DRDO & Research & Development:

Major DRDO Developments

Pralay Tactical Missile Trials: The Defence Research and Development Organisation (DRDO) conducted two back-to-back successful flight tests of the indigenously developed Pralay missile on July 28 and 29, 2025. These "user evaluation trials" from Dr. APJ Abdul Kalam Island off the Odisha coast were to verify the missile system's maximum and minimum range capabilities. The Pralay is a solid-propellant, quasi-ballistic missile with a range of 150 to 500 km, designed to carry conventional warheads. The successful tests pave the way for the missile's induction into the armed forces.

Project Kusha Radar System: As part of Project Kusha, the DRDO is developing a new Long-Range Battle Management Radar (LRBMR). This indigenous radar will feature advanced Digital Beam Forming (DBF) and Gallium Nitride (GaN)-based modules. With a detection range of over 500 kilometers, the LRBMR is designed to support layered air and missile defense and is noted for its smaller physical footprint compared to foreign systems like the Russian S-400 radar. The first of the program's three planned missile systems is set to undergo testing later in the year.

ULPGM-V3 Missile Trials: The DRDO successfully carried out flight trials of the UAV Launched Precision Guided Missile (ULPGM)-V3 at a national range in Kurnool, Andhra Pradesh, on July 25, 2025. This upgraded missile features a high-definition, dual-channel seeker for day and night operations, multiple warhead options, and a two-way data link. It is designed to engage a variety of targets and is a key part of India's push for self-reliance in defense technology.

Advanced Carbon Fibre Foot Prosthesis: The Defence Research and Development Laboratory (DRDL) in Hyderabad, in collaboration with AIIMS-Bibinagar, has successfully developed ADIDOC, an advanced carbon fibre foot prosthesis. This "Made in India" solution is a cost-effective, high-performance prosthetic designed for active users.

Other Research & Development News

Naval Science & Technological Laboratory (NSTL) Internship: DRDO's NSTL has announced a six-month paid internship program for final-year B.E./B. Tech and second-year M.Sc students. The internship, which started on August 1, 2025, offers a monthly stipend and is a part of DRDO's efforts to engage with young talent.

Nuclear Reactor Advancement: The Bhabha Atomic Research Centre (BARC) is spearheading the development of the CLWR-B2, a fourth-generation naval reactor. This reactor will power India's future S-5 class nuclear-powered ballistic missile submarines (SSBNs) and newly sanctioned nuclear-powered attack submarines (SSNs).

HAL and RudraM-III Missile: Hindustan Aeronautics Limited (HAL) has successfully conducted release trials of the RudraM-III missile from a modified Su-30 MKI aircraft. The RudraM-III is part of India's missile series for Suppression of Enemy Air Defences (SEAD) missions.

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1. What is the range of the indigenously developed Pralay quasi-ballistic missile?
a) 100 to 200 km
b) 150 to 500 km
c) 500 to 1,000 km
d) Over 1,000 km

Answer: b) 150 to 500 km
The news states, "The Pralay is a solid-propellant, quasi-ballistic missile with a range of 150 to 500 km..."

2. What is the name of the advanced carbon fibre foot prosthesis developed by DRDL in collaboration with AIIMS-Bibinagar?
a) ADIDOC
b) Project Kusha
c) ULPGM-V3
d) CLWR-B2

Answer: a) ADIDOC
The news states that the DRDL has successfully developed "ADIDOC, an advanced carbon fibre foot prosthesis."

3. What is the primary purpose of the new Long-Range Battle Management Radar (LRBMR) being developed under Project Kusha?
a) To power naval submarines
b) To assist in civilian air traffic control
c) To support layered air and missile defense
d) To track climate change from space

Answer: c) To support layered air and missile defense
The news says the LRBMR "is designed to support layered air and missile defense and is noted for its smaller physical footprint..."

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4. What is the name of the fourth-generation naval reactor being developed by BARC to power India's future submarines?
a) RudraM-III
b) ADIDOC
c) CLWR-B2
d) Pralay

Answer: c) CLWR-B2
The news states, "The Bhabha Atomic Research Centre (BARC) is spearheading the development of the CLWR-B2, a fourth-generation naval reactor."

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