DRDO & Research & Development:

Several notable developments from DRDO and related research and development initiatives are in the news on August 26, 2025, highlighting India's continued focus on self-reliance in defense.

Naval & Missile Technology

The DRDO is a key player in India's naval modernization efforts. The Indian Navy is in discussions with Germany's ThyssenKrupp Marine Systems (TKMS) to integrate the indigenously developed Submarine-Launched Cruise Missile (SLCM), which has a 500-km range, into the proposed U-214NG submarines under Project 75-India. This move aims to reduce reliance on foreign systems and enhance the Navy's strike capabilities. Separately, the Indian Navy has commissioned two new Project 17A stealth frigates, INS Udaygiri and INS Himgiri, with 75% indigenous content, reinforcing the "Aatmanirbhar Bharat" initiative.

Ballistic Missile Defense & Aerospace

DRDO is making significant strides in ballistic missile defense. The organization is fabricating the AD-2 exo-atmospheric interceptor, a cornerstone of India's Phase-II Ballistic Missile Defense (BMD) program. The AD-2 is designed to neutralize ballistic missiles with ranges up to 3,000 km and is expected to undergo trials in 2026. This development, along with the limited production of the AD-1 interceptor in 2025, is creating a robust, multi-layered defense shield for India.

In aerospace, the Aerial Delivery Research & Development Establishment (ADRDE), a DRDO lab, successfully conducted the first Integrated Aerial Drop Test (IADT-01) for the Gaganyaan mission. This test, which validated a parachute-based deceleration system, is a critical step towards ensuring a safe landing for the crew module in India's first human spaceflight program. The test involved dropping a dummy crew module from a helicopter to simulate real-world descent conditions.

Medical & Other Innovations

Beyond military applications, DRDO is also contributing to other sectors. The Defence Research and Development Laboratory (DRDL) in Hyderabad has collaborated with AIIMS to successfully develop the ADIDOC–Optimised Carbon Foot Prosthesis. This marks the first "Made in India" advanced carbon fiber foot prosthesis, designed to be a cost-effective alternative for high-performance users.

Additionally, DRDO's Instruments Research and Development Establishment (IRDE) is set to manufacture advanced semiconductor infrared detectors in Lucknow. This technology, which is currently imported from countries like Israel and France, is used for thermal imaging and will be a key step towards self-reliance in this critical area.

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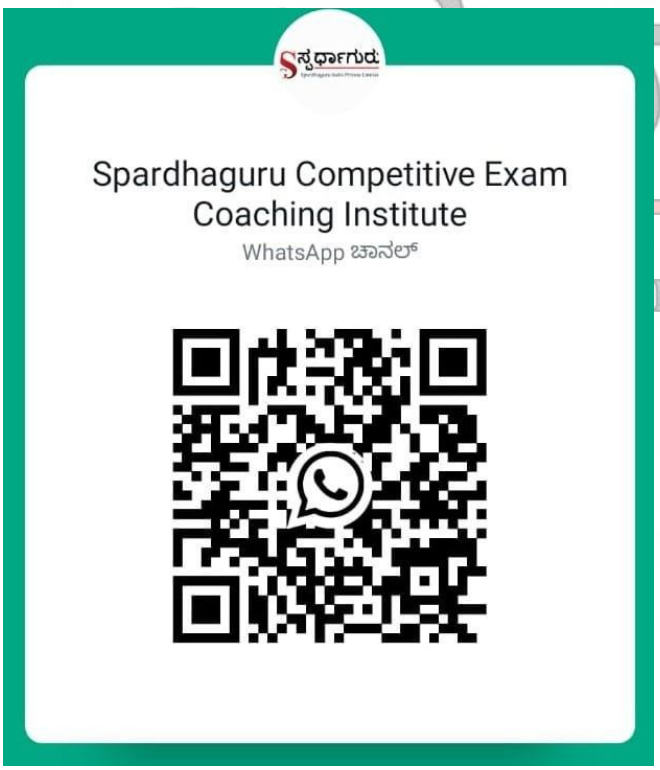

MCQS

Question 1: What is the name of the indigenously developed missile that the Indian Navy is discussing with Germany for integration into its submarines, and what is its range?
A) BrahMos, 300-km range
B) Submarine-Launched Cruise Missile (SLCM), 500-km range
C) Agni-V, 5,000-km range
D) Shaurya, 750-km range

Answer: B) Submarine-Launched Cruise Missile (SLCM), 500-km range
The news states that the Indian Navy is in discussions to integrate the "indigenously developed Submarine-Launched Cruise Missile (SLCM), which has a 500-km range."

Question 2: The two new Project 17A stealth frigates, INS Udaygiri and INS Himgiri, are part of the "Aatmanirbhar Bharat" initiative due to what percentage of indigenous content?
A) 50%
B) 60%
C) 75%
D) 85%

Answer: C) 75%
The news states, "These frigates, with around 75% indigenous content, are designed to enhance the Navy's combat readiness and are part of the 'Aatmanirbhar Bharat' (self-reliant India) initiative."

Question 3: What is the name of the new exo-atmospheric interceptor being fabricated by DRDO as part of India's Phase-II Ballistic Missile Defense (BMD) program?
A) AD-1
B) AD-2
C) Prithvi Air Defence (PAD)
D) Advanced Air Defence (AAD)

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Answer: B) AD-2
The news states, "The organization is fabricating the AD-2 exo-atmospheric interceptor, a cornerstone of India's Phase-II Ballistic Missile Defense (BMD) program."

Question 4: What was the purpose of the first Integrated Aerial Drop Test (IADT-01) conducted by the DRDO for the Gaganyaan mission?
A) To test a new rocket engine
B) To validate a parachute-based deceleration system
C) To test the crew's life support systems
D) To simulate re-entry into the atmosphere

Answer: B) To validate a parachute-based deceleration system
The news states that the test "...validated a parachute-based deceleration system, is a critical step towards ensuring a safe landing for the crew module in India's first human spaceflight program."

Question 5: What is the name of the "Made in India" advanced carbon fiber foot prosthesis that the Defence Research and Development Laboratory (DRDL) developed in collaboration with AIIMS?
A) ADIDOC–Optimised Carbon Foot Prosthesis
B) AD-1 Carbon Foot Prosthesis
C) Gaganyaan Advanced Foot Prosthesis
D) Agni Advanced Prosthesis

Answer: A) ADIDOC–Optimised Carbon Foot Prosthesis
The news states, "The Defence Research and Development Laboratory (DRDL) in Hyderabad has collaborated with AIIMS to successfully develop the ADIDOC–Optimised Carbon Foot Prosthesis."

Question 6: DRDO's Instruments Research and Development Establishment (IRDE) is set to manufacture which advanced technology that was previously imported from countries like Israel and France?
A) Carbon fiber composites
B) Semiconductor infrared detectors
C) High-powered lasers
D) Space rocket engines

Answer: B) Semiconductor infrared detectors
The news states, "DRDO's Instruments Research and Development Establishment (IRDE) is set to manufacture advanced semiconductor infrared detectors in Lucknow. This technology, which is currently imported from countries like Israel and France..."

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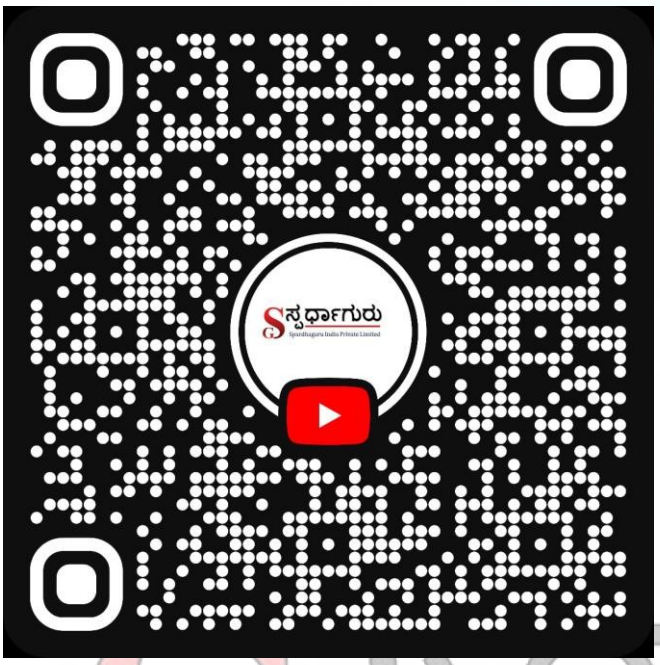

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