



## DRDO & Research & Development:

Major developments from the Defence Research and Development Organisation (DRDO) and its associated research on August 20, 2025, include advancements in indigenous weapon systems, a focus on new-age warfare technologies, and international collaboration.

### DRDO's Indigenous Weapon Systems

DRDO has confirmed that its Guided Pinaka multi-barrel rocket system, originally a long-range artillery rocket, can be repurposed for anti-ship warfare. With an enhanced range of 75-90 km and precision strike capability, it provides a cost-effective option for coastal defense. This development aligns with India's strategy to create versatile, multi-domain systems, which can be complemented by other existing coastal defense systems like the BrahMos supersonic cruise missile.

### Future Technology and Modernization

DRDO is shifting its focus toward "next-gen warfare" and is heavily investing in technologies like directed energy weapons, photonics, quantum systems, and artificial intelligence. The organization's Chairman, Dr. Samir V. Kamat, emphasized the importance of adapting to rapid technological evolution in public policy and defense. The Indian Army is also modernizing, creating new units like the Bhairav Battalions for rapid strikes and Rudra Brigades as all-arms formations.

### Collaboration and Human Capital

To further its technological prowess, DRDO plans to send its promising young scientists and engineers to prestigious foreign universities, particularly in the fields of aerospace and AI. This initiative, part of the 'Aatmanirbhar Bharat' campaign, aims to acquire expertise in areas such as hypersonic technology and AI-driven autonomous systems. The DRDO also actively participates in a number of bilateral defense R&D collaborations, including with the UK, Russia, and the USA.

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d) 100-110 km

**Answer:** c) 75-90 km

The text mentions that the system has an "enhanced range of 75-90 km and precision strike capability."

**3. Who is the Chairman of DRDO, as mentioned in the news?**

- a) A. P. J. Abdul Kalam
- b) Dr. G. Satheesh Reddy
- c) Dr. Samir V. Kamat
- d) K. Sivan

**Answer:** c) Dr. Samir V. Kamat

The news states, "The organization's Chairman, Dr. Samir V. Kamat, emphasized the importance of adapting to rapid technological evolution."

**4. What is the primary focus of DRDO's investment in "next-gen warfare" technologies?**

- a) Traditional infantry weapons
- b) Directed energy weapons, quantum systems, and AI
- c) Aircraft carrier technology
- d) Submarine propulsion systems

**Answer:** b) Directed energy weapons, quantum systems, and AI

The text indicates that DRDO "is heavily investing in technologies like directed energy weapons, photonics, quantum systems, and artificial intelligence."

**5. As part of its human capital development, DRDO plans to send its young scientists to foreign universities to acquire expertise in which fields?**

- a) History and humanities
- b) Economics and finance
- c) Aerospace and AI
- d) Law and public policy

## MCQS

**1. What is the newly confirmed use for the DRDO's Guided Pinaka multi-barrel rocket system?**

- a) Anti-aircraft warfare
- b) Anti-tank warfare
- c) Anti-ship warfare
- d) Submarine detection

**Answer:** c) Anti-ship warfare

The news states, "DRDO has confirmed that its Guided Pinaka multi-barrel rocket system... can be repurposed for anti-ship warfare."

**2. What is the enhanced range of the Guided Pinaka system when used for anti-ship warfare?**

- a) 25-35 km
- b) 50-60 km
- c) 75-90 km







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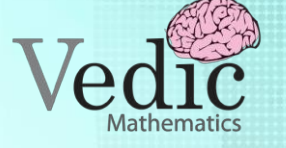
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**Answer:** c) Aerospace and AI

The news states, "DRDO plans to send its promising young scientists and engineers to prestigious foreign universities, particularly in the fields of aerospace and AI."

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