

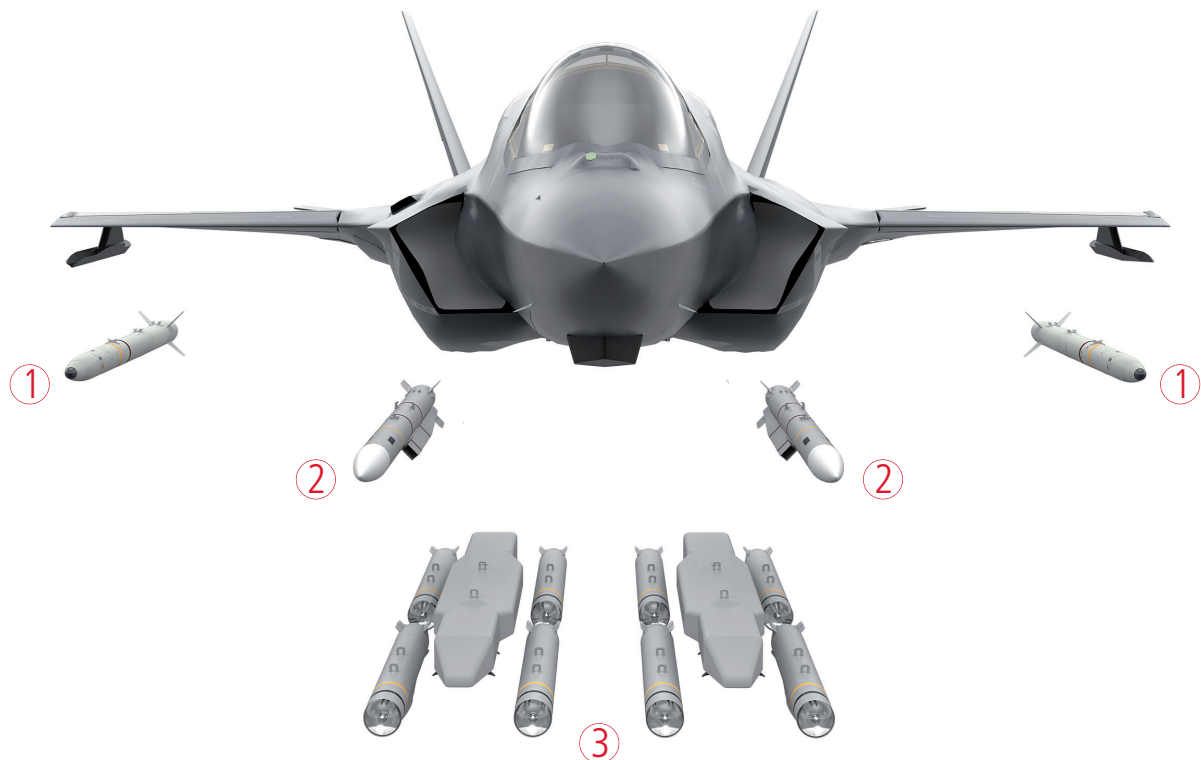


MBDA MISSILE CAPABILITIES

F-35 LIGHTNING II

F-35 is a fully network-enabled, 5th generation multi-role fighter offering a combination of advanced stealth, sensor fusion and data-links. To maximise the aircraft's full potential in both the air-to-air and air-to-surface operations, both now and in the future, requires advanced missiles that are in keeping with the platform's performance. MBDA is rising to this challenge and is delivering world-beating latest generation weapons: ASRAAM, Meteor and SPEAR. These weapons offer selectable precision, extended range, and network-centric effects that are optimised for the F-35 and the future battlespace.

MBDA's 5th generation missiles complement the advanced capabilities of the F-35



Air-to-Air: Gaining and maintaining air supremacy in an increasingly contested environment will be the highest priority for future air missions. Situational awareness is critical to success and F-35's integrated sensors and advanced information systems, when combined with weapons such as **ASRAAM** ① and **Meteor** ②, will give it a clear advantage over other front-line fighter aircraft. The ability to see and not be seen (thanks to F-35's lower RCS), combined with the added advantage of MBDA's air-to-air weapons and their superior engagement ranges is already redefining air-to-air combat tactics. Deployed from within F-35's internal weapons bay (stealth is not compromised), **Meteor** is 'network enabled' via data-link, fully optimising the situational awareness advantages of the F-35. In addition, its throttleable ramjet and active radar seeker combine to provide unmatched end-game speed and manoeuvrability at greatly extended ranges, resulting in a No-Escape Zone several times greater than other existing or planned BVR weapons. Meteor's advantages make it equally a weapon of dissuasion as any enemy will think twice before entering airspace controlled by F-35s.

For WVR scenarios, **ASRAAM's** unmatched off-rail fly-out and high speed and resultant aerodynamic manoeuvrability provide the greatest dominance of any missile in its class with a first shot, first kill capability. Notably it offers 360° engagement coverage, including over-the-shoulder firing capability in LOAL mode.

Air-to-Surface (Land and Sea): F-35 will be meeting the needs of both air forces and navies around the world for years to come. Clearly the surface target set for these different users will vary greatly, ranging from SEAD right through to the need to counter small, fast moving naval craft in the littoral. To provide maximum flexibility and effect against both static and fast moving targets, MBDA is developing **SPEAR** ③ specifically for the F-35. This high precision, turbojet propelled weapon can be tactically employed at significantly increased stand-off range, a key advantage over glide weapons and guided bombs.

SPEAR benefits from robust INS/GPS guidance throughout the flight envelope and a multi-mode seeker using advanced targeting modes provides increased target selectivity even in the most complex of operational scenarios. Capable of operating night and day and in all weather conditions, **SPEAR** fits compactly inside the internal carriage bay (four missiles per bay for a total of eight missiles) allowing for maximum operational capability per sortie. The weapon's multiple-effects warhead ensures not only optimised lethality for current and future threats but also minimal collateral damage. **SPEAR's** two-way data-link allows in-flight updates, re-targeting and abort functions. For maximum operational flexibility, **SPEAR** can be deployed in fire-and-forget and SAL modes as well as within a networked environment, thereby taking full advantage of F-35's network enabled characteristics. A range of land targets and the threat posed by swarming, fast moving naval attack craft, traditionally very difficult to counter, all fall within this next generation weapon's remit.

MBDA MISSILES

IDENTIFICATION

ASRAAM

Missile Characteristics

- Weight: 88 kg (194 lbs)
- Length: 2.9 m (9ft 6 inches)



Meteor

Missile Characteristics

- Weight: 190 kg (419 lbs)
- Length: 3.7 m (12ft 1 inch)



SPEAR

Missile Characteristics

- Weight: <100 kg (< 220 lbs)
- Length: <1.8 m (< 5ft 10 inches)



2 x ASRAAM, 2 x Meteor, 8 x SPEAR
– full multi-role capability



2 x ASRAAM, 4 x Meteor – total
domination of the airspace



SPEAR – multi-target, multi-
effect, exceptional precision



EXCELLENCE AT YOUR SIDE

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