ASSETs+
Alliance for Strategic Skills addressing Emerging Technologies in Defence

Co-funded by the Erasmus+ Programme of the European Union

Technology & skills analysis

The analysis carried out within the context of the ASSETs+ project focuses on three primary technological areas in the defence sector:

- **Robotics, Artificial Intelligence, and Autonomous Systems**
- **C4ISTAR**
- **Cyber Security**

The results are derived from an extensive process of data integration, incorporating information gathered through data-driven analysis, brainstorming sessions, project reviews, and validation from industry experts.

The work was also complemented by additional in-depth analyses on roadmapping. Subsequently, the insights gathered led the team to develop professional profiles related to the defence sector that can be incorporated within the European Classification of competencies and occupations.

Lastly, relevant defence-related projects and initiatives at European, national, and regional levels have been monitored and mapped to provide an overview of skills development activities in the defence sector.

Job Profiles, Skills and Technologies Roadmapping

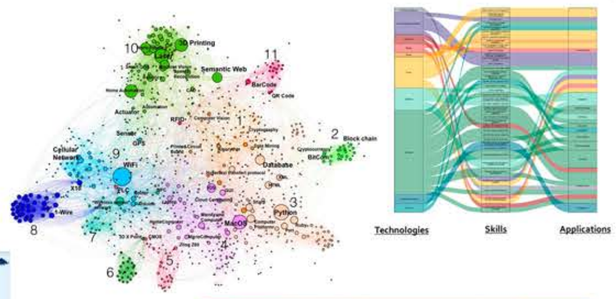
Capability Driven Approach leveraging on Natural Language Processing & Human-in-the-Loop

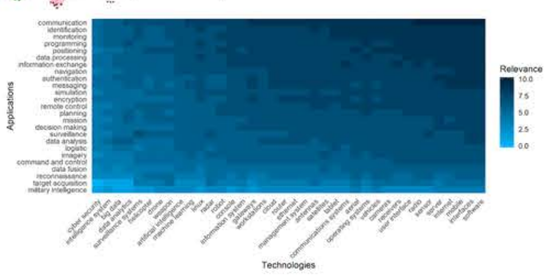
Data Collection → **Information Extraction** → **Knowledge & Relations Analysis** → **Foresight with Experts**

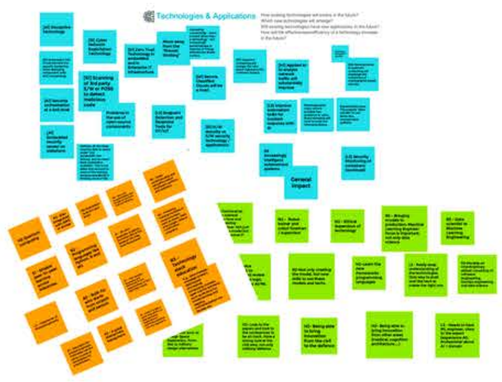
~300k technical and scientific documents on technologies and skills related to the Defence sector and the emerging technological domains in analysis

Scopus · NICE NATIONAL INITIATIVE FOR CYBERSECURITY EDUCATION · NATO OTAN · C4ISRNET · ESCO European Classification of Skills/Competences, Qualifications and Occupations

o*net · Technimetro · techopedia · ESCO European Classification of Skills/Competences, Qualifications and Occupations





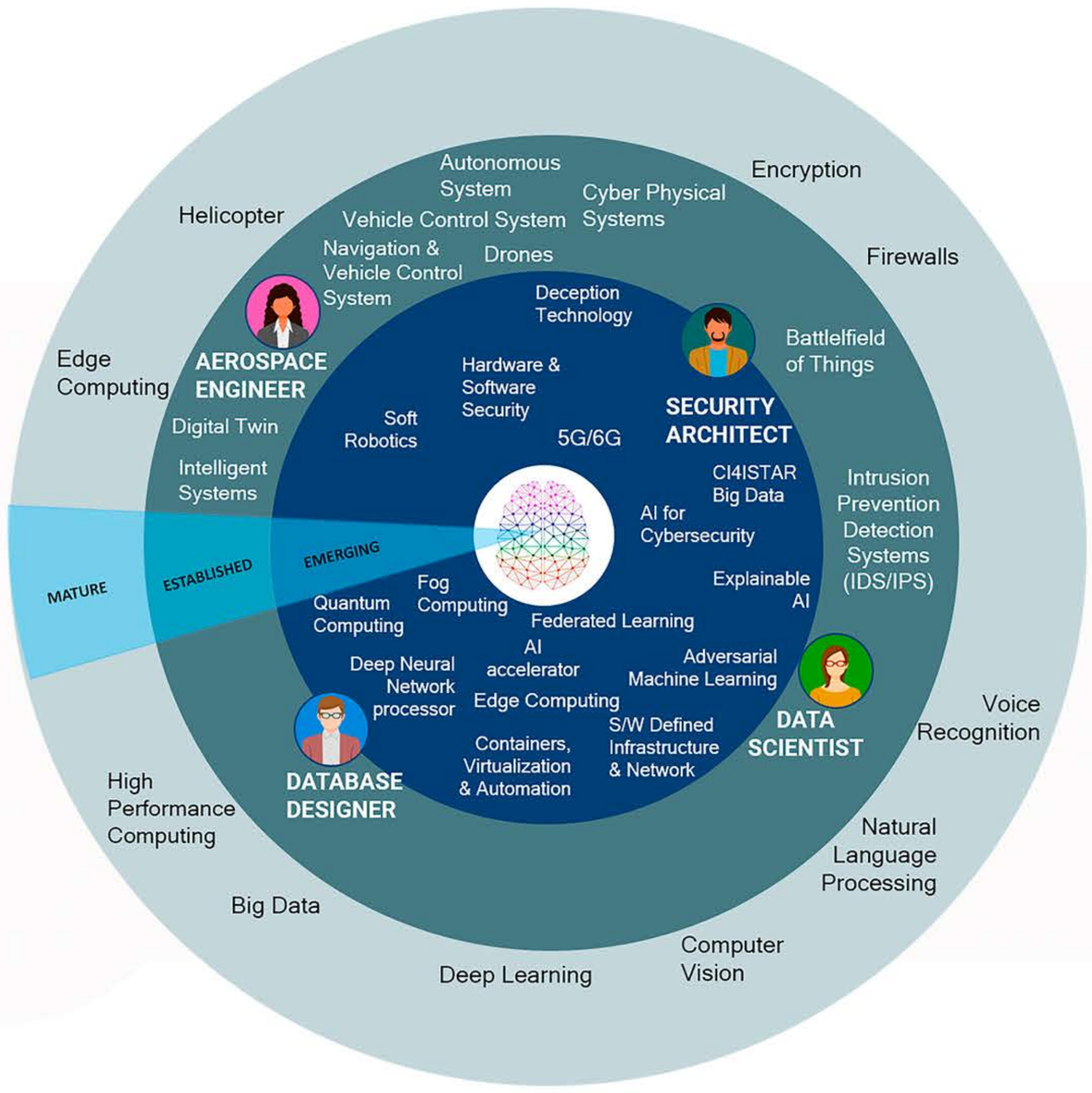


CAPABILITY AREA: Autonomous Systems

- Aircraft Mechanics
- Apply Reverse Engineering
- Assemble Robots
- Control Systems
- Create A Product's Virtual Model
- Design Smart Grids
- Embedded Systems
- Guidance, Navigation and Control
- Human-Robot Collaboration
- Operate Drones in Civil Engineering
- Perform Aircraft Maintenance
- Perform Smart Grid Feasibility Study
- Robot Programming
- Set Up Automotive Robot
- Systems Engineering including safety and security
- Undertake Procedures to Meet Helicopter Flight Requirements
- Undertake Procedures to Meet UAV Flight Requirements
- Unmanned Air Systems
- Upgrade Firmware
- Using Digital Tools For Processing Sound And Images

CAPABILITY AREA: High Performance Computing Systems

- Analyse Big Data
- Artificial Neural Networks
- Computer Programming
- E-Learning Software Infrastructure
- Identify Data Supporting Strategies
- Real-time Computing
- Scientific Research Methodology
- Analyse Large-Scale Data in Healthcare
- Smart City Features



CAPABILITY AREA: Cybersecurity Systems

- Carry Out Research on Ground Systems
- Cyber Attack Counter-Measures
- Embedded Systems
- ICT Security Legislation
- Implement A Firewall
- Integrate System Components
- Manage Alarm System
- Manage Cloud Data and Storage
- Manage Keys for Data Protection
- Military Code
- Prepare and Apply Security Test Plans
- Secure Network Communications
- Teach Computer Science
- Use Reservoir Surveillance

CAPABILITY AREA: Intelligent Information Systems

- Artificial Neural Networks
- Computer Vision
- Computing system architecture
- Control Panel Components
- Coordinate Technical Standards For Global Interoperability
- Design User Interface
- Develop Software Prototype
- Distributed Computing
- Electrical Machines
- Embedded real-time systems
- Guide Learners in Using Assistive Technologies
- Integration Of 5G/6G Services with Cloud Services
- Make Electrical Calculations
- Natural Language Processing
- Open Source Management
- Power Engineering

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