OCCAR - BOXER Programme

Future Land Forces 2024 – Warsaw, Poland

6 November 2024

Alexandra Alonzi

Agenda

1. **OCCAR at a Glance** History, Business Model & Role in International Cooperation
2. **OCCAR Programmes** Brief Overview
3. **BOXER Programme** Overview
4. **BOXER Programme** Current and Future Developments

OCCAR at a Glance

History, Business Model & Role in International Cooperation

OCCAR: A Brief History

REQUIREMENT

Need identified for European Nations to have more coordinated and effective defence initiatives.

French-German declaration (1993)

Baden Baden principles (1995)

UK and Italy joining (1996)

Signature of the Convention (1998) and ratification process started

OCCAR Legal Status (2001)

Belgium becoming a member state (2003)

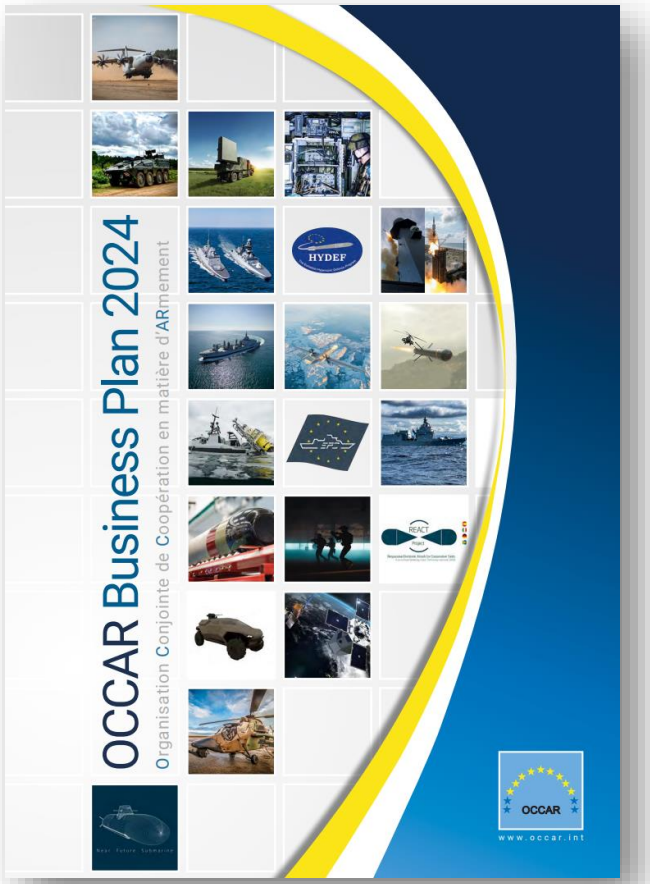
Spain becoming a member state (2005)

OCCAR's Journey

KEY PRINCIPLES

- Cost-effectiveness
- Harmonisation of requirements
- Competitive European Defence and Technological & Industrial Base
- "Global Balance" instead of "juste retour"
- Open to other European countries

OCCAR: Strategy



OCCAR Business Plan 2024

MISSION

Facilitate and manage cooperative European Armament Programmes through their life cycle, as well as Technology Demonstrator Programmes, to the satisfaction of our customers.

VISION

Centre of Excellence, and first choice in Europe, for cooperative defence equipment programmes managed on a through life basis.

Customer Relationship

Personalised service, long-term relationships

Best of Class

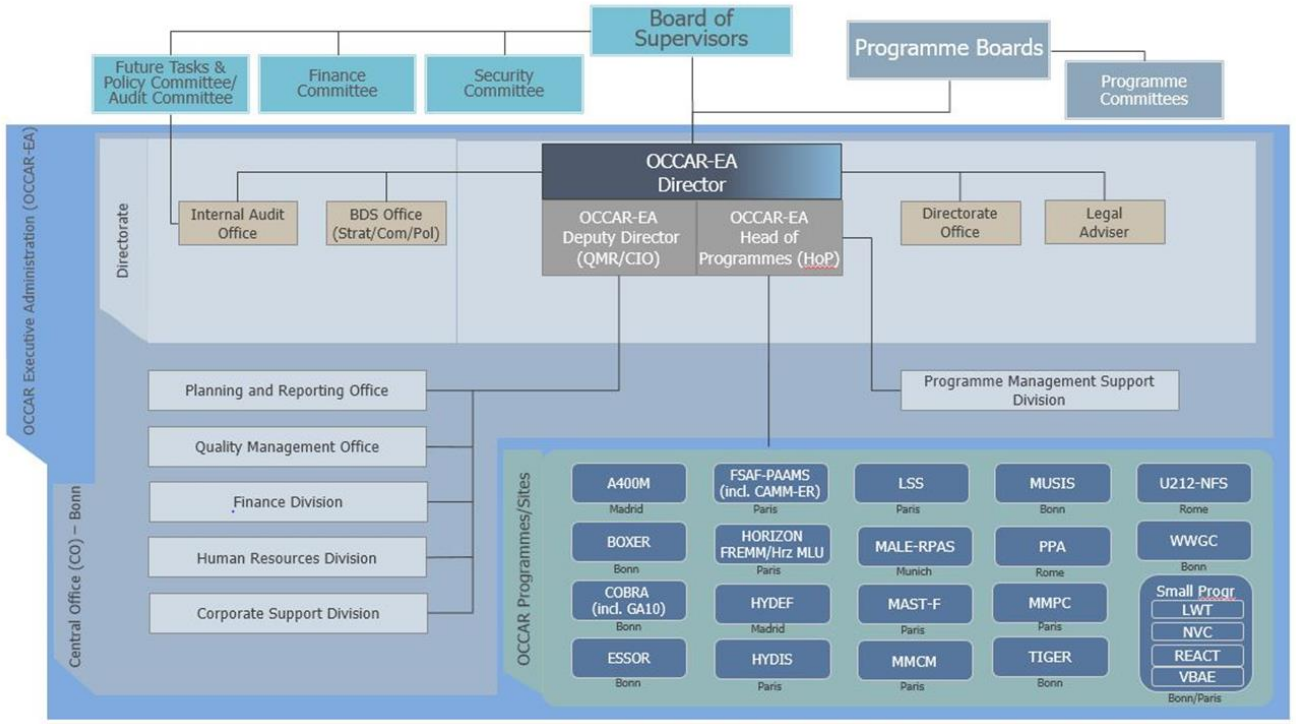
Effective PM services for schedule, cost and system performance

KEY SUCCESS FACTORS

- Independent international organisation
- 20+ years successful record
- Flexible, in terms of participants and programme integration
- Centralised office for participating nations, reducing delays, increasing cost efficiency and/or avoiding duplication of efforts
- Platform for sharing resources, knowledge and technologies
- Support and strengthening of defence industries and key supply chains
- Improving standardisation and interoperability of defence capabilities
- Set of agreed rules and ISO-certified processes
- Speed (decision making etc.)
- Through Life Management approach
- Global Balance

OCCAR: Business Model

OCCAR is an **independent, international organisation** for the management of complex, cooperative defence equipment programmes across **all phases of the Defence System Life Cycle**.



The aim is to be lean, flexible and modular. Key business model features:

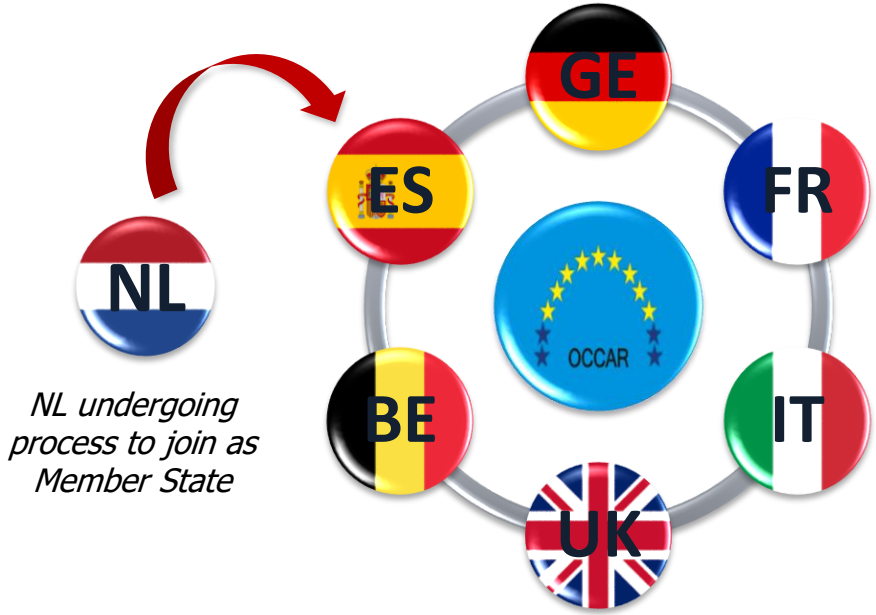
- Structured into Programme and Central Office divisions.
- Governed by a series of committees and boards, chaired and attended by the Nations.
- Programme Divisions deliver all usual equipment procurement and support functions (programme management, contract management, finance, technical and logistics expertise).
- Programme Divisions operate under a mandate from Nations (derived from Programme Mandate, MoU, Programme Decision etc).

OCCAR: Current Membership & Participation

OCCAR (**O**rganisation **C**onjointe de **C**oopération en matière d'**Ar**mement)

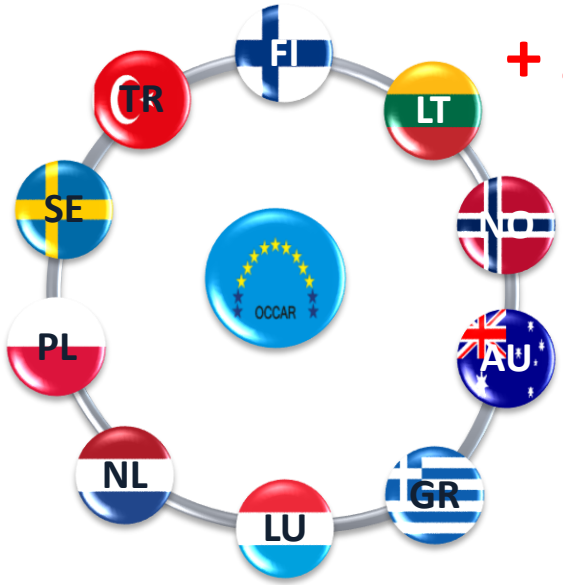
International Organisation for the management of cooperative defence equipment programmes

Created through the Convention signed in 1998 and entered into force in 2001



NL undergoing process to join as Member State

Member States



+ 2

Non-Member Participating States

Changes in 2023/2024

+ 1

Observer States

OCCAR: International Cooperation – The Challenge

€240bn

European defence expenditure in 2022

[Ref] EC Joint Communication JOIN(2024) 10 Final dd 05 Mar 2024

78% Expenditure outside the EU

18% Collaborative procurement
(EU benchmark = 35%)

Key issue is that Nations do not express themselves in a coordinated manner and thus industry does not have basis nor incentivisation to change supply model.

179

Different weapons systems in Europe

[Ref] 'Innovation and Efficiency: Increasing Europe's defense capabilities, McKinsey & Company, article dtd 28 Feb 2024

19
Main Battle Tanks

23
Armoured Infantry Fighting Vehicles

Key impacts are lower platform availability, challenge to interoperability and inefficient procurement.

Many NATO countries have committed to increase defence spending, including further support for Ukraine.

2023 — **c.30% of NATO members were expected to meet or exceed the 2% target in 2023**

2025 — **c.50% of all NATO members expected to meet this target by 2025**

European defence transformation has started, with the need to achieve industrial production capacity and resilience, in parallel with lower costs and reduced delivery timescales.

OCCAR: International Cooperation – OCCAR's Role

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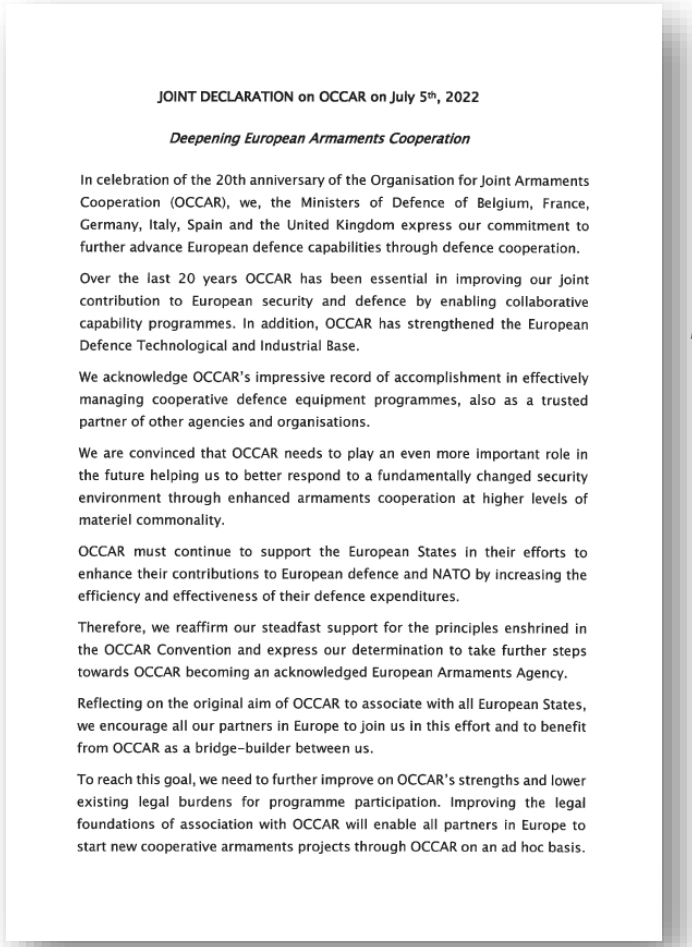


JOINT DECLARATION on OCCAR on July 5th, 2022

Deepening European Armaments Cooperation

In celebration of the 20th anniversary of the Organisation for Joint Armaments Cooperation (OCCAR), we, the Ministers of Defence of Belgium, France, Germany, Italy, Spain and the United Kingdom express our commitment to further advance European defence capabilities through defence cooperation.

Over the last 20 years OCCAR has been essential in improving our joint contribution to European security and defence by enabling collaborative capability programmes. In addition, OCCAR has strengthened the European Defence Technological and Industrial Base.

We acknowledge OCCAR's impressive record of accomplishment in effectively managing cooperative defence equipment programmes, also as a trusted partner of other agencies and organisations.

We are convinced that OCCAR needs to play an even more important role in the future helping us to better respond to a fundamentally changed security environment through enhanced armaments cooperation at higher levels of materiel commonality.

OCCAR must continue to support the European States in their efforts to enhance their contributions to European defence and NATO by increasing the efficiency and effectiveness of their defence expenditures.

Therefore, we reaffirm our steadfast support for the principles enshrined in the OCCAR Convention and express our determination to take further steps towards OCCAR becoming an acknowledged European Armaments Agency.

Reflecting on the original aim of OCCAR to associate with all European States, we encourage all our partners in Europe to join us in this effort and to benefit from OCCAR as a bridge-builder between us.

To reach this goal, we need to further improve on OCCAR's strengths and lower existing legal burdens for programme participation. Improving the legal foundations of association with OCCAR will enable all partners in Europe to start new cooperative armaments projects through OCCAR on an ad hoc basis.

- OCCAR already delivers **25 programmes** on behalf of Member & Participating States.
- In July 2022, a **Ministerial Joint Declaration** was signed by Member States.

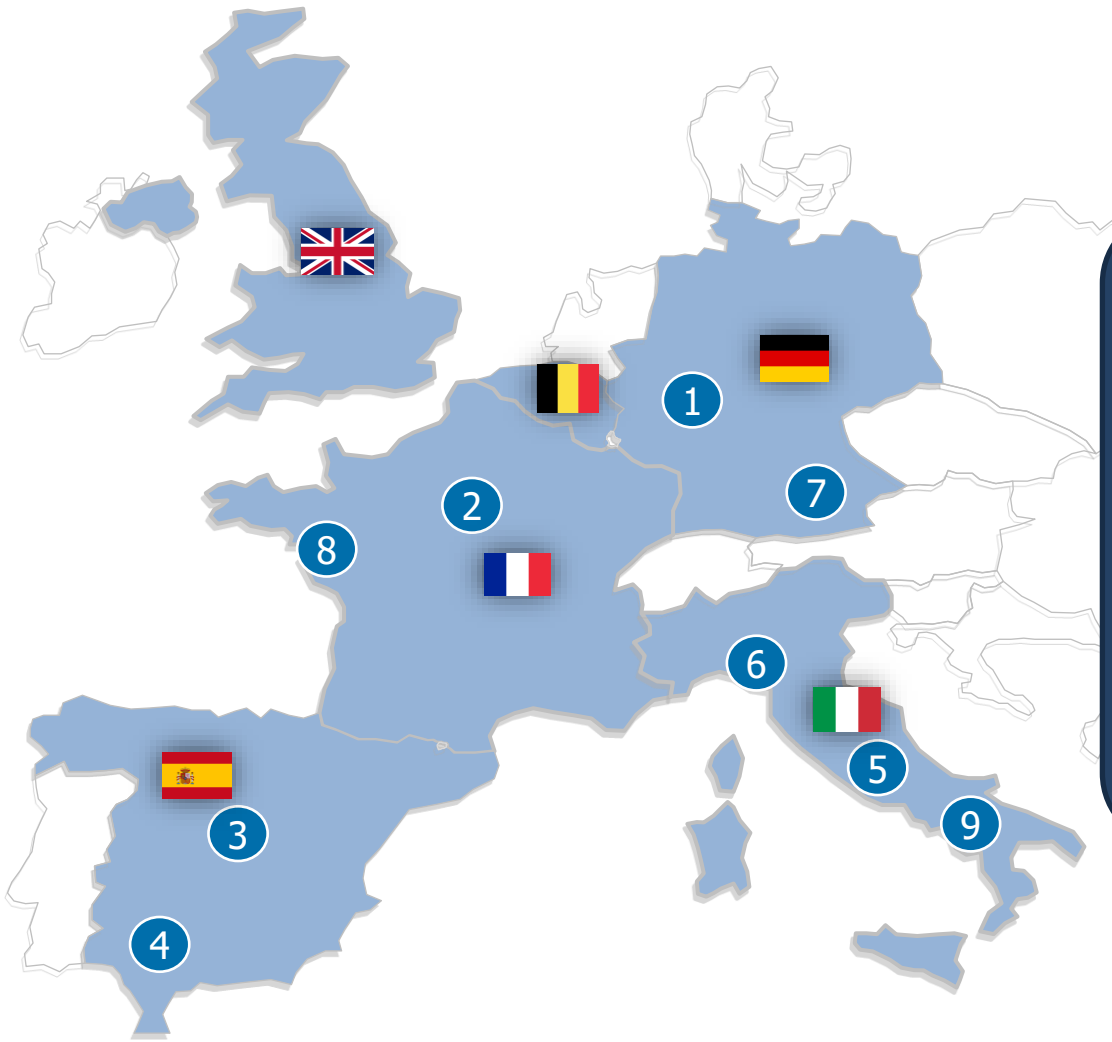
"We are convinced OCCAR needs to play an even more important role in the future, helping us to better respond to a fundamentally changed security environment through enhanced armaments cooperation at higher levels of materiel commonality."

- The OCCAR Director has established contact across multiple European nations to initiate the activity of signing framework and security agreements between Nations and OCCAR.
- OCCAR already has legal frameworks and agreements in place with other international agencies to maximise international cooperation.

OCCAR Programmes

Brief Overview

OCCAR: Sites



OCCAR has grown to 400+ staff members across the following sites:

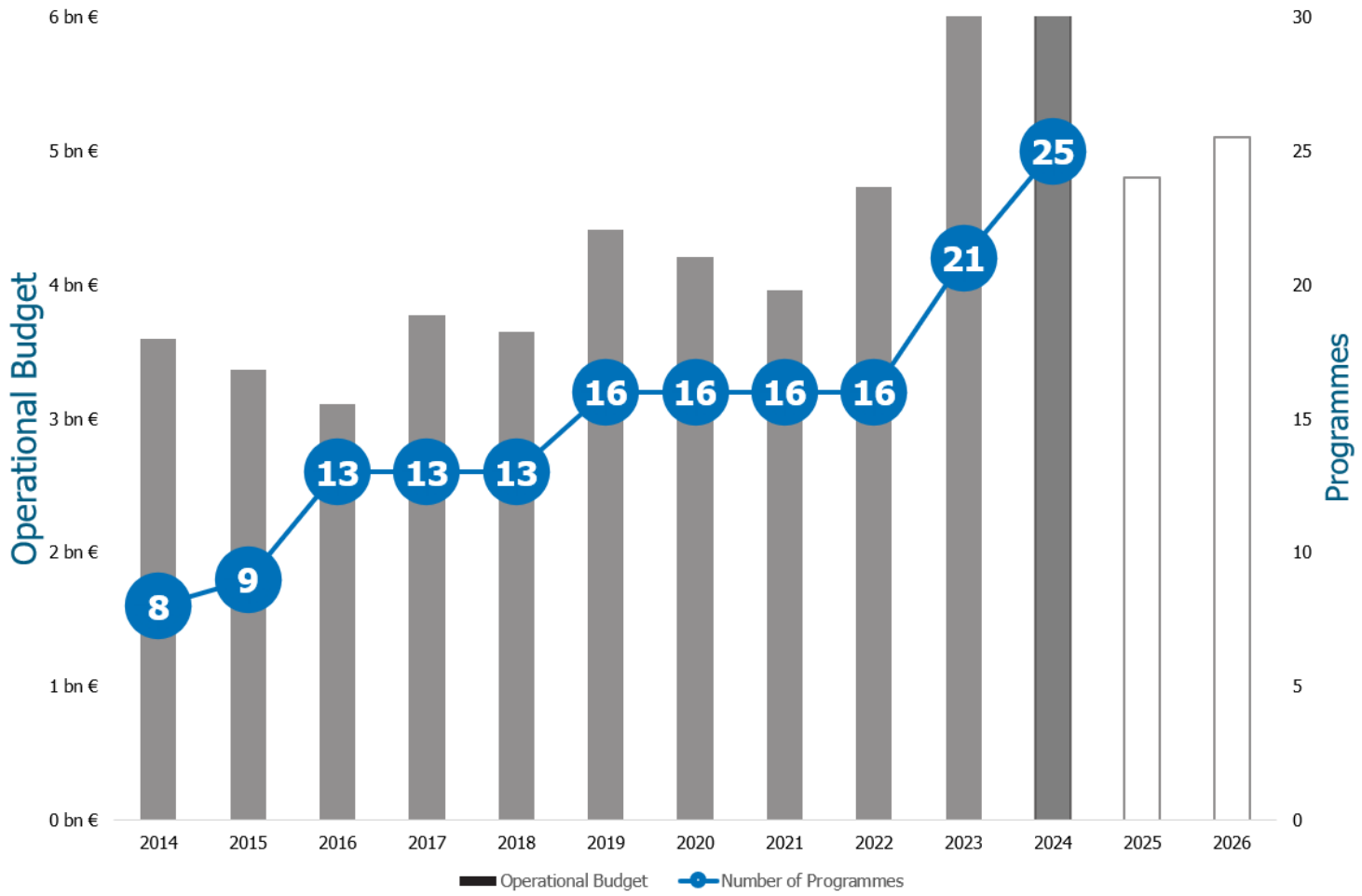
1. Bonn (Central Office+ BOXER – COBRA – ESSOR – MUSIS – NVC – TIGER)
2. Paris (FREMM – MAST-F – FR/UK MMCM – FSAF/PAAMS – LSS – MMPC)
3. Madrid (A400M – HYDEF)
4. Seville (A400M – Satellite Office)
5. Rome (U212 NFS – PPA – FREMM – CAMM-ER Satellite Office)
6. La Spezia (LSS – FREMM – Satellite Office)
7. Munich (MALE RPAS)
8. Saint Nazaire (LSS – Satellite Office)
9. Castellamare (LSS – Satellite Office)

OCCAR: Current Programme Status

From Definition phase to Disposal phase

- VBAE
- HYDEF
- REACT
- MMPC
- MMCM
- U212-NFS
- MAST-F
- MALE RPAS
- MUSIS
- ESSOR
- LSS
- PPA
- BOXER
- A400M
- TIGER
- FSAF PAAMS
- NVC
- Horizon/FREMM
- COBRA
- LWT

- (HOT/MILAN)
- (ROLAND)



OCCAR: Land Programmes

BOXER The BOXER is an all terrain armoured utility vehicle. The concept of a drive module and an exchangeable mission module makes it a flexible military vehicle for a large range of assignments.

COBRA Location of weapon systems, registration and adjustment of friendly firings, creation of battlefield data, communication with battle forces - COBRA is a singularly effective force on the battlefield, performing rapidly and accurately.

VBAE The VBAE, Véhicule Blindé d'Aide à Engagement, is the future light armoured vehicle designed in cooperation between France and Belgium.

ESSOR The European Secure Software Defined Radio (ESSOR) uses Software Defined Radio technology to define the future of interoperable radios, producing standards, software (waveforms) and radio terminals.

Night Vision Capability aims to increase Belgium's and Germany's night vision capabilities of dismounted soldiers and vehicle drivers. The commonality concept increases interoperability and reduces the logistic footprint in theatre.

WWGC* The Wide Wet Gap Crossing (WWGC) will develop and produce a modern and fast amphibious river crossing capability that goes beyond current available capabilities, for Germany and the UK.

Ground Alerter 10* covers a Mid-Life Upgrade for an existing counter artillery system in service with France and Germany. The aim is to improve the radar and address obsolescence.

** New programmes under integration*

OCCAR: Deliveries

2007:
All 29 **COBRA** delivered

2016:
All 15 **FSAF** SAMP/T delivered

2019:
All 163 **TIGER** delivered

As of today:
8 FR and 8 IT **FREMM** delivered

As of today:
706 **BOXER** delivered

As of today:
120 **A400M** delivered

As of today:
2 **LSS** delivered

As of today:
29,001 **NVG sets** delivered

As of today:
4 **PPA** delivered

BOXER Programme

Brief Overview

The BOXER Vehicle

The **BOXER** is a next generation, proven 8x8 all-terrain heavily armoured utility vehicle.

With its common drive module and exchangeable mission module, it ensures **maximum strategic advantage** and **tactical mobility** in a wide range of operational scenarios.

BOXER Programme: Overview

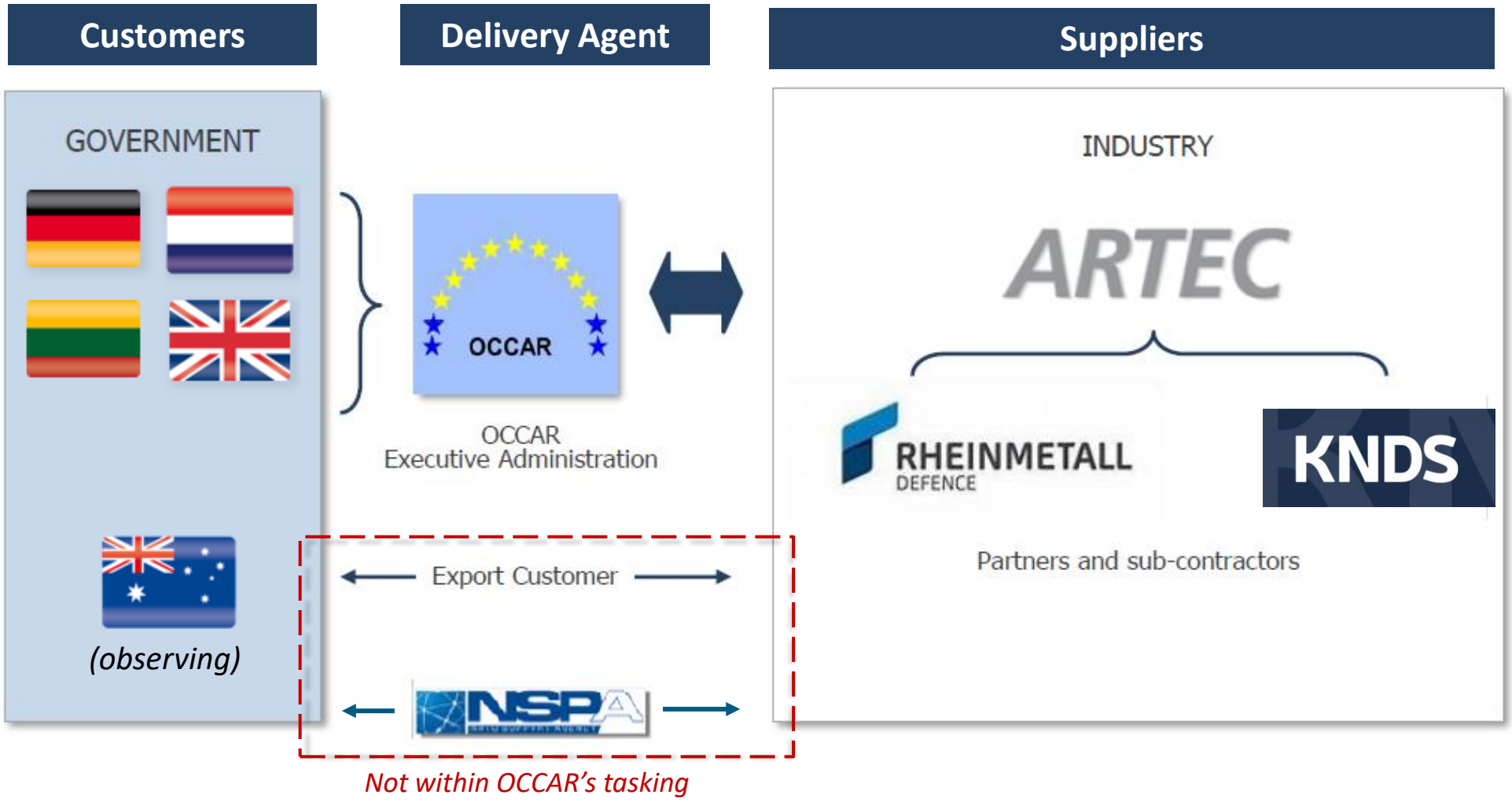
DE, NL, LT, UK are Participating States (PS).

AU is an Observer State.

OCCAR is managing the BOXER Programme, which has been running **25 years since 1999**.

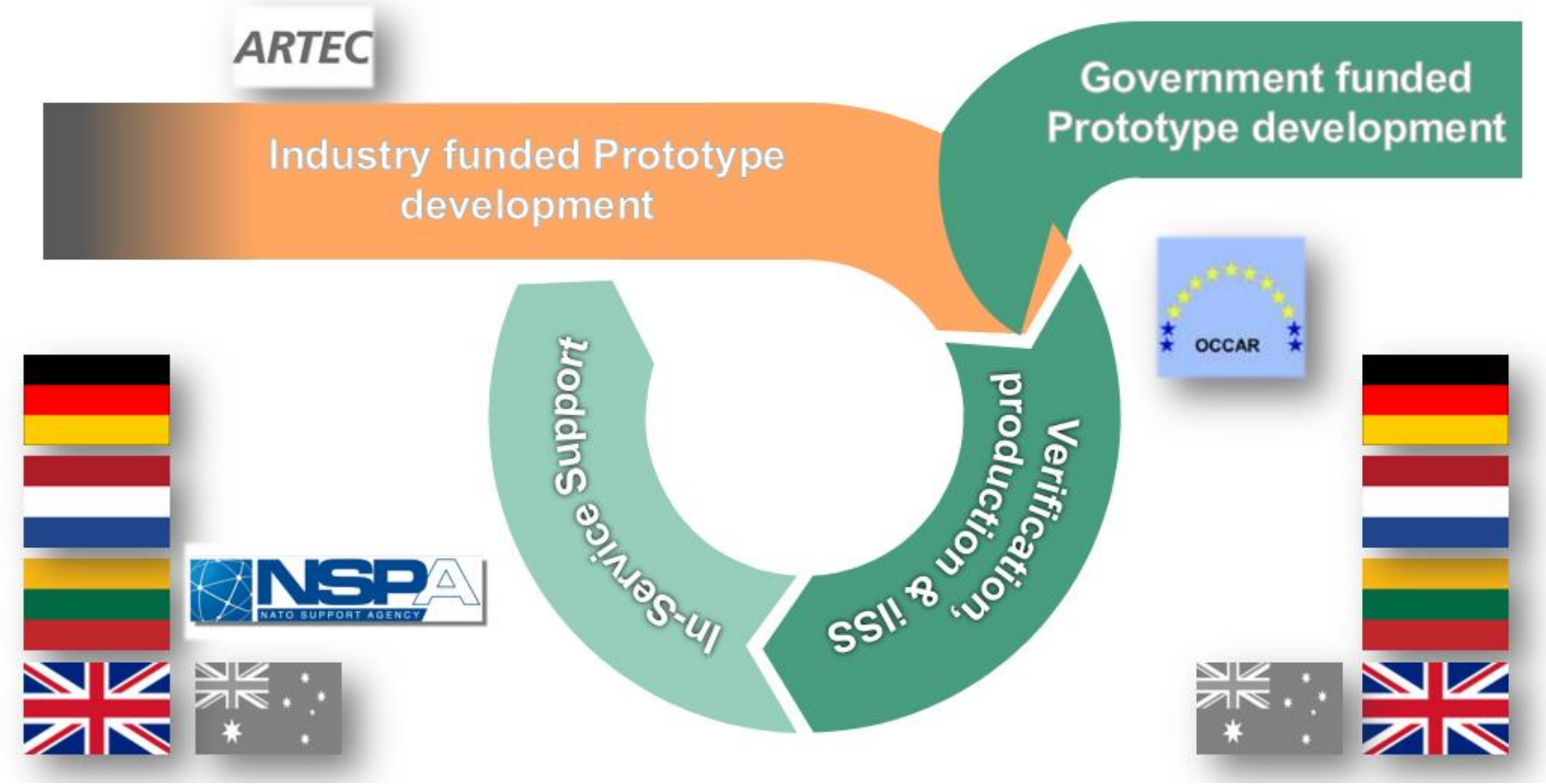
- BOXER Programme Division operates out of **Bonn, Germany** (OCCAR main office).
- **31** Programme team members across Technical, Logistics, Commercial, Finance and PM functions.
- **EUR 6 billion+** placed onto contract for development and production.
- **1300+** BOXERs in **19** variants on contract.
- **700+** BOXERs delivered.
- Used in service **in Afghanistan** between 2011 – 2014.

BOXER Programme: Delivery Enterprise



BOXER Programme: Construct

OCCAR, NSPA and Industry work hand-in-hand to deliver the life cycle of BOXER.



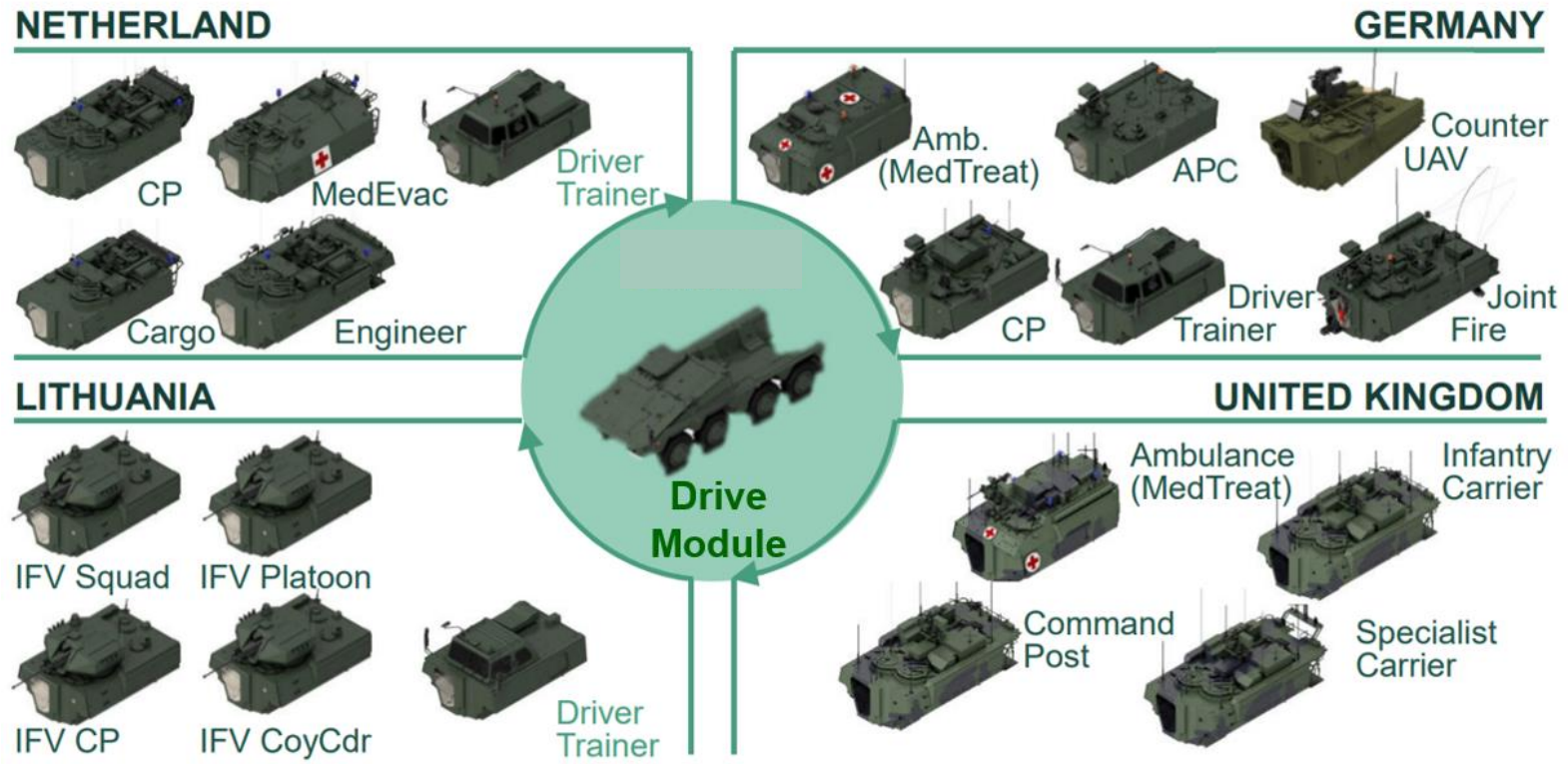
BOXER Programme: History

BOXER Modularity Concept

BOXER Programme has a long and successful history.

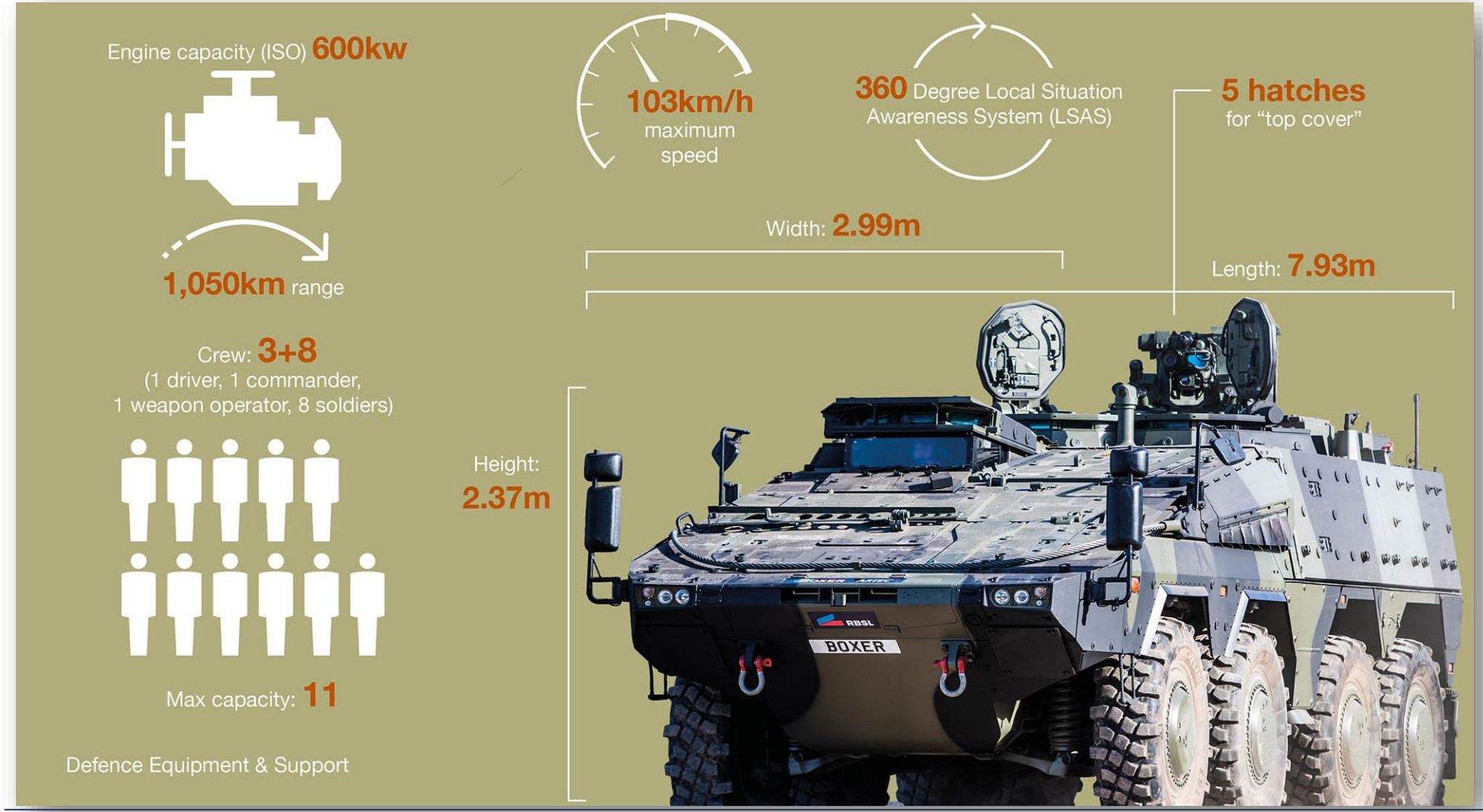
Multiple variants have been delivered across Nations' operational requirements.

The **interchangeability** of mission modules against a common drive module can mean the role of the vehicle can be changed in <2 hours.



Includes infantry carriers, infantry fighting vehicles, ambulances, engineering, cargo and other specialist variants.

BOXER Performance – Latest Data from UK Development



BOXER: Current Capabilities

Protection / Sensors / Effectors - Firepower

- SAMSON 30mm unmanned turret
- RCT 30mm unmanned turret
- LANCE 30mm manned turret
- Javelin / SPIKE
- RS4 RCWS
- RPG Netting

Mobility

Engine
- 530 kW
- 600 kW

Transportability (Land, Sea, Air)

Residual Mobility

Trailer coupling or Towing coupling

Integrated Logistics

HUMS

Special Tools & Test Equipment

NGVA / GVA

IETP (ASD S1000D)

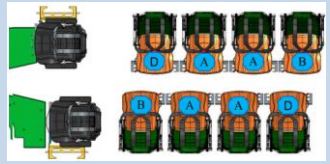
RAM

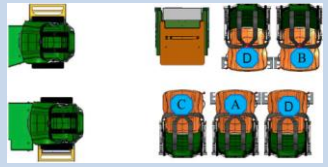
Spares ASD S2000M

Training Courses

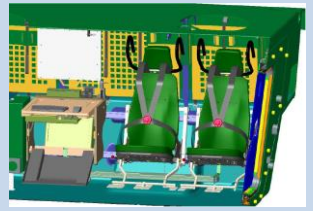
Training Equipment

LSA





Interior Fittings



C4I

External Stowage Systems

Mission Kit Composition

BOXER Programme

Current & Future Developments

BOXER Programme: At A Glance in September 2024

Over 400 Vehicles in 4 Versions

Batch 1 & 2 In Service

A1 to A2 Drive Module Retrofit

Driver Vision System

Joint Fire Support

IKV 414

Over 100 Vehicles in 5 Versions

Batch 1 In Service

Retrofit activities

Batch 2 Development

Over 200 Vehicles in 5 Versions

Batch 1 In Service

Retrofit activities

Over 600 Vehicles in 4 Versions

Design, Development

Prototypes & Trials

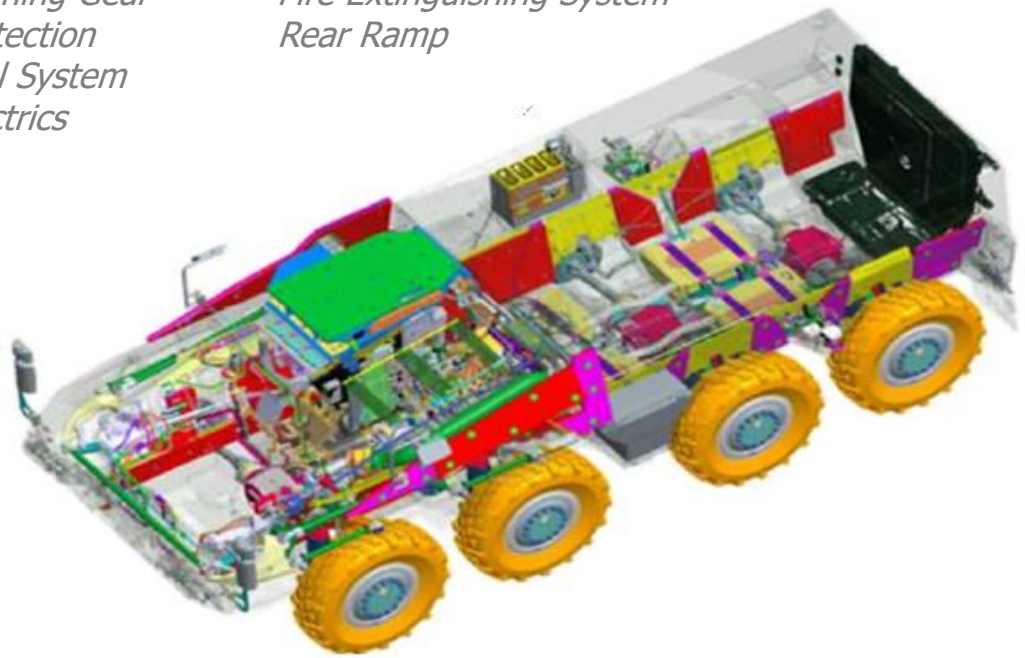
Training & ILS

Vehicle Production and Delivery

BOXER: Future Common Drive Module (B0)

The Drive Module consists of the automotive parts, including:

Power Pack
Running Gear
Protection
Fuel System
Electrics
Driver Station
Fire Extinguishing System
Rear Ramp



In 2024, BOXER Participating States defined the

Future Common Drive Module

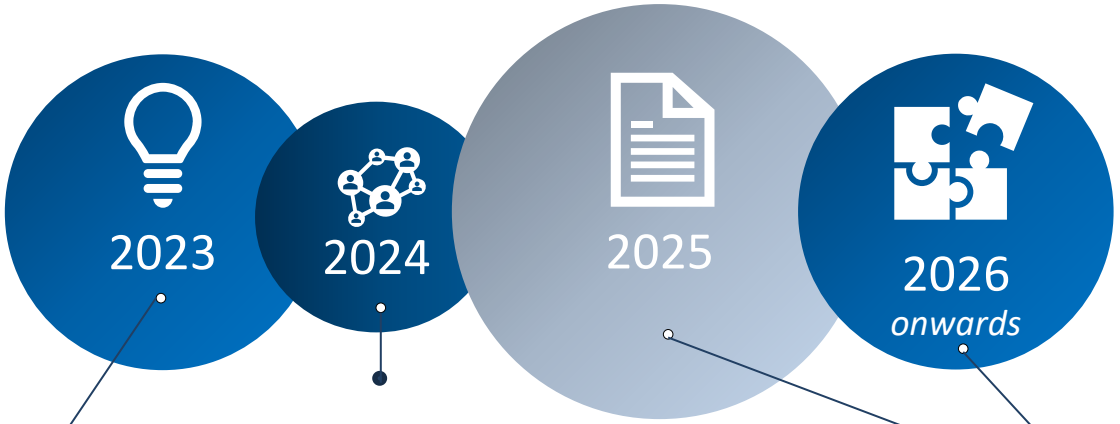
Latest performance and technology developments are combined to ensure a consolidated baseline.

This will lead to more efficient production and in service support for future BOXER vehicles.

Key advantages:

- Economies of scale production of Drive Modules & spares
- Reduced training burden for all BOXER Maintainers and Users
- Interoperability with other Nations on Operations
- Shorter lead times and fewer parts
- Mass production instead of batch production – increased Industry investment
- Additional flexibility for Nation-specific adaptation is also possible, for example a **Power Take Off** adaptation is being developed (e.g. for bridge laying capability)

BOXER Programme: Highlights & Future Activity



Germany successful CDR for Joint Fire Support Team

Netherlands official tasking for new electronic warfare variant

Lithuania delivery of retrofitted Batch 1 vehicles

UK delivery of first prototypes and start of customer trials

Germany successful homologation of Driver Vision System and delivery of IKV414.

Germany & Netherlands contracting activities initiated for advanced infantry fighting vehicles.

Netherlands Batch 2 contracting activities initiated.

Lithuania Batch 2 contract awarded incl new engineering variant.

UK production vehicle delivery commences.

Programme new future common drive module (B0) defined.

Procurement, design and delivery of new vehicles and new variants for all Nations, including:

- Infantry Fighting Vehicles
- Bridge Layer
- Armoured Mortar
- Repair & Recovery
- Electronic Warfare

Scoping studies for potential future variants are under consideration, such as:

- Overwatch
- Deep-Find Radar
- SHORAD

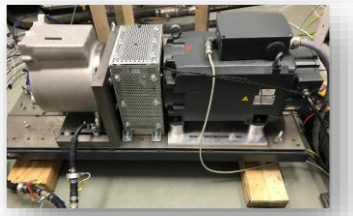
BOXER: Planned Future Capabilities

New variants:

- Joint Fire Support
- Electronic Warfare/Attack
- Bridge Layer 14m and 22m
- Repair & Recovery
- Armoured 120mm Mortar
- Engineering (e.g. mine clearance)
- Deep-Find Radar
- Short Range Air Defence (SHORAD)
- Mounted Close Combat Overwatch (Anti-armour)
- RCH155
- Battlefield WIFI

New Improved subsystems:

- Increased electrical power generation (10Kw =>15Kw)
- Full NATO Generic Vehicle Architecture (NGVA)
- Hydraulic - Power Take Off (PTO)
- SPIKE LR2 capability upgrade



Questions

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