Kongsberg Gruppen ASA (KONGSBERG) is an international technology corporation that delivers advanced and reliable solutions that improve safety, security and performance in complex operations and during extreme conditions.

KONGSBERG is a customer focused organization with a worldwide performance culture. KONGSBERG works with demanding customers in the global defence, maritime, oil and gas and aerospace industries.
JSM - Joint Strike Missile

The JSM is based on the well-proven and modern technology of NSM (Naval Strike Missile) which is operational in the Royal Norwegian Navy (RNoN) and Poland. The development of JSM is well under way and fully funded by Royal Norwegian Air Force (RNoAF). The JSM operational analysis and design process has focused on the following key operational capabilities.

**Survivability** (launch platform and missile)
- Stand-off Range
- Low Observable
- Mission Profile
- End Game Profile

**Target Selectivity**
- Target Detection & Identification
- Autonomous Target Recognition (ATR)
- Target Discrimination (in cluttered environment)
- ROE Compatible

**Lethality**
- Precision Aimpoint
- Warhead Effect
- Collateral Damage Mitigation

**Mission Flexibility**
- Multi Target Capable
- Multiple Operational Domains

**Service Suitability**
- Multi Platform Capable
- Net Ready
- Minimum Maintenance
- Aircraft Carrier Suitable
Survivability
The JSM is designed with a stand-off range to protect the launch platform from being detected and engaged by enemy Air Defence Systems.

The JSM has high survivability against modern and future Air Defence systems. This is accomplished by the following:
- passive sensors
- very low signature
- extremely low sea skimming altitude
- terrain following flight
- high agility with selectable end-game flight profiles
- very precise designated time-on-target

An advanced mission planning system utilizes all these capabilities to generate optimum engagement plans. Salvo capability, i.e. multiple missiles towards one target, is also available for highly defended, high value targets.

Lethality
The JSM warhead effect is given by three main elements; warhead size, warhead fuze and target hitpoint.

The JSM has selectable aim point in the target and has proven to hit the target very precisely. This capability enables selection of controlled destruction effect, ranging from maximum damage to controlled/minimum damage. Terminal accuracy has been demonstrated to less than 2 feet (distance between aim point and actual hit point).

The JSM has a 500lbs class warhead with a gross weight of 120 kg and explosive weight of 100 kg (TNT equivalent). The warhead is a combined blast (primary effect) and fragmentation (secondary effect) warhead with insensitive High Explosive (HE) charge. The warhead casing is made of titanium alloy with a steel-grid for fragmentation effect. The picture below shows the warhead effect from a test firing against a Norwegian frigate.

The fuze is programmable with custom-designed fuze programs down-loaded prior to launch.

The warhead is insensitive munition certified.
BASED ON 50 YEARS OF MISSILE EXPERIENCE
Targeting Selectivity
The JSM features sophisticated target acquisition with Autonomous Target Recognition (ATR) facilitated by an imaging infrared seeker. Advanced recognition algorithms provide capability to identify targets to ship class and prevent attack of white/neutral shipping. There is a 100% confidence in separation of “white” and “red” shipping.

The JSM mission planning system incorporates a national database with a library of potential targets. A sub-set of the target library is down-loaded to the JSM prior to launch.

For each target class in the database there will be a set of recognition characteristics, a default aim point position together with a corresponding warhead fuze profile, and default missile end-game tactics.

Prior to launch, the operator may inspect and modify the end-game tactics and aim point.

Kongsberg will provide customers with a software application package and training for target library development.

Platform integration
JSM fits into the internal weapons bay of the F-35 A and C versions. JSM can also be carried on external stations on F-35, F-16, F/A-18 and F-15.

Air system Integration
JSM accommodates modern standards for integration to fast jets. The datalink design provides for interoperability with current and future network concepts. JSM being based on a fire and forget concept is robust against variations in data link connectivity.

Logistics
The JSM is designed for a long operational life. An extensive BIT test is easily performed at user level. The ILS concept is based on a minimum of maintenance and maximum use of standard equipment.

JSM Key Characteristics
Length : 4.00 m (157 in)
Height : 0.52 m (20.4 in)
Width : 0.48 m (18.9 in) (stowed)
Mass : 416kg (917 lbs)
Speed : High Subsonic
Agility : High

Guidance
Inertial Navigation, aided by GPS and TERCOM.
Imaging Infra-Red Target Seeker.
KONGSBERG is an international corporation with strong Norwegian roots. Collaboration with our customers, partners and suppliers, and a commitment to understand the context where our technology is applied, are important driving forces behind the corporation’s international development and growth.