



EUROPEAN
DEFENCE
AGENCY

*Together
for a stronger Europe*



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EUROPEAN DEFENCE AGENCY

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for a stronger Europe***

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FOREWORD

The European Union (EU) needs to be able to respond to the complex threats and challenges of today to assume its global responsibilities. To remain an active player in the world, the EU must maintain highly capable military forces: these are crucial to our credibility. At the same time, nobody can ignore the financial crisis, and in particular the wave of Defence budget cuts across Europe it has led to. If we want to preserve and develop Europe's defence capabilities, multinational cooperation must become a reflex – the rule rather than the exception. And the EDA is here to play a pivotal role.

Catherine Ashton,
Head of the European Defence Agency



FOREWORD

Europeans face the challenge of reconciling the development of military capabilities that allows them to assume their security and defence responsibilities with budgetary discipline. We need to provide the best capabilities to our armed forces in the most cost effective manner.

When the political decision is made to take military action, we must ensure that they have the full spectrum of information, rapidity, accuracy and sustainability which, in some areas, means cutting edge equipment. Our European industrial and technological base provides this potential. We must ensure that this will be equally true in the future, knowing that global competition will be stronger than ever. At the service of its Member States, EDA's mission is to support and facilitate cooperation, be it with all participating countries or "à la carte" with upwards of 2 Member States, to identify opportunities for common projects related to capabilities, programmes or Research and Technology; to foster a more open and transparent market which should also take into account the specificity of defence activities; and to assist Ministers of Defence, our shareholders, to benefit from optimum synergy with other EU policies (research, space, single European sky...) and to protect their interests.

We work daily to deliver the capabilities European Member States need to be capable in the World.

**Claude-France Arnould,
Chief Executive**

EU-26¹ Defence sector: key facts²

Number of Military Personnel

1 620 188

Direct Employment in Aerospace
and Defence Industries

704 200

Average Number of Troops deployed

66 313

Defence Expenditure

194 B€

Defence Investment

41,99 B€

Operations and Maintenance Expenditures

44,11 B€

¹ Denmark does not participate in CSDP

² Source : EDA Defence Data 2010, ASD Facts and Figures 2010

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1 | EDA : A POWERFUL CATALYST AT THE SERVICE OF MEMBER STATES

» A unique structure



The European Defence Agency was established under a Joint Action of the Council of Ministers of 12 July, 2004, "to support the Member States and the Council in their effort to improve European defence capabilities in the field of crisis management and to sustain the European Security and Defence Policy – now Common Security and Defence Policy – as it stands now and develops in the future". To implement the provisions of the Lisbon Treaty, this Joint Action was replaced by a Council Decision on 12 July 2011.

The Agency is a unique structure : it brings together capabilities, research and technology, armaments and industry and market experts under the same roof. They work in an integrated way to ensure that

capabilities are planned and delivered coherently, respecting the requirements and market availability. This joint functional approach is combined with a bottom-up expert level initiative (EDA connects around 4 000 national based-experts) and top-down political direction. An Agency of the Council, EDA is mentioned in the EU Treaties and is **the only EU Agency whose Steering Board meets at ministerial level**. This makes EDA unique and gives it top-level political impetus and support.

The Head of Agency, who is the High Representative of the Union for Foreign Affairs and Security Policy, is also Vice-President of the European Commission. The EDA Chief Executive is appointed by decision of the Board. ■





» EDA's tasks

As described in the Council Decision of 12 July 2011, EDA has at its tasks to:

- › "contribute to identifying the Member States' military capability objectives and evaluating observance of the capability commitments given by the Member States";
- › "promote the harmonisation of operational needs and the adoption of effective, compatible procurement methods";
- › "propose multilateral projects to fulfil the objectives in terms of military capabilities, ensure coordination of the programmes implemented by the Member States and management of specific cooperation programmes";
- › "support defence technology research, and coordinate and plan joint research activities and the study of technical solutions meeting future operational needs";
- › "contribute to identifying and, if necessary, implementing any useful measure for strengthening the industrial and technological base of the defence sector and for improving the effectiveness of military expenditure". ■

1 | EDA : A POWERFUL CATALYST AT THE SERVICE OF MEMBER STATES

» A result-oriented team



» Key benefits for stakeholders



› Flexibility

EDA works "à la carte", from a minimum of 2 to all Member States (except Denmark) plus Norway and Switzerland: depending on their strategic priorities, their operational requirements, or their interest in a specific project, Member States decide on the extent to which they participate in the Agency's core work of projects and studies.

› Expertise

EDA is small in size (fewer than 130 staff), but its expertise is widely acknowledged. Its personnel generally has extensive experience in defence or has a military background. They work in an integrated way within the Agency and have close links to their expert counterparts in Member States and other EU and multinational structures.

› Cost-efficiency

EDA has a budget of some 30 million euros. This acts as a powerful lever: projects and programmes launched and managed by the Agency generate anything between 100 and 250 million euros in ad-hoc budgets within EDA and many of them are conducted by OCCAR. In military parlance, it acts as a "capability multiplier".



Ministries of Defence, Armed Forces, Industry, civil society, citizens: EDA benefits are of great value for all its stakeholders.

In other words, EDA is the place where Member States willing to develop capabilities in cooperation do so. It is also a key facilitator in developing the capabilities necessary to underpin the Common Security and Defence Policy of the Union. ■



2 | EDA : A PROACTIVE HUB FOR THE EUROPEAN DEFENCE COMMUNITY



As agency of the Council of the European Union, EDA is an intergovernmental structure at the service of Ministries of Defence.

Its expertise supports Member States regarding the defence implications of a range of broader EU policies and initiatives, such as Research and Technology, Single European Sky, Space, Radio Spectrum, dual capabilities related to Cyber Defence,

Unmanned Aerial Systems and Maritime surveillance. The Agency is the place where Defence ministries can identify and articulate their interests vis-à-vis these policies. To achieve this, **EDA has established strong relationships with other EU actors** such as the European Commission, the European External Action Service, the bodies of the Council (the Political and Security Committee, the EU Military Committee), SESAR and the European

Aviation Safety Agency (EASA), to name but a few. The European Parliament has expressed its support for EDA's activities (Report by MEP Krzysztof Lisek in December 2011 for example). Based on mutual confidence, these relationships permit to maximise in particular civil-military synergies.

EDA is also working with third parties. It already has Administrative Arrangements with Norway, Switzerland and the European Space Agency, which facilitate close practical cooperation. EDA has strong relationships with the Organisation Conjointe de Coopération en matière d'Armement (OCCAr) which conducts cooperative programmes such as A400M. The Agency continues to strengthen its working relationship with NATO, ensuring complementary and mutually-reinforcing capability development. EDA is also engaged in developing its relation with other non-EU organisations, such as Eurocontrol.

Concerning Defence industries and market, close dialogue and transparency with the private sector are key, thus the Agency and the AeroSpace and Defence Industries Association of Europe (ASD) are natural partners. This dialogue is also open to all other defence industry representatives.

In other words, the Agency act as a proactive hub for the European defence community. ■

Close cooperation with other EU structures

- The Council
- The European Commission
- The European External Action Service
- The European Maritime Safety Agency
- The European Aviation Safety Agency
- The European Union Satellite Centre
- The European Agency for the Management of Operational Cooperation at the External Borders (FRONTEX)
- The European GNSS Agency (GSA)
- SESAR
- etc.

Close cooperation with non-EU actors and third parties

- Administrative Arrangement with ESA
- Strong working relationship with OCCAR
- Administrative Arrangement with Norway and with Switzerland
- Working relationship with NATO: pragmatism and complementarity
- Industry: transparency is key
- Dialogue and cooperation with a number of other third States such as the US, Ukraine and Russia
- etc.



3 | POOLING & SHARING

» A new impulse for European defence cooperation

Since the end of the Cold War, European defence budgets have been declining¹. The current financial crisis is exacerbating the situation, resulting in further deep cuts. Member States have increased their international cooperation in order to develop defence capabilities. However capability gaps still exist, as illustrated by the recent operation in Libya. In certain areas, there is also scope for rationalisation.

The creation of EDA initiated a systematic European approach to this joint capability development, offering a forum for identifying and satisfying operational requirements and supporting the European defence technological and industrial base. Within the Agency's framework, Member States initiate capability development programmes, with the Agency providing expertise to support their initiatives.

¹ **Defence Expenditure and Investment: 2008 to 2010** - In the two years following the economic crisis, the overall defence expenditure of the 26 EDA participating Member States (pMS) decreased by almost 4% (or 5% if we look at real variation by taking inflation into account). Source: EDA Defence Data - <http://www.eda.europa.eu/DefenceData>



During the last few years, **EDA's achievements have proven that cooperation is not only possible, but that it works.**

Taking into consideration the constraint on Defence budgets and, simultaneously, Member States security interests and active engagement in the world, **it's time to do more together.** Member States have agreed on initiating more "Pooling & Sharing", a

concept which refers to initiatives and projects to pool and share more military capabilities among EU Member States.

Pooling & Sharing is of course not the panacea, the universal cure-all, but it is a solution to some of the challenges the European Ministries of Defence face in the context of both severe budgetary constraints and high European military commitments. ■

» A selection of EDA's achievements

Counter-Improvised Explosive Devices (IED) Theatre Exploitation Laboratory

- › **Capability need:** road-side bombs and other IEDs are the number-one killer of deployed forces in crisis management operations. They also result in high civilian casualties. The Deployable Level 2 Exploitation Capability is a mobile laboratory, enabling forensic analysis of IED incidents in order to develop means to prevent further attacks.
- › **EDA activity:** EDA initiated the Theatre Exploitation Laboratory (TEL(D)) project that involves procuring a Laboratory, which would then be manned and deployed into theatre by a Lead Member State.
- › **Means:** funded by the EDA Operational Budget (1M€), the Laboratory is procured by EDA for all participating Member States (pMS). Any pMS can request to deploy the Laboratory for a period of time and in so doing, as Lead Nation, assumes responsibility for its operation, maintenance and manning.

› **Results:** built by Spanish company Indra, the Laboratory was delivered to EDA in mid-2011. Following this, it was handed over to France who is the Lead Nation for the eighteen-month deployment to Afghanistan. Supported by Austria, Italy, Luxembourg, Netherlands, Spain, Sweden and Poland, the Laboratory has been in operation since autumn 2011.

Helicopters

- › **Capability need:** shortage of available (transport) helicopters for crisis management operations, where terrain (large distances, deserts, mountains) and lack of security (road-side bombs, etc.) set a high demand on use of helicopters.
- › **EDA activity:** improve immediate output through pooling and sharing training skills among European countries for flying in "high, hot and dusty" environments – the Agency's Helicopter Training Programme.
- › **Means:** theoretical courses (language skills, simulators) and live helicopter exercises: GAP 2009 (France), AZOR 2010 (Spain), ITALIAN CALL 2011 (Italy), HOT BLADE 12 (Portugal).

› **Results:** between 2009 and 2011: 58 helicopters, 114 crews, 1300 personnel participated – of which 63 crews have been deployed to Afghanistan.

Joint Investment Programme on Force Protection

- › **Capability need:** force protection is a major capability requirement, in particular where deployed forces have to cope with road-side bombs, snipers and other asymmetric threats.
- › **EDA activity:** research, technology development & demonstration in force protection, such as for individual and collective protection, CBRN defence, sniper detection or mission planning and training through pooling of investment and sharing of research results.
- › **Means:** Joint Investment Programme with 18 projects, with a total financial volume in excess of € 70 m, with 20 contributing Members.

› **Results:** technologies and demonstrators for development of force protection equipment. ■



3 | POOLING & SHARING

» The way forward : lessons from operations

European Satellite Communication (SATCOM) Procurement Cell (ESCPC)

SATCOM is a critical high demand operational enabler that links both command and control systems and intelligence, surveillance, reconnaissance and targeting systems. Demand is growing significantly, particularly with the widespread use of Unmanned Aerial Vehicles on the battlefield which require significant SATCOM capacity for control and transmission of data from sensors. This "pilot" programme is designed to prove that pooling demand will reduce costs (20% estimate) and ensure better availability (security of supply and rapid access).

Aim : To aggregate commercial SATCOM needs of several Member States by centralizing the procurement at European level.

Benefits : ESCPC will allow a coordinated access to the SATCOM commercial market, realising economies of scale with grouped deals and enhancing security of supply.

Air-to-Air Refueling (AAR)

An air-to-air refueling capability is required to enable anything but the most rudimentary and short-range air combat operations. In the past, European armed forces have relied substantially on American assets. This was clearly demonstrated in the Kosovo Campaign, and was again one of the major lessons from operations over Libya. At this time, Europeans cannot even sustain a mid-size air operation. Europe can field 42 aircraft of 10 different types, compared with US resources of over 650 of 4 types. This is a major European capability shortfall that calls for a European solution which consists of increasing European capabilities and at the same time defragmenting the fleet.

Aim : To facilitate and harmonise the acquisition of additional European AAR capability. To create all possible synergies in the logistics, training and operational functions. To increase the number of contributing Member States by pooling and/or sharing AAR assets or services.

Benefits : To increase European Member States' operational autonomy by alleviating the existing European AAR shortfall. To increase interoperability and to reduce the overall AAR capability costs. To make the acquisition/operation of an AAR capability more affordable for Member States.

Medical Field Hospitals

Providing medical capability is a fundamental enabler for any military operation. Deployable medical capability is scarce and expensive. It is an ideal capability for European Pooling and Sharing due to commonly recognized civilian qualifications and it is very much a "dual use" (civilian and military) capability that can be utilized in humanitarian operations.

Aim : To set up deployable field hospitals that integrate national assets with pre-identified medical modules of Troop Contributing Nations within a framework provided by Lead Nations in order to maximize the availability of medical assets for operations.

Benefits : Besides providing enhanced deployable medical capability, it will increase standardisation and interoperability. Additionally, it is aimed at fostering cooperation between civilian and military institutions in order to integrate medical personnel within multinational medical units. The final outcome will be several Multinational Modular Medical Units with one or more training centres for pre-deployment that will integrate medical personnel and units. The framework will enable Member States with a wide range of medical capabilities to effectively contribute or participate on operations thereby achieving economies of scale.

Intelligence Surveillance and Reconnaissance (ISR)

The operational, legal and humanitarian aspects of current and future operations will require even more precision in targeting. This can only come from improved ISR. The relative weakness of indigenous European ISR capabilities has again been demonstrated through the Libya Campaign. The ISR system involves platforms, sensors and networks and it is the optimisation of this system through Pooling and Sharing that is at issue. Sharing information and intelligence multinationally is a sensitive matter (albeit often resolved quickly) on operations, but the technical issues allowing sharing, such as standardised image formats and network architectures, can be addressed now.

Aim: To overcome current shortfalls in Intelligence, Surveillance & Reconnaissance capacities, as identified in operational lessons learnt from recent military operations.

Benefits: An affordable, functioning and optimised ISR capability to allow adequate informed decision making for operations or missions. Better use of existing facilities such as EU SATCEN and the reduction of duplication through multiple platform types and single system non-interoperable ground stations. ■



4 | EDA IN ACTION



» Focus: Maritime Surveillance Networking

› **Need:** Maritime situational awareness is the effective understanding of activities, associated with and occurring in the maritime domain, that could impact on the security, safety and environment of the European Union and its Member States.

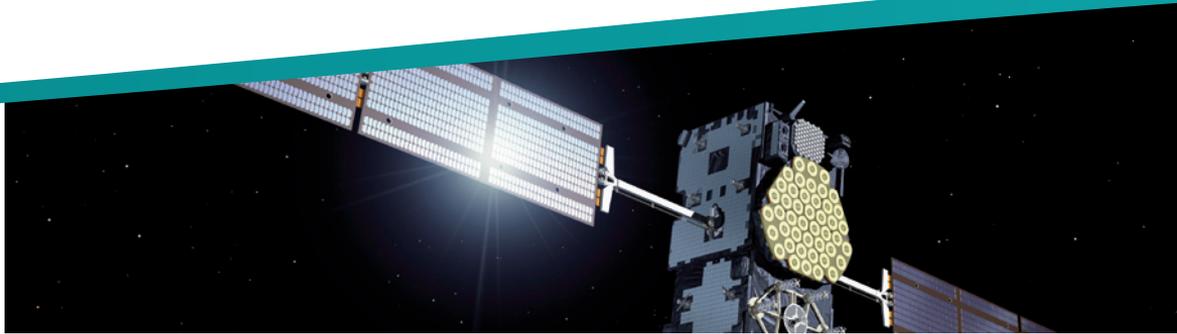
› **EDA activity:** EDA launched in September 2006 the Maritime Surveillance-project (MARSUR), with the aim to create a network using existing naval and maritime information exchange systems. Overall goals are to avoid duplication of effort and the use

of available technologies, data and information; to enhance cooperation in a simple, efficient and low-cost solution for civil-military cooperation; and to support safety and security.

› **Means:** The MARSUR-network is built by the navies and is meant to enhance the exchange of data and information for the conduct of maritime operations. In relation to the Integrated Maritime Policy (October 2007) of the Commission, the network can be connected to the envisaged Common Information Sharing Environment (CISE).



› **Results:** After extensive work by fifteen Member States the project has come to a decisive point. It has proven that it works and it is operational for a basic MARSUR-network. The demonstration itself was presented on 30 June 2011, using the connections between systems from Italy, Finland, France, Spain, Sweden and the United Kingdom. The MARSUR-network is still open to other Member States willing to join. Further development is planned in the framework of an EDA Category B-project, to improve the functionalities, the level of confidentiality of the MARSUR-network, and to accommodate potential new requirements pro-posed by the Member States. ■



» Focus: EDA & Space

I am convinced that an increased dialogue and coordination between the space and defence communities is of mutual interest and will allow European space programmes to better support Europe's security and defence needs. Reinforcing the cooperation between EDA and ESA will allow us to further develop the security dimension of the European Space Policy in coordination with other EU stakeholders.

Jean-Jacques Dordain,
European Space Agency (ESA), Director General

» **Need:** Space-based assets are key enablers in support of security and defence operations for the provision of critical information at strategic, tactical and operational level, for secure communications as well as for positioning and navigation.

» **EDA activity:** The Agency's space-related activities range from harmonising military requirements, identifying new opportunities for pooling and sharing and conducting preparatory studies in areas such as Space Situational Awareness, Satellite Communication, Earth Observation, UAS Command and Control as well as in the field of critical space technologies. EDA's participation in the "Structured Dialogue for space and security" gathering also the European Commission, the European External Action Service, the Council Secretariat-General and ESA serves to coordinate respective activities and exploit civil-military synergies to its maximum.

» **Means:**

- » Identify capability gaps or shortfalls that could be filled by space assets;
- » Coordinate research, technology and demonstration activities with other European stakeholders such as ESA and the European Commission;
- » Investigate synergies between existing EDA, ESA and European Commission programmes and their future evolution.



» **Results:** EDA has identified new pooling and sharing opportunities for its participating Member States in areas such as Space Situational Awareness and Satellite Communication. The Agency has also signed an Administrative Arrangement with the European Space Agency in June 2011. A first implementing arrangement with ESA has been signed shortly afterwards in the area of Unmanned Aircraft Systems (UAS) Command and Control over Satellite for a joint demonstration mission. Further activities have been coordinated in areas such as Satellite Communication, Intelligence, Surveillance, Reconnaissance, Civil-military synergies in Earth observation, and Critical space technologies for European non-dependence. ■

4 | EDA IN ACTION



» Focus: Emerging Technologies

› **Need:** In order to exploit the best opportunities of emerging technologies, Ministries of Defence need to identify the most promising technologies and promote cooperation among innovation creators and defence companies that have the necessary knowledge of defence market and are able to integrate these innovations in defence operational systems.

› **EDA activity:** The Joint Investment Programme on Innovative Concepts and Emerging Technologies (JIP-ICET) is the prime example of EDA's activities in this field. Launched by 11 contributing Members in November 2008, JIP-ICET addresses Research & Technology goals ranging from nanotechnologies to explosive detection and innovative radar technologies.

› **Means:** During three calls for proposals, 10 projects and 2 studies out of 64 proposals have been selected, with a total value of 19,1M€. The successful consortia have 75 members, two thirds of which are universities and small or medium size enterprises, participating in European defence R&T cooperation often for the first time. These figures show that JIP-ICET has succeeded in networking innovation creators and defence industry.



› **Results:** All JIP-ICET projects and studies have been contracted and the first project Helicopter Fuselage Crack Monitoring and Processing through on-board Sensors Network (HECTOR) is completed. This project permits the identification and management of faults on helicopter structures at an early stage. It achieved promising results and a demonstrator is now in preparation. The promising results of ICET projects have led Member States to prepare a second programme. ■



» Focus: Airworthiness

- › **Need:** Prior to 2008, each Member State had established its own regulations and processes to address military airworthiness with little or no commonality within Europe. This caused significant challenges for multi-national aviation programmes which resulted in increased costs, programme delays and reduced interoperability.
- › **EDA activity:** In 2008, EDA's Military Airworthiness Authorities (MAWA) Forum was established and given a ministerial mandate to address this challenge by harmonising military airworthiness regulations and processes of the Member States.



EDA works on these regulations and processes in close cooperation with SESAR and the European Aviation Safety Agency (EASA) in order to ensure military and civil activities are aligned, including activities associated with Unmanned Aircraft Systems (UAS).

- › **Means:** The ultimate goal is the production of a full suite of harmonised European Military Airworthiness Requirements (EMARs) comparable to those required in the civil aviation world that can be adopted by the Member States and included in their national military airworthiness regulations.

- › **Results:** Defence Ministers have agreed to implement harmonised military airworthiness requirements into national regulations. The first of these harmonized requirements were approved in January 2011 and are ready to be implemented into national military regulations. Further harmonized documents are at different stages of development. ■

4 | EDA IN ACTION

» Focus: Regime on Defence Procurement

› **Need:** The European Union's defence sector was long fragmented into protected national markets. This prevented the development of an open and transparent European Defence Market – thus denying both the customer and the industry the benefits of competition, and hindering the necessary cross-border integration of the European Defence Technological and Industrial Base.

› **EDA activity:** Through the intergovernmental Regime on Defence Procurement (the Regime) and its associated Code of Conduct on Defence Procurement (the Code), EDA participating Member States decided to move towards a more open, competitive and transparent European Defence Equipment Market by reinforcing mutual confidence and interdependence among them. The Code, which came into force on the 1st of July 2006, established a voluntary, non-legally binding mechanism encouraging competition in the European Defence Equipment Market.



› **Means:** Defence procurement opportunities of 1 million euros or more are covered by the Code, with possible exceptions (for example for procurements of nuclear weapons and nuclear propulsion systems or for pressing operational urgency). The Code is supported by the Electronic Bulletin Board (EBBI), an internet-based platform managed by the EDA, where subscribing Member States' contracting authorities publish their defence contract opportunities.

› **Results:** During its first five years of operation, more than 680 contract notices (total value exceeding 25 billion euros) have been published in the EBBI and over 440 contracts (total value approx. 5,7 billion euros) have been awarded under competition. Of these 440 contracts, around 33% have been awarded cross-border. Non-domestic companies had taken part to around 42% of these procurements. This shows that the Code has been and continues to be a powerful instrument for more openness, competition and transparency within the European Defence Equipment Market. ■

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European Defence Agency
Rue des Drapiers 17-23
B-1050 Brussels - Belgium
www.eda.europa.eu

Tel +32 2 504 28 00
Fax +32 2 504 28 15
info@eda.europa.eu

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www.eda.europa.eu

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