



# OSRA – Overarching Strategic Research Agenda and CapTech SRAs Harmonisation

Connecting R&T and Capability Development



The European Defence Agency (EDA) works to foster European defence cooperation to become more cost efficient and increase capabilities. As an agency of the Council, we combine ministerial-level political influence with technical expertise to deliver capabilities, drawing on input from all stakeholders. Pooling & Sharing capabilities are cornerstones alongside collaborative efforts ranging from research through effective test, evaluation and procurement onto delivering hands-on capabilities.



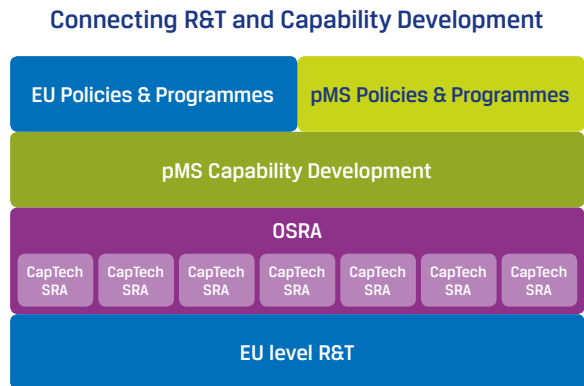
## INTRODUCTION

The OSRA is a new approach for aligning strategic research agendas with Member States' operational needs and requirements. This will provide a systematic and clear mechanism for collaborative European Defence Research for the future, such as the upcoming EU framework programme and Preparatory Action. In addition to the bottom-up process of identifying common areas of R&T interests, the so-called technology push process, a top-down capability-pull process is foreseen that links operational requirements directly to technologies in a systematic and traceable manner, and moreover leads towards the development of an European overarching strategic research agenda.

## BENEFITS

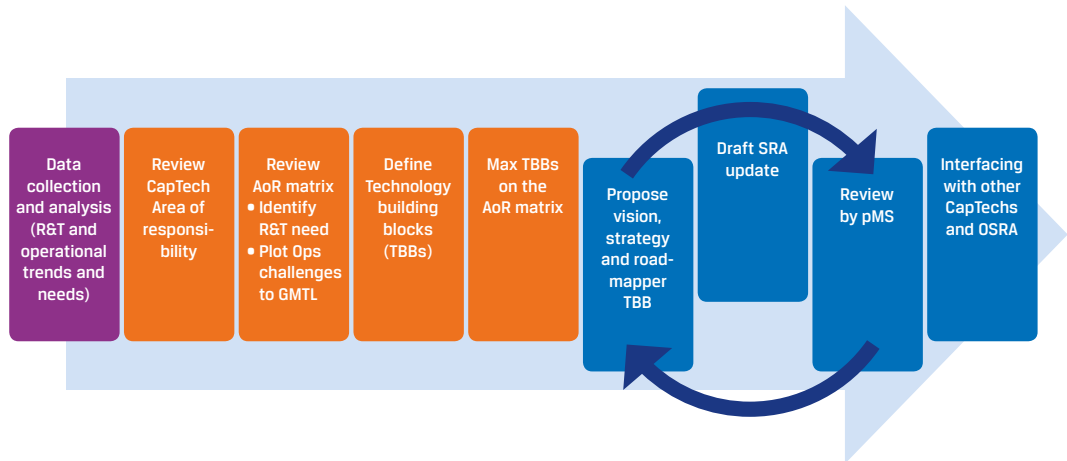
The overall aim of OSRA is to establish a framework that helps to:

- Reduce the level of effort that pMS and EDA have to put into updating and keeping SRAs and their roadmaps up-to-date, by creating a digital 'live' SRA/OSRA portal that supports more frequent and systematic interaction between EDA and pMS in the CapTechs.
- Enhance the level of operational effectiveness of European R&T by developing an OSRA.
- Enhance the level of synergy between SRAs and the OSRA, and as such the European R&T effort.



## HARMONISATION OF STRATEGIC RESEARCH AGENDAS (SRAS)

The aim of an SRA is to provide shared visions between governmental and non-governmental members of EDA CapTechs on the most urgent technical challenges in order to study, create and communicate a vision for each CapTech and to suggest an R&T investment plan. The OSRA methodology underlines the need for a harmonisation of the SRAs (Strategic Research Agenda) on different levels, e.g. with regard to a unified SRA development and maintenance protocol, a shared and agreed-upon main terminology, general structure-related and specific content-related aspects. In particular, main issues to be resolved include a) inclusiveness of SRAs (each CapTech SRA should work as a stand-alone document), b) authorship (SRA should be issued by CapTech governmental experts), c) harmonisation of update & maintenance cycles, d) synchronisation of foresight and R&T planning horizons, and e) a unified SRA development process, utilising a to-be-developed template and guidelines (this point includes clarification of terminology issues, consistent identification of inter-CapTech cooperation opportunities, identification of potential gaps in technological coverage, etc.).



## EXECUTIVE SUMMARIES (ES)

An ES summarizes the content of the SRA under standardised headings. This offers an easily accessible format for achieving an aggregate understanding of a CapTechs SRA and AoR, and it also facilitates comparisons and analyses between some, or all, CapTechs. The ES is outlined under four headings:

- **Background, Objective, Contents** provides information on the publication date, authorship, CapTech mission statement, planning horizon, SRA update cycle and other metadata, and should provide the briefest summary of the content.
- **Technologies and Capabilities** outlines the CapTech's technical and operational Area of Responsibility (AoR). For this, references to the EDA Technology Taxonomy and to the Generic Military Task List (GMTL) are made.
- **Synergies and Linkages** provide a concise overview of the synergies (i.e. thematic interfaces) that exist with other CapTechs as well as with other European and non-European organizations.
- **Identified R&T priorities and Technological Building Blocks** provides the space to present the most important research needs/R&T topics that have been identified in the SRA. These identified R&T topics can be translated into "**Technological Building Blocks**" (TBBs).

The harmonised ES show links to GMTL, the OSRA context and the TBB descriptions.

## AREA OF RESPONSIBILITIES (AOR)

The Area of Responsibility defines and characterizes a CapTech. There are two important uses of it:

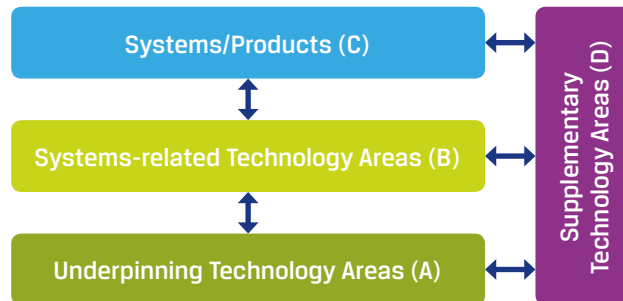
- **The SRAs Area of responsibility.** This defines the CapTech research area and thus implies what technologies in the Technology Taxonomy that are the responsibility of a certain CapTech. A Captech thus has the responsibility to monitor and suggest research initiatives that lie within these borders.
- **The AoR Matrix.** The AoR matrix sets out relevant elements of EDA's Technology Taxonomy (TT) against relevant items from the Generic Military Task List (GMTL) for a specific CapTech and thus facilitates identification of Technological Building Blocks (TBBs). The use of the Technology taxonomy and the GMTL combines the top-down capability perspective with the bottom-up R&T perspective.

	Command			Inform			Protect	
	1.1	1.3	1.4	2.1	2.2	2.3	4.2	4.3
A 01.01	×		×	×		×		
A 01.08				×				×
B 02.05	×				×	×		
...								

## TECHNOLOGY TAXONOMY (TT)

The updated EDA R&T Taxonomy is divided into four levels. Three of these are A – Underpinning technologies; B – Systems-related technologies; and C – Systems. A new level, named D – Supplementary Technology Areas, has been introduced for those taxonomy entries that do not fit into the hierarchic levels A-C.

The new Technology taxonomy should be updated at chosen intervals in order to capture changes and reflect the evolution of new technologies. The SRA update procedure encourages CapTechs to review, refine and complement the taxonomy when necessary.



## TECHNOLOGY BUILDING BLOCK (TBB)

The OSRA can play a vital role in linking pMS capability development to relevant aspects of technology development. Linking between the technology and capability domains may be achieved by using an abstraction layer of Technology Building Blocks (TBBs). A TBB builds on R&T project results and makes them useful for capability development projects in several pMS.

The GMTL (Generic Military Task List) is selected to represent the capability perspective. The TBBs can be divided into three different categories:

- **Specific CapTech TBB** – Its R&T needs fall completely under the responsibility (AoR) of a specific CapTech.
- **Cross CapTech TBB** – this TBB has implications to other CapTechs. It can be achieved and executed as a joint effort by at least two CapTechs.
- **OSRA TBB** – The TBB development is relevant for a wide range of operational challenges and falls within the AoR of multiple CapTechs.

The TBB forms a common element throughout the OSRA architecture. The TBB concept captures the technological developments that together enable a functionality that provides a solution for one or more extant or foreseen capability gaps. The TBB forms a common element throughout the OSRA architecture. The TBB concept captures the technological developments that together enable a functionality that provides a solution for one or more extant or foreseen capability gaps. The purpose of a TBB is to represent an R&T priority area. A TBB includes interfaces, links and dependencies with other TBBs.



## OSRA IT TOOL

This tool is a collaborative software application that allows several people to edit at different levels using different user levels.. The Tool has four main 'tabs' (see figure below), which provide different functionalities. These are:

- Creation and editing of TBBs
- Creation and editing of SRAs
- Advanced management of TBBs (OSRA)
- Administrative management aspects (ADMIN)

The OSRA IT tool offers a way to present connections between the bottom-up R&T perspective and the top-down capability perspective.

The tool has been developed under a solid architectural framework to be used by EDA CapTechs for the development of harmonised SRAs and Overarching Strategic Research Agenda, throughout the years. Finally one of the key components of the tool is the prioritization scheme which is used to rank OSRA's TBB against multiple criteria and support pMS to prioritize and identify appropriate potential funding instruments.



## GLOSSARY

<b>CapTech</b>	EDA Capability Technology Groups are networking fora for experts from government, industry, small and medium enterprises (SME) and academia.
<b>Emerging Technology</b>	Technology which are currently developing or will be developed over the next five to ten years, and which will substantially alter the business and social environment.
<b>EU Framework</b>	An EU Framework programme (e.g. FP7 or H2020) is a funding scheme for European research programmes.
<b>OSRA</b>	The Overarching Strategic Research Agenda (OSRA) provides a rationale for investment in defence R&T at an EU level that supports capability needs.
<b>pMS</b>	The participating Member States are the European Member States that contribute to developments described in the SRAs and OSRA. The pMS develop/own the capabilities.
<b>SRA</b>	The objective of a Strategic Research Agenda is to outline a roadmap for the implementation of a research programme. In the European Defence Agency (EDA) the governmental and non-governmental members of EDA Capability Technology Groups (CapTechs) study, create and communicate this vision and roadmap.
<b>Technology Area</b>	The concept of Technology Area that we use is a technological/scientific area with potentially significant future military utility.
<b>TBB</b>	Technology Building Block
<b>Technology Taxonomy</b>	In order to enhance the bottom-up approach, a logical and structured way to analyse all the possible areas of research related to CSDP is provided by following a complete technology taxonomy.
<b>TRL</b>	Technology Readiness Levels





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