

EPIC TECHNOLOGY MEETING PHOTONICS IN DEFENCE

USES-CASES AND CHALLENGES OF PHOTONICS
TECHNOLOGY IN MILITARY PLATFORM

An Overview to Electro-Optics in Missile Systems

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MBDA Missile Systems

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ABOUT US SOLUTIONS AND SERVICES INNOVATION CAREERS NEWSROOM

Overview

- MBDA – who we are
- Today's Use-Cases
- Tomorrow's Challenges



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MBDA Financial Results 2022

9 bn €	4.2 bn €	22.3 bn €
Orders	Revenue	Backlog

> 14 000 EMPLOYEES
6 COUNTRIES
> 90 CUSTOMERS

3 THINGS TO REMEMBER ABOUT MBDA

The only integrated defence company to provide missiles and missile systems for each branch of the armed forces (air, sea, land).

A multi-national group with more than 14.000 employees working together across France, Germany, Italy, Spain and the United Kingdom. Offices also set up in USA.

A joint venture of the 3 European leaders in aerospace and defence: Airbus (37.5%), BAE Systems (37.5%) and Leonardo (25%).

MBDA Missile Systems



Today's Use-Cases

Air to Air

- Demanding environment
- Target acquisition
- Aim-point stability



Stand-off, Cruise

- Less challenging environment
- Target contrast
- Aim-point refinement

Battlefield

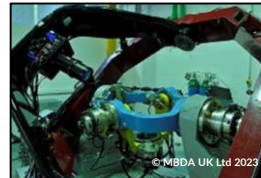
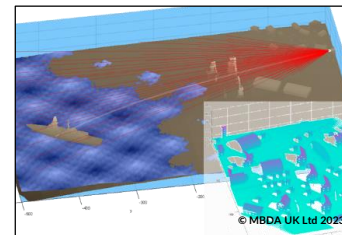
- Changing environment
- Tactical engagement
- Lower Cost



MBDA Missile Systems

Tomorrow's Challenges

- Better: More Robust, More Versatile
- ... Smaller, Cheaper ... less 'critical'
- New Concepts, New Technology
 - **Concepts:** Hypersonic, Multiple Sensors, Multiple Modes
 - **Materials:** Multi-band, Shielding, Shaping
 - **Detectors:** DROICS, HOT, Silicon
 - **Techniques:** Computational Imaging
 - **Novel:** LADAR, High Energy Laser
- New Approach to Development
 - Faster cycles, more COTS
 - Wider, more adaptable supply chain
 - More AI...
- New T&E
 - *Don't forget the test equipment !*



MBDA Missile Systems

Summary

- MBDA
 - European Missiles Systems Company (UK, Fr, Ge, It)
 - Need for a wide range of photonics technologies
- Today's Use-Cases
 - Challenging Scenarios
 - Demanding Environments
- Tomorrow's Challenges
 - Greater range of Photonics-based technology challenges
 - ... but essential to remain cost effective

> Imperative to work across the European photonics community to discover the next generation, innovative and game-changing solutions

End of Presentation

Thank you for your attention



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