

Missiles of India

The use of missiles for wars were witnessed during the 18th century in India. A rocket or missile is a guided, self-propelled flying weapon usually driven by a warrior jet engine or rocket motor.

There are broadly 7 types of missiles in India.

- Ballistic Missile Defence (BMD)/Interceptor Missiles
- Air-to-air missiles AAM
- Surface-To-Air Missiles – SAM
- Surface-to-surface missiles
- Anti-Tank Missiles
- Submarine Launched Ballistic Missiles
- Cruise Missiles

Indian Missile List 2022 - Names and Characteristics

Listed are the types of missiles in India which are either used by Indian armed forces or presently at various phases of development:

Air-to-Air Missile of India (AAM)

An air-to-air missile (AAM) is fired from an airplane to eliminate another plane. AAMs are powered by one or more rocket engines and are largely solid-fueled or occasionally liquid-fueled.

Name of the Missile	Missile of India	Operative Range	Speed
MICA	Air-to-Air	500 m to 80 km	Mach 4
Novator K-100	Medium Range	300–400 km	Mach 3.3
Astra	Air-to-Air	80-110 km	Mach 4.5 +
Solid Fuel Ducted Ramjet	Beyond visual range missile air-to-air missile	350 km	Mach 4.5

Surface-To-Air Missile of India (SAM)

A surface-to-air missile (SAM), also referred to as surface-to-air guided weapon (SAGW) or a ground-to-air missile (GTAM), is a rocket invented to be projected from the ground to eradicate airplanes or other projectiles. It is one category of anti-aircraft approach.

Name of the Missile	Missile of India	Operative Range	Speed
Trishul (missile)	Short range surface to air missile	9 km	Mach 1+

VL-SRSAM	Short range surface to air missile	50 km	-
QRSAM	Quick reaction surface to air missile	30 km	-
Maitri (missile)	Quick reaction surface to air missile	30 km	-
XR-SAM	Long range surface to air missile	350 km	-

Barak 8 Missile of India :

Name of the Missile	Missile of India	Operative Range	Speed
MRSAM	Medium range surface to air missile	70 km	Mach 2+
LRSAM	Long range surface to air missile	100 km	Mach 2+

Akash Missile of India:

Name of the Missile	Missile of India	Operative Range	Speed
Akash Mk I	Medium range surface to air missile	30 km	Mach 2.8-3.5
Akash Mk II	Medium range surface to air missile	40 km	Mach 2.8-3.5
Akash-NG	Medium range surface to air missile	70 km	Mach 2.8-3.5

Surface-to-Surface Missile of India

A surface-to-surface missile is launched from the ground to hit the ground or sea targets. It may be fired from hand-held automobiles, ships, or ground structures.

Name of the Missile	Speed	Operative Range
Agni-I	Mach 7.5	700-1250 km
Agni-II	Mach 12	2,000–3,000 km
Agni-III	5–6 km/s	3,500 km – 5,000 km
Agni-IV	Mach 7	3,000 – 4,000 km
Agni-V	Mach 24	5000 – 8000 Km

Agni-VI	-	12,000 to 16,000 km
Prithvi I	-	150 km
Prithvi II	-	350 km
Dhanush	-	350 – 600 km
Shaurya	-	750 to 1,900 km
Prahaar	-	150 km
Pralay	-	500 km

Cruise Missile of India

A cruise missile is a rocket missile against terrestrial or naval targets that stays in the atmosphere and passes the major part of its aviation path at a roughly consistent speed.

Name of the Missile	Missile of India	Operative Range	Speed
Nirbhay	Subsonic cruise missile	1,000 -1500 km	Mach 0.9
BrahMos-II	Hypersonic cruise missile	600–1,000 km	Mach 8

BrahMos Cruise Missile of India:

Name of the Missile	Missile of India	Operative Range	Speed
BrahMos Block I	Land-attack cruise missile	290 km	Mach 3
BrahMos Block II	Anti-ship cruise missile	290 km	Mach 3
BrahMos Block III	Land-attack cruise missile	290 km	Mach 3
BrahMos ER	Multirole supersonic cruise missile	600 km	Mach 3
BrahMos-A	Anti-ship cruise missile	400 km	Mach 3
Submarine launched BrahMos	Land-attack cruise missile	290 km	Mach 3
BrahMos NG	Multirole supersonic cruise missile	290 km	Mach 3

Ballistic Defence Missile of India

Missile defense is a weapon, system, or technology applied in bombarding missiles' detection, tracking, interception, and devastation. A missile defense system (MDS) is a mechanism that can detect and then eliminate a missile before it can generate any damage.

Phase I of Indian Ballistic Missile Defence Programme:

Name of the Missile	Type of Missile	Operative Range	Speed
Prithvi Defence Vehicle	Exo-atmospheric anti-ballistic missile	2,000 km	-
Advanced Air Defence	Endo-atmospheric anti-ballistic missile	150 km	Mach 4.5
Prithvi Air Defence	Exo-atmospheric anti-ballistic missile	300 km	Mach 5+

Phase II of Indian Ballistic Missile Defence Programme:

Name of the Missile	Type of Missile	Operative Range
AD-1	Anti-ballistic missile	TBA
AD-2	Anti-ballistic missile	TBA
Prithvi Defence Vehicle Mark-II	Exo-atmospheric anti-ballistic missile	-

Submarine Launched Ballistic Missile of India

A SLBM or submarine-launched ballistic missile is a ballistic missile competent of being established from submarines. The latest variants usually supply countless independently targetable reentry vehicles (MIRVs).

Name of the Missile	Operative Range	Speed
Ashwin	150-200km	Mach 4.5
K-4	3,500–5,000 km	–
Sagarika	700 – 1900 Km	–
K-5	6,000 km	–
K-15 (Sagarika)	750 km	
K-6	6,000 to 8,000 km	

Anti-Tank Missile of India

ATGMs are primarily created to hit and destroy armored military vehicles laboriously. These are 'fire-and-forget' missiles where the operator can retreat right after firing as no more guidance is required.

Nag (missile):

Name of the Missile	Type of Missile	Operative Range
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MPATGM	Man-portable anti-tank missile	2.5 km
Stand off Anti-Tank missile	Standoff Air-launched ATGM	20 km
HeliNa/Dhruvastra	Air-launched ATGM	10 km
Prospina	Third generation land-attack ATGM	4 km

Amogha missile:

Name of the Missile	Operative Range	Speed
Man portable Amogha	Man-portable anti-tank missile	
Air-launched Amogha	Air-launched anti-tank missile	
Amogha-1	Second generation anti-tank guided missile	2.8 km

Important Types of Missiles in India

Below are the Indian missiles still under development or being tested for their use in the near future.

Name of the Missile	Missile of India	Operative Range	Warhead
Rudram-1	Anti-radiation	250 km	Conventional
Prithvi Defence Vehicle Mark II	Anti-satellite	1,200 km	Kinetic kill vehicle
NASM-SR	Anti-ship	55+ km	Conventional or nuclear 100 kg
SMART	Anti-submarine	643+ km	Conventional 50 kg

Key Facts about Missiles in India

- Tessy Thomas is the Missile Woman of India. She is the General Director of Aeronautical Systems and an Indian scientist and is known to be the one-time Project Director for Agni-IV missile in DRDO.
- In 1983, IGMDP, or the Integrated Guided Missile Development Program, was established.
- This program was undertaken with a plan to design five rocket approaches in India – Akash, Prithvi, Trishul, Nag, and Agni.
- The first ever developed missile used by the Indian Air Force, Prithvi II is a single-stage missile which comes under the liquid fuelling type, having maximum warhead mounting capacity of 500 kg and a range of 250 km.