mass, consolidation of demand and mutual dependencies.

Critical mass, whether in terms of technology, product range, commercial positioning or investment strength is an essential element to deliver long-term success against an ever increasing backdrop of international competition. In some key areas Europe does not have the luxury to support two or more world-class players. This is the case in the field of missile systems, where Europe accounts for just over 20% of the global market and where the turnover of the major US companies exceeds the combined budgets available to all European Member States for missile systems. In this domain MBDA is the European Champion.

Antoine BOUVIER  
Chief Executive Officer, MBDA



Since 1996 MBDA has grown by gradually consolidating six purely national complex weapons competitors and is today an integrated company accounting for around 70% of Europe's industrial capacity within the sector. MBDA has developed into a global player with a strong export presence, with a 20% share of the world missile systems market and this despite the inability to access the US market which alone accounts for 50% the entire global market. The MBDA model shows clearly that Europe is capable of building champions at the highest level.

However, whilst size is necessary it is not in itself enough to guarantee critical mass. Equally essential are the requirements to consolidate demand and to efficiently exploit the existing industrial organization.

What European defence industry needs today is greater consolidation of demand through the convergence wherever possible of military and operational requirements and ultimately the launch of new cooperative programmes.

Cooperative programmes provide a number of benefits. They can maximise the capabilities of partnering countries while increasing interoperability. They can also provide economies of scale whilst minimising and sharing the costs and risks associated with research and acquisition. In MBDA's experience cooperation programmes whilst complex are less costly and more efficient than national programmes, providing a number of basic principles are followed. First, a genuine harmonization and coordination of operational and military requirements must be achieved and wherever possible the temptation to add national specifications or over-specify requirements must be avoided. Second, the industrial prime contractor selected must be empowered to lead the endeavour. Third, a truly collaborative industrial approach must be adopted that capitalizes on synergies across the industrial base utilising existing skills and limiting duplication. The SCALP-EG/StormShadow deep strike missile [France and the UK], the Aster extended air defence missile programme [France and Italy] and the Meteor beyond visual range air-to-air missile [France, the UK, Germany, Italy, Spain and Sweden], were all delivered on time, to cost and critically performed in line with the military requirement. All of these programmes were unlikely to have been delivered or funded had they been purely national endeavours.

New cooperative programmes will further generate an incentive to consolidate, rationalise and increase efficiencies. Key European technological know-how and industrial skills otherwise at risk will be preserved. Moreover, without domestic European driven demand it will become increasingly harder to gain access and leverage in export markets. Domestic programmes in many cases are crucial in underpinning international interest giving the 'confidence to procure'. Domestic demand coupled with export success is an essential component for industries to reach a critical mass and thereby consolidate their positions as global industrial players.

It is also worth mentioning that a European player widely integrated across several European countries becomes in itself an additional lever generating further impetus for the consolidation of demand and is thus a vital asset when looking to launch cooperation programmes under optimal conditions.

Given budgetary restrictions, priority should be given to those programmes which afford the greatest contribution in shaping technological and industrial centres of excellence within the EDITB and which ultimately support the underlying objectives of strategic autonomy and freedom of action. In this respect, Theatre Ballistic Missile Defence and the future of Deep Strike are two defining areas critical to the future of the European missile systems industry.

Finally, the size of a company is not in itself enough to guarantee critical mass if the industrial organization is not efficient.

Improving an existing industrial organization is challenging. It involves removing duplications, specialising and ultimately accepting a series of mutual dependencies. The Franco-British summit of Lancaster House (2010) gave two European countries the opportunity to agree at the highest political level that the only way of sustaining critical sovereign capability was in effect to share it. Specialisations to date had only resulted from a one-off cooperative programme, however, the aim of the "One MBDA" initiative agreed under the Treaty is to move this process onto the next level by organizing a series of technological and industrial mutual dependencies.

The specialisation objective has very significant implications. Specialising implies to guarantee a mutual access, which necessitates substantial changes in the existing regulatory environment. An Inter-Governmental Agreement is needed to organize the conditions of this mutual access (security of supply arrangements, export licence, export to third countries, IPRs, etc.). But guaranteeing a mutual access is not sufficient. The set-up of permanent and structured collaboration tools covering the coordination of the national R&T policies but also the common definition of the future capability needs is an imperative. The consequences of the specialisation objective go well beyond just the industrial aspect. Behaviours and cultures have to adapt. The defence ambitions and policies of partnering countries must be consistent, if not increasingly convergent in the longer term.

The EDITB, providing this concept relies on valid European competencies, is a key asset of European strategic autonomy. The development of and support to European industrial champions will sustain the level of strategic ambition whilst optimizing public spending and increasing industrial competitiveness. The missile systems domain has been at the forefront of this activity and has arguably been the laboratory that validates this more-than-ever needed approach.

## Brigadier General (ret) Jo COELMONT

Senior Associate Fellow, Egmont Royal Institute for International Relations



## What are the missing instruments to reach another level of European defence?

Challenging question! Looking towards the Treaty, the short answer is: none. Yet we are, rather urgently, in need of "another level of European Defence" and the European machinery clearly is not living up to the expectations of public opinion as voiced in all of the Member States. "A lack of political will" is the usual answer given to explain (or justify) this discrepancy. That answer is a bit too easy, and worrying as well, because expressed by practitioners and politicians alike it amounts to fatalism. So, something must be missing.

Political will is about being "willing" as well as "able". Difficult to call for action without means. Difficult to invest in capabilities, vice versa, without the will to use them. At the EU level, there is some political will and there are some military capabilities. The real stumbling block is the imbalance between objectives and means. It provokes political hesitation and leads to a degrading of European defence, at the risk of ultimately destroying solidarity. A lack of pragmatism may well explain all this. Pragmatism was crucial to all of the policies developed so far within the EU, from right after WWII up to now, to line up the Member States, to defend their values and interests, and to ensure that Member States remained relevant by, in fact, restoring their sovereignty by pooling it. And this led to solidarity. In the area of defence as well, pragmatism may well be key to generate more "political will".

### Being Able

At St. Malo in 1998, France and the UK jointly concluded that only at the EU level they could regain their sovereignty and set up crisis management operations of the magnitude that was needed for Yugoslavia. At first, the focus was on gathering capabilities and identifying (still persisting) military shortfalls. In 2003, working groups of the Convention focused on the more intuitional aspects.

With the Lisbon treaty Member States gave themselves, unprecedentedly, all the institutional building blocks to reach another level of European Defence. However, a heap of blocks can only be turned into a robust construction, if you have an architect, an entrepreneur and a bank, in particular when you have to accommodate some 27 (or more) different customers (with provisions for more to join over time and for others to opt out and back in).<sup>1</sup>

### The Architect

When building up capabilities for European defence, the indicated architect, able of drawing up an overall plan that is both affordable and meeting the needs of all involved, best placed subsequently to negotiate with constructors and to ensure follow up (live cycle support) is the European Defence Agency (EDA). The architect is to coordinate. Those who have to reach consensus and invest are indeed the EU Member States, but after all, they are at the helm of EDA, through the steering board. Interesting to note that, on occasion, the EU Commission can be a customer as well and a financing agent too. The architect is to link everything together.

### The Entrepreneur

To build the military capabilities needed by Member States and the dual-use assets needed by the Commission, you are in need of an industry, which in turn is in need of an adequate industrial and economic environment. To forge the latter, all required institutional EU instruments exist. The Commission has a lot of expertise in this field, but is not the only actor. Indeed, this is not exclusively about "the force of the internal market", but rather about the international market. It is about intercontinental industrial cooperation while at the same time establishing a certain level of European autonomy.

<sup>1</sup> Jo Coelmont & Sven Biscop, Building European Defence: An Architect and a Bank. Egmont Security Policy Brief No. 56, May 2014.

All this goes across and above the traditional intergovernmental - supranational lines. EDA is best placed to bridge some of these aspects, being aware both of the practical outcomes pursued by Member States and the structural approaches pursued by the Commission. Difficult to underestimate the challenges ahead. Time has come to develop a kind of European Foreign Military Sales system. This debate ranges beyond the classic issues, such as R&D and provisions for government to government contracts. A bank is needed as well.

### The Bank

Harmonising Member States' demands, often a prerequisite for industry to launch a project, is far from easy. Funding arrangements for R&D and, later on, streamlining payment schedules of participating Member States are important stumbling blocks. The European Investment Bank (EIB) can provide solutions. To fit national budget requirements the EIB could receive, through EDA, down-payments upfront and develop particular payment schedules that could be stretched even over the entire life cycle of a given item of military equipment. Moreover, it is worthwhile to examine whether Member States' expenses related to such programmes could not be lifted from EU restrictions on national budget deficits. The instruments are there, the policies remain to be developed.

### Becoming Willing

It is rather difficult to convince Heads of State and Government to invest together with partners in any military project, if the answer to the question "What would we do together?" sounds like "We agreed to disagree on strategy". A strategy may not be an institutional instrument per se. However, it is in the first place an organising principle, and of utmost importance to security and defence issues. In NATO we have a concept, mainly focusing on collective defence. At the EU level, with the 2003 European Security Strategy, the focus is on crisis management, in particular on "how" to conduct such operations: "comprehensively".

However, for Member States, the will to act together in a particular military operation can only stem from a common interest, from a consensus not only on the "how", but also on who is to do what, when, where, with which means and, above all, on a common understanding on the desired political outcome. If such a consensus goes well beyond a single operation, leading to a series of EU operations as recently witnessed, it is signalling that a broader common strategy is in the making. Moreover, a series of ongoing events have forged a more common understanding of the threats, ranging from our Southern to or Eastern borders up to the Arctic. Economic interests are henceforth also commonly considered, as proven by operation Atalanta. A European Maritime Strategy has been agreed upon. Most Member States are even profoundly convinced Europe has to gain a level of strategic autonomy, which starts in its neighbourhood, broadly defined (and not limited to it).

There is also a growing consensus that, in order to maintain solid relations with our principal partner, the US, a sense of urgency is required. And finally, there is the common conviction that in our current geopolitical environment, Europeans will in the future be more and more called upon to take the lead in military missions, be it the context of the EU, NATO, or even the UN, depending on the crisis at hand. It is fair to say that at present, based upon a broad consensus within the EU and the Member States, we are swiftly turning from "disagreeing on strategy" to a "de facto" strategy, while at the same agreeing (for well-known domestic reasons in some Member States) not to discuss this issue too explicitly. The latter may be a justifiable temporary solution in order to keep on board as many Member States as possible. The fact is that all preconditions to become able and willing are now fulfilled within the EU.

### Towards a Pragmatic, Permanent, and Structured Cooperation

The time is ripe to bring European Defence cooperation to another level by making use of existing EU instruments. The key is to address the identified strategic military capability shortfalls and to finance this effort by doing away with redundancies. Such an endeavour requires a kind of permanent and well structured cooperation, centred on harmonising national requirements and taking part in EDA programmes, both on a voluntary basis. It is clear that the criteria of such a "PESCO" are quite different from the ones identified back in 2003 during the work of the Convention. It is no longer about a select group ("directoire") fulfilling some higher quantitative criteria. The main criterion now is about the willingness to act together. Pragmatism and inclusiveness will be key. EDA is to streamline such a cooperation.

### Conclusion

Pragmatism is probably the missing catalyst to reach another level of European Defence. Time has come to forge a whole new kind of permanent structured cooperation between Member States, mobilising the Council, the Commission, the EIB, and in particular EDA, a key instrument of the Member States and at the same time an agency uniquely well placed within the EU institutions. The long hailed adagio of the "bottom-up approach" has shown its limitations. It has been proven that overall coherence, efficiency and affordability also require solid "top down" steering and instruments.

If not all Member States are (yet) ready to join this endeavour, a group, as inclusive as possible, is to be established. A sense of urgency is justified. In security and defence, the main threat to Europe is to lose its Allies and partners, because of its relative weakness, due to fragmentation and a (no longer persistent?) reluctance of Member States to use to the full extent the instruments of cooperation and solidarity they have themselves created at the EU level.



Pieter DE CREM  
Belgian Minister of Defence and Deputy Prime Minister



## What role does regional cooperation play in wider European defence cooperation? And how far can it go?

Ladies and Gentlemen,

I would like to take this opportunity to congratulate the European Defence Agency with its tenth anniversary and more in particular on the many projects that have been initiated by the Agency as well as the results that have been achieved so far.

As all of you know, I have always been a strong believer in close defence cooperation within Europe. I am proud of the fact that I was able to contribute to this ongoing process during my seven years as Belgian Minister of Defence. In my policy, I have always striven to let the Belgian Defence play an important and valued role on the international level, as a loyal partner within NATO, the United Nations and the European Union. Regarding the latter, mainly by giving new momentum to the concept of Pooling & Sharing during the Ghent Summit in 2010, under Belgian Presidency of the EU.

However, today's reality requires policy makers to be more creative, especially if we do not want to see our defence capabilities to erode any further. Combined with the necessary cooperation on a bigger scale and mainly aiming the larger European nations, I, as Minister of Defence of a medium-sized European country, have always been fully aware of the importance of defence cooperation on a smaller scale. Therefore, Belgium seizes every opportunity it gets to strengthen the military ties with its neighbouring countries, both in the context of the Benelux, as with our larger neighbours. The examples are numerous: the very close cooperation between the Belgian and Dutch navies remains a pioneer in the Benelux cooperation, one which will even be enhanced with the integration of the NH-90 helicopter fleet of both countries.

A combined Benelux Arms Control Agency as well as a Benelux Para Training Centre became operational this year. Other examples include the ever-closer cooperation in the domain of medical support or the training of future officers.

Furthermore, we also maintain a close relationship with our larger neighbours. Examples include the close cooperation with Germany within ISAF in Afghanistan and the far-reaching joint pilot training with France.

In this context, I would like to focus on some key issues of regional defence cooperation:

- **Regional cooperation is easier and faster.** The main results that are currently being attained in the domain of defence cooperation can be found on the level of cooperation within regional capabilities clusters, which clearly provide the best guarantee of achieving quick-wins.
- **The whole is more than the sum of its parts.** Just as this is the case with cooperation in an EU- or NATO-context. Many regional cooperation initiatives have proven their usefulness and merit a special mentioning, being the Benelux, the Visegrad and Nordic cooperation, and those aiming some Mediterranean countries. Moreover, we should not underestimate their importance and triggering effect on the minds of policy makers of other countries.
- **No competition, but complementarity.** Regional cooperation fits perfectly within the concept of Pooling & Sharing. Therefore, EDA must continue to identify, coordinate, supervise and guide both





intra-cluster cooperation and inter-cluster interaction, in order to lift them to a higher level, using the best of a combined bottom-up and top-down approach. The European Air Transport Command or also the Belgian-Dutch intent to combine the Air Defence Control & Quick Reaction Alert of the Benelux airspace by 2016 are often very effective catalysers for quick-wins and can incite others to join them. I was therefore pleased to read in the Council conclusions of the December 2013 Summit that “the European Council welcomes the existing cooperative models, such as the EATC, and encourages Member States to explore ways to replicate the EATC model in other areas”.

**- However, regional cooperation is not enough to bring European defence capabilities at the required level.** In order to achieve a fundamental breakthrough that will generate a major change in our behaviour, it will not be enough for the like-minded smaller states to work together. To take great strides forward in forging a strong European Security and Defence policy, we also need a closer cooperation between the larger European states.

Ladies and Gentlemen,

This is why the steps that we have taken so far are simply not adequate to compensate for the ongoing lack of progress in developing defence capabilities. Even if we manage to realize all the current Pooling & Sharing projects to the fullest of their extent, this would cover but a fraction of the implemented and looming defence expenditure cuts of the future. This is exactly why I fully endorse the work of EDA and its policy framework to foster more and systematic long term defence cooperation. It is now also up to the policy makers in the Member States, regardless of their countries' size, to muster the political courage and sustained political support to alleviate the necessary military capabilities above the national level and dispense national sovereignty concerns which are becoming increasingly and utterly irrelevant in the years ahead.

We need to share more resources, procure capabilities together, jointly certify them and also deploy them together. The Ukraine crisis once again shows that Europe needs a strong Security and Defence Policy, that it needs the strong capabilities to make it credible, that the European Union needs to be able to play an important role in its own area of responsibility, and that it urgently needs to learn to speak with one voice in order to maintain its political weight in the quickly developing global context of today.



**Thomas ENDERS**  
Chief Executive Officer, Airbus Group



## Time to rebound

The situations in Libya, Syria, Iraq and Ukraine are equally stark reminders of how much we Europeans still depend on America and of the growing (!) gap in our defence industrial capabilities. Europe's “peace dividend” is largely behind us. Yet faced with lingering, multifaceted and persuasive threats, European stability still depends on American willingness, capabilities and industrial investment.

That was not what we had in mind when, back in 2004, my company together with BAE Systems and Thales pleaded for the creation of EDA and increased investment in defence capabilities.

Today, thankfully, EDA provides an engine at the heart of European defence, but a rather small one and one that still lacks enough fuel to drive it. What's more, the defence vehicle it's supposed to get moving is suffering from a decade of financial guillotines, national egos and dwindling expertise.

By 2024, if that continues, the once powerful European defence industry will be reduced to buying off-the-shelf from a US monopoly or from Russia, China or South Korea. EU-defence ministers will be left imploring Uncle Sam to maintain NATO's article 5 provision but, as former Secretary of Defence Gates put it, “there will be dwindling appetite and patience in the U.S. Congress to expend increasingly precious funds on behalf of nations that are apparently unwilling to devote the necessary resources to be serious and capable partners in their own defence.”

Whether the threats are digital or natural, terrorist or traditional, Europe can't resolve them as individual nations. Only by combining our resources do we stand a chance of preserving peace, freedom and security. That's why Europe's economic and financial powers, especially Germany, can no longer ignore their responsibilities. US support is not a 'right' nor a given. We are not the 51st state. We have other, better options to restore Europe's strategic autonomy.

In December, European leaders showed renewed interest and promised follow-up by next summer. Since then, we've seen a new leadership team emerge in Brussels, growing threats on our borders and the latest Eurobarometer showing 72% support for a stronger Security and Defence Policy. It's the perfect storm for change. That's why I am confident Europe can build a more credible partnership with the US and why I'd like to offer an industrial perspective on some of those options.

First, Member States could reverse the decreasing trend of investment in defence and actually invest the 2% of GDP that they have committed to; something that only 4 currently achieve setting the average at 1.50%. It would still be half of the US investment, but would show willingness after a decade that has wiped some 15% off European defence budgets, placing us behind Asia. Should this trend not be reversed, estimates show a further 22% decrease by 2020! That's like throwing away three times the contribution of Poland.

On the one hand, such renewed effort would protect almost two million highly skilled European defence jobs and ensure that our military does not have to shop in a US monopoly.

On the other hand, as illustrated by a recent EDA report, the defence R&D multiplier is between 12 and 20 times that of other sectors. This is because the high skill level and the close ties between prime contractors and SMEs is a key source for innovation in society as a whole, filtering into everyday life with technology like GPS, wind farms, or semi-conductors. In fact, every €100 million invested in defence adds another €70 million to GDP year after year.

So, if Europe wants to rebuild its economy and its reputation as a credible partner in NATO, then delivering on that 2% GDP commitment is the best place to start.

The second option is to stop wasting any money that is invested in defence. Europe can get a better bang for its buck by “Spending more, better and more together”, to quote Javier Solana.

In 2007, Member States agreed to jointly spend at least 35 % of equipment budgets and 20% on R&T, yet we are still more than ten points off target. Such inability to co-operate and duplication already cost Europe over €26 billion a year!

Various ‘smart defence’ initiatives are sometimes used as camouflage for an unwillingness to spend. Still, collaboration in defence investment should be the default option without forgetting the lessons of past endeavours. Do the military or the taxpayer really need 23 different versions and 6 assembly lines for 14 helicopter customers who are meant to be allies? Does Europe really need 17 production lines for tanks, armoured vehicles and self-propelled artillery when the US has just 2?

Better, cheaper products can be delivered with simpler and leaner programmes. METEOR is a great example. There is constant dialogue between the UK, acting as the lead nation on behalf of the other participating Member States, and MBDA as the sole industrial interlocutor. This allows real-time exchanges to assess the cost and feasibility of any new options decided upon.

So, the default approach should be to involve industrial suppliers at the start of definition, to genuinely empower a single lead to take decisions on behalf of Member states; and to define common standards and certification processes, which could slash costs by almost a third. This could be reinforced through tax breaks and a well coordinated armament export policy for all co-operation programmes, crucial for companies like Airbus Group where two-thirds of defence revenues come from co-operation programmes.

This brings me to the final option I will offer: that we could look to the future, instead of just the next political cycle.

I mentioned the wider benefits of defence technology and the amount of R&D budget being wasted. I should also mention that those R&D budgets have halved since 2006 with an R&T spending now representing only a ridiculous 1 % of total defence expenditure! It’s ironic that the digital revolution would not have happened without defence investment 60 years ago, yet today we can’t keep up with the digital battlefield it has created.

That’s why we need to combine a longer term vision for European defence with a faster, more efficient response to the immediate risks.

For example, projects like the Alliance Ground Surveillance take 20 years to launch. What engineer wants to pass their entire career without working on anything new? That’s why they prefer the commercial sector that increasingly leads in innovation. Even engineers interested in the kind of Unmanned Aerial Systems that Europe so desperately needs, now see better prospects with the likes of Amazon or Google.

Ten years after the creation of EDA, member states remain so focused on national sovereignty that they risk giving away our collective security and stability. If our leaders really want European strategic autonomy, they must act together: they must deliver on their promise to spend 2 % of GDP on defence, co-operate instead of wasting resources, and create a clear vision for the future by launching programmes now. This is the only way to ensure that we actually have a robust European defence industry for the twentieth anniversary of EDA.



Sophia KABIR  
Deputy Director of Security and Defence

Håvard SANDVIK  
Security and Defence Programming Officer  
Young Professionals in Foreign Policy



## Defence, especially in Europe, has gone out of fashion

“Does defence matter?” This question dominates defence-related events, publications, reports and think tank debates. Unfolding events in Ukraine continue to prove how important it is that Europe speaks with one voice on defence.

Concerns about our values and the role of European defence also preoccupy the minds of Europe’s young defence professionals. Young Professionals in Foreign Policy (YPPF) is an organisation which strives to foster the next generation of foreign policy leaders by providing them with skills, knowledge, a cross-sector network and access to current foreign policy leaders.

With members in Washington DC, New York, London and Brussels, YPPF has the objective to be at the heart of today’s defence debate. Our members share a personal and professional interest in foreign policy and are therefore highly concerned with the relevance of European defence for their generation and the challenges ahead. We asked a handful of our highest-flying members what their main message would be for today’s defence leaders, and what concrete changes they would like to see when their generation picks up the torch.

### Optimism for reform

In describing the current security climate, our members pointed to the intricacy of a new multipolar reality, with European defence budgets affected by austerity, and with an ever more complex set of asymmetric threats. They argue that now more than ever, current and future leaders have a joint responsibility to make efforts to broaden and deepen the public debate on what security means and what Europe’s objectives should be as a global player.

However, many were optimistic that recent crisis in Ukraine, Iraq and Syria brought hope for new institutional reform. Catherine Lefèvre, co-founder of Global Public Policy Watch and researcher at the Kosovar Institute for Security Studies identifies cyber-warfare, violent extremism and the conflicts in the Middle-East as gamechangers. She suggested these would force the EU to improve levels of trust and cross-border cooperation and define stronger common frameworks. Edoardo Camilli, Director of International Security Observer, also saw opportunities for reform in Europe’s defence landscape: “With the international system becoming increasingly multipolar, European defence and security leaders need to find a new approach to foreign, security and defence policies”, Camilli said. Camilli thought that Europe can no longer expect to maintain its role as a soft power alone. The EU should set up contingency plans to avoid institutional paralysis on future crises. He particularly advocated a strengthened role for the European Commission and the European External Action Service in responding to international crisis. This needs to be backed up by military reform: “European leaders still need to solve the problem of a lack of military equipment inter-exchangeability.”

On a similar note, Karlijn Jans, Policy Adviser at the EU Office of the Netherlands Organization for Applied Scientific Research (TNO) and a Board Member of the Atlantic Youth, stressed the boundlessness and unpredictability of current conflicts. Jans felt there was opportunity for the development of new defence strategies to stimulate, enhance and re-assess Europe’s security outlook.

### Coping with austerity

Turning to the effects of austerity, many regretted that the increased political importance of the defence sector has coincided with economic decline. The resulting budget reductions and job cuts in the defence industry in Europe need to be reversed urgently, industry representative Pauline Delleur warned. "This alarming trend could result in the loss of crucial European expertise and competences and in a very negative impact on the attractiveness of the sector."

National boundaries between sectors is part of the problem. Both Lefèvre and Jans agreed that not enough has been done to improve the exchange of technology and intelligence on emerging security threats. Industrial inefficiencies compound procurement problems. "The EU accounts for around 1.5 million (armed) military personnel. Why do we need 20 different programs for armed vehicles, three for fighter planes, six for rocket installations?", Jans asked. She emphasized the need for smarter, demand-driven approaches to the defence industry, involving both the government, industry and research.

As a defence industry entry-point for aspiring young professionals, research & development is also key to young professionals. According to Delleur, the European defence sector is not living up to its full potential in attracting new talent: "Career perspectives for young people in the sector are dwindling. Key positions are not being filled and flexible short terms contracts have multiplied." She argued the defence industry has to reform itself. Opening to new activities and markets, beyond the scope of military purposes, is the key to growth and employment. "When considering future applicants for defence positions, we need to prioritise candidates with cross-sectoral experience", Delleur suggested. Recent trends confirm Delleur's predictions. Just like in the diplomatic service, the defence and security sector increasingly looks for people with a diverse portfolio, including industry experience.

### Selling defence to a wary public

Vivien Pertusot, Head of the Brussels Office of the Institute de Francis Relations International summarised the underlying dilemma facing defence leaders in future. He characterised it as a balance between the appealing and repelling aspects of defence:

"It is appealing, because it covers a wide range of issues, spanning from guaranteeing the security of your population, your territory and your interests, to planning for the best equipment to achieve that goal... The defence sector still bears - but for how long? - the tradition of continuous innovation. But it is also repelling. Defence, especially in Europe, has gone out of fashion."

At the crux of the issues facing European defence, our members identify the need for broader and deeper communication of defence issues. Think-tanker and YPF Security & Defence Programming Officer Håvard Sandvik urged the EU to mainstream security issues in policy communication: "We need to make security relevant to the citizen; otherwise we cannot expect them to get involved." Sandvik is convinced that even a topic such as pooling and sharing can be brought to the citizen and become part of discussions at the dinner table: if sold properly.

Likewise, Pertusot regretted the lack of attention for security issues in the media and on the political arena. He points to the long period of relative peace and stability Europe has enjoyed since the Cold War, and reminds us that peace is a luxury. Pertusot saw the task of future leaders to simplify complex security issues. "It is up to the current defence leadership but also to us to take the bull by the horn and to explain why defence matters in plain words, to hold debates at various levels on strategic issues, to raise the profile of the role of the defence sector on the economy and its value for innovation."

### Inter-generational solutions

For Jason Wiseman, Assistant Secretary General of the Atlantic Treaty Association, a prerequisite to solve these challenges now and in the future requires both current and future leaders to listen and learn from one another: "Although previous generations had more limited experience with cyber threats, state failure or jihadi terrorism, their experiences allowed them to influence the evolution of our security landscape", he suggested. This "can provide invaluable insight into how young professionals can do the same."

Defence matters to the young professionals we spoke to. But they clearly find themselves in a very different reality to that of contemporary leaders. Their world is a multipolar one where asymmetric threats play an ever-increasing role, which requires a much higher level of cross-border and cross-sector cooperation. Coupled with a tremendous economic and financial crisis Europe, these young professionals start their careers in tumultuous times. Keen to have today's leaders "...share their wisdom and experience with today's young professionals", they hope that, when identifying the leaders of tomorrow they look for those with a diverse background, from industry, politics, the military and research. Together with today's leaders, these aspiring young professionals share a dedication and commitment to reach a broader audience with a deeper, more nuanced discussion around European security and defence.



Jean-Yves LE DRIAN  
Ministre de la Défense



## L'Europe de la défense: une nécessité et une chance unique

Dans tous les pays de l'Union européenne, les politiques de défense sont à la croisée des chemins. Le contexte est bien connu. La diversité, l'intensité et l'imprévisibilité des menaces nous commandent d'évoluer nous-mêmes, sans baisser la garde. D'un point de vue économique, les tensions budgétaires auxquelles nos Etats sont soumis appellent à plus de solidarité et à partager davantage les efforts. Dans ce double contexte - où l'ensemble des Européens doivent chacun faire plus avec moins -, l'Europe de la défense se présente comme une nécessité et en même temps comme une chance unique.

En effet, les contraintes qui pèsent sur les budgets de défense de tous les Etats membres peuvent et doivent être compensées par une plus grande coopération. L'enjeu est de maintenir certaines capacités, d'en développer d'autres, d'éviter les duplications - qu'elles soient capactaires ou industrielles -, d'accroître nos interdépendances et de parer ainsi au risque de déclassement stratégique, alors qu'ailleurs dans le monde, les investissements de défense augmentent en proportion des menaces.

Dans cette perspective, la France apporte son plein soutien à l'Agence européenne de défense (AED) qui, depuis maintenant dix ans, joue un rôle déterminant.

L'Europe de la Défense se concrétise naturellement par l'action, et notamment l'action extérieure, pour préserver nos intérêts de sécurité. Mais la volonté de se projeter ne fait pas tout, et pour que l'Union européenne puisse effectuer missions et opérations, il lui faut accroître la disponibilité de ses capacités militaires. Sans moyens, il n'est pas de missions possibles. C'est là que se situe le rôle de l'AED: aider les Etats-membres à se doter des capacités adéquates, et à le faire de plus en plus en coopération.

Lors de sa création en 2004, l'AED a dû trouver sa place dans un paysage complexe, au milieu des agences d'acquisition nationales, de l'OCCAr et des agences de l'OTAN. Un de ses atouts principaux s'est vite révélé être son positionnement unique: elle dialogue tous les six mois avec les Ministres de la défense qui orientent ses travaux; elle est un animateur de réseaux, qu'ils soient capacitaires, techniques, industriels, ou institutionnels (organes de l'Union européenne, Etats-membres,...); elle peut rapidement mobiliser des experts de tous niveaux et servir de plate-forme d'échange entre les Etats membres, pour leur permettre d'identifier les besoins capacitaires, les possibilités de coopération et préparer les programmes correspondants. Elle est en réalité un facilitateur, au service des Etats membres et de la PSDC.

Ce rôle a été confirmé dans le Traité de Lisbonne. Elle est d'ailleurs la seule agence inscrite dans le Traité sur l'Union européenne. Je tiens à insister également sur une de ses spécificités, qui est rare dans le domaine de la PSDC: l'unanimité n'est pas requise pour le développement de projets au sein de l'AED, qui est donc un outil souple et flexible, capable de proposer des coopérations "à la carte".

L'AED est aussi un outil précieux par sa capacité d'initiative et de créativité. L'AED se distingue par sa force de proposition et d'impulsion afin d'inciter les Etats membres à toujours plus coopérer. Même si ses ressources financières demeurent modestes, ce que nous devons regretter, le format resserré de l'Agence est un gage de réactivité et de lisibilité de son action.



L'AED constitue enfin aujourd'hui une interface naturelle avec la Commission au service de la communauté défense et travaille sur l'optimisation des synergies civilo-militaires. Elle met son expertise à la disposition des Etats, des institutions et des agences de l'UE, afin de favoriser leur dialogue et de mieux prendre en compte les spécificités de la défense dans les initiatives européennes, comme par exemple sur les fréquences radio, le Ciel unique européen, la cyber-défense, la surveillance maritime, ou encore la politique spatiale.

L'AED a été conçue et s'est développée pour bénéficier à tous les Etats membres, et je souhaite que toutes les potentialités de l'Agence puissent être utilisées afin de progresser vers une plus grande convergence des politiques de défense, une plus forte harmonisation des besoins opérationnels et vers une mutualisation et partage accrus des capacités.

Grâce à l'action de son directeur exécutif, Claude-France Arnould, l'AED a joué un rôle majeur dans la préparation du Conseil européen de décembre 2013, dont les décisions sont structurantes pour nos capacités futures et le soutien à la Base industrielle et technologique de défense.

J'invite l'AED à poursuivre ses efforts pour proposer aux Etats membres le cadre le plus favorable et le plus incitatif à la mise en œuvre des grands programmes capacitaires identifiés par le Conseil européen de décembre 2013, en particulier la perspective ouverte pour un futur drone MALE européen, dans lequel la France jouera un rôle actif. Il est important que l'AED trace le parcours qui permettra de retirer tous les bénéfices d'une coopération européenne: l'appui et l'expertise bien sûr mais aussi le cadre juridique, les mécanismes de coopération avec la Commission européenne et les incitations financières dont nous pourrions collectivement bénéficier.

Je forme enfin le souhait que la nouvelle Haute représentante, qui est également chef de l'Agence européenne de défense, s'appuie pleinement sur le potentiel de l'AED et donne une impulsion vers davantage d'intégration de nos outils de défense dans les prochaines années.



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## Confronting Europe's Defence Deficit

European states are increasingly incapable of defending their own interests militarily. This is so for multiple reasons, including: the proliferation of potential threats to those interests; the increasing unwillingness of the United States to contribute to addressing them; the rising cost of military equipment and falling defence budgets. Recent interventions in Libya and Mali have underlined all too clearly the shortcomings of European defence capabilities.

Europe is suffering from a 'defence deficit,' best defined as the gap between the military capabilities possessed by its states and those required to defend their interests. This deficit stems in no small part from the fragmentation of European defence into twenty-eight separate, national defence policies. The EU's infamous 'democratic deficit' is generally viewed as a result of the transfer of too much power to the Union. In contrast, the defence deficit stems from the reluctance of nation states to do more at the European level. It is a consequence of the absence of effective collaboration within the EU rather than an excess of it.

### The Defence Deficit

It is the international environment that generates a need for military capabilities. And in the contemporary international system, Europeans confront, in the words of the EU's own High Representative for Foreign and Security policy, 'increased volatility, complexity and uncertainty'. In their near abroad, the optimism provoked by the Arab spring quickly gave way to concerns about emergent regimes and the significant potential for instability to the south. Military intervention in Libya has helped produce an anarchic land governed by warlords, awash with both militias and weapons and increasingly used by affiliates of Al-Qaeda in the Islamic Maghreb as a base of operations. Syria has descended into brutal civil war.

The rapid spread of Islamic state represents a threat both in terms of the stability of the region and the potential for jihadis to cause trouble in the west itself. To the East, meanwhile, Russia annexed by force the territory of a state that, until recently, had genuine aspirations to EU membership. Tensions following the subsequent downing of a Malaysian civilian airliner show few signs of abating, as the EU's eastern members feel increasingly vulnerable and exposed.

Nor are European interests confined to the neighbourhood. Its trade is global, with Asia accounting for 28% of it, as opposed to the 25% constituted by the United States. Continued prosperity thus depends on the maintenance of secure trade routes. Open sea-lanes are a particular priority, as 90% of European trade is transported by sea. Yet, no one can be sure whether the emergence of rising powers will lead to a sustained challenge to the rules and institutions governing the liberal international order. Equally, it is impossible to predict the degree to which China's new found assertiveness will lead to greater tensions or even conflict within Asia - by miscalculation or design. What is clear, however, is that shifts in global economic and political power will have profound implications and must be factored into calculations underpinning any European foreign and security policy worthy of the name.

There is no shortage, then, of challenges that might crucially affect, if not European survival, then at least European interests. In the past, the solution was to rely on the US to take the lead in addressing them. According to an analysis by the NATO Secretary General, the share of the NATO defence burden falling on the United States has increased from 63 per cent in 2001 to 72 per cent today. The average defence spending of America's NATO allies was 2.0 per cent in 2000 and had slumped to 1.5 per cent by 2007. In contrast, the United States spends 4.6 per cent of its GDP on defence.

However, the kind of dependence to which European have become accustomed, whilst never equitable, is no longer viable. President Obama has made it clear both that he will not lightly commit American forces to foreign military adventures, and that, as a consequence of his 'rebalancing' to Asia, he expects Europeans to play a greater role in ensuring the security of their neighbourhood.

Unfortunately, Europeans are currently unable to do this. Their militaries increasingly lack critical capabilities, as spiraling costs put full spectrum militaries beyond their reach. Amongst smaller EU states, this has already led to the appearance of capability gaps. As for Britain and France, their recent deal jointly to build and operate aircraft carriers illustrates that a similar logic is beginning to apply even to them. Few if any European governments are in a position to launch major new programmes alone, as the costs are too high and national markets cannot provide sufficient orders.

The austerity policies introduced as a result of the economic crisis have not helped. Some smaller member states have initiated reductions of over 20% in defence outlays - Lithuania cut its defence budget by 36% in 2010. Medium-sized member states announced cuts of between 10 and 15%, whilst Germany and the UK settled on reductions of around 8% to be implemented over a period of several years.

Beyond the problems caused by falling defence spending, declining military capacity is the consequence of the fragmentation of European defence between twenty-eight national defence policies. Each national military is separately trained, equipped and supplied, generating significant inefficiencies. Even when European forces act together - as is the norm when force is deployed - incompatible equipment and doctrinal differences continue to hamper effective collaboration in theatre.

In the armaments sector, fragmentation spawns striking inefficiencies. The majority of national defence budgets is spent on national armed forces equipped with nationally produced weaponry (around 80% of all defence equipment in Europe is bought domestically). Consequently, Europe does not enjoy the economies of scale from which the US benefits. Member states in 2009 were undertaking 89 different weapons programmes - in contrast to 27 in the US. The European Commission estimated the cost of barriers between national defence markets as over 3 billion euros per year.

The problems bedeviling European armed forces have been all too evident during recent interventions. For all the talk of the US 'leading from behind', the Americans provided more than double the personnel made available by the next highest contributor in Libya. Despite fighting a chronically weak military there, Europeans found themselves reliant on US Tomahawk missiles, drones and electronic warfare aircraft, without which the mission may well not have succeeded. Air sorties had to be reduced as states operating F-16 tried and failed to obtain additional munitions - again, the Americans had to plug the gaps.

Little wonder that senior figures have been moved to comment on the potentially disastrous consequences of Europe's military fallibilities. Former Secretary of Defence Robert Gates warned of Europe facing 'collective military irrelevance,' while the NATO Secretary General has similarly warned that 'if European defence spending cuts continue, Europe's ability to be a stabilizing force even in its neighbourhood will rapidly disappear.'

### Cooperation and its Limits

Whilst the fragmentation of European defence structures remains an obvious source of inefficiency, member states have failed to take practical steps to aggregate their capabilities effectively at the European level. This is not through lack of rhetorical effort. Since the creation of the EU's Common Security and Defence Policy in 1999, member states have produced a plethora of statements of intent, capability targets, and 'headline goals.'

Yet rhetoric has not resulted in action. Strikingly, Europe continues to lack the 'key enablers' - air-to-air refuelling capacity, intelligence surveillance and reconnaissance and satellite communications - serially identified in numerous EU reports over the years. Whilst some member states have engaged in limited pooling and sharing of military equipment - the Dutch and Belgians have agreed to joint naval training and maintenance - they remain in general stubbornly reluctant to buy military equipment abroad - only nine European procurement programmes valued at over €1 billion are collaborative. Nor have these same member states provided the EU with real competence to ensure greater liberalisation of the European arms market.

Meanwhile, defence continues to be used by many governments as a means of propping up inefficient yet economically important national champions in a manner that has been largely outlawed in civilian sectors for some years. Indeed, not only have governments failed to collaborate effectively over procurement, but they have generally made decisions over which capabilities to cut without prior coordination with, or indeed notification of, their partners.

European governments, in short, continue to act as if the defence deficit did not exist. A continued faith in American protection, a belief in the sustainability of Europe's relative security, and a reluctance to engage in strategic thought about potential threats to European interests characterise the political leadership of many member states.

Such complacency partly explains their reticence about seeing the European Union gain any real authority over the defence sector. It also stems, however, from real pressures that militate against collaboration. In the first place, governments are inherently reluctant to share control over their defence policies. Relying on others for security is a risky business, particularly when, as in the European Union, member states have widely different conceptions of the nature of the threats confronting them.

In addition, strong political pressures work against the rationalisation of domestic defence structures that effective intra-European collaboration would require. Given a choice between, on the one hand, the short term sacrifice of economic capacity in the name of long-term solutions to potential security problems or, on the other, small scale, piecemeal cuts that may - gradually but imperceptibly - erode crucial capacities, governments understandably choose the latter. For all the military problems generated by the existence of numerous small-scale national defence industries, they generate politically valuable jobs and skills.

### The Long Road to Strategic Awareness

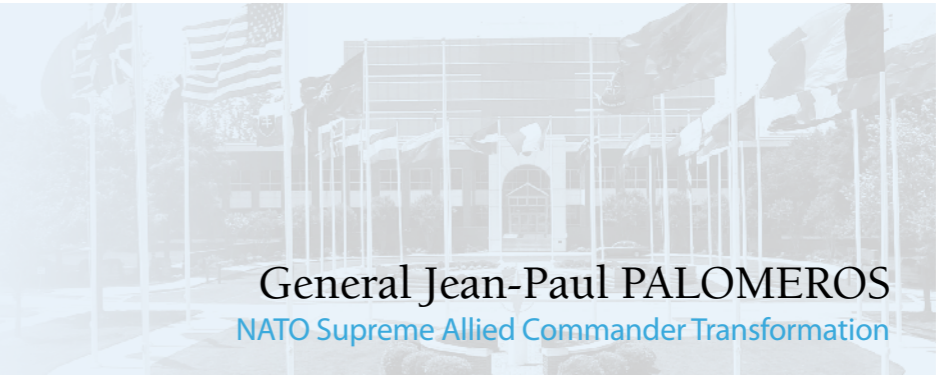
Europeans are increasingly unable to tackle even local security threats that might affect their interests. The fragmentation of European defence between 28 national defence policies, each increasingly ill-equipped for the needs of modern expeditionary warfare, has helped foster this 'defence deficit'. Attempts to plug the deficit via enhanced collaboration within the European Union have so far achieved very little. The EU remains something of a spectator when it comes to the important defence decisions made in national capitals.

Given the constraints upon national political leaders, it is relatively easy to understand why, regardless of the significant incentives for greater defence collaboration, this remains elusive. Ultimately, however, Europeans need to address the defence deficit rather than waiting until it becomes apparent via failure in theatre.

As a first step, Europe's most senior political figures must enhance their collective strategic awareness. They must acknowledge the threats they face and the profound limits on their ability individually to address them. To date, most governments have failed systematically to consider their own security interests. Better coordination between them would reveal a broad convergence between them over the challenges they confront.

Similarly, national capitals must together consider the military capabilities at their disposal. At the very least, such a review might help prevent the acquisition of capabilities that Europeans collectively do not need, or the cutting of capacity that is in short supply in Europe as a whole. Greater transparency between member states on issues including potential budget cuts, national defence strategies, national procurement planning and future capabilities plans would be a useful first step.

An explicit acceptance by member states of the inadequacies of the current situation is the irreplaceable first step in any process of addressing the defence deficit. Failing this, it will persist and, ultimately, undermine their ability to defend their own interests.



General Jean-Paul PALOMEROS  
NATO Supreme Allied Commander Transformation



## Multinational approaches - NATO Smart Defence and the EU Pooling and Sharing initiatives - synergies for the future

Since its formal inception at the Chicago Summit, Smart Defence (SD) has encouraged a cultural change in how the Allies view the business of capability development. It promotes a cooperative way of thinking about generating the modern defence capabilities that the Alliance needs for the future. In this renewed culture of cooperation, Allies are encouraged to work together to develop, acquire, operate and maintain military capabilities to undertake the Alliance's essential core tasks agreed in NATO's Strategic Concept. SD has become a first consideration for delivering much-needed capabilities in a more cost-effective and efficient manner within the Alliance. The Pooling and Sharing (P&S) Initiative within the European Union was developed following the same spirit, focusing on the need to optimize the development and employment of the military capabilities required for operations. Since the beginning both organizations have committed to working together to share ideas, support each other's initiatives, and avoid duplication while aligning priorities.

Six out of 150 SD projects have already been completed. Four of them are logistical successes achieved during the engagement in Afghanistan by pooling helicopter maintenance, managing spare parts, pooling Mine Resistant Ambush Protected vehicles (MRAPs), and by dismantling, demilitarization and disposal of military equipment. Another one has brought a multinational approach to the life-cycle management of munitions. And, a last one produced efficient, effective and affordable education and training for the benefit of all nations by giving a lead role to the Military Medicine, Cooperative Cyber Defence, and Human Intelligence Centres of Excellence within their areas of expertise. The results of that project were fully integrated within NATO training and education for the benefit of the Member Nations and partners.

Today, building upon these initial successes, new proposals are increasingly focused on critical NATO requirements. At the Wales Summit, several nations have come together and announced key multinational approaches on Ballistic Missile Defence (BMD); Joint Intelligence, Surveillance and Reconnaissance (JISR); Precision Guided Munitions (PGM); Cyber Defence and maritime capabilities. Moreover, nations have also responded with complementary and different type of solutions consistent with the SD spirit of enhancing multinational cooperation, such as the NATO Framework Nations Concept initiatives announced by Germany, the United Kingdom and Italy. These three initiatives intend to bring together interested nations to work closely on the most needed capabilities, coordinate multinational joint expeditionary forces, and enhance regional ties. The flexible nature of SD allows it to support and enhance other multinational initiatives.

Post-Summit will be a good opportunity to reflect on the way-forward for SD and to consider how cooperation with P&S can be preserved and even fostered. The body of knowledge developed through such cooperation should produce, among other things, a common picture that captures NATO, EU and national priorities, identify overlaps to avoid unnecessary duplication and build upon potential synergies for complementarity. The common interests are clear to all, as 22 nations belong to both the EU and NATO. They all agree that costs must be rationalized, development programme timelines should be shortened, duplication of effort should be avoided and the development of capabilities should be coordinated to help our respective members meet these challenges and address new threats.

Moreover, the crisis in Ukraine has increased the focus on collective defence and security issues and calls upon the Allies' resolve to enhance complementarity between NATO and EU. Nations from both organizations will not allow duplicate systems to meet unmatched requirements.

There is also a need to move forward with the decisions of the December 2013 European Council on Defence, the recommendations included in the report on NATO/EU published in June 2014, and the NATO's commitment in Wales Summit. A real synergy of efforts will require NATO and EU to have a common understanding of the future emerging security challenges and their impacts on military capability requirements. To accomplish this, both organizations will have to improve the synchronization of their defence planning processes and reinforce coordination at staff level. It is acknowledged that harmonization of these processes (36 different mechanisms: EU, NATO, 22 NATO/EU Nations, 6 NATO-only Nations, 6 EU-only Member States) is a tremendous challenge. Nevertheless, there is merit in providing Nations the opportunity to better anticipate what capabilities they could develop or contribute to in the future, and which could be of interest to NATO as well as the EU. Rather than aiming for full harmonization, potential for better synchronization and coordination through greater transparency of the different planning cycles should be explored. More coherent calendars for these processes would facilitate the identification of the capability requirements which are of common interest to NATO, EU and Nations. This could help Nations determine how they could collectively and timely address requirements - in a multinational cooperation mindset, within the SD or the P&S framework.

To further increase synergy, particularly in the area of capability development, daily interaction is paramount; for instance, establishing a permanent EU Liaison Team at Supreme Allied Commander Transformation Headquarters (SACT HQ). Following this path, multinational synergies could be improved between NATO and EU nations around technologies related to capabilities of common interest (i.e. shared intelligence, cyber or space).

Additionally, a need for both organizations exists to deliberately declare their political will to enhance the readiness and responsiveness of their military capabilities and to address most critical capability shortfalls acknowledged by both organizations.

For example, emphasis could be put on JISR or the replacement of the Airborne Early Warning Control capability (AEW&C) with a focus on defining, in a collaborative manner, the military requirements to ensure synergy for the next steps in filling the requirement. This coordinated approach should include a long term perspective that addresses development as well as sustainment of such a capability. This can be done within a framework ensuring maximum flexibility to meet both organizations requirements, taking forward what NATO Secretary General stressed in December 2013: "it is not NATO or the EU that possess these assets. They are owned by individual nations. They benefit the nations that have them. And they allow those nations to make a stronger contribution to addressing crises, in any framework they choose - be it EU or NATO or any other way."

The two Special Envoys for SD, the NATO Deputy Secretary General and the Supreme Allied Commander Transformation, have provided recommendations for the post-Summit way ahead for SD. They have highlighted the importance of addressing the most pressing capabilities, for which multinational cooperation can provide the most benefit around the 16 key capability areas identified and presented at the Wales Summit. They plan to continue providing support to nations by guiding and supporting efforts to address the complex political, military, economic, industrial and cultural challenges affecting multinational solutions. P&S and NATO SD could be complementary initiatives helping Allies to move past initial roadblocks, that often prevent multinational solutions from taking off. Also, both organizations could capitalize on the momentum gained over the past few years of institutionalizing SD/P&S activities.

Finally, there is a need to continue to examine how the SD and the P&S mindsets can be promoted further by considering the following: develop a means to better involve partners from industry, science and technology; evolve and adapt respective approaches based on the lessons identified; and re-examine the facilitation role to maximize the benefits the Alliance can derive from in the future. The outcomes from the Wales Summit and the ongoing enhancement of the NATO Defence Planning Process provide an ideal backdrop for conducting this forward-looking assessment and extending our horizons into the longer term.



Professor Doctor Ioan Mircea PASCU  
Member of European Parliament, Vice-Chair AFET



## Threshold Ukraine. European Defence: from "prestige indicator" to material necessity

"The end of the Cold War security system and the Balkan wars of the 1990s underscored the urgent need for the European Union (EU) security and defence capacity, including new crisis-management decision-making structures and civilian and military capabilities".<sup>1</sup>

Geopolitically guided by the European Security Strategy elaborated in 2003 (revisited in 2008), the EU action in this direction has identified both global and regional threats, particularly the ones coming from our neighbourhood: the Western Balkans, South Caucasus, the Middle East, in general the Eastern Mediterranean and attempted to address them.

CSDP - as it came to be named - knew, since 1999, three stages of development: institutional (beginning of 2000), capability build-up (since 2003) and operational (since 2003).<sup>2</sup> It should be mentioned that all three stages are still active. In this context, following a decision taken in Thessaloniki in 2003, the European Defence Agency - the institution we hereby celebrate for its first 10 years of activity - has been established, in order to eliminate the lack of a coherent approach in Europe in addressing military capability shortfalls. Capability oriented, the Agency has initiated a number of common projects for the benefit of the participating MS, lately being absorbed in implementing "Pooling and Sharing" as a way to respond to the challenges posed by the current financial/sovereign debt crisis.

Under the spell of the opening phrase of the 2003 European Security Strategy, declaring loud and clear that "Europe has never been so prosperous, so secure nor so free", enjoying both the moral high ground (at a time when the US attracted lots of criticism for getting involved in Iraq) and the assessment that "Large-scale aggression against any Member State is now improbable"<sup>3</sup>, European Defence was then more of a prestige indicator, demonstrating world status, rather than a real necessity.

But things, naturally, have changed. And they did so rather abruptly and relatively rapidly. First, the protracted financial/sovereign debt crisis has dealt a powerful blow to the entire construction of European Defence, threatening its financing.

Second, our direct neighbourhood - namely the one the EU tried to stabilise and consolidate through the ENP and the EP - became highly unstable. The "Arab Spring", the civil war in Syria and the recurrent outbursts of violence between the Palestinians and the Israelis have only amplified the challenges to the EU. Moreover, crises in Libya, Mali and Central African Republic demanded immediate attention and significant resources, at a time when the US declared a "strategic reorientation" towards Asia and the Pacific.

To face all these negative developments, a long awaited EU Council addressing, among other urgent topics, defence, was convened in December 2013. It took a number of decisions relating primarily to the challenges to the European defence industry and not to the security of Europe as such. In June 2015, the situation will be reviewed and, hopefully, security will get the necessary attention, too.

On top of all that, last spring Russia illegally annexed Crimea and initiated a process of destabilisation of the eastern part of Ukraine, in a double attempt, first, to make sure that Ukraine's European aspirations were put on hold and, second, to possibly mark the beginning of a "Re-Conquista" of the former "Soviet Empire".

The bare reality, whether we like it or not, is that Russia's actions are a game changer: the illegal annexation of Crimea gives Moscow a considerably improved strategic position, not only in the Black Sea, but also in relation to NATO in general<sup>4</sup>, Eastern Mediterranean, Middle East and the Gulf.

Moreover, it reasserts a doctrine, which substantially contributed to the outburst of WWII - that of defence of nationals in foreign territories - and reconfirms the thesis that “might make right”, both openly condemned in international affairs.

But, much more than this, it challenges the validity of a major assumption in both the European Security Strategy and NATO's New Strategic Concept, namely that large-scale conventional attack in Europe is highly improbable, if not absent altogether.

Western response has been differentiated: NATO moved rapidly to offer “strategic reassurance” to its (and EU's for than matter) Eastern MS, through rapid deployment of military forces and expedited rotational presence in the East. Moreover, the next NATO Summit in Wales is expected to adopt extra measures in that respect, including prepositioned materiel, military facilities and concrete defence plans for all these Eastern MS.

Initially, the EU has been comparatively slower, limited and rather ambiguous in its retaliation. That could be explained through the substantial interdependences with Russia created during the last 25 years, which put Russia in a position of strength, primarily in relation to energy supply. Consequently, Russia continues to be seen as a trading partner, even if Russia made clear that it considers the EU a geo-political adversary.

However, the shooting down of MA 17 has changed considerably that perception. The EU radicalised its attitude and started to exploit through biting sanctions the other face of interdependence, namely that Russia could equally be hurt, provided the EU is determined to suffer, too.

Following these negative developments, European Defence becomes a material necessity. Rather suddenly, Europe does not enjoy the luxury of a benign security environment with no major threat to its security. Consequently, the political will of the MS - so frequently absent in crisis situations - needs to be mobilised and a minimum agreement on threat perception achieved. In that respect, the first step would be the completion by the HR/VP of the assessment of the current security environment decided by the EU Council last December, to prepare the ground for a re-visitation of the European Security Strategy. This document is indispensable if one wants that the EU's response to the current security and defence challenges to be credible, signalling EU's determination to defend itself if need be.

Then, the relationship to NATO should be really given proper attention, efforts to unblock it being necessary from both ends. Once unblocking achieved, the EU should work out the legalistic aspects of covering for the security and defence of those EU members who are not NATO members, to be covered by Art. 42 of the TEU. It is commendable that the “Solidarity Clause” (support in case of human made or natural disaster) is in force and mechanisms for its application are in place, but one still needs to address how can EU members respond to a defence request from a member who is not a member of the North-Atlantic Alliance.

Then, the request by the EU Council in December 2013 to both the HR/VP and EDA to “put forward an appropriate policy framework, in full coherence with existing NATO planning process” becomes a vital piece of that working relationship. Particularly so, given the current revision of NATO's defence planning vis-à-vis the Eastern members, directly threatened by the latest Russian actions, as part of their “strategic reassurance”.

Equally, EDA's tasking of examining “ways in which Member States can cooperate more effectively and efficiently in pooled procurement projects”, taking into account the concrete threats they are faced with regionally, is getting acute topicality today. Aware that the willingness of the MS to join such common projects will be mediated by the necessity to respond to different concrete security requirements, EDA should start operating on the new premises that security has become a real necessity, at least for its Eastern members, who are waiting for proper response. For these countries, even a “negotiated deal” between the EU and Russia over Ukraine would not make much difference when it comes to judge Russia's aggressive behaviour. What has happened has happened; the Genie could not be bottled up again!

Finally, EU Member States should not only stop slashing their defence budgets, but commit to their gradual increase - as some countries have already decided so in 33NATO -, the Commission should get more authority to finance defence related projects and, most important, the Athena Mechanism for financing the EU operations should be revised to provide for real burden-sharing of the cost of operations. In that sense, proper attention should be paid to the concepts of “permanent structured cooperation” and “framework nation”. In general, before creating new instruments, the existing ones - see the BGs for instance - should be made operational.

I admit, it is a high tall priority, but one which is imperative. The sooner we realise it and start working on it, the less costly it will prove to be in time.

<sup>1</sup> Javier Solana, Foreword, in Roy H. Ginsberg and Susan E. Penksa “The European Union in Global Security. The Politics of Impact”, London, Palgrave Macmillan, 2012, p.xvi

<sup>2</sup> Ibidem, p. 21

<sup>3</sup> European Security Strategy, 2003, p 3

<sup>4</sup> Russia, initially, almost 800 km away, has come now less than 200 nautical miles from the Danube Mouths, bringing large areas of NATO within the range of its weapon-systems stationed in Crimea.



Matteo RENZI  
Italian Prime Minister



## How to gain public interest and support for European defence?

In democratic countries, any political choice must be based on the consensus of citizens: leaders should muster public interest around the topics under discussion and, more importantly, public support for the decisions they have to take.

The more citizens feel that an issue is close to them, the stronger they will support it. And the contrary holds true as well.

For a number of reasons, it is always very difficult to build consensus around foreign policy issues, particularly when they refer to security and defence.

By definition, we are touching subjects with a broad time horizon and a wide geographical scope. Choices should be based more on strategic, rather than tactical considerations. International policy is like a big vessel that should start to veer much in advance, without any change being perceived at the beginning. Once the manoeuvre is started, it is difficult to correct it. Internal political debates, however, focus on a closer time window and have narrower geographical scope. This is especially the case at times of economic and financial crisis, such as the one we are experiencing, when attention is paid to the “particular” rather than the “general”, and to the present rather than to the future.

In the security and defence field, major public investment is needed. Globalization compels us to provide an equally global response, since it implies international interconnections at all levels: economic, financial, industrial, commercial, scientific, technological, cultural, political, and military. As for the cost of defence and security capabilities, technological advances in the field of equipment force democratic countries to finance regular replacement programmes, especially for deterrence. Globalization also increases military capabilities of other countries, particularly new regional powers. In addition, international instability and the dissolution of some states have resulted in a greater availability of weapons in the hands of political movements and terrorist organizations.

Democratic countries must therefore, keep their capability to contribute to maintain or restore peace in those areas where crises break out with increasing frequency and are at risk of spreading to neighbouring areas or becoming endemic. At the same time, globalisation requires a regular updating and training of military personnel in order to effectively and safely use the new systems.

Sun Tzu said that supreme excellence consists in breaking the enemy's resistance without fighting and here is the inherent contradiction in defence spending, that its maximum effectiveness is achieved when one succeeds in not resorting to the military option, either because of other instruments of international policy or because deterrence is effective.

Investing in defence is like taking out an insurance: the higher the premium, the broader the coverage, even though one hope is never have to use it. In present times, with worsened life conditions and increased unemployment, like in present times, it takes a lot of foresight to maintain a suitable “insurance” against risks and threats to international security. Other and more immediate social needs tend, in fact, to prevail. And rightly so. This insurance obviously requires significant and regular financial efforts.

However, this should not mean simply increasing the volumes of domestic defence budgets. For European nations, the focus should rather be on increasing the effectiveness of European spending, multiplying common programmes and avoiding overlapping between Member States' defence planning. Notwithstanding the defence cuts, I would like to recall that over the past years, the defence spending of European States has been higher than those of Russia, China and Japan together, but a little less than half the level of the United States.



The results in terms of effectiveness and intervention capabilities are not adequate to these spending levels. One of the reasons is that defence budgets are not coordinated among EU States; they are not aimed at European strategic objectives and do not focus on investment in Research and Development (in this area the US invests seven times as much as EU countries). Our motto should not be “to spend more”, but rather “to spend better and together”, and to this end the European Defence Agency plays a very important role which in my view should be further enhanced.

For European countries there is an additional difficulty: the European public's perception of risks and threats have shifted away in time and space. The younger generations, born after the Cold War, luckily have not experienced the worries and fears of nuclear confrontation between the two blocks. Also, in the past, the boundaries of the crises affected only the Southern hemisphere. With the fall of the Berlin Wall, these extended to former Yugoslavia where the situation has now almost stabilized thanks to the European perspective given by the EU to the countries of the region. On the other hand, the crises in Iraq and Afghanistan were felt as being “distant”, despite the high human and financial cost of Western intervention. One of the main successes of the European Union is having secured almost seventy years of peace and stability on the Old Continent, the longest period in its history. But this has induced our public opinion to pay little attention to the risks and threats that do continue to characterize the International arena, not far from us.

Finally, foreign and security and defence policies have had a mostly domestic dimension so far, rather than a European one. Only over the past few years, and to a limited extent, has the construction of the CSDP started. There is a growing awareness - though not yet sufficient - that only closer integration can allow Europe to remain a player in the globalized world, and thus, ensure the development and security of its own territory, population and institutions. This is the reason why the integration between the domestic and the European dimensions is one of the main challenges for Europe in the immediate future.

European and National institutions should ask themselves how to build the consensus of European citizens around European defence, or rather, the Europe of defence. The issue is no longer military in nature, as it was the case in the past, but it is rather of political nature. Globalization, on the one hand, and asymmetrical wars on the other, make the traditional instruments of solidarity and military collaboration insufficient. A new and effective political approach is needed.

At the same time, this provides European countries with a unique opportunity to revitalize the integration process, provided that the last two obstacles can be turned into opportunities.

The arc of instability and of crises has moved closer to Europe. Besides the very worrying developments in Ukraine, in our Eastern neighbourhood, with the “Arab springs”, it now extends further to the South. It reaches as far as the Southern Mediterranean shore, where it caused the collapse of previous political orders. Despite most recent developments in some countries, instability has become endemic in Libya, just like

in Syria. Moreover, it has extended to the Black Sea over the past year, destabilizing Ukraine and resulting in strained relations between the European Union/the United States and Russia. Meanwhile, the situation remains serious in the Middle East, with the crisis in Gaza. At the borders of the European Union there are dangerous and persistent hotbeds of crisis and instability, which exacerbates migration with hundreds of thousands of people moving towards the Old Continent. This has inevitable implications in terms of terrorism and organized crime. The European public opinion is therefore paying greater attention to and is concerned about the security of the Old Continent.

The difficulty of European and national leaders is twofold:

- a. without creating unnecessary alarm, we should raise awareness of the problems we are faced with concerning the border security, trade and energy supply. The Italian Government, through the Defence Minister, is preparing a forward looking White Paper on International Security and Defence to be published by the end of this year. In this process, it is involving public opinion in a wide debate on security and defence and planning meetings with Italian and international experts as well as with stakeholders (technology, scientists, industries, universities, and NGOs), and the Armed Forces. The European Union might do something along the same lines, deciding to draft a European White Paper during the 2015 summer summit, with the involvement of the European public opinion.
- b. we must make sure that our citizens understand that these issues affect everyone, even though some countries are more directly affected than others. European integration, in fact, is such that, like in a chain, each link has an effect on all others, both positively and negatively. Hence the need of all Member States to demonstrate the maximum solidarity with the Member States that have the greatest exposure to risks, thus increasing the awareness that we are all European citizens. And this should also apply when a Member State or a group of Member States participate in International missions in crisis areas.

The phenomena that have been briefly outlined do not allow us to circumvent the core of the matter: European Union's future and, in particular, the future of CSDP. Economic and partly financial integration is not enough to tackle the challenges of globalization. The very topic of security and defence is increasingly dominating the European agenda and the fact that such important issues were at the centre of the European Summit of Heads of State and Government last December was a major signal in this direction. The decision to look again at the situation in the 2015 summer summit is equally important: then we will check the outcome of the tasks assigned to the Commission and the European Defence Agency, jointly with the Members States. Thanks to the valuable work of the European Defence Agency and EU Institutions, I am confident that by then we will have made significant progress on the road to the Europe of Defence and laid the groundwork for further steps forward. Only in this way will prove to our citizens that available financial resources can be used more effectively to ensure their security and defence. This is the best way to gain their attention and support.

Major General Riho TERRAS  
Commander of Estonian Defence Forces



## Adapt, Understand, Include and Decide: crafting a European response to the ever-growing Cyber Threat

Cyber threats to our countries, communities and the European Union as a whole are well established and widely recognised. Merely 10 years ago, cyber security was an area of concern for just a handful of experts. Today it is a well-established part of the mainstream security and defence discourse. Recognising a problem is a starting point for tackling it, and the European Union has been at the forefront of bringing this issue to the centre of attention.

The European Union (EU), including the European Defence Agency (EDA), has the right “DNA” to meet this challenge. Several steps, such as the adoption of the EU Cyber Security Strategy, reflect a high degree of coordination in the joint responses to this ever-growing threat. Having the responsibility of commanding the defence forces of a country that is so heavily dependent on e-services and various other e-solutions, these responses are welcome and timely.

Presented below is a commander's view of certain topics that I see as key issues in the cyber security context that we need to further tackle in an urgent, focused and well-coordinated manner. I believe that the EU and EDA are in a unique position to meet those challenges.

In my view, we are facing four key challenges that can be summarised in four keywords: adapt, understand, include and decide:

**Adapt.** Let me start by describing just a few characteristics of the complexity of the environment that we must operate in. We are in the middle of a crowded and messy battlefield. The number of cyber-attacks is constantly growing; the adversary is relatively well organised and outnumbers us. In cyberspace, there are no clear fronts, hardly any rules and the adversary is as stealthy as they come.

The perpetrators of cyber-attacks do not form a coherent, well-established group, but we are witnessing a significant level of coordination and a sophisticated level of planning. Our adversary in cyberspace does not recognise state borders nor generally recognised conventions of warfare. The new types of threats, some of them extremely technologically advanced, make them hard to even recognise, or start formulating any kind of meaningful response. We have seen this trend growing and notice with grave concern that cyber-attacks have also become an enabling fixture in the new kind of “modern warfare”.

The fact that technical attribution of such attacks is enormously difficult and resource intensive adds another layer of complexity. Often we find perpetrators hiding behind unbending rules that were initially designed to protect some of the most fundamental rights and freedoms of citizens that our forces need to defend.

Cyberspace is now recognised as the fifth domain of warfare and such recognition needs to be acted upon - with planning, allocation of resources, and action. The challenge starts from adapting our defence forces to this threat. How do we achieve that?

To adapt, we first need to do our best to understand the nature of the threat.

**Understand.** To fully grasp the nature of cyber threats is one of the greatest challenges. When we look at the complexities and characteristics of them, it becomes clear that some of the traditional ways of addressing threats simply do not work. I strongly believe that cyber threat is something completely new, something that we have never encountered before and that it needs a unique response.

There are many reasons why I think this way.

First, the time factor is critical. The reaction time for addressing any cyber threat is completely different from anything we have encountered before. We need to be able to react very fast, not in hours or minutes but often in nanoseconds. This puts a strain on our command and control procedures, procurement regulations, and planning.

Second, the human factor cannot be ignored. Cyber security is an area where more than anywhere else a human being indeed is the weakest link. We need to address this problem by deploying tools and devices that mitigate this threat. We need to understand and start to decisively tackle issues of supply chain security. These are hard and difficult topics, but absolutely vital ones.

Thirdly, we need to find a way to discuss and answer uncomfortable questions. By this I mean a genuine discussion on military doctrine of the operations in cyberspace that includes the discussion on the use of offensive capabilities. Defence is not possible without answering this question.

And finally, at the centre of understanding and ultimately responding to cyber threats is our ability to include: to build a cooperative coalition that crosses countries, sectors and command levels.

Include. Cyber threats do not differentiate between state and non-state actors, combatants and non-combatants, private and public sector. Therefore, we need a plan to reach out and build a genuine community that is able to put forward an effective defence.

When building this community, we must take a multi-level approach.

The coordination mechanisms within our countries must be well thought through. A cyber threat can quickly evolve from a crime to a military issue and the need for effective international and cross-sectorial coordination mechanisms is critical. The EU is able to employ tools and levers far beyond the conventional security and defence area. Supply-chain management, industrial policy and research & development are all equally important parts of our cyber defence architecture. Moreover, the EU is well equipped for engaging nations outside of the circle of 28 member states. But these advantages only accrue if we can overcome the traditional barriers in the EU between CSDP, justice and economic briefs.

Let me be clear, no matter how hard we try or how innovative we are, my toolbox as a commander is limited by the situational picture of Estonia. The EU and its member states need to take decisive steps to establish an information sharing mechanism for joint situational and threat awareness. Moreover, our response needs to include sharing of forensics information and analysis.

Another key challenge is to involve the private sector. A vast part of networks where we need to organise our responses are privately owned. We need to find ways how to trust each other better, how to quickly exchange information, and tap into the resources of the private sector. A great example is the Estonian Cyber Defence League that Estonia has set up to meet the shortages in personnel, and include the private sector in cyber defence. By pooling a highly specialised voluntary force of vetted cyber experts, this unit can be quickly deployed to meet some of the most severe challenges, whilst being a cost-effective solution.

Perhaps one of the greatest and often not so well recognised challenges lies in the cooperation between various decision-making levels. We can have the best technology, the best experts, all the resources that we can think of, but if do not have an effective decision-making framework, we will fail. We need to be able to take decisions.

Decide. There seems to be a dangerous lag between strategic-level decision makers, and the operational and tactical/technical levels. Addressing cyber security at the strategic level is as important as addressing the technical issues. Strategic decisions must come swiftly, clearly, and they must be well informed.

In an outbreak of a serious cyber crisis, political decision-making processes in the EU are currently slow or even non-existent. Planning ahead, this is something we need to prepare for and fix.

Decision-making needs to be approached from two different angles. The operational and tactical-technical levels must undertake a concentrated effort to explain and raise awareness of cyber security issues at the strategic level. Currently, there are clear shortcomings in this field. However, we must also engage the operational/tactical levels to raise their awareness in certain strategic considerations, which they are often unaware of.

The problems and challenges I have described are not insurmountable. At the heart of crafting a joint response is our ability to study the threat. We need to test our organizations, our adaptability, understanding, cooperation needs and decision-making capabilities.

In Estonia, we have concentrated heavily on developing, as well as hosting and conducting various cyber exercises. These exercises at the highest international level - such as the NATO CCDCOE Locked Shields and NATO's Cyber Coalition Exercises - have provided us with invaluable insights into the evolving threat, and we have trained our teams and the teams of other nations.

Our goal should be a community of experts and units that is ready to act as one when the need arises. This can only be achieved through international cyber security exercises. The Estonian Defence Forces Cyber Range exercise environment is a great example and we are determined to develop this initiative further. Having already experience with more than 30 nations, we are looking forward to expanding this cooperation.

Estonia is at the forefront in creating and conducting strategic cyber security exercises. In this context, I would like to congratulate the European Defence Agency in particular for their initiative to organise, together with Estonia, a Pilot Exercise on Strategic Decision-making at the National Defence Institute of Portugal. Such exercises are also an effective way to raise awareness in matters of cyber security at the highest decision-making level. Our methodology enables the flow and comparison of events, a unique way of assessing and comparing them, and also event visualisation.

The road ahead is long and difficult. But by adapting, understanding, including and acting decisively, we can succeed.

## Member States are encouraged to work jointly in the development, maintenance and operation of military assets

The European Defence Agency was created ten years ago, riding on the same wave that four years earlier had brought the development of the European Union's crisis management structures and procedures within the European Security and Defence Policy (ESDP). It was a time of strength and optimism in the European project. In 2003 the Thessaloniki agenda offered membership perspective to the Balkan countries. Enlargement towards the East was underway. The European Constitution was being drafted. Europe was growing stronger in numbers, but also in the consolidation of its institutions and policies. It offered convincing answers, notably after the traumatic Balkan wars of the 90s. Working on its own security and defence mechanisms was part of this process.

Accordingly, in December 2003, High Representative Javier Solana presented to EU Heads of State and Government a first ever "European Security Strategy". It analysed challenges and provided guidelines for action. Priority was given to our neighbourhood, to the development of strategic partnerships and to multilateralism. A more active, effective and coherent European Union was the goal. ESDP, including the EDA, provided new additional tools.

Yet today the mood has changed considerably. In the last years the European Union has lived through a severe financial crisis. While the euro has been saved, and Banking Union structures have reinforced the EU's economic and financial set-up, the creation of sustainable growth and jobs remains a challenge. Many Member States have been under strong stress. Large parts of European public opinion view the EU with criticism.

Herman VAN ROMPUY  
President of the European Council



First, some of the conflicts and tensions threatening Europe's neighbourhood respond mostly to dynamics that have not originated in the EU and over which the EU, or any other external actor including the US, have a limited capacity for action. We must therefore remain clear-sighted when apportioning blame or responsibilities. Nevertheless, most of what is happening today has been in the making for many years.

The time seems indeed arrived when the European Union needs to look afresh at the challenges it is facing. The EU needs to reflect with realism on what it can achieve within given time frames and how to achieve desired results. It needs to develop a strategic vision that will further guide its actions.

By this I do not mean necessarily the drafting of a new policy paper for public communication. These exercises, as we all know, are fraught with difficulties and there is always a risk that the final product will not respond to expectations or to what is called for. What we need is the development of a common understanding on goals and means, based on a longer term perspective and the broad consideration of our security interests. Responding to events as they develop should not be an option.

And this leads to my second point: no European Union Member State can tackle the challenges we are facing on its own. All need to act within or at least in close coordination with the EU. This was already acknowledged in the 2003 Security Strategy, but it becomes ever more evident today. Let us take the case of France's interventions in Mali and CAR. They were decisive to restore stability and prevent horrendous crimes. But France required assistance from partners to carry out these actions. It also needs broader EU support to ensure follow-up through capacity building, humanitarian, reconstruction and longer term development efforts. Understanding that in these situations France's actions constituted major contributions to the EU's overall security is even more important. Halting the spread of instability and chaos in regions so close to Europe, stopping the spread of extremist terrorism and organised crime are not just in the interest of France, nor its exclusive responsibility. This concerns all of us. France acted in the interest of the European Union and deserves to have the European Union's full support.

Here we face a double challenge. Leading nations in the European Union have to act in a way that will ensure that their goals are well understood and therefore supported by other Member States. At the same time required action must not be slowed down or even worse paralysed. EU institutions and structures could be associated to plans or efforts early on in order to facilitate their support. All Member States must understand that there can be no "free-riding".

They have to contribute to actions carried out in the interest of the EU in proportion to their capacity. This may also require a revision of the apportionment of costs for EU missions and operations, to ensure fairer distribution.

Indeed, the EU and its Member States, and this is my third point, have to assume more fully responsibility for their security. We cannot solve all the problems of the world, nor are we responsible for them. But unless we do what we have to do and what we can do, no one will come to our rescue. The EU needs to intervene decisively where it can to suppress or contain threats. It needs to give priority to its security interests. The US "umbrella" was developed in times of East-West strategic confrontation. As we have seen in the last years, and leaving aside considerations of fairness, it cannot provide answers to many of the challenges we are encountering in our immediate neighbourhood. The US wants the Europeans to do their share of the work. The assumption of responsibilities requires strong political will both collective and at national level. It requires readiness to present the situation to not always receptive public opinions. It requires clear acknowledgement of our interdependence. While there has been progress in this direction within the EU during the last years, the situation varies in different Member States and more needs to happen. There will be costs, political and financial. We have to be ready to foot them.

My fourth point is that we need to think and act broadly, while concentrating on our neighbourhood. Bringing back peace and respect of international law to Ukraine, containing threats and restoring stability in Northern Africa and the Sahel constitute main priorities. At the same time, we have to advance on Balkan integration. We understand Turkey's key strategic role and should pursue further the development of our relations. New efforts to solve the Cyprus question once and for all may be, in this regard, quite relevant. We have to rethink our neighbourhood policy. It could require a more country-tailored approach, as well as a forum for common dialogue at the highest level that will allow us to build jointly a project for political and economic cooperation. Full ownership from our neighbours East and South should be ensured. We have to reflect further on how to make it clear to Russia that only a path of cooperation, based on mutual respect, can lead to stability and prosperity in Europe. In zero-sum games logic everyone stands to lose. We also have to renew our engagement in the Middle East, including in the Palestinian-Israeli conflict. And we need to work with partners, in particular regional partners, for the promotion of common interests in fields of development, environment, trade but also security. In this regard, ongoing work with the African Union, other African sub-regional organisations and the UN, is particularly noteworthy.

Our success in pursuing these policies will increase our relevance and capacity for action further afield. Indeed, the EU is often seen as a partner that can assist in rebalancing regional or subregional dynamics. But a European Union that provides credible answers to challenges within its immediate neighbourhood is all the more perceived as a worthy partner.

Fifth, one of the EU's great advantages is the plurality of instruments at its disposal and the sheer accumulated magnitude of its markets and assets. Our relations with third States are multidimensional and it is through proper balancing of our policies that we can achieve goals and contribute to stability and the promotion of core values. In crisis management situations, this is what we commonly refer to as the EU's "comprehensive approach". But to be more effective, as the 2003 Strategy said, we need to be more coherent. The Lisbon Treaty already moved in this direction. And the new Commission structure proposed by President Juncker has been designed with the aim of increasing coherence through the establishment of teams of Commissioners, each coordinated by one of the Vice-Presidents. The incoming High Representative will face a challenging task not only due to the problems that lie ahead, some of which I have outlined, but also in ensuring that the EU in its entirety, Member States, Council and Commission act united and effectively.

Sixth, the fact that the EU has a broad crisis management toolbox -the "comprehensive approach"- should not detract from the need to ensure that Member States are capable of deploying necessary defence capabilities. Defence does matter. This is at the heart of the EDA's mission. It has been the centrepiece of the process launched by the European Council in December 2012, which led to the development of an ambitious programme of action endorsed by it one year later. Cooperation is key to this approach. In view of the high investments required, but also to ensure greater interoperability and cost-effectiveness, Member States are encouraged to work jointly in the development, maintenance and operation of military assets. Cooperation should extend to planning processes. At the same time, the EU must look into the use of market and research instruments to encourage the development of a stronger and more competitive European defence industry.

The resulting assets can be used within whichever framework participating Member States decide upon: NATO, the EU, the UN or any type of multinational coalition. NATO's Secretary General expressed full support for this EU initiative in last December's European Council, when I invited him to address EU Heads of State and Government.

More recently NATO's Wales Summit reiterated this endorsement. In addition and increasingly so, defence and security assets are being deployed in the context of common border surveillance operations launched within FRONTEX. Such operations play a key role in EU containment and protection efforts.

The European Council has been instrumental in relaunching efforts to ensure that the EU focuses again on assisting Member States in the development of their defence capabilities and on fine tuning its own crisis management instruments. It will ensure follow-up of implementation efforts, with a first review in June 2015. One could recall that the development of the crisis management dimension of the then called European Security and Defence Policy was carried out through European Council conclusions. Furthermore, and this will be my seventh and last point, the European Council has a key role to play in raising awareness on the security and international challenges the EU is facing and generating the political will, at the highest levels, to respond to such challenges. The handling of the Ukrainian crisis has shown that only at European Council level was it possible to bring the European Union together and take decisive steps. Many of the issues I have raised in previous points will most likely require, at one moment or another, stock taking and direction from the European Council. In each case it will be important to ensure that concrete proposals are discussed and put to decision. In my experience, broader and more open type of discussions have not helped in developing a common vision, nor in advancing towards decisive action. And this, decisive action, is what present circumstances require from the European Union. It is what our citizens expect from us.



Ursula VON DER LEYEN  
German Minister of Defence



## What are the next steps for European defence cooperation? Is defence still a priority?

### Strategic setting

We are living in an age of conflict. This is undoubtedly a fact that European policy cannot ignore. Our strategic periphery appears to be in ever more political and military turmoil. This calls for a reappraisal of our common efforts as a values-based community. In the past we have seen hopes for peaceful change in a number of countries and regions being crushed by undemocratic forces.

This development is pitiful but something a comprehensive Common Security and Defence Policy has to take into account. Europe with its emphasis on constructive dialogue and diplomatic negotiations has to take note of a world where some actors have no interest in real dialogue or where they use dialogue only as a means to disguise their real actions and intentions.

This is no call for changing our basic values and our understanding of modern politics. Quite the contrary. Europe should remain committed to its values-based approach to international politics and our firm belief that working together yields more benefits for all sides than pursuing confrontational politics. But we should also be prepared for situations in which diplomacy alone may not be the answer to the problem at hand.

### Consequences

This leads to the conclusion that we must be prepared to consider using the military tool as part of a comprehensive Foreign and Security Policy of the European Union. And this means that our military must be prepared to take on the missions that are decided at political level. Political guidance on what we want our armed

forces to be capable of has been given in the past. The Helsinki Headline Goal as well as its later recalibrations have made clear at the level of heads of state and governments as well as at ministerial level in the Council of the European Union what the nations making up the EU are striving for in terms of military capabilities. What is needed and what is missing is absolutely clear to everyone who concerns himself with this matter.

The process of defining our deficiencies has thus gone through a series of adjustments, taking into account a changing strategic environment as well as lessons learned from operations. We are clearly getting better and better, more focused. However, this is probably not enough. Where we have made promising steps but have not achieved a fundamental realignment is how we deal in closing the capability gaps that we have commonly defined within the European Union. Just as in NATO, responsibility for this still remains largely with the individual nations. Even more so, European processes in defence do not have the same rigidity as in an organisation that was built as an alliance for self-defence whereas the EU was an economic instrument that added foreign policy and defence quite late in its organizational development.

However, it was obvious that one element was missing. While we come together to analyse where we are failing there is no such thing when it comes to dealing with the consequences of this analysis, how to remedy our shortfalls. There are, of course, numbers of plausible reasons why we might have difficulty doing this: national planning and budget structures rank very high on this list. Alleviating capability shortfalls is a costly business which all parliaments take a very high interest in, and rightly so in their constitutional duty of checking the government.



This, however, results in national structures and procedures that are very much geared towards the national political process. That is something that can be changed but it takes time and effort - and does need support.

The European Defence Agency since its inauguration in 2004 has been working very hard to deliver the best support possible to member states in the evolution from European to Common Security and Defence Policy. It has encouraged and engaged constructively with member states in pursuit of a common goal, a more capable European Union as the European Security Strategy puts it.

### Way Ahead

Having defence in focus, how could the way ahead look like? Is it still a priority? The answer is an unequivocal yes. There is a need for the European Union to become involved in a truly comprehensive way. This might include also military means in order to come to sustainable solutions. In recent years we have continuously had to deal with new crises dominating the headlines: Libya, Mali, Central African Republic, just to name a few where the EU is engaged, if not always with military forces.

But defence has found its way back high on the European agenda. The discussions heads of state and government had on a very wide array of defence-related issues in December 2013 were a starting point for a new era of security and defence policy within the European Union. It is now important to keep the momentum and to put into practice what has been decided. In this respect it is of utmost importance that the heads of state and government will revisit this topic in mid-2015 and, based on the progress made so far, give further political guidance on how to proceed ambitiously.

The European Defence Agency has played a pivotal role in the preparations of the December 2013 European Council and has an equally important role now in the implementation phase. It has emerged strengthened as an organisation and will have an increasing role in the future as an organisation supporting member states and the Council.

But aside from the political and practical decisions of the December 2013 Council decisions that are now being implemented, we also need to keep in mind a long-term perspective of where we want to go with the European Union and its Common Security and Defence Policy.

Since 2009 German governments have been stepping up efforts to pursue strengthened cooperation between armed forces in Europe, leading to the possibility of truly European armed forces as provided for by the European treaties. Of course, we have not reached our goal yet. But strong political leadership also requires setting out visions for the future to encourage bold actions as well as unity of effort. So we should keep in mind the opportunities given by the Treaty on European Union in developing the future. Going into its second decade, the European Defence Agency will play an integral part in improving and developing an essential element of European Foreign and Security Policy.

Claude-France ARNOULD  
EDA Chief Executive



## Back words with action

For decades, before 2003, there were various attempts to find the right instrument to initiate, stimulate and develop European cooperation on defence issues. None of these really met expectations.

The European Defence Agency was created 10 years ago, after the decision of the European Council in Thessaloniki. After almost four years as Chief Executive, I am convinced that this instrument is exactly what is required: an "intergovernmental" agency, subject to the authority of the Council of Ministers, and which reflects Member States' responsibilities for defence. But also a structure firmly established within the EU institutional framework, which allows for synergies with relevant EU policies. A combination of a top-down approach by the board of Defence Ministers chaired by the High Representative/Head of EDA and a bottom-up input by teams of experts from Member States; inclusive in nature, with all 27 participating Member States around the table, but offering them "à la carte" cooperation opportunities from two Member States onwards. The original design is perfect, which is pretty extraordinary whether from an EU or national perspective.

But as we today commemorate the 10th anniversary of EDA, how come we don't simultaneously celebrate the delivery of the new European drone, or a demonstration for the future generation of communications satellite? An obvious answer is that it takes more than a decade to bring such programmes to maturity.

But is it also because, as some like to say, "Europe does not work"? Nobody would say that after decades of NATO Defence planning the present state of play of European Allies' defence capabilities shows that NATO does not deliver.

Is it because, as practitioners often argue, international cooperation does not function? This is a serious point. All complex programmes, even national ones, suffer delays and/or cost overruns (and often both). Admittedly a multilateral programme with many autonomous actors accentuates the challenges. The same goes for bilateral efforts, which in the past rarely delivered on their initial promise. And it is extremely worrying to notice that today, cooperation seems to be even lower than it was ten or twenty years ago, with more than 75% of equipment spending still oriented towards purely national programmes.

Thus while Ministers, even Heads of State and Government, commit themselves to cooperation as they did last December, when it comes to implementation, practitioners seem a lot less enthusiastic.

First, because they are right: multilateral cooperation can be tricky, especially if there is no architect, someone empowered to stick to the agreed line, including for the full life of the programme, or to prepare and negotiate possible amendments.

Second, because they cannot. They cannot commit to cooperation when they struggle to fulfil their mission with insufficient and, moreover, uncertain resources. Without prospects of investment, without the possibility to address shortfalls and prepare the future on the basis of agreed priorities, there is no real scope for cooperation.

EDA offers an answer to those very serious objections to cooperation: it can be the architect, empowered by the group of Member States involved in a programme. The combined strengths of EDA and OCCAR offer the best answer to prepare and manage a programme.

But money must be available and incentives must be found to use it efficiently. "War is a matter not so much of arms as of money, which makes arms of use", wrote Thucydides.

Synergies with other EU policies are part of the solution : support to R&T, support to industry, efficient certification and standardisation processes, efficient energy policy using the spectrum of EU instruments and funding, where we are in ever-growing domain of dual activities. EDA is the place where these synergies can best be found.

Defence should not be on another planet. It is part of the EU's future as stated in the Treaty, with its specificities. It is neither a disreputable activity to be looked at with suspicion, nor a subset of foreign policy. Defence Ministers and Ministries must be at home in the EU.

Defence matters not only because we say so. It matters because it provides security to the European Union's 500 million citizens, because it gives us the ability to react to existing and emerging security challenges. But in order to achieve this increasingly vital objective, Member States must have the capabilities to act when needed. To this end they have created, with EDA, the instrument to take action. EDA has delivered concrete results and added-value on many important, if not spectacular, activities, presented in this brochure, from training of helicopter crews to airworthiness, maritime surveillance, counter-IED. Significant progress is being made on the four key programmes highlighted by the European Council: Air-to-Air Refuelling, Remotely Piloted Aircraft Systems, Satellite Communications, Cyber Defence. All in just a decade, a blink of an eye by defence standards.

Over the last decade, the Agency has proven flexible enough to cope with a difficult budget environment and with its Member States' varying agendas and priorities. In doing so, I believe that the Agency has delivered on the promises of its first architects. Thanks to those who firmly believed that becoming "stronger together" was a requirement, not an option, we have drawn a path towards effective European defence cooperation.

The political will is there. It was again clearly expressed by Heads of State and Government during the European Council of December 2013, on the basis of Defence Ministers' recommendations. The instrument is fit for purpose. It is owned by Member States, as they rightly wanted it to be. Now let us use it to the full. To take action. Urgently.





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