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Lohia Aerospace to Establish India's First Commercial Large-Format Aerospace 3D Printing Facility

- Lohia Aerospace Systems has announced an investment of **USD 8–10 million** over the next two years to establish **India's first commercial large-format additive manufacturing facility** dedicated to aerospace composite tooling. The facility will be set up at the company's **Kanpur unit** and is aimed at reducing dependence on imported aerospace production tools while supporting the rapidly expanding domestic aerospace and defence industry.
- **Background**
- The project is being developed through a partnership with **Massivit**, whose large-format 3D printing technology can manufacture aerospace moulds and tooling components in a matter of days instead of weeks. This can significantly shorten production cycles and improve manufacturing efficiency.
- **Key Highlights**
- Investment of **USD 8–10 million** planned over the next two years.
- Facility to be established in **Kanpur, Uttar Pradesh**.
- Technology expected to reduce production time by up to **90%**.
- Expansion includes a **2.5 lakh sq ft** additional manufacturing area.
- Planned deployment of **8–10 large-format 3D printers**.
- Expected to generate **60–100 skilled jobs**.
- Exclusive manufacturing rights for aerospace and defence applications in India.
- **Significance**
- The project strengthens India's aerospace manufacturing ecosystem, supports **Aatmanirbhar Bharat**, and enhances indigenous capability in aerospace tooling, unmanned aerial vehicles, and aircraft production.



China Showcases DF-17 Hypersonic Missile Systems

- China has released fresh footage of multiple **DF-17 hypersonic missile launch vehicles** as part of celebrations marking the **99th anniversary of the People's Liberation Army (PLA)**. The footage showed several launch vehicles together, highlighting the operational deployment of the missile system.
- **Background**
- The DF-17 is equipped with a **hypersonic glide vehicle**, allowing it to travel at extremely high speeds while manoeuvring during flight. Chinese analysts describe it as a major component of China's strategic missile force.
- **Key Highlights**
- Fresh operational footage released by Chinese state media.
- Missile estimated range: **1,800–2,500 km**.
- Capable of striking targets across the **first island chain** in the western Pacific.
- Designed to penetrate advanced air-defence systems.
- Reportedly already in **combat deployment**.
- **Significance**
- The DF-17 reflects China's progress in hypersonic weapon technology and has important implications for regional military balance and future air-defence strategies.



Russia Launches Ulyanovsk Yasen-M Nuclear Attack Submarine

- Russia launched the **K-563 Ulyanovsk**, a **Project 885M Yasen-M nuclear-powered attack submarine**, at the **Sevmash shipyard in Severodvinsk** on **28 July 2026**. The submarine is part of Russia's fourth-generation multi-role nuclear attack submarine programme.
- **Background**
- The Yasen-M class is an advanced version of the original Yasen-class submarine and is designed for long-range strike missions, anti-ship operations, anti-submarine warfare, and strategic deterrence.
- **Key Highlights**
- Launched on **28 July 2026**.
- Built at **Sevmash Shipyard**, Severodvinsk.
- Equipped with **8 vertical launch modules** and **10 torpedo tubes**.
- Can carry **Kalibr cruise missiles** and **Tsirkon hypersonic missiles**.
- Designed for integration with **Tsirkon hypersonic strike systems**.
- Expected to join the **Russian Northern Fleet by December 2027**.
- **Significance**
- The launch strengthens Russia's underwater combat capability and enhances its hypersonic missile deployment platform within the Northern Fleet.



India Aims for 874 GW Installed Power Capacity by 2031–32

- India has projected that its installed power generation capacity will reach **874 GW by 2031–32**, reflecting a major expansion in electricity generation, storage, and transmission infrastructure.
- **Background**
- As of **30 June 2026**, India's installed power capacity stood at approximately **548.86 GW**, with **non-fossil fuel sources contributing over 54%** of total capacity.
- **Key Highlights**
- Target capacity: **874 GW by 2031–32**.
- Current installed capacity: **548.86 GW**.
- Non-fossil fuel share: **54.18%**.
- Planned addition of **80 GW coal-based thermal power**.
- **15,870 MW** pumped storage projects under construction.
- **15,754 MW** battery energy storage systems under construction.
- Major transmission network expansion planned.
- **Significance**
- The plan supports India's growing electricity demand, renewable energy transition, grid reliability, and long-term energy security objectives.



IAF Chief Begins Three-Day Visit to Vietnam

- Air Chief Marshal A.P. Singh, Chief of the Air Staff, on Monday (August 3, 2026) began a three-day official visit to Vietnam aimed at further strengthening defence ties and expanding military cooperation between the two countries.
- On his arrival in Hanoi, Air Chief Marshal Singh met India's Ambassador to Vietnam, Tshering W. Sherpa, who briefed him on the evolving India-Vietnam bilateral relationship ahead of his official engagements.
- The IAF chief was accorded a ceremonial welcome by the Air Defence–Air Force Service of the Vietnam People's Army before holding bilateral talks with Lieutenant-General Vu Hong Son, Commander of the Air Defence–Air Force Service.
- During the discussions, the two sides reviewed the progress of ongoing defence cooperation and explored new avenues to enhance collaboration, particularly in the air domain, as part of efforts to further strengthen the existing bilateral partnership.
- The visit underscores the shared commitment of India and Vietnam to deepen their enhanced comprehensive strategic partnership and reinforce defence cooperation amid growing strategic convergence in the Indo-Pacific region.
- Recently, Defence Secretary Rajesh Kumar Singh stated that India has signed a BrahMos supersonic cruise missile deal with Vietnam.



REVIEW QUESTIONS

1. Lohia Aerospace Systems has announced plans to establish India's first commercial large-format aerospace 3D printing facility in:

- A) Bengaluru, Karnataka
- B) Hyderabad, Telangana
- C) Kanpur, Uttar Pradesh
- D) Pune, Maharashtra

Answer: C) Kanpur, Uttar Pradesh

2. Which of the following statements regarding China's DF-17 hypersonic missile is correct?

- A) It has a range of about 500 km.
- B) It is a submarine-launched ballistic missile.
- C) It is equipped with a hypersonic glide vehicle.
- D) It is designed exclusively for anti-submarine warfare.

Answer: C) It is equipped with a hypersonic glide vehicle.

3. Russia's K-563 Ulyanovsk belongs to which class of nuclear-powered attack submarines?

- A) Borei-A Class
- B) Akula Class

- C) Oscar-II Class
- D) Project 885M Yasen-M Class

Answer: D) Project 885M Yasen-M Class

4. India has projected its total installed power generation capacity to reach _____ by 2031–32.

- A) 650 GW
- B) 725 GW
- C) 800 GW
- D) 874 GW

Answer: D) 874 GW

5. As of 30 June 2026, non-fossil fuel sources accounted for approximately what percentage of India's installed power capacity?

- A) 42.5%
- B) 48.7%
- C) 54.18%
- D) 60.25%

Answer: C) 54.18%

6. Which of the following missiles can be carried by Russia's Yasen-M class submarine according to the article?

1. Kalibr Cruise Missile
2. Tsirkon Hypersonic Missile
3. BrahMos Missile

Select the correct answer using the code below:

- A) 1 only
- B) 2 only
- C) 1 and 2 only
- D) 1, 2 and 3

Answer: C) 1 and 2 only

7. Under India's power sector development plan, approximately how many circuit kilometres of transmission lines are planned to be added?

- A) 1.25 lakh circuit km
- B) 1.50 lakh circuit km

- C) 1.75 lakh circuit km
- D) 1.91 lakh circuit km

Answer: D) 1.91 lakh circuit km

8. Which country hold the chairmanship of the SCO in 2026?

- A. India
- B. Russia
- C. Kazakhstan
- D. Kyrgyzstan

ANSWER: D

9. When was NATO established?

- A. 1945
- B. 1949
- C. 1955
- D. 1966

ANSWER: B

10. Operation Polo, conducted in 1948, aimed to incorporate which state into the Indian Union?

- A. Kashmir
- B. Goa
- C. Hyderabad
- D. Punjab

ANSWER: C

11. Which operation led to the annexation of Goa, Daman, and Diu into India?

- A. Operation Polo
- B. Operation Vijay
- C. Operation Cactus Lilly
- D. Operation Trident

ANSWER: B

12. Operation Cactus Lilly, carried out in 1971, aimed to support the liberation struggle of which region?

- A. Tibet
- B. Sri Lanka
- C. Bangladesh

D. Nepal

ANSWER: C

13. Operation Trident, conducted in 1971, was India's first naval assault against which country?

A. China

B. Pakistan

C. Bangladesh

D. Portugal

ANSWER: B

14. Operation Meghdoot, initiated in 1984, aimed to seize control of which strategic location?

A. Siachen Glacier

B. Kargil

C. Aksai Chin

D. Doklam

ANSWER: A

15. Operation Blue Star, started in 1984, was aimed at quelling unrest in which Indian state?

A. Punjab

B. Tamil Nadu

C. Kerala

D. Maharashtra

ANSWER: A

16. RATS Stands For

A. Regional Anti-Terrorist Student

B. Regional Anti-Terror Structure

C. Regional Anti-Terrorist Structure

D. Regional Anti-Tourist Structure

ANSWER: C

17. Operation Cactus, conducted in 1988, aimed to protect the President of which country?

A. Maldives

B. Sri Lanka

C. Mauritius

D. Seychelles

ANSWER: A

18. Operation Rajeev, carried out in 1987, targeted the capture of which post in Siachen?

A. Kargil

B. Dras

C. Qaid

D. Batalik

ANSWER: C

19. Operation Pawan in 1987, aimed to address disturbances caused by LTTE in which country?

A. Nepal

B. Bangladesh

C. Sri Lanka

D. Myanmar

ANSWER: C

20. Operation Vijay in 1999 was primarily aimed at resolving conflicts between India and which country?

A. China

B. Nepal

C. Sri Lanka

D. Pakistan

ANSWER: D