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Orchestrike: MBDA accelerates deployment of AI for SPEAR cruise missiles

MBDA has made rapid advances to its Orchestrike collaborative weapons artificial intelligence (AI) over the past 12 months and can announce the SPEAR family of weapons will be the first cruise missiles to feature AI-enhanced collaboration, while keeping a human operator in the loop.

Eric Beranger, CEO of MBDA, said: *“Being at the forefront of innovation in AI highlights how MBDA has unique technologies and expertise in Europe for delivering the decisive air domain missile capabilities to enable our armed forces to defend our values and freedoms.”*

Orchestrike will enhance the performance of SPEAR missiles via AI-driven co-ordination, collaboration and co-operation between the missiles and the pilot controlling them from the launch aircraft. Orchestrike will enable SPEAR missiles to react to threats and work together with the pilot to solve tactical challenges, increasing both missile and platform survivability and overall mission performance. The missiles will only ever operate within the boundaries of operator input, ensuring legal and ethical utilisation at all times.

Since it was unveiled at Paris Air Show 2023, MBDA has rapidly developed Orchestrike from concept towards capability in twelve months. In particular, work has focused on refining the AI algorithms, advancing missile-to-missile datalinks, and on integrating both elements together and into SPEAR to enhance the already world-leading capabilities of the cruise missile weapon system.

Orchestrike showcases how MBDA is collaboratively investing across our nations to meet the needs of our customers. It also demonstrates the ability of the company to innovate, bring capabilities to service quickly and then update spirally.

On the MBDA stand at Farnborough International Airshow, an Orchestrike digital-twin simulator featuring real missile AI and hardware including new networked-enabled datalinks, will allow military users to immerse themselves in a unique simulated raid where the missiles react live and collaboratively to the developments of a tactical situation thanks to the Orchestrike AI capability.

SPEAR is a family of network-enabled cruise missiles developed by MBDA to meet the need of air forces to defeat and suppress enemy air defences by striking moving targets in all weathers, at stand-off ranges. They feature all the advanced features of a cruise missile, including advanced mission planning and the ability to perform complex missions at long ranges, while being of a revolutionarily small size – with a single F-35 able to carry eight SPEAR missiles within its weapon bays.

In the future Orchestrike can be extended to other munitions with network-enabled datalink capabilities.



About MBDA

MBDA is a unique multi-national European group, a world-leader in the field of complex weapon systems, playing a key role in keeping nations safe. Created in the spirit of international co-operation, MBDA and its 14,000+ employees work together to support the national sovereignty of France, Germany, Italy, Spain and the UK, and their allies worldwide. As an accelerator for innovation, MBDA is the only European group capable of designing and manufacturing complex weapons to meet the full range of current and future operational requirements of the three armed forces (land, sea and air). Airbus (37.5%), BAE Systems (37.5%) and Leonardo (25%) jointly own MBDA.

