

DAILY CURRENT AFFAIRS (DCA)

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Table of Content

The Iran-India Civilizational Relationship
Supreme Court Sought Trauma Care System to Curb Road Deaths
Tourism-Led Growth in India
India Needs to Drive the Robotics Revolution

NEWS IN SHORT

Rani Lakshmibai
Index of Services Production
Kirthai-II Hydroelectric Project
China beats US with World's fastest Supercomputer
Mahesh Dixit Appointed Intelligence Bureau Chief
Airborne Early Warning & Control system 'Netra'

THE IRAN-INDIA CIVILIZATIONAL RELATIONSHIP

Context

- The Iranian government extended a **formal invitation to Prime Minister Narendra Modi for the funeral of Supreme Leader Ayatollah Ali Khamenei** next month.

Brief on India-Iran Ties

- Civilisational Roots:** The civilisational bond between India and Iran is **among the oldest in the world**.
 - The Indus Valley and Mesopotamian civilisations traded across the Persian Gulf 4,000 years ago.
 - Persian was the court language of Mughal India** across the subcontinent for centuries.
 - Around 15% of India's Muslim population is Shia**, a community with direct theological and cultural ties to Iran.
- Formal diplomatic relations** were established with Iran in **1950** and were institutionalised through the **Friendship Treaty of 1950**, the Tehran Declaration of 2001, the New Delhi Declaration of 2003, and a series of subsequent agreements.
- Connectivity:** India and Iran signed a **MoU in 2015** to jointly cooperate on the development of the **Shahid Beheshti Port at Chabahar, Iran**.
 - India continues to cooperate closely with Iran in realizing the vision of Chabahar Port.
- Energy Partnership: Between 1990-2018**, Iran was either the second or third largest supplier of crude oil to India.
 - Iran offered freight discounts, favourable payment terms, and crucially, settlement in rupees rather than dollars.
- Trade Relations:** At its peak, bilateral trade reached approximately \$17 billion annually when oil was included.
 - Even after sanctions reduced the oil component, the non-oil trade remained significant – \$2.33 billion in 2022-23, with India maintaining a trade surplus.
 - The Joint Commission on Bilateral Trade (established in 1983) met annually or biannually to review and expand cooperation.
 - A Double Taxation Avoidance Agreement was in force.
- Support to India:** In 1994, Iran refused to back a Pakistan-driven OIC resolution on Kashmir that was reportedly supported by several Western countries at the UN Human Rights Commission.

- Iran choosing to shield India from Pakistan's pan-Islamic diplomatic offensive was a **direct demonstration of the relationship's strategic depth**.

Significance of Iran for India

- Gateway to Central Asia:** Iran is the **only country that gives India a land route to Afghanistan, Central Asia, and from there to Russia and Europe**, which does not pass through Pakistani territory.
 - Iran, positioned between Pakistan and the Central Asian landmass, is the key to India's continental reach.
- Energy Security:** Iran possesses the world's second-largest natural gas reserves and among the largest crude oil reserves.
 - Before sanctions, Iran was one of India's major crude oil suppliers, contributing to diversification of India's energy imports.
- Chabahar Port:** It is located on Iran's south eastern coast along the Gulf of Oman, about 170 kms from the Gwadar Port in Pakistan, developed under the China-Pakistan Economic Corridor.
 - More significant than the port itself was the **International North-South Transport Corridor (INSTC)** of which Chabahar was the anchoring southern terminal.



International North-South Transport Corridor (INSTC)

- The INSTC is a **7,200-km multi-modal network** connecting **Mumbai with Moscow via Tehran and Baku, combining sea, rail and road routes**.
- It was conceived in **2000** and signed by **India, Iran and Russia**.
- Fully operationalised, it would reduce cargo transit time between **India and Russia from 40 days to approximately 20**, and cut **transport costs by 30%**.

- **Regional Security and Stability:** Iran plays a pivotal role in the stability of West Asia, the Persian Gulf, and Afghanistan.
 - ♦ Cooperation with Iran helps India address challenges related to terrorism, extremism, maritime security, and regional conflicts.
- **Strategic Autonomy:** Engagement with Iran enables India to pursue its policy of strategic autonomy by maintaining balanced relations with all major powers in West Asia, including Israel, Iran, and the Gulf countries.

Concerns in Relations

- **U.S. Sanctions on Iran:** Sanctions have disrupted bilateral trade, investment, banking channels, and compelled India to stop importing Iranian crude oil.
 - ♦ Example: India ended crude oil imports from **Iran in May 2019 after the U.S. withdrew waivers** under its “maximum pressure” policy.
- **Declining Energy Cooperation:** India’s crude oil imports from Iran have fallen significantly due to sanctions and diversification of energy sources.
 - ♦ Before sanctions, **Iran was India’s third-largest crude oil supplier.**
- **Slow Progress of Connectivity Projects:** Implementation of Chabahar Port and the International North-South Transport Corridor has been delayed by geopolitical and financial constraints.
- **Balancing Competing Partnerships:** India’s closer strategic ties with Israel, the United States, and Gulf countries require careful balancing with its relations with Iran.
 - ♦ **Example:** India is a member of **I2U2 (India-Israel-UAE-USA)** while simultaneously maintaining engagement with Iran on connectivity and regional issues.
- **Regional Instability:** Conflicts and tensions in West Asia, including around the Strait of Hormuz, threaten India’s energy security, trade routes, and diaspora interests.
- **Low Bilateral Trade Potential:** Financial restrictions, logistical bottlenecks, and geopolitical uncertainties continue to keep India–Iran trade below its potential.

Way Ahead

- **Adopt Calibrated Diplomacy:** Maintain high-level political engagement with Iran through appropriate diplomatic representation and regular dialogue, while carefully managing sensitivities

arising from regional conflicts and great-power rivalries.

- **Promote Regional Peace and Stability:** Support dialogue, de-escalation, freedom of navigation, and respect for sovereignty in West Asia to safeguard India’s energy security, diaspora interests, and long-term strategic presence in the region.
- **Fast-track Connectivity Projects:** Expedite the development of Chabahar Port and the International North-South Transport Corridor to strengthen India’s access to Central Asia and Eurasia.

Conclusion

- The invitation to Prime Minister Modi for the funeral of Supreme Leader Ayatollah Ali Khamenei underscores the diplomatic tightrope India must walk in West Asia.
- India must balance its deep civilizational ties with Iran while safeguarding its expanding partnerships with Israel, the Gulf countries, and the United States.

Source: IE

SUPREME COURT SOUGHT TRAUMA CARE SYSTEM TO CURB ROAD DEATHS

Context

- Recently, the Supreme Court directed states and Union Territories to put in place a **unified emergency trauma care architecture** to reduce deaths from road crashes and other accidents.

Highlights of SC Directions

- **Integration of Emergency Helpline:** All States and Union Territories were directed to complete full technical and operational integration of emergency and ambulance helplines such as 100, 101, 108, 102, 1033 and 1091 into the **unified helpline number 112 within three months.**
- **Grievance Redressal Systems:** States and UTs were asked to establish both physical and digital Good Samaritan grievance redressal systems within three months.
- The SC also directed for **GPS-equipped ambulances, a trauma registry, and a standard rescue protocol.**
- **Medical Rescue Protocol:** The Ministries of Health and Family Welfare and Road Transport and Highways were permitted three months to

formulate a medical rescue protocol for trauma cases, which States and UTs would then have to operationalise within another three months.

Road Accidents in India

- According to the National **Crime Records Bureau (NCRB)**, 1.99 lakh people died in **traffic accidents in 2024**, an increase of 0.79% compared to 2023.
- **Road Accidents:** Out of 1.99 lakh traffic-related deaths recorded in 2024, 1.75 lakh (88%) were due to road accidents.
- **The socio-economic costs** of road crashes alone amount to around **3.14% of India's GDP**.
- **Two-wheelers** account for most of the fatal road accidents, followed by pedestrians and cars.
- **Speeding is the biggest factor**, accounting for **58%** of the total road deaths.
- **The top three states in terms of fatalities** are Uttar Pradesh, Tamil Nadu and Maharashtra.

Reasons for Increased Numbers of Road Accidents in India

- **Overspeeding and Reckless Driving:** Overspeeding, dangerous overtaking, drunk driving, and mobile phone usage while driving are among major causes.
- **Poor Road Infrastructure:** Badly maintained roads, potholes, inadequate signage, poor lighting, and unsafe road design increase accident risks.
- **Weak Enforcement of Traffic Rules:** Inadequate monitoring and inconsistent enforcement of traffic laws lead to low compliance with safety regulations.
- **Lack of Proper Driver Training:** Weak licensing systems and insufficient driver education result in unskilled and irresponsible driving behaviour.
- **Rapid Growth of Vehicles and Traffic Congestion:** Increasing vehicle ownership without proportional expansion of road infrastructure creates chaotic and unsafe traffic conditions.
- **Weak Emergency and Trauma Care:** Delays in medical assistance and inadequate trauma care facilities, especially in rural areas, increase fatalities after accidents.

Government Initiatives

- **National Road Safety Policy India, 2010:** It emphasized the need for better road infrastructure, stricter enforcement of traffic rules, enhanced

emergency medical services, public awareness campaigns, and improved post-crash care.

- **Electronic Detailed Accident Report (e-DAR)/ Integrated Road Accident Database (iRAD):** Centralized system for reporting, managing, and analyzing road accident data to improve safety.
- **Speedy Assistance to Accident Victims:**
 - ♦ Award ₹25,000 for Good Samaritans who help accident victims.
 - ♦ Faster compensation: ₹2.5 lakh for grievous hurt, ₹5 lakh for death.
 - ♦ Enhanced compensation for hit-and-run victims: ₹2 lakh for death, ₹50,000 for grievous hurt.
 - ♦ Simplified procedures for third-party insurance, including hired drivers.
- **Vehicle Fitness:** Old, unfit vehicles contribute to accidents. The Ministry is setting up model Inspection and Certification Centers across States/UTs (28 States/UTs covered by 2024).
- **IIT Madras Collaboration:** Establishing a Center of Excellence for Road Safety to develop new products, conduct research, and promote safety initiatives.
- **Accident Blackspot Rectification:** Priority on identifying and improving accident-prone spots on National Highways through engineering measures.
- **Road Safety Audits:** Mandatory audits for all highway projects at design, construction, and operation stages.
- **Brasilia Declaration:** India was one amongst the initial 100+ countries to have signed the Brasilia Declaration in 2015 committing to achieve the Sustainable Development Goal 3.6 i.e. to half the number of global deaths and injuries from road traffic crashes by 2030.
- **Motor Vehicles Amendment Act, 2019:** The act brought about higher penalties for traffic violations, including speeding, drunk driving, and not wearing helmets or seat belts.

Conclusion

- A comprehensive trauma care system requires a rights-based legal framework, institutional coordination, standardized protocols, and strict implementation of the Supreme Court's directions.
- These measures can ensure timely emergency care, reduce preventable deaths, and build a resilient trauma response system across the country.

Source: IE

TOURISM-LED GROWTH IN INDIA

Context

- Tourism has been one of the major **driving forces behind India's economic transformation**.

About Tourism Sector in India

- Tourism in India is an important vehicle for economic growth, employment creation, regional development, cultural exchange and international engagement.
- It brings about **wide-ranging multiplier effects** and assumes a prominent position in India's developmental journey and **Viksit Bharat@2047 Vision**.

Current Status

- India's contribution to the economy through tourism stands at around US\$ 231.6 billion and ranks among the world's leading tourism economies (**World Travel and Tourism Council**).



- India witnessed 181.25 million International Arrivals and 93.35 million **Foreign Tourist Arrivals (2014-2025)**.
- India witnessed 20.6 million **International Arrivals** and thus improved its global ranking from 25th position in 2016 to 20th in 2024.

Importance of Tourism

- Economic Growth and Employment:** Tourism leads to income generation, foreign exchange earning and employment in various industries such as hospitality, transport, handicrafts and food service industries.
 - Example:** Tourism in Goa leads to employment in hotels, taxis and restaurants in addition to providing livelihood to local artisans.
- Regional Development:** Tourism has emerged as an important tool of balanced regional development. Government measures are aimed at:
 - Developing the north-east region.

- Developing rural tourism.
- Development of **Purvodaya vision for Eastern India**.
- Culture and Heritage Promotion:** Tourism helps in preserving and promoting the cultural traditions, monuments and heritage.
 - Example:** Tourism to Khajuraho Temples and Hampi has helped in preserving these structures.
- Building Soft Power:** Tourism helps in building soft power and facilitates cultural diplomacy.
 - Example:** India's G20 Presidency showcased India's heritage and culture before the global audience.
- Community Empowerment and Inclusive Growth:** It offers livelihood opportunities to local communities particularly women and rural communities.
 - Example:** Homestay tourism in Sikkim and Kerala is an example of livelihood generation for locals.

- Environmental Preservation through Sustainable Tourism:** Through responsible tourism, it helps in conservation of biodiversity and natural ecosystems.

- Example:** Ecotourism activities at Periyar Tiger Reserve (Kerala) help in conserving the area as well as offering livelihood opportunities to locals.

- Mamallapuram** has become the **first UNESCO World Heritage Site in South Asia** to be bestowed with **Green Destinations Silver Certification**.

Key Related Initiatives

- Swadesh Darshan Scheme (2014):** It is a Central Sector Scheme

India's Tourism Sector Challenges

Global Shocks

Increases sector vulnerability

Climate Change

Impacts natural attractions and activities

Limited Niche Promotion

Misses opportunities for specialized tourism

Fragmented Governance

Hinders effective policy implementation

Heritage Conservation

Threatens historical and cultural sites

Skill Deficit

Results in poor service quality

Safety Concerns

Deterrents potential tourists

Seasonality

Creates uneven economic impact

Overtourism

Damages environment and cultural sites

Inadequate Infrastructure

Limits accessibility and visitor experience

which envisages the development of Integrated and Theme Based Tourist Circuits in India.

- It gives financial assistance to State Governments and Central Authorities for developing world-class tourism infrastructure.
- Swadesh Darshan 1.0:** More than 76 Projects costing in excess of ₹5,000 crore have been sanctioned in 15 different thematic circuits.
- Swadesh Darshan 2.0 (2022):** It aims to develop sustainable and experiential tourism.
- Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive (PRASHAD) Scheme and Spiritual Tourism:** It aims to improve the infrastructure at various pilgrimage centres.
 - Various destinations like Somnath, Srisailem and Govardhan have benefitted through improved safety, sanitation and visitor amenities.
- Special Assistance to States for Capital Investment (SASCI) Scheme:** It has been announced in Union Budget 2024-25 with an outlay of ₹3,295.76 crore.
 - This scheme is being implemented by the **Ministry of Finance**.
 - It provides **long-term interest-free 50-year loans to the States** to increase their capital investment, promote economic growth and incentives for reforms in various sectors like mining, urban infrastructure and road safety.
- Capacity Building for Service Providers Scheme:** More than 4.5 lakh persons have been trained till 2025.
 - Proposed in **Union Budget 2026-27** is establishment of National Institute of Hospitality and upskilling of 10,000 tourist guides.
- Technology, Connectivity and Global Competitiveness:** India has made significant progress in facilitating travels through expansion of e-Tourist Visa facility, various digital platforms such as **NIDHI and NIDHI Plus** for tourism players and digital promotion through Incredible India campaign.
 - Improved connectivity through expansion of highways, modernization of railway stations, **Vande Bharat trains**, **UDAN scheme** and upgrading of airports and last-mile connectivity.

- Sustainability Initiatives:** Development of niche tourism such as bird watching circuits, Himalayan trekking trails and turtle tourism to spread out the tourists' inflows.

- Travel for LIFE initiative** for encouraging environmentally responsible behavior amongst tourists and industry.

- Challenge Based Destination Development (CBDD) initiative** in ecotourism and spiritual tourism.

Source: PIB

INDIA NEEDS TO DRIVE THE ROBOTICS REVOLUTION

Context

- The rise of advanced robotics and AI-powered "embodied intelligence" could **fundamentally change India's economic advantage**.

India's Traditional Advantage

- For decades, India has benefited from an **abundant supply of low-cost labour**.
- Many industries chose India because wages were lower than in developed countries.
- However, **if factories increasingly rely on robots** rather than human workers, **labour-cost advantages become less important**.

What is Robotics?

- Robotic technology** encompasses the **design, construction, operation, and use of robots**.
- Advances in artificial intelligence (AI) and machine learning** have led to the **development of more advanced robots** that can perform tasks that were previously thought to be exclusive to humans, such as visual perception, speech recognition, and decision-making.

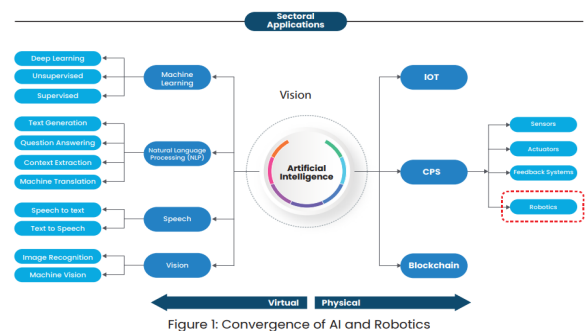


Figure 1: Convergence of AI and Robotics

Global Scenario in Robotics

- China dominates the global humanoid robot market**, producing roughly 85 per cent of all humanoids worldwide.

- **China** has built an **industrial ecosystem to mass-produce the body**.
 - ♦ According to the International Federation of Robotics, China accounted for **54% of all industrial robot installations worldwide in 2024**.
 - ♦ China is fast becoming a leader in robotics as it is **already leading in solar panels, batteries, and rare-earth processing**.
- The **U.S.** leads in **frontier artificial intelligence, advanced chip design, and the software architecture** that will eventually serve as the brain of any humanoid robot.

India's Position:

- India installed 9,100 industrial robots in 2024, a 7% rise on the previous year.
 - ♦ It places it only **sixth in the world by annual installations**, well behind the **United States, Japan, China, South Korea and Germany**.
 - ♦ India's overall robot density of around 10 continues to trail the global average of 132 robots per 10,000 manufacturing workers.
- **SSI Mantra is India's first indigenous surgical robotic system**, it has already conducted telesurgeries across thousands of kilometres.
 - ♦ Several other companies, like GreyOrange, are pressing ahead with robotics development. The challenge lies in building industrial-scale robotics.
- **As per the Draft National Policy on Robotics 2023**, India aims to Position itself as a global leader in robotics for manufacturing, healthcare, agriculture, and national security sectors, by 2030.

Challenges Faced by India

- **Inadequate Skilled Human Resources:** India faces a shortage of engineers, technicians, and robotics specialists.
 - ♦ There is a weak industry-ready training infrastructure in ITIs and polytechnics.
- **Heavy Reliance on Imports:** Dependence on imported sensors, chipsets, magnets, batteries, actuators, and motors.
 - ♦ The domestic robotics supply chain remains underdeveloped and there is a lack of economies of scale compared to countries like China and Japan.
- **High Costs:** The high cost of imported components increases robot prices.

- ♦ Robotics solutions often require customization, limiting mass production.
- ♦ Installation, integration, maintenance, and servicing are expensive.
- ♦ Low affordability discourages adoption, especially among MSMEs.
- **Technological Limitations:** Foundational research in core robotics technologies is still nascent.
 - ♦ There is a lack of advanced manufacturing, prototyping, and testing facilities.
- **Limited Governance Mechanisms:** Absence of a comprehensive robotics-specific regulatory framework. There are concerns regarding privacy, cybersecurity, safety, and liability.
- **Ethical and Social Concerns:** Fear of job displacement due to automation.
 - ♦ Concerns over transparency in autonomous decision-making.

Government Initiatives

- **FutureSkills Prime:** Under this initiative, a robust online platform has been created to encourage remote and self-paced learning in the field of emerging technologies.
 - ♦ This program aims to offer subsidised access to certified courses to interested participants in any of the 10 identified emerging technologies.
- **Atal Innovation Mission** is establishing Atal Tinkering Laboratories (ATLs) in schools across India.
 - ♦ ATLs have dedicated innovation workspaces where Do-It-Yourself (DIY) kits on emerging technologies like robotics, IoT, etc. have been installed to enable students to get hands-on exposure to these technologies.
- **e-YANTRA:** It is a robotics outreach program funded by the Ministry of Education and hosted at IIT Bombay.
 - ♦ The goal is to harness the talent of young engineers to solve problems using technology across a variety of domains.
- **Make-in-India Robots:** Defence Research and Development Organisation (DRDO), under the Ministry of Defence, developed the remotely operated vehicle (ROV) – '**Daksha**', an **automated mobile platform for multi-purpose payloads**.

- ♦ **Vyommitra** is a spacefaring humanoid robot developed by the **Indian Space Research Organisation (ISRO)** to function onboard the Gaganyaan, a crewed orbital spacecraft.
- ♦ **Manav** is India's **first 3D-printed humanoid robot**. It has an inbuilt vision and sound processing capability which allows it to walk, talk and dance just in response to human commands.

Way Ahead

- **Strengthen Human Capital:** Expand robotics, AI, and automation training through ITIs, polytechnics, engineering institutions, and industry-led skilling programs.
- **Promote Indigenous Manufacturing:** Develop domestic production of critical robotics components such as sensors, semiconductors, motors, and batteries to reduce import dependence.
- **Boost R&D and Innovation:** Increase investment in robotics research, support startups, and foster industry-academia collaboration for cutting-edge technological development.
- **Create an Enabling Ecosystem:** Establish robust regulatory frameworks, technical standards, reliable digital infrastructure, and ethical guidelines for safe and responsible deployment of robotics.

Conclusion

- India's robotics ecosystem faces challenges related to **skills, imports, costs, technology, governance, and infrastructure**.
- A combination of **skilled manpower, indigenous innovation, supportive policies, and strong infrastructure** can help India emerge as a global leader in robotics and automation.

Source: IE

NEWS IN SHORT

RANI LAKSHMIBAI

Context

- On **June 18, 1858**, **Rani Lakshmibai of Jhansi** was martyred fighting British troops near Gwalior during the **Revolt of 1857**.

Rani Laxmibai in Revolt Against British

- **Background:** Rani Lakshmibai was the queen consort of the **princely state of Jhansi**. The

death of the king, **Gangadhar Rao**, had left the throne **without a natural heir**.

- ♦ The English East India Company (EIC) denied recognition to the adopted prince, and **annexed Jhansi under the Doctrine of Lapse**.
 - This doctrine stated that any princely state under British suzerainty would become part of British India **if the ruler died without leaving behind a son as heir**.
- **The Revolt:** During the **uprising of 1857**, she organized and led the defense of Jhansi.
 - ♦ She fought bravely against British forces and became a symbol of resistance.
 - ♦ She later joined **forces with Tatya Tope and other rebel leaders**.
- **Death and Legacy:** Rani Lakshmibai died in battle on 18 June 1858 near Gwalior while fighting British troops.
 - ♦ She is remembered for her famous determination, often summarized by the phrase: "Main apni Jhansi nahi doongi" ("I shall not surrender my Jhansi").

Source: IE

INDEX OF SERVICES PRODUCTION

In News

- The Ministry of Statistics and Programme Implementation (MoSPI) is going to launch the **Index of Services Production (ISP)** in July 2026.

About Index of Services Production (ISP)

- The **Index of Services Production (ISP)** is a **monthly high-frequency indicator** developed by the **Ministry of Statistics and Programme Implementation (MoSPI)** to measure short-term changes in the **real output of India's formal services sector**.
- It is designed to complement the **Index of Industrial Production (IIP)** for the services sector.
- It is **developed by** a Technical Advisory Committee (TAC) chaired by **Debjani Ghosh**.

Why is it Needed?

- India's services sector accounts for **over 50% of the Gross Value Added (GVA)** but lacked a monthly indicator to monitor real growth.

- ISP will provide **timely data for economic monitoring, policy formulation, and forecasting.**

Key Features ISP

- **Coverage:** It covers only the **formal services sector** and excludes the informal sector and non-market government services.
- **Base Year:** 2024–25.
- **Methodology:** Uses a **fixed-weight Laspeyres volume index** with **GVA-based weights**.
- **Measures Real Growth:** Converts nominal service output into real output using price deflators such as **CPI and WPI**.

Major Data Sources

- **GST data:** Trade, transport, telecom, accommodation, real estate, professional services, etc.
- **Administrative data:** Railways, air transport, banking, and insurance.
- **ASISSE:** Private health and education services.

Output Measurement

- Most sectors use **turnover or GST-based value indicators** adjusted for inflation.
- **Railways and air transport** are measured using **quantity-based indicators** such as passenger-kilometres.

Excluded Sectors

- Public administration and defence
- Government-run health and education
- Personal services
- Gambling and other non-market activities

Note: In the absence of a comprehensive **Service Producer Price Index (SPPI)**, the ISP will primarily use **CPI (Non-Food)** as a proxy deflator to estimate real growth in the services sector.

Source: PIB

KIRTHAI-II HYDROELECTRIC PROJECT

Context

- The Forest Advisory Committee (FAC) of the Ministry of Environment, Forest and Climate Change has recommended in-principle approval of forest land for the **820 MW Kirthai-II hydroelectric project**.

About

- Kirthai-II is a **run-of-the-river hydroelectric project** planned on the Chenab River in the **Kishtwar district of Jammu and Kashmir**.
 - ♦ A **121-metre-high concrete gravity dam** will be constructed.
- It is the **third hydroelectric project** planned on the Chenab to receive approvals since the suspension of the **Indus Water Treaty**.
- **The project will be implemented** by the **Chenab Valley Power Projects Ltd**, a joint venture of the National Hydroelectric Power Corporation and the Jammu and Kashmir State Power Development Corporation Limited.
- **Kirthai-I** is located upstream, while the **Kiru Hydroelectric Project** is situated downstream of **Kirthai-II**.
- Other major hydroelectric projects planned on the Chenab River include **Sawalkote, Dulhasti-II, Ratle, Pakal Dul, Kwar, Kiru, and Kirthai Stage I**.

Source: IE

CHINA BEATS US WITH WORLD'S FASTEST SUPERCOMPUTER

Context

- China has overtaken the United States to win the **top spot on a list of the world's fastest supercomputers**.

About

- A supercomputer called **LineShine**, housed at the **National Supercomputing Center in Shenzhen**, has been crowned the **world's fastest supercomputer**.
 - ♦ The system **clocked 2.198 exaflops**— more than 2 quintillion calculations every second.
 - ♦ LineShine runs **entirely on CPUs**, the ordinary processors most supercomputers ditched years ago in favor of GPUs.
- **EI Capitan**, a supercomputer that the US government uses to develop and maintain its nuclear weapons stockpile has been **ranked second**.
- **India's Ranking:** India's most powerful supercomputer, **Shakti Cloud**, is currently **ranked 32nd** on the TOP500 list, with a performance of **84.31 petaflops**.
 - ♦ China's LineShine is roughly **26 times faster** than India's most powerful listed system.

- India's supercomputing ambitions are being driven by the **National Supercomputing Mission (NSM)**, launched in 2015.
 - Under the mission, India has deployed **38 supercomputers** across research and academic institutions, creating a **combined computing capacity of 47 petaflops**.
 - India has also developed indigenous systems such as the **PARAM Rudra series** while expanding its broader digital and computing infrastructure.

What are Supercomputers?

- A supercomputer is an extremely powerful computer designed to perform **vast numbers of calculations at very high speeds**. Supercomputers are used for problems that are too complex or time-consuming for ordinary computers.
- Performance is often measured in **FLOPS (floating-point operations per second)**.
- Modern supercomputers **can perform quintillions (10^{18}) of calculations per second, reaching exascale computing levels**.
- Features:**
 - Massive processing power:** Thousands to millions of processors work together.
 - Parallel computing:** Many calculations are performed simultaneously.
 - Huge memory and storage:** Can handle enormous datasets.
 - Specialized design:** Optimized for scientific and engineering tasks rather than everyday applications.

Source: TOI

MAHESH DIXIT APPOINTED INTELLIGENCE BUREAU CHIEF

Context

- The Appointments Committee of the Cabinet (ACC) headed by PM has approved the appointment of **Mahesh Dixit** as the **Director of the Intelligence Bureau** for a tenure of **two years**.
 - He succeeds **Tapan Kumar Deka**, who held the post since 2022.

About

- Mahesh Dixit is a **1993-batch Indian Police Service (IPS)** officer of the **Andhra Pradesh cadre**.
- Though due to retire in **August 2027**, he has been granted a service extension under the provisions

of **FR 56(d)** and **Rule 16(1A) of the All India Services (Death-cum-Retirement Benefits) Rules, 1958**.

- The rules allow the central government to **extend in "public interest"** the services of the chiefs of **IB and Research and Analysis Wing (RAW)**, Cabinet Secretary, Home Secretary and others, **beyond 60 years age of superannuation**.

Intelligence Bureau (IB)

- IB is India's **oldest intelligence agency** formed in **1887** during the British colonial era.
- It is India's **internal security agency** responsible for managing **domestic threats**.
- IB is under the governance of the **Ministry of Home Affairs**.
- It is responsible for counterterrorism, counterintelligence, and intelligence collection in border areas, infrastructure protection, and anti-secession activities.

Source: TH

AIRBORNE EARLY WARNING & CONTROL SYSTEM 'NETRA'

Context

- IAF has got the **Final Operational Clearance of indigenous Airborne Early Warning & Control system 'Netra'**.

About

- The Initial Operational Clearance (IOC) for the **Netra was accorded in 2015 and it was inducted into the IAF in 2017**.
- It is developed by Centre for Airborne Systems (CABS) under Defence Research and Development Organisation (DRDO).
- It is mounted on the **Brazilian Embraer EMB-145I aircraft platform**.
- It has an **active electronically scanned radar and 240-300 KM radar range**.
- Its core functions include airborne early warning system, tactical airspace control, and monitoring hostile aircrafts and drones.
- India is the fifth country in the world to develop this capability**, as the Netra can **detect, track, identify and monitor airborne and maritime targets** enhancing the network-centric operations capabilities of the IAF.

Source: TH