EDA at a glance
Genesis and rationale

Cooperation is no longer an option:
IT’S TIME TO DO MORE TOGETHER

- Fragmentation of requirements
- Diverging demand
- Lack of interoperability
- “Thinking national”
- Constraint on Defence budgets
- Member States operational engagements
A catalyst: from Member States to Member States

“The place to go”
for European Defence Capabilities & Cooperation

• Improving Europe’s defence performance
• The only one whose Steering Board meets at the level of Defence Ministers
• Structure totally unique
• Flexibility = tool at service of Member States
• Head of the Agency = Catherine Ashton
• Chief Executive = Claude-France Arnould
• 26 Member States (all EU except Denmark) + Norway & Switzerland
• ~120 staff members
A catalyst: from Member States to Member States

Member States Requirements

- In-house analysis & studies
- Launches new initiatives
- Promotes cost-effective cooperation
- Introduces innovative solutions
- Investing more together
- Improves Defence capabilities
Benefits for shareholders

A capability multiplier
EDA shareholders

- Meeting in the Agency’s Steering Board and providing policy guidance
- Providing for EDA’s general budget as well as ad-hoc funding for projects
- ‘Owning’ the developed capabilities
- Engaging pMS experts in EDA working-level fora for bottom-up input (Project Teams/Cap Techs)
- Being an integral part of EDA’s integrated way of working
- EDA connects 2,500+ experts in Member States

26 participating Member States (all EU members except DK)
A proactive hub for the European defence community

EDA stakeholders

• EDA capability development (e.g. NATO)
• Key partners in civil-military coordination (e.g. European Commission, ESA, SESAR)
• Partner organisations in improving European military capacities (e.g. OCCAR)
• Industry, through ASD
• Non-EU countries: Norway and Switzerland (Administrative Arrangements)
EDA and NATO Complementarity

TWO INSTRUMENTS

- EU – NATO Capability Group (with Member States)
- Informal Staff – Staff contacts (with ACT NATO, NATO HQ-IS & Agencies)

Examples of Complementarity

<table>
<thead>
<tr>
<th></th>
<th>EDA</th>
<th>NATO</th>
</tr>
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<tbody>
<tr>
<td>Helicopters</td>
<td>Training and Structural Solutions</td>
<td>Immediate Operational Needs ISAF</td>
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<tr>
<td>CBRN</td>
<td>Biological Defence</td>
<td>Chemical Defence</td>
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<tr>
<td>Air Transport</td>
<td>EATF (A400M, C-140, CASA)</td>
<td>C-17 Pool</td>
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<tr>
<td>Logistics</td>
<td>TPLS Portal (Matching Consumers – Suppliers)</td>
<td>Contracting (NAMSA)</td>
</tr>
</tbody>
</table>
The Capability Development Plan

Initially endorsed in July 2008

- ‘Overall strategic tool’, driving R&T, Armaments and Industry
- Connecting short-, medium- and longer-term capability needs
- Long term strategic trends
- Building on lessons learned
- Not a ‘Force Plan’, but telling in what future ‘Capabilities’ to invest

Update (March 2011)
- CDP Top 10 Priorities
- Maturing Actions
- Core drivers
Policies and strategies

European Defence R&T Strategy
• “Ends”: the technologies we should invest in to improve European future military capabilities.
• ”Means”: the mechanisms, structures or processes that would increase the effectiveness of this investment
• “Ways”: the roadmaps and action plans

Armaments Co-operation Strategy
• how to develop effective and efficient armaments co-operation programmes

European Defence Technological and Industrial Base Strategy
• future European industrial ‘landscape’
EDA Instruments to foster Defence R&T

• **EDA funded studies**
  Typically to review the state of the art of a technology domain, or to carry out a prefeasibility study.

• **Defence research targeted projects (“Cat. B”)**
  ~ 40 projects so far, all technology domains, mainly underpinning research, average characteristics: up to ~10 contributing member states, ~5-6 M€ value (but biggest one was € 50 million) , ~3 years duration, principle of juste retour.

• **Defence Research Joint Investment Programmes - JIP (“Cat. A”)**
  ~ 3 projects so far, up to 20 contributing members (cM), 2 to 3 years duration, principle of global balance, call for proposals. The 3rd one is a combination of Cat A and B (Unmanned Maritime Systems – UMS, 53M€, 11cM).
Key Facts & Figures for R&T Investment

**JIP – FP** (Force Protection)
- 20 cM, 55M€, 5 capability areas
- 18 projects funded, 125 entities

**JIP - ICET** (Disruptive Technologies)
- 15 cM, 15.5M€, 3 technology areas
- 12 projects funded, 75 entities

**JIP - UMS** (Unmanned Maritime Sys.)
- 11 cM, 53 M€, underwater techno.
- 11 projects funded

**Cat. B Projects**
- 2007 - 10 projects signed for 55M€
- 2008 - 12 projects signed for 76 M€
- 2009 - 18 projects signed for 81 M€
- 2010 - 11 projects signed for 68 M€

**Technology Demonstrators** – **ESSOR** (130 M€ in 2008) and **MIDCAS** (50 M€ in 2009)
### Joint Investment Programme on Force Protection

<table>
<thead>
<tr>
<th>CAPABILITY NEED:</th>
<th>EDA ACTIVITY:</th>
<th>MEANS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• major capability requirement, in particular where deployed forces have to cope with road-side bombs, snipers and other asymmetric threats</td>
<td>• research, technology development &amp; demonstration in force protection Ex: individual and collective protection, CBRN defence, sniper detection or mission planning and training • through pooling of investment and sharing of research results</td>
<td>• Joint Investment Programme with 18 projects • total financial volume in excess of € 70 m • 20 contributing Members.</td>
</tr>
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</table>

### RESULTS:

technologies and demonstrators for development of force protection equipment.
Joint Investment Programme on Emerging Technologies (JIP-ICET)

**CAPABILITY NEED:**
- identify the most promising technologies and promote cooperation among innovation creators and defence companies, able to integrate these innovations in defence operational systems.

**EDA ACTIVITY:**
- The Joint Investment Programme on Innovative Concepts and Emerging Technologies (JIP-ICET)
- Launched by 11 contributing Members in November 2008
- Addresses Research & Technology goals ranging from nanotechnologies to explosive detection and innovative radar technologies.
- Success in networking innovation creators and defence industry.

**MEANS:**
- 10 projects and 2 studies out of 64 proposals have been selected,
- Total value of 19,1M€.
- Successful consortia of 75 members (2/3 universities and SMEs)

**RESULTS:**
1st project Helicopter Fuselage Crack Monitoring and Processing through on-board Sensors Network (HECTOR) is completed.
Unmanned Maritime Systems (UMS)

- **Objective:**
  - to improve European capabilities in a number of naval application (but primarily for MCM) by improving capabilities of unmanned maritime systems, taking into account a system-of-systems approach;
  - Interoperability, modularity and inter-changeability of modules; and standardization;

- **Contributing Members States:** BE, DE, ES, FI, FR, IT, NL, NO, PL, PT, SE

- **Total value:** 53.7 M€ (11 UMS-projects of 40.1 M€ + 3 Cat.Bs to be combined 13.6 M€)
Innovative Materials

Vulnerability Reduction Technologies for Large Maritime Composite Structures - CONVINC

- **Aim** - Fire engineering methodologies and blast response of composite hulls and topsides
  - Design of Large Scale Demonstrator - TRL 6

- **cM** - UK (lead), IT, FR, NL, SE, NO

- **Contractors** QinetiQ(UK); DNV(NO); DCNS(FR); TNO(NL); CETENA(IT); KTH(SE)

- **Financial value** 8.4 M€

- **Time frame** Sept2009-Oct2012

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Metamaterial Inspired Microwave Conformal Radar Antennas – MIMiCRA

- **Aim** - Assess the feasibility of metamaterial antennas through the manufacture of demonstrators
  - Develop a shared understanding of the technology between project partners and the military impact.

- **cM** - UK (lead), FR

- **Contractors** BAE(UK); EADS(FR); MBDA(UK); Oxford(UK); QMUL(UK); Telecom Paris(FR); Dassault (FR); THALES(FR); IEF(FR)

- **Financial value** 1.5 M€

- **Time frame** March2011-March2014
Cognitive Radio for Dynamic Spectrum Management (CORASMA)

- **Objectives:**
  - Rationale: shrinking spectrum resources, spectrum-relevant military requirements (interoperability, mobile adhoc networks, Quality of Service, Electronic Warfare, ...)
  - Objective: develop building blocks to Cognitive Radio functionality, support standardisation efforts.

- **Contributing members States:** FR, BE, DE, IT, PL, PT, SE
- **Contractors:** Thales Communications (FR), Thales Italia (IT), Thales Communications (BE), Thales Defence (DE), Selex Sistemi Integrati (IT), Selex Communications (IT), Military University of Technology (PL), Tekever (PT), Saab AB (SE)

- **Financial value:** ~ 15 M€
- **Time frame:** 2010 - 2013
Overall objective:

- promote R&D security cooperation between EDA and European Commission
- coordination of projects to avoid duplication and to find coherence
- maximising complementarity among civilian security and defence-related security

Governance:

- separate frameworks, separate budgets, and separate rules – BUT
- common objectives, synchronised calendars, sharing of expertise & information

Actions:

- Identify suitable topics: CBRN, UAS, Situation Awareness
- Time alignment of work programmes and calls where possible
- Evaluation pooling and exchanging expertise where possible
- Simultaneous and coordinated implementation and demonstration
- Information sharing in workshops
Joint Investment Programme on CBRN Protection (JIP CBRN) within EFC

- **Objectives:** next generation detection (B and C), M&S, improved DECON process and personal/collective protection

- **Contributing members States:** AT, BE, CZ, DE, ES, IE, IT, FR, NL, PL, PT, SE and NO

- **Financial value:** ~ 12 M€

- **Time frame:** 2012 – 2015
  - **Call 1** launch 2 May 2012; deadline 1 August 2012
  - **Call 2** in 2013
Way forward

Business Opportunities
### Capability Development Plan (CDP) priorities

<table>
<thead>
<tr>
<th>CDP “Top 10”</th>
<th>Maturing actions</th>
<th>Core drivers / environments</th>
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<tbody>
<tr>
<td>2. Medical Support</td>
<td>2. Chemical Biological Radiological and Nuclear</td>
<td>2. Network Enabled Capabilities</td>
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<tr>
<td>4. Increased Availability of Helicopters</td>
<td>4. Military Human Intelligence</td>
<td>4. Space</td>
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<td>5. Cyber Defence</td>
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<td>5. Single European Sky</td>
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<td>6. Multinational Logistic Support</td>
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<td>7. CSDP Information Exchange</td>
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<td>8. Strategic and Tactical Airlift Management</td>
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<td>9. Fuel and Energy</td>
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<td>10. Mobility Assurance</td>
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# CapTechs – Technology Domains

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<tr>
<td>IAP1 Components</td>
<td>GEM1 Materials &amp; Structures</td>
<td>ESM1 Naval Systems &amp; their Environment</td>
</tr>
<tr>
<td>RF Sensor Systems &amp; Signal Processing</td>
<td>GEM2 Energetics, Missiles &amp; Munitions</td>
<td>ESM2 Aerial Systems &amp; their Environment</td>
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<tr>
<td>Optical Sensor Systems &amp; Signal Processing</td>
<td>GEM3 Ground Systems &amp; their Environment</td>
<td>ESM3 Systems of Systems, Space, Simulation &amp; Experiment</td>
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<tr>
<td>CIS &amp; Networks</td>
<td>GEM4 Guidance &amp; Control</td>
<td>ESM4 Human Factors &amp; CBR Protection</td>
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Details on each group and how to become a member:

The CapTech Network

- EDA Moderator
  - „running“ the CapTech
- pMS Governmental Coordinators (CNC)
  - Coordinating all national contributions
- pMS Governmental Experts (CGE)
  - Supporting by subject matter expertise
- Non-Governmental Experts (CnGE)
  - From industry, SME, academia
  - Delivering technical expertise

Regular Meetings (~ 4 p.a.)

Workshops

Forums

www.eda.europa.eu
EDRC – European Defence Research Centres

Organisation: European Defence Agency (EDA)

Department:
Address: rue des Drapiers 17-23, 1050 Ixelles
Representing: EUROPEAN UNION (EU)
Website: http://www.eda.europa.eu
Additional information (affiliation):

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- SIBER Michael michael.sieber@eda.europa.eu

List of Projects
-- none listed so far --

List of Innovations
-- none listed so far --

List of Cooperations
-- none listed so far --

List of Expertises
- Structural & Smart Materials & Structural Mechanics
- Signature Related Materials
- Electronic Materials Technology
- Photonic/Optical Materials & Device Technology
- Electronic, Electrical & Electromechanical Device Technology
- Energetic Materials and Plasma Technology
- Chemical, Biological & Medical Materials
- Computing Technologies & Mathematical Techniques
- Information and Signal Processing Technology
- Human Sciences
- Operating Environment Technology

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<tr>
<th>Air</th>
<th>Land</th>
<th>Sea</th>
<th>Space</th>
<th>C4I</th>
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25
Intelligence Surveillance and Reconnaissance

Relative weakness of indigenous European ISR capabilities has again been demonstrated through the Libya Campaign

**CAPABILITY NEED:**
- Operational, legal and humanitarian aspects of current and future operations will require even more precision in targeting. This can only come from improved ISR.

**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.
More EFC candidates

- Cyber Security
- Unmanned Aerial Systems - Air Traffic Insertion (UAS-ATI)
- European Technology non-Dependence (ETnD)
  - Electronic Components (Nano-Electronics, Printed Circuit Boards, Systems-on-the-Chip, ...)
  - Nano-Materials
  - Carbon Fibre
- Earth Observation
- Standardisation
  - Applies to all fields
Conclusion

Together for a stronger Europe
Conclusion

A capability multiplier
A tool for Member States
Innovative and valuable solutions
Cooperation that works

TOGETHER FOR A STRONGER EUROPE
Thank you for your attention!

Gerlof.DEWILDE@eda.europa.eu