

Current Affairs search results for tag: science-and-technology

1. Vedanta, Foxconn signs MoU with Gujarat government to set up a semiconductor unit in the state (Sept. 13, 2022)

In a boost to the government's semiconductor mission, Anil Agarwal led Vedanta Group and electronic manufacturing giant Foxconn of Taiwan signed a Memorandum of Understanding (MoU) with the Gujarat Government on 13 September 2022 to set up a FAB manufacturing unit in the state. The manufacturing unit which will include display and semiconductor facilities will be set up near Ahmedabad.

Update on 16 September 2022

The Vedanta Limited has issued a clarification on 16 September 2022 that **Volcan Investments** would undertake the business of manufacturing semi-conductors and not Vedanta Limited. Volcan Investments is a holding company wholly owned by the Agarwal family trust. It is also the majority shareholder of the London based Vedanta Resources and owns more than 50 percent stake in Vedanta India. However, unlike Vedanta India, Volcan Investments is unlisted.

- The agreement was signed in the presence of Union Minister for Railways, Communication, Electronics and Information Technology **Ashwini Vaishnaw**.
- A fab (fabrication facility) is short for fabrication plant where raw silicon wafers are processed and turned into integrated circuits.

IMPORTANT FACTS -

Joint Venture partners :

- The manufacturing giant Foxconn will be the technical partner in the Joint venture while the oil-to-metals conglomerate Vedanta is financing the project, as it looks to diversify into chip manufacturing.
- **Under the Joint Venture , Volcan Investment will hold a majority stake of up to 60%, and the remaining 40% will be held by Foxconn.**
- The total investment in the manufacturing unit will be Rs 1, 54,000 crore to set up the facility in Gujarat which is expected to create one lakh job opportunities.

Other Chip manufacturing proposals :

- Vedanta is the third company to announce a chip plant location in India after international consortium **ISMC** and Singapore-based **IGSS Ventures**, which are setting up in the southern states Karnataka and Tamil Nadu, respectively.
- The world chip market is dominated by China and Taiwan and India wants to be self-sufficient in this critical technology

India's Semiconductor Mission :

- On 29 December 2022, the Information Technology Minister, Ashwini Vaishnaw, launched the India Semiconductor Mission.

- Under the policy, the government will provide Rs 76000 crore incentives for companies setting up manufacturing facilities in India.
- This was done by the government to encourage companies to set up chip manufacturing plants in India.

What is semiconductor :

- Semiconductors are materials which have a conductivity between conductors and insulators. They can be pure elements, silicon or germanium or compounds; gallium, arsenide or cadmium selenide.
- They are the basic building blocks that serve as the heart and brain of all modern electronics and information and communications technology products.
- These chips are now an integral part of contemporary automobiles, household gadgets and essential medical devices such as ECG machines.

Fabrication units in India :

- Currently, India has two fabrication facilities (fab). One is Society for Integrated Circuit Technology and Applied Research (SITAR) of the Defense Research and Development Organisation (DRDO) in Bengaluru and a semiconductor laboratory in **Chandigarh**, which builds silicon chips for strategic purposes like defense and space and not for commercial use.

ADDITIONAL INFORMATION -***Vedanta limited :***

- It is a multinational company headquartered in Mumbai, India.
- It is in the business of Zinc-Lead-Silver, Iron ore, Steel, Copper, Aluminium, Power, Oil and Gas.
- The Chairman of Vedanta group: **Anil Aggarwal**

2. Hughes and ISRO launch satellite internet service in India (Sept. 13, 2022)

Satellite Internet provider Hughes Communications India (HCI) on September 12 announced the commercial launch of India's first high-throughput satellite (HTS) broadband service operated by the Indian Space Research Organization (ISRO) in the form of Elon Musk-run SpaceX.

IMPORTANT FACTS -

- Hughes Communications India abandoned its affordable internet project Starlink in the country.
- The satellite service aims to expand high-speed broadband across the country, to connect government networks in the most remote areas beyond the reach of terrestrial networks.

About HCI :

- HCI is a joint venture of Hughes Network Systems, LLC (Hughes), a leading global provider of broadband satellite networks and services, and Bharti Airtel Limited, India's leading communications solutions provider.
- It has a combined base of over 200,000 VSATs.
- It provides broadband networking technologies, solutions and services.

3. MDL launches 3rd Stealth Frigate of Project 17A 'Taragiri' (Sept. 12, 2022)

Mazagon Dock Shipbuilders Ltd (MDL), which is under the defence ministry, on 11 September launched Taragiri, the third stealth frigate of Project 17A.

IMPORTANT FACTS -

- The ship is designed by the Indian Navy's in-house design organisation Bureau of Naval Design.
- The estimated launch weight of the vessel is 3510 tonnes.
- The 149.02 Metre long and 17.8 Metre wide ship, is propelled by a CODOG combination of two Gas Turbines and 02 Main Diesel Engines which are designed to achieve a speed of over 28 knots at a displacement of approx 6670 Tons.
- The ship is built using an integrated construction methodology that includes hull block construction in various geographic locations, integration and construction at slipways in MDL.
- The foundation stone of Taragiri was laid on 10 September 2020 and the ship is expected to be delivered by August 2025.
- The total value of Project 17A is around Rs 25,700 crore.

ADDITIONAL INFORMATION -***First Ship of Project 17A :***

- The first ship of Project 17A, 'Nilgiri', was launched on September 28, 2019, and will undergo sea trials in the first half of 2024.
- The second 'Udayagiri' class ship under this project was launched on May 17 this year.
- It is expected to commence sea trials during the second half of 2024.

4. PM to inaugurate 'Centre - State Science Conclave' on 10th September (Sept. 9, 2022)

Prime Minister Narendra Modi will inaugurate the Centre- State Science Conclave on the 10 September at Ahmedabad through video conferencing.

IMPORTANT FACTS -

- The two day Conclave is being organised at Science City, Ahmedabad on **10 to 11 September** 2022.
- The conclave will test the adoption and enhancement of state-specific innovations and technologies.
- The conclave will strengthen centre-state coordination and cooperation mechanisms to build a strong Science, Technology and Innovation (STI) ecosystem across the country in the spirit of cooperative federalism.

Topics to be discussed :

- Science, technology & innovation (STI) Vision 2047
- Future Growth Pathways and Vision for STI in States
- Health - Digital Health Care for All
- Doubling Private Sector investment in Research and Development by 2030
- Agriculture - Technological interventions for improving farmers' income
- Water - Innovation for producing potable drinking water
- Energy- Clean Energy for All including S&T role in Hydrogen mission
- Deep Ocean Mission and its relevance for Coastal States/UTs as well as country's future economy

ADDITIONAL INFORMATION -***What is 'Vision 2047' for the Science and Technology Sector ?***

- Preparation of action plan and document of vision India 2047 is on underway.
- It will aim at achieving new heights of prosperity, providing best facilities in both villages and cities, eliminating unnecessary interference by the government in the lives of citizens and creating the world's most modern infrastructure.

5. DRDO, Indian Army successfully complete six flight-tests of QRSAM system (Sept. 8, 2022)

Defence Research and Development Organisation (DRDO) and the Indian Army successfully test-fired six flights of Quick Reaction Surface to Air Missile

(QRSAM) System from the Integrated Test Area, Chandipur off the Odisha coast on September 8.

IMPORTANT FACTS -

- The flight tests were conducted by the Indian Army as part of the evaluation trials.
- The flight tests were carried out on high speed targets.
- These targets were designed for the type of actual threat, in order to assess the capability of the weapon systems in a variety of situations.
- This included long-range and medium-altitude targets, short-range targets, high-altitude targets, and targets that were not easily detectable on radar.
- The evaluation found the weapon system and its excellent guidance and control to be accurate.
- The performance of the system was also confirmed by telemetry, radar and electro-optical tracking systems developed by ITR.

QRSAM weapon system :

- It is a short-range Surface to Air Missile (SAM) system.
- It is primarily designed and developed by the DRDO to provide a protective shield to the moving armoured columns of the Army from aerial attacks.
- This weapon system can operate when moving with search and track capability, and can fire at short halts.

ADDITIONAL INFORMATION -***Defence Research and Development Organisation (DRDO) :***

- It is a premier defence research and development agency under the Ministry of Defence, Government of India.
- It aims to make India self-reliant in critical defence technology and systems.
- It was set up in **1958**.
- Headquarters - **New Delhi**
- Chairman - **Samir V Kamat**

6. Healthcare sector in India is expected to reach \$50 billion by 2025: Dr Jitendra Singh (Sept. 7, 2022)

Union Minister of State (Independent Charge) Science & Technology Dr Jitendra Singh said that the Healthcare sector in India is expected to grow to reach a size of \$50 billion by 2025.

IMPORTANT FACTS -

- He was addressing the 14th CII Global MedTech Summit titled **“Seizing the Global Opportunity”**.
- The 14th CII Global MedTech Summit was organised by CII National Medical Technology Forum at **New Delhi** on 7 September 2022.
- Dr Jitendra Singh said, the Telemedicine sector is expected to reach \$5.5 billion by 2025.
- He said, the prime objective of the government is to reduce import dependence from 80% to below 30% in next 10 years and ensure self-reliance quotient of 80% in Med-Tech through Make in India.
- The Minister added that India aims to achieve 10-12% of the global market share of the medical devices sector to arrive at a \$100-300 billion industry,

ADDITIONAL INFORMATION -***Confederation of Indian Industries (CII) :***

- It is a business lobby group of top business houses in India.
- It was set up in 1895.
- It works to create and sustain an environment conducive to the growth of industry in India, partnering industry and government alike through advisory and consultative processes.
- Headquarters : **New Delhi**
- President : **Sanjiv Bajaj**

Important Full Form for Exam :

- **CII : Confederation of Indian Industries**

7. India and UK conducts Counter Ransomware Exercise for 26 Nations (Sept. 7, 2022)

India's National Security Council Secretariat (NSCS) and the UK Government in collaboration with BAE Systems successfully designed and conducted the Cyber Security Exercise for 26 Countries on 6 September.

IMPORTANT FACTS -

- The exercise has been designed as a part of the International Counter Ransomware Initiative - Resilience Working Group.
- This is being led by India under the leadership of National Cyber Security Coordinator (NCSC).

- BAE Systems is a leading global manufacturer in the defence, security and aerospace sector.
- The exercise is designed to support the mission of CRI.
- The exercise gives opportunities for CRI countries to share their perspectives on combating ransomware.
- It was facilitated by BAE Systems through the Immersive Labs platform.
- The exercise explored the complexity of decision-making around the ransomware response to critical national infrastructure.

ADDITIONAL INFORMATION -***Aim of the Exercise :***

- The objective of conducting this virtual cyber exercise on Ransomware Resilience is to simulate a large, widespread cyber security incident affecting organisations within a country.
- Allowing CRI members participating in the exercise to test their ability to respond to a major ransomware incident.

Theme of the exercise :

- The theme of the exercise is based on the energy sector in which the respective national cyber crisis management teams of CRI partner nations will have to deal with ransomware attacks on several power distribution companies.

8. India's first intranasal covid vaccine by Bharat Biotech gets DCGI nod (Sept. 6, 2022)

India's first intranasal Covid vaccine developed by Hyderabad based Bharat Biotech limited has received DCGI approval on 6 September 2022 for primary immunization against the infection for people above the age of 18.

IMPORTANT FACTS -

- The drugs can now be inhaled by the patient through a spray and there is no need for any injection through needles.
- In a tweet published on 6 September 2022, Mandaviya said that Bharat Biotech's ChAd36-SARS-CoV-S COVID-19 (Chimpanzee Adenovirus Vectored) recombinant nasal vaccine has been approved for primary immunization against COVID-19 in 18+ age group for restricted use in emergency situation.
- The **first indigenous vaccine** named **Covaxin** against covid-19 was also developed by Bharat Biotech.

ADDITIONAL INFORMATION -***DCGI (Drugs Controller General of India) :***

- The Drugs Controller General of India is the head of the Central Drugs Standard Control Organisation under the Union Ministry of Health and Family Welfare.
- Under the Drugs and Cosmetics Act, CDSCO is responsible for approval of Drugs, Conduct of Clinical Trials, laying down the standards for Drugs, control over the quality of imported Drugs in the country.

Drugs Controller General of India: **Venugopal Girdharilal Somani**

Headquarters: **New Delhi**

Full Form :

DGCI :- (Drugs Controller General of India)

9. China became the first country to approve a needle-free, inhaled version of a Covid 19 vaccine. The vaccine has been developed by CanSino Biologics Inc. (Sept. 5, 2022)

China became the first country to approve a needle-free, inhaled version of a Covid 19 vaccine. The vaccine has been developed by CanSino Biologics Inc.

This is a developing new.

10. ISRO successfully tests IAD technology to land missions on Mars, Venus (Sept. 5, 2022)

The Indian Space Research Organization (**ISRO**) on September 3 successfully test-fired the **Inflatable Aerodynamic Decelerator (IAD)** which will be used to land payloads on **Mars or Venus** in the future.

Important facts

- IAD was designed, developed and successfully test-flown by **ISRO's Vikram Sarabhai Space Centre (VSSC)** on a **Rohini-300 (RH300 Mk II) rocket**.
- It was tested from the **Thumba Equatorial Rocket Launching Station (TERLS)** at **Thiruvananthapuram, Kerala**.
- The IAD is being developed to reduce an object coming down from space through the atmosphere.

- As its name suggests, the IAD serves to slow down an object falling through the atmosphere.
- For demonstration, the IAD, made of Kevlar fabric coated with Polychloroprene, was packed into the payload of the rocket.
- The pneumatic system used to propel the IAD was developed by the **Liquid Propulsion Systems Center (LPSC), Waliamala.**
- The 6.3 m tall, Rohini RH 300 Mk II sounding rocket had a lift-off mass of 552 kg.