CLAT WHISPERS

GK COMPENDIUM

JUNE 2025

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1. U.S. DIA Report

Overview

In May 2025, the U.S. Defense Intelligence Agency (DIA) released its *Worldwide Threat Assessment*, outlining India's evolving strategic position in the global security architecture. The report identifies India as a rising regional power with enhanced defense capabilities, robust indigenous military production, and a refined strategic doctrine. India is seen as viewing China as its primary adversary, while treating Pakistan as a manageable secondary threat. This marks a significant transformation in India's defense posture and regional strategy, especially within South Asia and the broader Indo-Pacific.

India's Strategic Threat Assessment

Parameter	Details
Primary Adversary	China – Ongoing border tensions at the Line of Actual Control (LAC); military deployments remain high
Key Dispute	Despite disengagement agreement (Oct 2024), territorial tensions remain unresolved
Diplomatic Engagement	Modi-Xi talks held, but no resolution of LAC conflict
Secondary Concern	Pakistan – Described as an "ancillary problem" by India; seen as an existential threat by Pakistan
Pakistani Stance	Continuing development of battlefield nuclear weapons; increased militarization with Chinese support

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Operation Sindoor: India's Precision Military Response

- **Context**: Launched on 7 May 2025 after the 22 April Pahalgam terror attack (26 civilians killed)

- **Execution**: Joint Army-Air Force-Navy operation targeting 9 terror camps across Pakistan and PoJK
- **Significance**: First successful Indian airspace penetration into Pakistan since 1971

Strategic Features:

- **Use of Indigenous Weapons**: BrahMos, SCALP-EG on Rafales, indigenous loitering drones
- **Joint Warfare Doctrine**: Seamless tri-services coordination under Integrated Command structure
- **Operational Ethics**: Avoided civilian zones, showcased strategic restraint

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Year of Reforms 2025: Defense Transformation Drive

Reform Area	Focus & Details
Integrated Theater Commands	Creation of China-focused Northern Command, Pak-focused Western Command, and Maritime Command
Emerging Tech	AI, hypersonics, robotics, ML, space & cyber warfare
Acquisition Simplification	Streamlined procurement mechanisms for efficiency and transparency
Indigenous Manufacturing	Expansion under "Make in India" for defense self-reliance

Strategic Goal: Transform Indian Armed Forces into a modern, technology-driven, combat-ready force

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Make in India: Defense Production & Export Boom

Indicator	Figure (FY 2024-25)
Total Production	₹1.46 lakh crore (15% increase from previous year)
Since 2014-15	174% increase in production
Exports	₹24,000 crore (from ₹21,083 crore in 2023-24)

Export Growth	30-fold growth over the decade
Target Markets	100+ countries
SRIJAN Items	14,000+ items indigenized
Positive Indigenisation Lists	3,000 items localized
2030 Target	₹3 lakh crore defense production goal

Nuclear Capabilities and Strategic Deterrence

Parameter	**Details**
Agni-V (MIRV)	Successfully tested in 2024; multiple warhead targeting
Warhead Count	180 (up from 172 in 2024, per SIPRI)
Agni-Prime (Agni-P)	1,000–2,000 km range, canisterized missile
ICBM Capability	Covers targets across Asia, Middle East, Europe
MIRV Utility	Enhances second-strike survivability, precision deterrence

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Defense Budget 2025–26: Prioritizing Military Modernization

Component	**Allocation (INR)**	**% of Total Defense Budget**
Total Budget	₹6.81 lakh crore	13.45% of Union Budget
Capital Outlay	₹1.80 lakh crore	26.43%
Revenue Expenses	₹3.11 lakh crore	45.76%
Pensions	₹1.61 lakh crore	23.60%
Domestic CapEx	75% of modernization spend for domestic systems	

Indian Ocean Region Strategy: Maritime Dominance

Element	**Description**
IOS Sagar Mission	Joint maritime ops with 9 partner nations; strengthens Indian naval diplomacy

Radar Grid	Coastal surveillance network in Sri Lanka, Seychelles, Maldives, Mauritius
Agalega Project	Indian-developed facility in Mauritius; boosts regional reach
India's Role	First Responder and Preferred Security Partner in the IOR

Challenges and Outlook

Category	Challenge
China	Unresolved LAC tensions; high-altitude militarization risk remains
Pakistan	Ongoing battlefield nuclear modernization with Chinese aid
Technology Gap	Ongoing need for investment in AI, cyber, and hypersonics to stay competitive

Strategic Opportunities:

- Make in India reducing foreign dependency
- Export market expanding
- Growing credibility as Indo-Pacific security provider

Mnemonic: "DIA-STRATEGIC 2025"

D – Defense budget reaches ₹6.81 lakh crore
I – India identifies China as top adversary
A – Agni-V MIRV strengthens deterrence
S – Sindoor op reflects tri-services synergy
T – Theater commands operationalized (North, West, Maritime)
R – Reforms declared to modernize defense
A – Agalega base enhances Indian Ocean reach
T – Technology push: AI, hypersonics, robotics
E – Exports touch ₹24,000 crore in FY25
G – Global power image reinforced via Indo-Pacific posture
I – Indigenous production hits ₹1.46 lakh crore

C – Command and control modernization under IACCS

2025 – Year of transformation in Indian defense history

2. Historic EU-India Maritime Cooperation: First EUNAVFOR Ships Visit Mumbai

Overview of the Historic Visit

From May 26 to June 1, 2025, the arrival of two European Union Naval Force (EUNAVFOR) ships in Mumbai marked a transformative moment in India-EU maritime relations. This was the first time that EUNAVFOR ships visited India under the EU framework, launching a new era of direct operational cooperation in maritime security.

The two visiting vessels were:

- ESPS Reina Sofia (Spanish Navy), commanded by Cdr Salvador Moreno Regil
- ITS Antonio Marceglia (Italian Navy), commanded by Cdr Alberto Bartolomeo

Both ships operated under Operation Atalanta, a European Union counter-piracy mission in the Indian Ocean since 2008.

Strategic Context and Diplomatic Foundation

Element	Details
Diplomatic Leadership	Follow-up to discussions between PM Narendra Modi and EU Commission President Ursula von der Leyen
Feb 2025 Summit	First-ever visit by the entire EU College of Commissioners to India
Fourth Maritime Dialogue	Held on March 21, 2025, in New Delhi; co-chaired by Maciej Stadejek (EEAS) and Muanpuii Saiawi (MEA)
Focus Areas	Counter-illicit activities, maritime infrastructure protection, domain awareness, regional forums

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Harbor-Based Cooperation Activities

During the Mumbai visit, the ships participated in intensive harbor engagements, including:

- **High-level meetings**: Rear Admiral Davide Da Pozzo (ATALANTA) met Rear Admiral Vidyadhar Harke (Indian Navy)
- **Subject Matter Expert Exchanges (SMEEs)**: Shared expertise on counter-piracy and anti-smuggling tactics
- **Table Top Exercise (TTX)**: Simulated piracy response to test coordination

These harbor activities enhanced tactical-level cooperation and knowledge sharing.

Joint Maritime Exercise (June 1–3, 2025)

A major trilateral maritime exercise was held in the Indian Ocean involving:

Naval Forces	Participating Assets
Indian Navy	INS Trikand, support ships, maritime patrol aircraft
EUNAVFOR	ESPS Reina Sofia, ITS Antonio Marceglia, onboard helicopters

Exercise Features:

- Counter-piracy and anti-smuggling scenarios
- Real-time air-sea coordination
- Tactical maneuvers and communication testing
- Hostage rescue simulations

According to Rear Admiral Da Pozzo, this was the first such complex exercise conducted jointly by ATALANTA and India.

Strategic Significance

Dimension	Significance
EU Indo-Pacific Outreach	Reinforces EU's role in the Indian Ocean as a security partner
India's Role	Recognized as a "preferred security partner" and "first responder"

Shift in Engagement	Moves from diplomatic dialogue to military-to-military collaboration
Shared Maritime Principles	Upholds UNCLOS, freedom of navigation, sovereignty, and peaceful dispute resolution

Addressing Non-Traditional Maritime Threats

Threat	Cooperation Focus
Piracy	Simulation-based joint action; ATALANTA's proven record in protecting WFP vessels
IUU Fishing	Shared monitoring to combat illegal, unreported, unregulated fishing
Smuggling	Combat arms, drug, and human trafficking via sea
Maritime Terrorism	Learnings from India's 2008 Mumbai experience; emphasis on counter-terror coordination

Operational Effectiveness and Outcomes

Operation Atalanta Key Achievements:

- Piracy attacks reduced from 176 (2011) to 4 failed attempts (2018)
- Zero hostage cases since October 2016
- 100% protection rate for WFP ships
- 154 pirates handed over to legal authorities

Interoperability Gains:

- Seamless air-sea asset integration
- Real-time coordination of maritime operation centers
- Tactical communication protocols validated

Broader Strategic Context: China and Indo-Pacific Competition

Context	Relevance
China's Maritime Expansion	Strategic counterbalance to China's BRI & Maritime Silk Road
Geopolitical Alignment	India-EU shared commitment to an open and inclusive Indo-Pacific
Alternative Framework	Maritime cooperation offers an alternative to coercive strategic postures

Future Prospects and Institutional Mechanisms

Mechanism	Impact
Maritime Security Dialogue	Gains operational grounding via Mumbai visit outcomes
Information Sharing	Strengthened between Indian and EU maritime command centers
Capacity Building	SMEEs lay the foundation for future training and cooperation frameworks

Path Forward: Shift from one-time exercises to institutionalized, recurring engagements

Challenges and Considerations

Challenge	Details
Geographic Constraints	Long distances complicate regular EU presence in Indian Ocean
Resource Needs	Sustained deployments require significant logistical commitments
Coordination Complexity	Multi-navy SOPs must align for joint ops success
Strategic Autonomy	India must balance cooperation without signaling alliance entanglement

Mnemonic: "EUNAVFOR INDIA 2025"

E – EU ships visit India for first time under Atalanta

U – Ursula–Modi diplomacy leads to operational outcomes

N – Naval exercises simulate complex piracy scenarios

A – ATALANTA's zero-hostage track record shared

V – Vessels: Reina Sofia, Antonio Marceglia, INS Trikand

F – Fourth Maritime Dialogue activated with joint drills

O – Operational coordination tested & validated

R – Rules-based maritime order reinforced (UNCLOS)

I – India as Indian Ocean's first responder

N – Non-traditional threats (IUU, terrorism) addressed

D – Domain awareness protocols enhanced

I – Institutional frameworks for regular cooperation

A – At-sea hostage rescue drills successfully conducted

2025 – Turning point in India-EU strategic maritime ties

3. Israel: First Nation to Deploy Laser Weapons in Active Combat

Historic Achievement in Military Technology

Israel has achieved a revolutionary milestone in military technology by becoming the first nation to successfully deploy high-energy laser weapons in active combat. During the Swords of Iron War that began on October 7, 2023, Israeli forces successfully used laser-based defense systems to intercept dozens of enemy drones and other aerial threats, marking a historic first in modern warfare. This breakthrough marks the culmination of decades of R&D in directed-energy weapons.

The Iron Beam System: Revolutionary Technology

Specification	Details
Name	Iron Beam ("Magen Or" or Light Shield)
Developer	Rafael Advanced Defense Systems
Power Output	100 kW, enhanced beam directors track coin-sized targets up to 10 km
Operational Range	Up to 10 km; complements Iron Dome's longer-range capabilities
Engagement Speed	Speed of light – instant interception
Cost per Shot	$2–5 vs. $40,000–50,000 per Iron Dome missile
Magazine	Unlimited, operates as long as energy supply is maintained

Advanced Technologies:

- **Coherent Beam Combining**: Hundreds of focused mini-beams improve atmospheric performance
- **Adaptive Optics**: Reverse optics ensure stable beam over long distances
- **Fiber Laser Technology**: Provides high-precision energy delivery

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Combat Deployment and Operational Success

Factor	Details
Deployment Start	Shortly after October 7, 2023 attacks
Coordinating Agencies	Israeli Air Force, DDR&D, Rafael
Notable Leader	Major G. – Head of IAF Laser Division
Intercepted Threats	UAVs launched by Iran-backed groups (Hamas, Hezbollah, Houthis)
Success Rate	High interception; protected civilians and strategic infrastructure

Brigadier General (Ret.) Dr. Daniel Gold, head of DDR&D, called it "a historic milestone" and the first real-world demonstration of laser-based defense.

Iron Beam Family of Systems

Variant	Description
Iron Beam	Full-scale system (450mm director), longest range and precision
Iron Beam M	Mobile 250mm version for tactical deployment with maneuvering units
Lite Beam	Upgraded 10kW tactical system for forward-deployed forces
Naval Iron Beam	100kW ship-based HELWS for maritime threat engagement

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Global Context and Competition

Country	Developments
United States	Navy's HELIOS (60kW), Army's Valkyrie (300kW) in development
China	Space-based laser ambitions; rapid tech advancement urged by military
Europe (UK, Germany)	UK's DragonFire, other joint HEL initiatives underway

Market Outlook:

- Global Value 2025: **$7.12 billion**

- 2034 Projection: **$15.88 billion**
- CAGR: **9.2%**
- U.S. DoD Spending: ~$1 billion/year on DEWs
- Asia-Pacific: Fastest growing market; North America: Largest current share

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Operational Advantages and Strategic Implications

Advantage	Impact
Cost Effectiveness	$2–5 per shot makes it economically sustainable
Instantaneous Targeting	No flight time, near-zero response delay
Unlimited Magazine	Continuous operation with power source
Pinpoint Accuracy	Minimal collateral damage
Multi-Target Capability	Engage multiple threats in sequence quickly
Drawbacks	Fog, rain, cloud cover impair performance; requires line-of-sight

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Future Deployment and Production Plans

Timeline	Milestone
End of 2025	Full-scale Iron Beam deployment scheduled
Integration	Part of multi-layered defense with Iron Dome, David's Sling, Arrow
Contract	NIS 2 billion (~$535M) signed with Rafael and Elbit for scaling
Mobile Deployment	Truck-mounted and compact mobile variants in development

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Strategic Impact on Modern Warfare

Dimension	Significance
Defense Economics	First cost-effective defense against low-cost drone/rocket attacks
Deterrence	Demonstrates real-time neutralization capacity
Force Multiplier	Covers wide area with lower cost per use
Doctrinal Shift	Shifts global focus from kinetic to directed-energy interceptors

Global Interest, Export Potential & Response

Stakeholder	Reaction
NATO & Allies	High interest in Israel's HELWS for adoption and joint development
Competitor Nations	Acceleration of DEW R&D following Israel's combat deployment
Export Prospects	Likely international sales due to field-proven effectiveness
Technology Transfers	Strategic partnerships and defense pacts to facilitate sharing

Challenges and Technical Constraints

Category	Limitation
Weather Dependency	Reduced performance in fog, heavy clouds, and precipitation
Energy Demand	Requires uninterrupted high-voltage supply
Line-of-Sight	Must maintain uninterrupted optical path
Target Engagement	Requires several seconds of continuous beam contact
Maintenance Needs	Sophisticated support structure and trained operators
System Integration	Needs seamless interface with radar, C4I, and missile defense systems

Future Innovation & Technological Evolution

Area	Outlook
Power Scaling	Targeting systems with 500kW+ capacity
Platform Expansion	Integration with air, naval, and space systems
AI Synergy	Improved target ID and real-time beam guidance
Civilian Applications	Infrastructure protection, anti-drone systems
Global Partnerships	Tech sharing & co-development with allies

Mnemonic: "ISRAEL LASER SHIELD"

I – Iron Beam intercepts enemy UAVs in real war

S – Swords of Iron War triggers rapid deployment

R – Rafael & DDR&D lead development

A – Adaptive optics ensure beam precision

E – Economic interception at just $2–5 per shot

L – Laser tech scales across land, sea, and future air/space

L – Line-of-sight and weather remain key limits

A – AI integration for smart, rapid targeting

S – Strategic edge: real-time, battlefield-proven system

E – Export interest surging globally

R – Response time: speed of light

S – System variants: Iron Beam, Iron Beam M, Lite Beam, Naval version

H – High-energy lasers deployed with multi-layer defense

I – International R&D surge in response to Israeli success

E – Engagement time: seconds of focused contact

L – Leadership in directed-energy revolution

D – Doctrinal shift: future belongs to laser defense

4. IATA's 81st AGM and India's Aviation Landscape

Main Takeaway

The 81st IATA Annual General Meeting (AGM), held in New Delhi from June 1–3, 2025, spotlighted India's emergence as a global aviation powerhouse. With domestic traffic surging over 10%, ambitious infrastructure plans, and leadership in sustainability and digitalization, India is playing a transformative role in global aviation.

India's Role at IATA AGM 2025

Highlight	Details
Location	New Delhi (first time since 1983)
IATA DG Remarks	Willie Walsh emphasized industry resilience: 5B passengers, 69M tonnes cargo
India's Aviation Impact	369,700 direct jobs; 7.7M total jobs; $53.6B contribution to GDP
Host Airline	IndiGo – symbol of low-fare leadership and network expansion

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Passenger Traffic Dynamics

Category	Statistic
Domestic RPK (April 2025)	↑10% YoY, second only to Brazil
Domestic FY 24–25	165.7M passengers (↑7.8% from FY 23–24) despite engine groundings
International RPK	↑10.8% in April 2025; record April load factor
New Routes	Announced links to Europe, South America, and SE Asia

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Air Cargo Expansion

Factor	Statistic/Development
Throughput FY 24–25	3.7M tonnes (↑9–11%)
Growth Drivers	Pharmaceuticals, perishables, e-commerce diversification
ONE Record Roll-out	Jan 2026: Real-time data sharing for faster customs & shipment tracking

Safety and Data-Driven Operations

Initiative	Highlights
GADM	Includes 15M flight FDX data points & 220 airline IDX reports
India's Contribution	DGCA + carriers contributing to forecast turbulence, runway safety
IOSA Certification	100% registry for scheduled carriers
ICAO Annex 17	Conflict-zone security management adoption

Infrastructure and Capacity

Area	Updates
New Airports	Jewar (Noida), Navi Mumbai: open by 2026; add 50M capacity
Govt Target	Airport within 100 km for 97% of population
Fleet Orders	Over 800 aircraft ordered; global backlog 17,000 jets
Growth Constraint	3.8% of India's fleet in storage
IATA Pledge	Support for transparent parts-trade; shield India from global trade war

Affordability and Regulation

Factor	Update
Airfare Trends	Real fares ↓40% in 10 years (FDI, divestments, slot reforms)
Regulatory Framework	Balanced passenger rights, not EU261-style compensation

Sustainability Initiatives

Program	Detail
PLI for SAF	Boost domestic production; align with IATA's 5% blending target by 2030
CORSIA Participation	India joins IATA Carbon Exchange for voluntary carbon-credit trading

Digital Transformation

Initiative	Update
Digital ID Pilots	At Delhi & Mumbai; to eliminate document checks
ONE Record Cargo Roll-out	Logistics hubs (Delhi, Mumbai, Bengaluru) to pilot new platform

Mnemonic: "AVIATION INDIA 2025"

A – Airfare down 40% in 10 years

V – Voluntary CORSIA carbon trading joined

I – IndiGo hosts IATA AGM in Delhi

A – Airports planned within 100 km of 97% of citizens

T – Traffic surge: 165.7M domestic fliers

I – IOSA compliance at 100%

O – ONE Record pilots for cargo launched

N – New runways at Jewar and Navi Mumbai by 2026

I – India joins ICAO Annex 17 security protocols

N – Narrow-body fleet orders exceed 800

D – Digital ID pilots to ease passenger flows

I – Infrastructure push for global hub ambitions

A – Analytics: GADM & FDX for predictive safety

5. Starlink's Entry into India

Main Takeaway

Elon Musk's Starlink has secured all major regulatory approvals in India—receiving its GMPCS licence from the Department of Telecommunications (DoT) on June 5, 2025, and authorisation from the Indian National Space Promotion and Authorisation Centre (IN-SPACe) on July 8, 2025—positioning it as the third company (after OneWeb and Jio-SES) cleared to offer low-Earth-orbit (LEO) satellite-based broadband services nationwide.

Regulatory Clearances

a) DoT GMPCS Licence

- Granted on June 5, 2025, to Starlink Satellite Communications Pvt. Ltd. (SSCPL) under Unified Licence (Category A)
- Authorizes satellite broadband and VSAT services
- Conditions include:
    - Establishing Land Earth Station Gateway for each deployed satellite system
    - Lawful interception, local command-control setup, and national security compliance

b) IN-SPACe Authorisation

- Granted on July 8, 2025, for a five-year term (or until Gen1 constellation's end-of-life)
- Gen1 constellation includes 4,408 satellites at 540–570 km, offering ~600 Gbps throughput over India
- Roll-out contingent on further DoT and ministerial clearances

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Spectrum Pricing and Allocation

a) TRAI Recommendations (May 2025)

- Administrative allocation of satellite spectrum
- 4% of Adjusted Gross Revenue (AGR) with:
    - ₹3,500/MHz/year minimum charge
    - ₹500/urban subscriber/year fee
- Five-year licence, extendable by two years

b) Next Steps

- Starlink must:
    - Secure trial and commercial spectrum from DoT
    - Establish three gateways, one Network Operations Centre (NOC), and VSAT ground segment
    - Conduct demos for performance, interception, and compliance
- Commercial rollout likely by mid-2026

Compliance and Localisation Requirements

- **Indigenisation Mandate**: 20% of ground systems to be Indian-made within five years
- **NavIC Support**: User terminals must support India's navigation system (best effort now, full by 2029)
- **Data Sovereignty & Security**:
    - Indian traffic must not exit domestic networks
    - Local data centre use mandatory
    - Must support emergency blocking protocols

Strategic and Socioeconomic Implications

a) Bridging the Digital Divide

- Enables broadband in rural, hilly, and remote regions
- Supports Digital India initiative

b) Competitive Landscape

- Competing players:
  - OneWeb (Bharti Airtel-Eutelsat)
  - Jio-SES (Reliance)
  - Amazon Project Kuiper (pending approval)
- Starlink has informal partnership pathways with Airtel & Jio

c) National Security Oversight

- IN-SPACe and DoT will monitor:
  - Spectrum compliance and coordination
  - Data security and interception frameworks
  - Emergency shutdown capabilities

Market Outlook and Pricing

Component	Projection/Details
Monthly Subscription	₹3,000–₹4,200 for consumers
Hardware Cost	Dish + router at ~₹20,000 (may include subsidies)
Launch Timeline	Full commercial service by late 2025 or early 2026

Global Context

- India joins U.S., U.K., Sri Lanka in leveraging LEO constellations
- Reflects India's liberalised space policy and private participation goals

- Starlink to transform rural connectivity and intensify satellite broadband competition

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Mnemonic: "STARLINK INDIA 2025"

S – Spectrum at 4% AGR + ₹3,500/MHz minimum

T – Trial launch by mid-2026 likely

A – Authorisation by IN-SPACe on July 8, 2025

R – Rural broadband access via 4,408 Gen1 satellites

L – Localised manufacturing (20% in 5 years)

I – Interception compliance and data sovereignty

N – NavIC support mandatory by 2029

K – Key rivals: OneWeb, Jio-SES, Amazon Kuiper

I – India-centric rollout via Airtel & Jio partnerships

N – National security oversight by IN-SPACe + DoT

D – Dish cost: ~₹20,000, may be subsidised

I – Internet anywhere: LEO coverage in remote areas

A – Administrative allocation, not auction, for spectrum

6. Russia's Largest Aerial Strike on Ukraine

Main Takeaway

On June 29–30, 2025, Russia launched its most massive aerial assault since the 2022 invasion, deploying 537 aerial weapons—including 477 drones and decoys, along with 60 missiles—targeting several Ukrainian regions. Despite the scale of this attack, Ukrainian air defenses mounted a robust response, intercepting or jamming 474 weapons and achieving an 88.3% defensive success rate. However, the strike claimed the life of Lt. Col. Maksym Ustymenko, a decorated F-16 pilot who died after successfully destroying seven Russian targets.

Attack Composition and Unprecedented Scale

a) Weapon Deployment Analysis

This assault marked a new phase in Russian aerial tactics, showcasing the largest single-night airborne weapon deployment since the war's onset. The offensive consisted of 477 drones and decoys, including Iranian Shahed-136/131 and Russian Geran-2 models, combined with 60 advanced missiles, such as the Kh-101, Kalibr cruise missiles, Iskander-M and KN-23 ballistic missiles, and hypersonic Kinzhal missiles. These weapons were launched from various Russian-controlled locations—Kursk, Oryol, Bryansk oblasts, and Crimea—over a period exceeding eight hours.

b) Ukrainian Air Defense Response

Ukraine's defense forces executed a multi-layered, integrated response. Of the 537 incoming threats, 249 were physically destroyed using air defense systems like S-300, Buk, NASAMS, and NASAMS-2. An additional 225 were neutralized using electronic warfare (EW) capabilities, reflecting a sophisticated use of jamming technology. The overall interception rate reached an impressive 88.3%.

Geographic Impact and Civilian Casualties

a) Multi-Regional Targeting Strategy

The strike targeted six Ukrainian oblasts simultaneously, aiming to stretch and overwhelm defensive capabilities:

- **Kyiv Oblast** endured an eight-hour air raid alert. Subway systems were converted into shelters. One person was killed, and 23 were injured.
- **Kherson Oblast** reported one civilian death caused by a drone strike.
- **Cherkasy Oblast** experienced six injuries—including a child—and a local college sustained serious damage.
- **Lviv Oblast** was targeted despite being far from the frontlines, indicating Russia's intent to disrupt deep infrastructure.
- **Mykolaiv and Poltava** witnessed strikes on both industrial and residential zones.

b) Civilian Infrastructure Damage

Widespread damage was reported across residential areas, public education institutions, railway lines, and power infrastructure. This reflected a deliberate strategy of attacking dual-use targets to disrupt daily life, logistics, and morale.

Strategic Impact:

- Thousands sought refuge in shelters for over eight hours.
- Rail and transport services were halted.
- The psychological toll on the civilian population intensified.

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3. Loss of Ukrainian F-16 and Heroic Sacrifice

a) Lt. Col. Maksym Ustymenko's Final Mission

Lt. Col. Maksym Ustymenko, a 32-year-old veteran pilot who had served since Ukraine's 2014 anti-terror operations in Donbas, played a critical role during the strike. He was trained to operate four different aircraft types, including the F-16. During his final mission, he managed to intercept and destroy seven Russian aerial targets before being fatally struck.

b) Heroic Final Actions

After sustaining critical damage to his F-16, Ustymenko chose to steer the aircraft away from civilian zones, sacrificing his chance to eject in order to save lives on the ground. He was posthumously awarded the Hero of Ukraine title and the Order of the Golden Star. Ustymenko is survived by his 4-year-old son and was part of the first batch of Ukrainian pilots trained to fly F-16s abroad. He was also a classmate of the late pilot Andrii "Juice" Pilshchykov.

c) F-16 Program Losses

Date	Pilot	Age	Status	Circumstances
Aug 2024	Oleksiy “Moonfish” Mes	–	Killed	Shot down 3 cruise missiles + 1 drone
Apr 2025	Pavlo Ivanov	26	Killed	Killed in battle
May 16, 2025	Unknown	–	Survived	Emergency during cannon engagement
June 29, 2025	Maksym Ustymenko	32	Killed	Hit after destroying 7 targets

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Strategic and Political Context

a) Trump-Putin Diplomatic Backdrop

Coinciding with the assault was a high-profile phone conversation between former U.S. President Donald Trump and Russian President Vladimir Putin. A follow-up call between Trump and Ukrainian President Volodymyr Zelensky was described as "very important and useful." However, despite diplomatic discussions, no ceasefire agreement was achieved. Putin reiterated his stance on resolving the “root causes” of the war, even as his forces intensified aerial attacks.

Strategic Implications:

- A stark disconnect between diplomatic outreach and battlefield escalation
- Use of military pressure by Russia as a negotiation tool
- Heightened alert levels across NATO states

b) NATO Response and Alliance Solidarity

NATO promptly responded to the attack:

- The Polish Air Force scrambled F-16s and raised operational readiness
- Ground-based defense systems, including SAMs and radar networks, were placed on maximum alert
- No breach of NATO airspace occurred, but vigilance remained high until 6 AM

Air Defense Performance and Critical Gaps

a) Multi-Layered Defense Architecture

Ukraine employed a hybrid system combining Soviet-era platforms and Western-supplied defense systems. NASAMS alone intercepted over 900 targets since November 2022, with a 94% success rate. Electronic warfare systems also neutralized hundreds of drones. The synergy between kinetic and non-kinetic systems was essential to the 88.3% defense rate.

b) Critical Capability Shortfalls

Despite this performance, Ukrainian officials noted crucial gaps:

- An insufficient supply of interceptor missiles
- Incomplete EW coverage in rural zones
- Limited ability to reload missile systems quickly
- Vulnerabilities in unprotected geographic sectors

High-Risk Tactics:

- F-16 pilots were forced to use onboard cannons in close-range combat with drones
- Increased pilot exposure due to limited standoff weapons
- Strain on resources with rapid ammunition depletion

Humanitarian and Infrastructure Consequences

a) Immediate Civilian Impact

The human toll was immediate:

- In Kyiv, 33 sites were struck, leading to 1 fatality and 23 injuries
- Kherson and Cherkasy reported additional civilian deaths and injuries, including children
- The population endured hours in shelters, escalating mental stress

b) Infrastructure and Economic Damage

- Rail tracks and signals were rendered inoperable
- Apartment blocks were burned or structurally compromised
- Warehouses and commercial zones were destroyed
- Education facilities were damaged, affecting thousands of students

Economic Fallout:

- Transport gridlock disrupted trade and mobility
- Emergency response and repair costs surged
- Insurance claims spiked across affected regions
- Long-term reconstruction efforts were triggered

International Responses and Diplomatic Implications

a) United Nations and International Community

- UN Secretary-General António Guterres condemned the assault as a "dangerous escalation"
- The UN Security Council convened to assess protections for civilians
- UNHRC reports confirmed systematic targeting of civilian infrastructure
- The Zaporizhzhia Nuclear Power Plant temporarily lost external power, raising alarm

b) Western Alliance Reactions

- NATO denounced the attack as an "unacceptable escalation"
- The UK imposed new sanctions on Russian military commanders
- The EU unveiled sanctions targeting drone manufacturing chains
- Western states recommitted to supporting Ukraine's air defense capabilities

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Russian Drone Production and Capability Enhancement

a) Production Surge

Russia dramatically increased drone output:

- In 2024, production stood at 1.5 million drones
- By May 2025, production rose by 16.9% over April
- The average output from February to April 2025 was 60.5 drones per day
- May's monthly total reached 1,850—1.6 times the 2024 average

b) Chinese Technology Cooperation

- Russian facilities such as Aero-HIT partnered with Chinese academic and tech institutions
- 60–65% of drone components now sourced from China
- With Chinese support, Russia aims to scale up to 10,000 drones/month
- Chinese engineers are stationed on-site to support production

Strategic Implications:

- Russia continues to bypass Western sanctions
- Enhanced drone production allows for sustained large-scale attacks
- The spread of advanced UAV technology to other conflict zones is increasingly likely

Electronic Warfare and Technological Adaptation

a) Ukrainian EW Capabilities

- The "Atlas" EW network integrates thousands of nodes, enabling broad disruption capability
- Interceptor drones have proven highly effective
- Ukraine successfully jammed 225 incoming drones during the June 29 attack
- AI is being incorporated to dynamically enhance EW response patterns

b) Russian EW Doctrine

- Systems like Krasukha-4 and Murmansk-BN enable long-range jamming (300km to 5,000km)
- LEER-3 platforms disrupt cellular signals and conduct psy-ops
- Fiber-optic cables and frequency-hopping tactics are now standard
- AI is also being embedded in Russian EW systems to increase effectiveness

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Implications for Future Conflict Dynamics

a) Escalation Trajectory

- June 29: 537 weapons launched (record)
- July 4: 550 weapons launched
- July 8: 741 weapons launched (new record)
- Over 5,438 drones were deployed throughout June 2025, the highest monthly count so far

b) Strategic Warfare Evolution

- Swarm tactics aim to saturate and bypass defense systems

- Deliberate targeting of infrastructure used for both military and civilian purposes
- Continuous and layered attacks are replacing isolated strikes
- Psychological operations through terror-style drone campaigns are intensifying

Future Implications:

- Nations must upgrade air defense systems to handle mass drone incursions
- International law may need to evolve to account for technological warfighting
- NATO's coordination mechanisms must strengthen further
- Drone warfare's global spread poses a significant long-term threat

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Mnemonic:

UKRAINE DEFENDS – Unbreakable, Resilient, Advanced, Integrated, Never-surrender, Exceptional, Defensive, Electronic, Firearms, Excellence, National, Determination, Sacrifice

7. UPSWAN 3.0

Main Takeaway

UPSWAN 3.0 is Uttar Pradesh's third-generation State Wide Area Network, announced in June 2025 and managed by UPDESCO under the National e-Governance Plan (NeGP). This major infrastructure initiative is designed to extend secure, high-availability digital connectivity to all 75 Vikas Bhawans, 351 tehsils, and 828 block headquarters—totaling 1,254 administrative sites. The upgraded network incorporates next-generation cybersecurity, real-time traffic engineering, zero-touch provisioning, automated monitoring, and high service availability to support advanced e-governance.

Background & Strategic Objectives

The UPSWAN initiative began in 2007 under NeGP with the goal of establishing high-speed, secure data connectivity across the state. UPSWAN 2.0, launched in 2019, connected all state and district headquarters along with most tehsils and blocks. UPSWAN 3.0 builds on this by:

- **Complete Coverage**: Connecting 116 additional tehsils, 254 blocks, and all 75 Vikas Bhawans, ensuring total coverage of all 1,254 offices.
- **Next-Gen Cybersecurity**: Introducing advanced threat protection via Next-Generation Firewalls (NGFW), Intrusion Detection and Prevention Systems (IDPS), Endpoint Detection and Response (EDR), and Advanced Persistent Threat (APT) defenses.
- **Real-Time Monitoring & Quality of Service**: Deploying Multi-Protocol Label Switching (MPLS) with dynamic traffic engineering and "five-nines" (99.999%) uptime.
- **Automated Management & Transparency**: Incorporating centralized Network Operations Center (NOC) dashboards, role-based admin access, audit trails, and automated provisioning.

Governance & Procurement

- **Nodal Agency**: Uttar Pradesh Development Systems Corporation Limited (UPDESCO)
- **Technology Partner**: Bharat Sanchar Nigam Limited (BSNL) issued tender UPE/EB/UPSWAN 3.0/2024-25 for System Integrator (SI) selection. The open tender was published on December 20, 2024. The empanelled SI will be responsible for execution within a 180-day timeline.
- **Standards Compliance**: Project follows NeGP guidelines and National Standards for Layer-2 MPLS, ensuring compatibility with NICNET and State Data Centre (SDC) infrastructure.

Architecture & Key Features

a) Hybrid Connectivity

- Core connectivity via high-bandwidth fiber-optic MPLS backbone.
- Backup links using Internet Leased Lines (ILL), VSAT (Very Small Aperture Terminal) links, and microwave technologies to provide high resilience and assured 99.999% uptime.

b) Traffic Engineering

- Dynamic MPLS Label Switched Paths (LSPs) enable automatic load balancing, optimal routing, and failover between diverse links.
- Bandwidth prioritization and traffic engineering policies ensure guaranteed service levels for critical government applications such as e-Office, e-District, CCTNS (Crime and Criminal Tracking Network and Systems), and SSP (Scholarship Portal).

c) Security Stack

- **NGFW**: Deep-packet inspection engines block zero-day exploits.
- **IDPS**: Detect and prevent anomalies in real-time traffic.

- **EDR**: Active endpoint defense for servers and gateways.
- **SIEM**: Security Information and Event Management collects, correlates, and analyzes incidents to detect intrusions and ensure compliance.

d) Monitoring & NOC

- A centralized State NOC in Lucknow provides real-time monitoring using SNMP, NetFlow, and syslog for tracking link health, utilization, and threat alerts.
- Automated provisioning and zero-touch configuration reduce deployment complexity. A role-based administrative portal streamlines operations and enforces access control.

Coverage & Progress

Administrative Level	Total Units	Connected under 2.0	Pending under 3.0
State HQ & Commissionerates	—	100%	—
District HQ	—	100%	—
Tehsil HQ	351	235	116
Block HQ	828	574	254
Vikas Bhawans	75	0	75

- As of June 2025, 235 tehsils and 574 blocks are already operational.
- Phase I of UPSWAN 3.0 will prioritize connectivity for the 116 remaining tehsils, 254 blocks, and all 75 Vikas Bhawans.

Service Portfolio

- **E-Governance Applications**: Secure hosting of mission-critical platforms such as e-Office, e-District, CCTNS, and SSP through the State Data Centre.
- **VoIP**: Quality-of-Service-enabled VoIP communication among departments.
- **Video Conferencing**: State-wide encrypted video conferencing capability to support administrative meetings, disaster coordination, and training.

- **Citizen Kiosks and Portals**: Block and tehsil-level service access points offering encrypted access to public services and information.

Budget & Funding

- **Tender Value**: Stated in official documentation (refer to bid for exact figure); no Earnest Money Deposit (EMD) or tender fee required.
- **State Budget Allocation**: ₹1,100 crore allocated in the Uttar Pradesh Budget 2025–26 specifically for UPSWAN 3.0 infrastructure upgrades.

Timeline & Next Steps

Phase	Key Activities	Timeline
Preparatory	RFP issuance; UPDESCO nodal notification	June 2025
Deployment	System Integrator onboarding; connectivity at tehsil/block sites	Q3 2025 – Q1 2026
Optimization	Security hardening; performance tuning; analytics rollout	Q2 – Q3 2026

Strategic Impact

- **Digital Inclusion**: Seamless connectivity to the most remote offices will bridge the rural-urban divide and ensure equal access to digital services.
- **Administrative Efficiency**: Real-time, high-speed communication across departments and verticals will accelerate governance, decision-making, and responsiveness.
- **Transparency and Accountability**: Real-time network and security audit trails will increase accountability, reduce chances of misuse, and strengthen public trust.
- **Resilience**: Redundant connectivity and advanced cyber defenses ensure service continuity even during power outages, disasters, or targeted cyberattacks.

Challenges & Considerations

- **Site Readiness**: Ensuring basic infrastructure (power, secure IT rooms, physical access) is completed at all 445 pending connection points.
- **Human Resources & Skilling**: IT staff at local offices must be trained in NOC usage, first-line support, and incident handling.
- **Maintenance & SLA Enforcement**: Maintaining five-nines availability and ensuring cyber integrity require robust Operations & Maintenance (O&M) contracts and effective Service Level Agreements (SLAs).

8. Scheme to Promote Manufacturing of Electric Passenger Cars in India (SPMEPCI)

Main Takeaway

SPMEPCI is a flagship initiative launched by the Ministry of Heavy Industries in March 2024 (detailed guidelines issued June 2, 2025) to attract global electric passenger-car manufacturers, strengthen India's EV supply chain under "Make in India," and advance the Net Zero 2070 commitment by offering duty concessions in exchange for large-scale investments and progressive domestic value-addition targets.

Objectives and Scope

India—the world's third-largest automobile market (₹12.5 lakh crore in 2023; projected ₹24.9 lakh crore by 2030)—seeks under SPMEPCI to:

1. Attract global OEMs (e.g., Tesla, VinFast) to establish or expand EV manufacturing in India.
2. Bolster domestic supply chains via mandatory Domestic Value Addition (DVA).
3. Accelerate EV adoption, reduce carbon emissions, and curb oil imports.

Key Incentives and Conditions

Feature	Details
Customs-Duty Concession	15% on imported e-4W CBUs (vs. 70–100% standard duty) for five years from approval date.
Minimum CIF Value	≥ US $ 35,000 per CBU.
Annual Import Cap	8,000 units per year; unused quota can be carried forward.

Total Duty-Benefit Cap	Lower of ₹ 6,484 crore or committed investment amount.
Minimum Investment	₹ 4,150 crore (~US $ 500 million) within three years in plant, machinery, R&D, utilities, buildings (≤ 10%) and charging infra (≤ 5%).
Bank Guarantee	Equivalent to higher of ₹ 4,150 crore or total duty benefit; valid throughout scheme tenure as financial assurance.
Eligible Project Types	Greenfield or brownfield (brownfield upgrades must be physically demarcated).
Scheme Tenure	Five years from Application-Approval Date, extendable by two years upon review.
Notification & Guidelines	Notified 15 March 2024; detailed guidelines issued via S.O. 2450(E) on 2 June 2025.
Application Portal	Open from 24 June 2025 to 21 October 2025 at spmepci.heavyindustries.gov.in.

Progressive Domestic Value-Addition (DVA)

Milestone	Requirement	Verification
Within 3 years	≥ 25% local sourcing	MHI-approved agencies
Within 5 years	≥ 50% local sourcing	MHI-approved agencies

Failure to meet DVA milestones triggers pro-rata clawback of duty benefits via bank-guarantee enforcement.

Eligibility Criteria

Applicants must demonstrate:

1. Global group revenue from automotive manufacturing ≥ ₹ 10,000 crore.
2. Global investment in fixed assets ≥ ₹ 3,000 crore.
3. Technical capability and track record in EV or ICE manufacturing.
4. Exclusion: Companies from land-border sharing countries under existing restrictions.

Application Process and Timeline

1. **Guidelines Notification**: 2 June 2025 (S.O. 2450(E)) by MHI and Department of Revenue.
2. **Portal Launch**: 24 June 2025 at 10:30 a.m.; closes 21 October 2025 at 6 p.m.
3. **Application Processing**: Handled by a Project Management Agency (PMA) providing secretarial and implementation support.
4. **Approval Decisions**: Expected by Q1 2026.
5. **Manufacturing Commencement**: Target by Q3 2026.

Compliance, Oversight, and Safeguards

- **Monitoring**: PMA and MHI track investment deployment, import volumes, local procurement, production output, and DVA metrics.
- **Reporting**: Regular submission of import, procurement and manufacturing data.
- **Penalties**: Duty recovery, de-empanelment, and forfeiture of bank guarantees for non-compliance.

Strategic and Socioeconomic Impact

1. **Global EV Hub**: Positions India as a premier manufacturing destination leveraging low labor costs and a large domestic market.
2. **Technology Transfer**: Access to cutting-edge EV technologies through CBU imports and collaborative R&D.
3. **Employment Generation**: High-skill jobs across manufacturing, R&D, and ancillary industries.
4. **Sustainability Goals**: Contributes to India's Net Zero 2070 and Paris Agreement targets by promoting clean mobility.

Complementary EV Policies

- **FAME India Phase II & III**: Demand-side incentives for EV adoption.
- **PLI-Auto Scheme**: Production-Linked Incentives for advanced auto components.
- **PTS Charging-Infra Scheme**: Support for public EV charging infrastructure.

Mnemonic: ELECTRIC

E—Enable global OEMs

L—Levy concessional duties

E—Ensure DVA milestones

C—Commit large investments

T—Timeline for rapid rollout

R—Robust compliance & oversight

I—Integrate complementary policies

C—Catalyze India's EV hub

9. India's Population Census 2027:

Main Takeaway

India will conduct its next population census by March 1, 2027, after a historic 16-year gap, as announced by the Union Ministry of Home Affairs. This will be India's first digital census and the first post-Independence census to include caste enumeration. The census holds major political, legal, and administrative significance, especially in the context of delimitation and women's reservation.

Timeline and Phases

- **Start Date:** April 1, 2026
- **End Date:** February 28, 2027
- **Reference Dates:**
    - March 1, 2027 (for most of India)
    - October 1, 2026 (for snowbound areas of Ladakh, J&K, Himachal Pradesh, and Uttarakhand)
- **Phases:**
    - House Listing and Housing Census
    - Population Enumeration (including caste data)
- **Official Notification:** Gazette Notification No. S.O. 2681(E), issued on June 16, 2025

Legal Framework and Governance

- Census to be conducted under The Census Act, 1948 and The Census Rules, 1990
- Authority derived from Section 3 of the Census Act

- Administered by the Office of the Registrar General and Census Commissioner of India, under the Ministry of Home Affairs

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Historical and Political Context

- Previous census conducted in 2011 (first phase in 2010)
- 2021 census delayed due to COVID-19 pandemic and administrative concerns
- First census under the Narendra Modi-led NDA government (in office since 2014)
- Delimitation has been frozen since the 42nd Constitutional Amendment (1976) and extended by the 84th Amendment (2002) until after the first census post-2026

Methodology and Enumeration Process

- **Two-stage operation:**
    1. **House Listing and Housing Census** — collects data on building type, rooms, electricity, sanitation, water, internet, vehicles, and cereal consumption
    2. **Population Enumeration** — records personal-level data: name, age, sex, education, caste, occupation, migration, disability, and internet use
- **Human Resources:**
    - ~3.4 million enumerators and supervisors
    - ~130,000 census functionaries
- **Enumeration Tools:**
    - Face-to-face interviews
    - Mobile applications
    - Online self-enumeration
    - Coverage includes homeless individuals

Digital Census and Technology Use

- First fully digital census
- Enumerators equipped with smartphones loaded with census apps
- Advanced features include:
    - GPS and geofencing
    - Real-time alerts for data inconsistencies
    - Dropdown-based standardization for caste, occupation, etc.
    - Cloud-based uploads to secure servers
- **Census Management and Monitoring System (CMMS):**
    - Centralized system for live supervision, error resolution, and data validation

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Self-Enumeration and NPR Portal

- Self-enumeration via https://se.npr.gov.in/npr/
- Three verification methods:
    1. Mobile number + Aadhaar
    2. Mobile number + Name + Date of Birth
    3. Head of Household + Member details (DOB, relation, location)
- OTP-based authentication
- Once verified, households can submit their information directly online

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Questionnaire Enhancements

House Listing (34 fields):

- Internet availability
- Type/source of drinking water
- Cooking fuel (LPG, piped gas)
- Mobile/smartphone ownership
- Vehicle ownership (2W/4W)
- Household cereal consumption
- Contact number

Population Enumeration (28 fields):

- Name, age, sex, religion, caste/tribe
- Marital status, education, occupation
- Disability and transgender status
- Smartphone/internet use
- Migration history, including climate-induced displacement

Caste Enumeration

- First time since Independence that comprehensive caste enumeration will occur
- Covers all castes, not just SCs/STs
- May influence:
    - Welfare program design
    - Political representation
    - Socioeconomic policy development

Delimitation and Political Impact

- Delimitation to begin after release of final data in late 2027
- Mandated under Articles 81 and 82 of the Constitution

Delimitation Commission Composition:

- Retired Supreme Court Judge (Chairperson)
- Chief Election Commissioner
- State Election Commissioners
- Associate members: MPs/MLAs (non-voting)

Political Stakes:

- Implementation of Women's Reservation Act (2023) — 33% reservation post-delimitation
- Current 543 Lok Sabha seats based on 1971 Census
- Increasing seats beyond 550 requires Constitutional Amendment

Southern States' Concern:

- May lose relative representation due to successful population control

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NPR and NRIC Context

- No official update on National Population Register (NPR)
- NPR is the first step to National Register of Indian Citizens (NRIC/NRC) under Citizenship Rules, 2003
- Previous NPR work linked with 2010 and 2015 census infrastructure

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Governance and Policy Relevance

- **Use Cases of Census Data:**

  - Electoral boundary redrawing
  - SC/ST and women's reservation
  - Resource and grant allocation
  - Infrastructure planning (roads, schools, hospitals)
  - Academic research and public policy
  - Urban planning and migration tracking
- **Key Ministries Utilizing Data:**
  - Rural Development
  - Health and Family Welfare
  - Education
  - Social Justice and Empowerment

Technological Advances and Global Comparisons

- India joins global leaders in tech-enabled census exercises (e.g., US, UK, Japan)
- Mobile data entry and cloud computation reduce cost and error
- Enumeration app prompts automatic correction of improbable values (e.g., unrealistic age/household size)
- CMMS enables live monitoring across millions of data points

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Data Dissemination Schedule

- **Provisional data:** within 10 days of enumeration conclusion
- **Final census results:** expected within 6 months (by Q3 2027)

Mnemonic: COUNT

Caste Enumeration

Online Self-Entry

Updated Digital Platform

National Legal Framework

Two-Phase Methodology

10. Uttar Pradesh Allocates ₹70 Crore for Urban Mini-Forests to Combat Heat: Comprehensive Analysis

Main Takeaway

Uttar Pradesh has launched a groundbreaking initiative allocating ₹70 crore under the Upvan Scheme to create mini-forests across 17 municipal corporations using the innovative Miyawaki technique. This comprehensive program represents the state's first dedicated budget for urban cooling and aims to reduce the urban heat island (UHI) effect while enhancing biodiversity, air quality, and climate resilience in key cities including Lucknow, Kanpur, and Prayagraj.

Understanding the Urban Heat Island Effect

a) Scientific Foundation

The UHI effect describes how urban areas, due to concrete surfaces, lack of vegetation, and anthropogenic heat emissions, become significantly warmer than surrounding rural zones. Research by Dr. APJ Abdul Kalam Technical University revealed that areas with low vegetation recorded temperatures 4–5°C higher than green zones. A study tracking Land Surface Temperature (LST) in Lucknow from 2014 to 2019 showed a rise of 2°C in built-up zones.

b) UHI Impact in Uttar Pradesh

A study by the UPSDMA (2024) evaluated 42 years of data across all 75 districts. It found that urbanization has intensified UHI effects, endangering public health and requiring policy intervention.

Key findings include:

- Yellow alert (36.7°C–40.58°C), orange (39.09°C–43.30°C), red (41.48°C–45.34°C)
- Lucknow ranked 6th among India's 20 hottest cities (2003–2020)

- Urbanization caused up to 60% more warming in UP cities

The Upvan Scheme: Key Components

a) Financial Allocation and Coverage

₹70 crore allocated for FY 2025–26. Each of the 17 municipal corporations may receive up to ₹3 crore to develop green zones using the Miyawaki method, with a minimum 2,000 sq. meter area per site.

b) Implementation Strategy

Technology-backed planning with:

- GIS mapping for hotspot identification
- Thermal imaging for surface temp profiling
- Expert partnerships with research institutes and environmental NGOs

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The Miyawaki Technique: Revolutionary Urban Forestry

a) Technical Specifications

A method pioneered by Akira Miyawaki that involves dense planting of native trees to mimic natural forests.

- Growth: 10x faster than traditional methods
- Density: 30x higher
- Sustainability: Self-sustaining in 2–3 years
- Area: Works on plots as small as 600 sq. ft

b) Ecological Benefits

- 4–7°C reduction in ambient temps
- Particulate matter and CO_2 levels drop

- Biodiversity improved (native flora/fauna thrive)
- Better carbon sequestration vs. traditional forests

Successful Implementation Examples

a) Prayagraj: Mahakumbh Preparation

Over 55,800 sq. meters of forest created:

- Naini Industrial Area: 1.2 lakh trees, 63 species
- Baswar Waste Site: 27,000 trees across 27 species
- Benefits: foul odor eliminated, air purified

b) Species Diversity and Selection

- Fruit: Mango, mahua, amla, ber
- Medicinal: Neem, tulsi, brahmi
- Ornamental: Hibiscus, gulmohar, kadamba
- Timber: Teak, sheesham, mahogany

Supporting Green Infrastructure Initiatives

a) Nagar Vatika and Nandan Van

- 351 parks in 14 cities
- 722 hectares total
- Area range: 1–50 hectares
- ₹4 lakh per hectare (100% central funding)
- Amenities: yoga, trekking, birding, photography

b) Broader Plantation Programs

- Vriksharopan Maha Abhiyan 2025: 35 crore saplings
- Sapling stock: 52.43 crore in 1,901 nurseries
- Departments: Forest (12.6 crore), Others (22.4 crore)
- Theme: "Ek Ped Maa Ke Naam"

Urban Cooling Policy Development

- Partners: AKTU, NRDC, UPNEDA
- Key strategies: cool roofs, green zones, energy-efficient building codes, and real-time monitoring
- Timeline: 10-year phased implementation for cool roof targets

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Complementary Sustainability Initiatives

a) Rooftop Solar Program

- 1 lakh rooftops already powered
- 2027 target: 8 lakh installations
- 11,000 monthly, 500 daily
- Vendor pool: 2,500 empanelled; 1,800 trained

b) Plastic Waste Roads

- 1,500 km planned; 813 km completed
- 2,000 tonnes plastic reused
- Process: mixed with bitumen at 110–120°C

Technology and Innovation

- GIS and thermal imaging for planning
- Real-time dashboards
- NGO partner: Grow Billion Trees
- Public CSR and educational outreach

Scientific Validation

a) AKTU Studies

- 2–4°C temp drop in Miyawaki forests
- CO_2 levels lowered; energy savings of 15–20%

b) UPSDMA Report

- Analysis over 42 years
- Created percentile-based alert system: yellow, orange, red

Historical Achievement and Green Cover

- 240+ crore saplings since 2017
- 5 lakh acres added
- Forest cover rose by 2,023 sq. km
- ISFR 2023: 559.19 sq. km increase (second highest nationally)
- Sapling survival rate: 86.67%

Economic and Social Impact

- Energy cost savings due to cooling
- Jobs: forestry, GIS, maintenance, nurseries, consulting

- Public health: fewer heat illnesses
- Real estate: increased property value near green zones

Challenges

- Space constraints in dense cities
- High maintenance demand
- Long-term budget sustainability
- Skilling and training for urban forest management

Future Expansion

- Extend to more urban areas
- Budget expansion
- Climate zone customization
- Develop training and SOP manuals for replication

National Climate Integration

- Paris targets: Supports net carbon sink goals
- SDG links: urban resilience, biodiversity, clean air
- UNFCCC compliance: enhances mitigation and adaptation efforts

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Long-term Vision

- Target: 20% green cover by 2030 (up from 9.96%)
- Forest Department reform: staffing, training, R&D

- Policy convergence: energy, climate, and urban affairs

Mnemonic FOREST Future

Oriented

Resource

Efficient

Sustainable

Temperature

11. CHENAB BRIDGE – World's Highest Railway Arch Bridge:

Main Takeaway

The Chenab Bridge, inaugurated by Prime Minister Narendra Modi on June 6, 2025, stands as the world's highest railway arch bridge at 359 meters above the Chenab River—35 meters taller than the Eiffel Tower. Constructed over 22 years at a cost of ₹1,486 crore, this feat of engineering completes a critical link in the 272-km Udhampur–Srinagar–Baramulla Rail Link (USBRL), connecting Kashmir to India's rail network for the first time in history.

Physical Specifications and Global Records

Feature	Details
Total Height	359 meters above riverbed (taller than Eiffel Tower)
Arch Span	467 meters (longest for any railway arch bridge in the world)
Total Length	1,315 meters
Deck Width	13.5 meters (suitable for double-track operations)
Records Held	- Tallest railway arch bridge globally - 16th-highest bridge overall - 11th-longest arch bridge globally - Longest span on India's broad-gauge network

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Construction Timeline

Year	Milestone
1983	Foundation stone for Jammu-Baramulla project
1997	USBRL project foundation laid by PM H.D. Deve Gowda
2003	Chenab Bridge approved
2008	Construction halted over safety concerns

2010	Construction resumed with improved designs
2017	Main steel arch erection began
April 2021	Arch closure – both ends met
August 2022	Bridge structure completed
June 2024	Trial electric train run completed
June 6, 2025	Official inauguration by PM Narendra Modi

Construction & Terrain Challenges

Category	Details
Initial Access	Materials transported by mules/horses; no roads existed
Infrastructure Built	26 km approach roads, 11 km road (north), 12 km road (south), 400 m tunnel
Geology	Zone-V seismic zone; terrain made of dolomite, quartzite, limestone, shale
Methodology	Real-time "design-as-you-go" due to unpredictable geological conditions

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Engineering Excellence and Design Innovation

Specification	Details
Steel Used	28,660 metric tonnes (weather-resistant copper-bearing E250, E410 grades)
Concrete Used	66,000 cubic meters (self-compacting)
Welding	584 km of joints welded (equal to Jammu–Delhi distance)
Crane System	World's largest cable crane; 127-meter pylons taller than Qutub Minar
Construction Method	Cantilever technique; arch built from both ends simultaneously with 0-error
Technology	Tekla 3D modelling, real-time GPS monitoring, geofencing

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Safety and Structural Resilience

Safety Feature	Capability
Earthquake Resistance	Up to magnitude 8.0
Wind Resistance	Up to 266 km/h
Blast Resistance	Resilient against 40 kg TNT blast
Temperature Range	Operational from -20°C to +40°C
Redundancy	Trains can operate at 30 km/h even if a pier is damaged
Lifespan	Design life of 120 years
Monitoring	Over 100 sensors for real-time seismic, thermal, and structural stress data

USBRL Project: Backbone of Himalayan Rail

Parameter	Details
Project Cost	₹43,780 crore
Length	272 km
Tunnels	36 (119 km total)
Bridges	943 (13 km total)
Electrification	Fully electrified, Kavach-enabled (anti-collision)
Longest Tunnel	T-49 (12.75 km) – India's longest transport tunnel
Phase-wise Completion	Qazigund–Baramulla (2009), Banihal–Qazigund (2013), Udhampur–Katra (2014), Banihal–Sangaldan (2024), Katra–Sangaldan (2025)

Institutional Collaboration

Role	Organization
Client	Northern Railway
Executing Agency	Konkan Railway Corporation Ltd
Main Contractor	Ultra-Afcons-VSL Joint Venture
Arch Design	Leonhardt, Andrä & Partner (Germany)

Viaduct/Foundation	WSP (Finland)
Seismic/Blast Study	IIT Delhi, IIT Roorkee, DRDO
Geological Reports	Geological Survey of India
Proof Check	URS (UK), COWI (UK)

Anji Bridge – India's First Cable-Stayed Rail Bridge

Feature	**Details**
Total Length	725.5 meters
Span	473 meters over Anji River
Pylon Height	331 meters
Cables	96 (82–295 m range)
Special Features	Asymmetrical single-pylon design; connects Tunnel 2 & 3

Strategic and Security Significance

- Direct connection to Northern Command HQ at Udhampur
- Enables year-round movement of military personnel and logistics
- Serves as alternative route to Ladakh, reducing road dependency
- Chinese and Pakistani intelligence agencies have tracked progress, indicating geopolitical importance

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Economic & Social Impact

Sector	**Impact**
Tourism	Travel time Katra–Srinagar reduced to 3 hours via Vande Bharat
Agriculture	Apple/walnut/saffron farmers expect 20–30% better prices; faster access to Mumbai, Delhi
Employment	Over 2,200 jobs created during construction

Village Connectivity	70+ villages connected; 2,000 km of access roads constructed

Vande Bharat Express for Kashmir

Parameter	Details
Train Nos.	26401/02 & 26403/04
Route	Srinagar–Banihal–Katra–Srinagar
Distance	191 km
Travel Time	2 hours 58 minutes
Features	Heated windshield, heated water tanks, operational at -20°C

Environment & Sustainability

- Constructed without obstructing Chenab River flow
- Use of weather-resistant steel = less maintenance
- Design ensured minimal wildlife disturbance
- Rail transport reduces road emissions & hill erosion

Global Significance and Innovations

- No prior Indian codes existed; adhered to global engineering benchmarks
- "Design-as-you-go" model used to adapt to Himalayan geology
- Higher than Eiffel Tower, more complex than most arch bridges globally

Future Implications

- Boost to tourism and economic integration of Kashmir
- Knowledge transfer for future high-altitude projects

- Expands India's strategic depth in border infrastructure

Cultural and Symbolic Relevance

- First time since Independence: Kashmir linked by rail
- A symbol of national unity, cultural exchange, and engineering power
- Represents realization of century-old dream to integrate Kashmir fully

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Mnemonic – CHENAB BRIDGE

C – Connecting Kashmir to India
H – Highest railway arch globally
E – Engineering marvel in seismic terrain
N – National security & logistics booster
A – Agricultural market access
B – Bridging terrain with tunnels & viaducts
B – Boost to Vande Bharat rail operations
R – Remote village infrastructure developed
I – International recognition & design
D – Design-as-you-go innovation
G – Green construction & ecology respected
E – Economic integration & emotional unity

12. UMEED Portal – Unified Waqf Management, Empowerment, Efficiency & Development

Main Takeaway

On 6 June 2025, the Ministry of Minority Affairs launched the UMEED Portal—a centralized, tech-enabled platform to digitally register and manage all Waqf properties in India. Mandated under the Waqf (Amendment) Act, 2025, the portal introduces a 6-month time-bound registration, automatic "dispute" flags, geospatial mapping, and online grievance mechanisms.

The portal aims to integrate over 200,000 unregulated or "lost" Waqf properties into the formal system, improving transparency, empowering beneficiaries (especially women, children, and EWS), and reducing long-pending Waqf litigations.

Historical Background & Legal Framework

Evolution of Waqf Legislation

Legislation	Key Features
Mussalman Waqf Act, 1923	First attempt under British rule to codify Waqf law
Waqf Act, 1954	Introduced Central Waqf Council and State Boards
Waqf Act, 1995	Comprehensive Act consolidating previous laws - Empowered Boards - Excluded Limitation Act - Recognised "waqf by user"
Waqf (Amendment) Act, 2013	- Abolished "waqf by user" - Increased audits - Enhanced Board power and women representation

Waqf (Amendment) Act, 2025 – The UMEED Mandate

- Mandatory digital registration of all Waqf properties within 6 months

- Unregistered properties flagged "disputed" → auto-referred to Waqf Tribunal
- Appellate powers to High Courts (within 90 days)
- Expanded State Waqf Board composition: now includes women and non-Muslims
- Provides legal sanction to the UMEED Portal for national integration of Waqf governance

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UMEED Portal Objectives & Governance

Portal Objectives

Objective	Description
Transparency	Public dashboards show geotagged, verified Waqf assets
Time-Bound Registration	Mandatory window: 6 June–5 December 2025 (extendable by 1–2 months)
Dispute Mechanism	Auto-referral to Tribunal for non-registered or partially registered properties
Data-Driven Policy	GIS-based mapping helps drive analytics-backed planning
Empowerment	Beneficiaries can access rights and track grievances digitally

Governance Structure

Entity	Function
Ministry of Minority Affairs	Nodal Ministry for overall implementation, rule-making
State Waqf Boards	Run Maker–Checker–Approver registration chain at district/state levels
Waqf Tribunal	Hears disputes, issues rulings; orders are appealable to High Courts

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Portal Key Features

Feature	Details

Registration	6-month window; 17-digit Waqf ID; GIS coordinates and title deed uploads
Eligibility Rule	Property held in a woman's name cannot be declared Waqf
Auto Dispute Flag	Unregistered/partial entries flagged "disputed"; sent to Tribunal
Public Access	Property-level viewing via map + filters; private data access restricted
Support System	Toll-free helpline, legal guides, multilingual FAQs, in-portal chatbot
Grievance Redressal	Ticket system for portal issues, Tribunal queries, and beneficiary concerns

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Registration Workflow (Maker–Checker–Approver)

Step	Description
Login & Verification	Mutawalli logs in; mobile/email + Aadhar OTP for security
Data Entry	Upload of title deeds, resolutions, NOCs; geo-coordinates entered
Verification (Checker)	District Officer checks accuracy and validity of uploads
Approval (Approver)	Board CEO or authorised officer issues 17-digit ID and confirmation letter
Publication	Property appears on public dashboard; full file available to Board users

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Extensions, Non-Compliance & Tribunal Role

Provision	Details
Extension	1–2 month extension may be granted for genuine administrative hurdles
Non-Compliance	Unregistered post-deadline = "disputed" status → referred to Tribunal
Tribunal Powers	May issue injunctions, demolitions, or restitution
Appeal Mechanism	Orders appealable in High Court within 90 days under the 2025 Act

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Beneficiary Rights, Safeguards & Outreach

Provision	Explanation

Digital Rights Section	Portal shows beneficiaries their rights, duties, entitlements
Women & EWS Safeguards	Though women-held land can't become Waqf, they remain top-priority beneficiaries
Awareness Tools	Video guides in Hindi, Urdu, Tamil, Bengali, and Marathi; offline print kits

Analytics, Data Tools & Reporting

Tool	Purpose
National/State Dashboards	Live statistics: total registrations, dispute status, geo-mapping
Data Export	GIS shapefiles + CSV downloads for planners and academics
Quarterly Reports	Registration trends, legal outcomes, Board performance metrics

Expected Impact & Strategic Value

Area	Impact
Coverage	Expected to integrate > 2 lakh Waqf properties into formal system
Revenue Generation	Efficient collection of rents, leases, and endowment income
Legal Clarity	Reduced litigation; public title records strengthen defence in court
Trust & Transparency	Increases legitimacy of Waqf administration and public confidence

Legal Scrutiny & Constitutional Questions

Case	Issue Raised
SC Petitions (2025)	Alleged discrimination (Art. 15) in waqf by user ban; composition of Board; collector's inquiry power
Delhi HC PIL (2025)	PIL against non-Muslim exclusion from Waqf law; legislative competence under Concurrent List challenged
Court Observations	Presumption of Constitutionality reaffirmed; interim orders pending

Mnemonic – U.M.E.E.D.

U – **Unified** digital registration of all Waqf assets across India

M – **Mandatory** 6-month compliance window with legal backing

E – **Empowered** Tribunal referrals via auto-dispute flagging

E – **Enhanced** transparency through public maps and dashboards

D – **Data-driven** governance and digital grievance redressal for all beneficiaries

13. AXIOM MISSION 4 (Ax-4): India's Entry into the International Space League

Main Takeaway

Axiom Mission 4 (Ax-4) is the fourth private astronaut mission to the International Space Station (ISS). It launched on June 25, 2025, via a SpaceX Crew Dragon spacecraft and is a monumental milestone for India: Group Captain Shubhanshu Shukla, selected by ISRO, became the first Indian astronaut to reach the ISS and the second Indian in space since Rakesh Sharma (1984).

This mission pioneers India's integration into the global human spaceflight ecosystem ahead of its own **Gaganyaan mission**, while advancing microgravity research, commercial spaceflight, and international cooperation.

Mission Profile

Parameter	Detail
Mission Name	Axiom Mission 4 (Ax-4)
Launch Date & Time	June 25, 2025 at 2:31 a.m. EDT (12:01 p.m. IST)
Launch Vehicle	SpaceX Falcon 9 Block 5
Spacecraft	Crew Dragon "Grace" (C213)
Launch Site	Launch Complex 39A, Kennedy Space Center, Florida
Docking Time	June 26, ~7:00 a.m. EDT
Mission Duration	14 days aboard the ISS
Return	July 14, 2025 (approx. 7:05 a.m. EDT / 4:35 p.m. IST)

Crew Composition

Prime Crew

Name	Role	Nationality / Affiliation

Peggy Whitson	Commander	USA (Axiom Space); veteran NASA astronaut
Shubhanshu Shukla	Pilot	IN India (ISRO); first Indian on ISS
Sławosz Uznański-Wiśniewski	Mission Specialist	PL Poland (ESA); 2nd Polish astronaut
Tibor Kapu	Mission Specialist	HU Hungary; 2nd Hungarian in space

Backup Crew

- Commander: Michael López-Alegría (USA)
- Pilot: Prasanth Balakrishnan Nair (India)
- Specialist: Gyula Cserényi (Hungary Space Office)

Mission Objectives & Activities

a) Commercial Space Initiatives

- Promote commercial low-Earth orbit (LEO) activities: tourism, research, tech demos
- Build viability for future private space stations (Axiom's long-term goal)

b) International Collaboration

- Features astronauts from India, Poland, Hungary, and the USA
- Aligned with Artemis Accords – India joined in 2023
- Enhances ISRO–NASA collaboration and multilateral diplomacy

c) Scientific Research Domains

Field	Objective
Human Physiology	Joint health monitoring, bone density, effects of microgravity
Biotech & Medicine	Tumour organoids (Cancer in LEO-3), insulin stability for diabetic astronauts

Material Sciences	Testing material behavior in space
Life Sciences	Cell growth and adaptation in low gravity
Earth Observation	High-resolution environmental data collection
STEM Outreach	HAM radio student sessions to inspire global youth

Total Experiments Conducted: ~60 → Most science-intensive Axiom mission yet

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Key Experiments & Collaborations

Experiment	Lead / Partner	Purpose
Cancer in LEO-3	Sanford Stem Cell Institute	Study tumor behavior in microgravity
Ultrasound Joint Health	National Jewish Health	Pre/post-flight assessments for joint resilience
ISS HAM Radio Outreach	NASA, Axiom, ARISS	Educate and engage students worldwide
Insulin & Diabetes Microgravity Feasibility	Burjeel Holdings (UAE)	Make short-term flight possible for insulin-dependent astronauts
Microalgae Tech	Brazil/UAE/Nigeria joint team	Food/oxygen generation in space

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Significance for India

Aspect	Impact
National Achievement	First Indian on ISS; second Indian in space history
Gaganyaan Training	Builds experience for India's crewed Gaganyaan mission (post-2025)
Global Credibility	Enhances ISRO's image in human spaceflight and astronaut management
Tech Transfer	Informs India's autonomous docking & ISS-type habitat development (SpaDeX)
Youth Inspiration	Motivates future Indian scientists and space enthusiasts

The International Space Station (ISS): Quick Facts

Parameter	Details
Altitude	~400 km above Earth
Structure	Modular space lab; 2 main segments (Russian & US/International)
Power	8 solar arrays; ~160 kW generation capacity
Speed	7.66 km/sec; orbits Earth every 93 minutes (~15.5 times/day)
Crew Capacity	~7 astronauts onboard at any given time
Partners	NASA (USA), Roscosmos (Russia), ESA (Europe), JAXA (Japan), CSA (Canada)
Established	1998; continuously inhabited since 2000
End of Service	Likely 2030 → to be replaced by private stations like Axiom's

Historic Milestones by Country

Country	Astronaut	Last National Mission	Historic Milestone via Ax-4
India	Shubhanshu Shukla	Rakesh Sharma (1984, Soyuz–USSR)	1st Indian on ISS; 2nd Indian in space
Poland	Sławosz Uznański-Wiśniewski	Mirosław Hermaszewski (1978)	2nd Polish in space; 1st on ISS
Hungary	Tibor Kapu	Bertalan Farkas (1980)	2nd Hungarian in space; 1st on ISS

Participating Countries in Research (Ax-4)

India

Poland (ESA collaboration)

Hungary

USA

Saudi Arabia

Brazil

Nigeria

United Arab Emirates

Several European nations (via ESA)

Future Prospects

- Axiom Space's Commercial Station: Ax-4 advances their goal to detach modules from ISS and form an independent commercial station by 2030
- India's Space Station Vision: ISS experience will support India's own station project (target 2035)
- Expanded Global Access: Paves way for equitable astronaut participation from non-traditional space nations

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Timeline of Events

Event	Date & Time (ET)	Details
Crew Reveal	June 3, 2025 – 9:00 a.m.	Introduction of Ax-4's multinational crew
Crew Countdown	June 25, 2025 – 12:30 a.m.	Final briefing and pre-launch interviews
Launch	June 25, 2025 – 2:31 a.m.	Launch from Kennedy Space Center
ISS Docking	June 26, 2025 – ~7:00 a.m.	Crew Dragon docked to the International Space Station
ISS Stay	~14 days	Experiments, tech demos, STEM outreach
Return & Splashdown	July 14, 2025 – 7:05 a.m. EDT	Returned safely to Earth in Crew Dragon capsule

Mnemonic – A.X.I.O.M. 4

A – Astronaut training & access to the ISS

X – eXperiments in medicine, biology, and tech

I – International cooperation with new partners

O – Orbital operations by private firms like Axiom Space

M – Milestone for India's Gaganyaan and beyond

4 – Fourth private mission; Four nations make historic firsts (India, Poland, Hungary, UAE)

14. Anderson–Tendulkar Trophy & Governing Bodies of Cricket – ECB & BCCI

Main Takeaway

Starting 2025, all England–India Test series—regardless of venue—will be played for the Anderson–Tendulkar Trophy, unifying the Anthony de Mello Trophy (India-hosted) and Pataudi Trophy (England-hosted). The new title honors Sachin Tendulkar (15,921 Test runs) and James Anderson (704 Test wickets), reflecting their legendary status. The move also aligns with global cricketing trends where bilateral series are increasingly being named after greats of the game.

Origins of the Bilateral Silverware

a) Anthony de Mello Trophy (1951–2024)

- Introduced by BCCI in 1951 in honor of Anthony de Mello (BCCI's first Secretary)
- Played when England tours India

Stat	Details
First Series	1951–52 (Drawn 1–1, 3 drawn)
Total Series	15
India Won	9
England Won	3
Drawn Series	3
Most Runs	Sunil Gavaskar – 1,331
Most Wickets	Ravichandran Ashwin – 74

Pataudi Trophy (2007–2024)

- Instituted by MCC & ECB in 2007 to mark 75 years since India's first England tour (1932)
- Named after Iftikhar Ali Khan and Mansoor Ali Khan "Tiger" Pataudi

Stat	Details
First Series	2007 (India won 1–0)
Total Series	5
England Won	3
India Won	1
Drawn Series	1 (England retained)
Most Runs	Joe Root – 1,401
Most Wickets	James Anderson – 100

Renaming to Anderson–Tendulkar Trophy (2025–)

a) Announcement & Format

Event	Details
Announced by	ECB & BCCI on June 6, 2025 ahead of WTC Final at Lord's
Unveiling	June 19, 2025, in Leeds by Sachin Tendulkar & James Anderson
Unified Format	Single trophy for all India–England Tests, irrespective of venue
Legacy Retention	Pataudi Medal of Excellence awarded to winning captain (at Tendulkar's request)

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b) Legend Profiles

Player	Sachin Tendulkar	James Anderson
Title	"The Master Blaster"	"Spearhead of Swing"
Test Career	1989–2013 (200 Tests)	2003–2024 (188 Tests)
Runs/Wickets	15,921 (most ever)	704 (most by any pacer)
Notable Records	51 Test centuries, avg 53.78	32 5-wicket hauls, best 7/42 & 11/71

Full Series Record – By Trophy

Anthony de Mello Trophy (India-hosted)

Series	Season	Tests	Winner	Margin	Holder

1	1951–52	5	Drawn	1–1 (3 drawn)	Both[1]
2	1961–62	5	India	2–0	India
3	1963–64	5	Drawn	0–0	India
...	...	...	...	...	...
13	2016–17	5	India	4–0	India
14	2020–21	4	India	3–1	India
15	2023–24	5	India	4–1	India

[1]Joint retention due to series draw

Pataudi Trophy (England-hosted)

Series	Season	Tests	Winner	Margin	Holder
1	2007	3	India	1–0	India
2	2011	4	England	4–0	England
3	2014	5	England	3–1	England
4	2018	5	England	4–1	England
5	2021	5	Drawn	2–2	England[1]

[1]England retained due to draw

Anderson–Tendulkar Trophy (2025–)

First Edition	India's Tour of England (June 20–Aug 4, 2025)
New Rule	Winner must claim series; draw = holder retains trophy

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Test Series Renaming – A Global Trend

Trophy Name	Contesting Nations
Border–Gavaskar Trophy	India–Australia
Warne–Muralitharan Trophy	Australia–Sri Lanka
Crowe–Thorpe Trophy	England–New Zealand (from 2024)
Anderson–Tendulkar Trophy	India–England (from 2025)

Governing Bodies of Cricket – ECB & BCCI: Milestones

ECB – England and Wales Cricket Board

Year	Milestone
1996	TCCB + National Cricket Association + Cricket Council merged into ECB
1 Jan 1997	ECB formally constituted
Apr 1998	Women's Cricket Association merged – unified governance
2003	ECB launched **domestic T20** – format revolution
2016	Introduced **The Hundred** – new 100-ball format
Feb 2023	Richard Gould became CEO; Richard Thompson appointed Chairman
2017 & 2019	Women's & Men's WC wins at Lord's
2020	Launched "Inspiring Generations" 5-year strategy

IN BCCI – Board of Control for Cricket in India

Year	Milestone
10 Dec 1927	Provisional board formed at Bombay Gymkhana
1 Dec 1928	Official incorporation under Madras Act; R.E. Grant Govan first president
1932	India's Test debut at Lord's vs England
1934	Launch of Ranji Trophy
1975	Re-registration under Tamil Nadu Societies Act
2008	Inception of IPL – revolution in global cricket commerce
2013	SC-led Lodha reforms mandate governance changes
2016	First CEO appointed – Rahul Johri
2023–24	₹18,700 crore revenue; ₹4,298 crore tax paid

Mnemonic – T.E.N.D.U.L.K.A.R.

T – Trophy unification: Anderson–Tendulkar replaces both De Mello & Pataudi

E – ECB-BCCI partnership reflects modern bilateral diplomacy

N – Naming trend seen in Border–Gavaskar, Warne–Muralitharan

D – Dual legends: Tendulkar (15,921 runs), Anderson (704 wickets)

U – Unified governing history from MCC/TCCB to ECB; BCCI from 1928

L – Legacy medals: Pataudi Medal of Excellence retained

K – Key governance events: IPL launch, The Hundred, WC wins

A – Announcement ahead of WTC Final 2025; unveiled in Leeds

R – Records and revenue: BCCI's ₹18,700 crore; ECB's global T20 lead

15. MSC Irina – The World's Largest Container Ship: A Complete Overview

Main Takeaway

MSC Irina, delivered in March 2023, is currently the world's largest container ship by capacity with a staggering 24,346 TEU (Twenty-Foot Equivalent Units). Built by the Jiangsu Yangzijiang Shipbuilding Group in China, it was designed for enhanced capacity, energy efficiency, and reduced emissions. On June 9, 2025, it docked at Vizhinjam International Seaport in Kerala, marking the first-ever Ultra-Large Container Vessel (ULCV) to visit any Indian port, establishing India as a capable player in global maritime logistics.

Ship Specifications and Performance Records

Parameter	Details
Name	MSC Irina
Vessel Type	Ultra-Large Container Vessel (ULCV)
Operator	Mediterranean Shipping Company S.A. (MSC), Geneva
Built by	Jiangsu Yangzijiang Shipbuilding Group, China
Flag	Liberia
IMO Number	9929429
MMSI	636022601
Length Overall (LOA)	399.9 meters (~1,312 feet)
Beam (Width)	61.3 meters (~201.1 feet)
Deadweight Tonnage	240,000 DWT
Gross Tonnage	236,184 GT

Container Capacity	24,346 TEU (Highest in the world; 150 more than previous record-holder OOCL Spain)
Stacking Capacity	Up to 26 container tiers high
Emission Reduction	3–4% less carbon output vs similar-sized ships
Design Compliance	EEDI Phase III (IMO efficiency norms)

Build Timeline and Class

Stage	Details
Order Date	March 1, 2020
Keel Laid	November 2021
Dock Assembly Began	June 2022
Float-Out	August 10, 2022
Float Test Completed	October 29, 2022
Sea Trials	February 2023
Final Touches	Zhejiang Zhoushan Shipyard
Delivery Date	March 9, 2023
Maiden Voyage Start	April 2023

- Class: First in the Irina-class series (6 ULCVs in total).
- Sister Ship: MSC Tessa (24,116 TEU).
- CMA CGM: Ordered 10 additional Irina-class ships (to be delivered between 2025–2027).

Operator Profile – Mediterranean Shipping Company (MSC)

Attribute	Details
Headquarters	Geneva, Switzerland
Fleet Size	730 ships
Total Capacity	~4.6 million TEU
Trade Routes	260+ global routes
Countries Served	Operations in 155 countries

Annual TEU Handling	Over 23 million TEUs
Offices Worldwide	675 offices

MSC is currently the **world's leading container liner** by capacity.

Maiden Voyage and Port History

Maiden Voyage Route (April–May 2023)

Qingdao (China) → Busan (South Korea) → China → Singapore → Italy → Spain (via Suez Canal) → Saudi Arabia → UAE

Historic Port Call: Vizhinjam International Seaport (India)

Date	**June 9, 2025 (berthing completed by June 10 PM)**
Port Name	Vizhinjam International Seaport
Location	Thiruvananthapuram, Kerala
Developer	Adani Group
Inauguration	May 2, 2025, by Prime Minister Narendra Modi
Water Depth	Natural 18–24 metres – No dredging required
Berthing Features	All-weather, automated, equipped with high-capacity cranes
ULCV Visitors So Far	MSC Türkiye, MSC Michel Cappellini, now MSC Irina
Strategic Position	Just 10 nautical miles from key East–West shipping lanes

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Environmental and Technological Features

Feature	Purpose & Impact
Air Lubrication System	Reduces hull friction → improves fuel efficiency
Bulbous Bow Design	Enhances water flow and reduces drag
Large-Diameter Propellers	Lower RPM for same thrust → fuel savings
Optimized Hull Form	Reduces resistance through water

Shaft Generators	Reduce dependence on diesel auxiliary engines → less fuel usage
Waste-Heat Recovery System	Captures exhaust gases to produce energy
Stacking Height	Up to 26 tiers → High-volume cargo transport in one voyage
Compliance	Fulfills EEDI Phase III international emission efficiency standards

MSC Irina sets new benchmarks in green shipping technology for commercial ULCVs.

Strategic and Economic Significance

For India

- First port visit by a ULCV in Indian maritime history
- Signals India's capability to handle megaships
- Places Vizhinjam as a viable transshipment hub
- Reduces dependency on Colombo, Singapore, and Dubai
- Likely to attract future ULCV traffic from Asia–Europe lines
- Boosts Kerala's economy and enhances national logistics chain

For Global Maritime Trade

- Strengthens India's geopolitical presence in Indian Ocean shipping routes
- Encourages infrastructure upgrades at other Indian ports (e.g., Mundra, JNPT)
- Supports IMO's global carbon reduction agenda
- Makes MSC Irina-class ships the new standard for capacity and sustainability

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Future Outlook

Trend/Forecast	Details
Remaining Irina-Class Ships	5 more to be delivered and deployed by MSC
CMA CGM Expansion	Ordered 10 additional Irina-class ULCVs (2025–27)
MSC Orderbook	Over 134 vessels under construction or order
ULCV Infrastructure	Ports worldwide must deepen berths, install smart cranes, and adopt green dock systems
Sustainability Push	MSC Irina may inspire more EEDI III–compliant ships across fleets

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Mnemonic – I.R.I.N.A.

I – India's First ULCV Berth: Vizhinjam's historic docking on June 9, 2025

R – Record-breaking Capacity: 24,346 TEU – world's highest

I – Innovative Green Tech: Air lubrication, shaft generators, hull design

N – Next-Gen Maritime Shift: Vizhinjam emerges as transshipment alternative

A – Adani Port, Advanced Tech, Asia–Europe Lifeline

16. Iran–Israel War 2025: Operation Rising Lion, Operation Basharat al-Fath & India's Operation Sindhu

Main Takeaway

The 2025 Israel-Iran War, ignited by Israel's Operation *Rising Lion* against Iran's nuclear infrastructure, represents one of the most dangerous escalations in Middle Eastern history. Following an IAEA declaration that Iran violated its nuclear safeguards, Israel and later the United States launched direct military strikes on Iranian nuclear and missile facilities. Iran retaliated with coordinated attacks, including Operation *Basharat al-Fath*, targeting both Israel and U.S. bases in the Gulf. India launched *Operation Sindhu* to evacuate thousands of Indian nationals. The conflict threatens to redraw geopolitical lines in West Asia, destabilize energy markets, and unravel nuclear non-proliferation frameworks.

Historical Background: Iran-Israel Tensions

- **1979 Islamic Revolution (Iran):** Transformed Iran into a theocracy hostile to Israel; ended decades of covert cooperation.
- **Support for Proxies:** Iran backs Hezbollah (Lebanon), Hamas (Gaza), PMF (Iraq), and Houthis (Yemen).
- **Cyber Warfare & Covert Ops:** Israel's Stuxnet cyberattack (2010), assassinations of Iranian scientists.
- **Abraham Accords (2020–2022):** Many Sunni Arab states normalized ties with Israel, aligning strategically against Iran.

Trigger Point: IAEA Report & Nuclear Violations

- **June 2025:** IAEA Board declares Iran non-compliant with the 1974 Safeguards Agreement.
- **Unexplained Uranium Traces:** Found at Lavisan-Shian, Varamin, Turquzabad.
- **Violation of Article XII.C of IAEA Statute:** Seventh such breach; opens door for UN Security Council referral.
- **JCPOA Fallout:** Snapback sanctions clause activated by European signatories.
- **Iran's Reaction:** Threatens to exit NPT, restarts enrichment at underground sites.

Operation Rising Lion (Israel)

Overview:

- **Launch Date:** 13 June 2025
- **Objective:** Destroy nuclear infrastructure and missile facilities; eliminate top IRGC leaders.
- **Name Origin:** Biblical verse (Numbers 23:24) "Behold, the people shall rise up as a great lion"

Targeted Facilities:

Location	Function
Natanz	Pilot Fuel Enrichment Plant (PFEP)
Isfahan	Uranium Conversion Facility (UCF), Fuel Plate Fabrication Plant (FPFP)
Fordow	Deep underground enrichment site
Arak	Heavy-water reactor (plutonium producing)
Tehran	IRGC missile factories and command centers

Casualties & Impact:

- Dozens of nuclear scientists and top IRGC commanders (e.g., Hossein Salami, Fereydoon Abbasi) killed.

- Iranian air defense overwhelmed; critical infrastructure degraded.

IV. U.S. Involvement: Operation Midnight Hammer

- **First Direct U.S. Strike:** Targeted Fordow, Natanz, Isfahan using B-2 bombers with bunker-busting bombs (GBU-57).
- **Shift in Policy:** Contradicts previous promises of non-entanglement.
- **Strategic Impact:** Destroyed sites Israel couldn't reach alone; showed full U.S.-Israel strategic alignment.

V. Iranian Retaliation: Operation Basharat al-Fath

- **Name Meaning:** "Glad Tidings of Victory"
- **Targets:**
    - Israeli cities: Tel Aviv, Haifa, Beersheba (Soroka Hospital struck; 32 injured)
    - U.S. bases: Al Udeid Airbase (Qatar), Ain al-Asad Base (Iraq)

Consequences:

- **14 missiles launched at Al Udeid (Qatar)** – first time Iran targeted a U.S. base in a GCC country.
- **Gulf Response:** Qatar, Bahrain, Kuwait, UAE shut airspace temporarily; rare pan-Gulf solidarity.

Broader Military Outcomes

Region	Outcome
Gaza (Hamas)	Crushed by IDF; hostages remain
Lebanon (Hezbollah)	Leadership disoriented; missile stores destroyed
Syria	Assad regime toppled; Islamist group takes power

Yemen (Houthis)	Naval threat neutralized
Iran	1/3rd of missile launchers destroyed; nuclear delay achieved

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Operation Sindhu: India's Evacuation Mission

Mission Overview:

Parameter	Detail
Launching Agency	Ministry of External Affairs (MEA), Govt. of India
Objective	Evacuate Indians from Iran
Evacuees	~10,000 Indians, incl. 6,000 students
Route	Northern Iran → Yerevan (Armenia) → New Delhi
Support	Indian Embassies in Tehran and Yerevan; 24x7 Control Room in Delhi

Phase 1 Success:

- **110 Indian students** evacuated to Armenia.
- Subsequent phases planned based on ground assessment.

Global & Regional Implications

Global Ramifications:

- **Energy Shock:** Strait of Hormuz disruption spikes oil prices.
- **Nuclear Arms Race:** Iran's NPT exit could embolden Gulf nations.
- **U.S. Strategic Dilemma:** Balancing Israel support vs. regional escalation.

Regional Fallout:

- **Proxy Warfare Surge:** Attacks in Iraq, Syria, Lebanon, Yemen.
- **Diplomacy in Ruins:** JCPOA revival and peace efforts halted.
- **Arab Gulf States:** Quietly back Israel; express concern post Al Udeid attack.

Implications for India

- **Diaspora at Risk:** 8 million Indians in Gulf; emergency preparedness critical.
- **Oil Supply Chain:** 60% of oil passes through Hormuz; price and supply shock likely.
- **Strategic Neutrality:** Balancing relations with both Israel and Iran amid sanctions and conflict.

International Responses

Actor	Response
U.S.	Direct strikes; affirmed "ironclad" support for Israel
EU	Called for de-escalation; JCPOA dialogue paused
UN	Emergency UNSC sessions; limited effectiveness
GCC	Airspace closures; strong diplomatic concern

What Lies Ahead?

- **Next IAEA Report (August 2025):** Will determine Iran's compliance and potential UN action.
- **Post-War Uncertainties:** Internal unrest in Iran; regional rearmament race likely.
- **India's Role:** Must push for de-escalation, maintain evacuation readiness, and hedge oil deals.

Previous Evacuation Missions:

Operation	Region	Year
Vande Bharat	**COVID-19 Global**	**2020**
Devi Shakti	**Afghanistan**	**2021**
Ganga	**Ukraine**	**2022**
Kaveri	**Sudan**	**2023**

Ajay	**Israel**	**2023**
Sindhu	**Iran**	**2025**

Mnemonics to Remember

RISING LION – For Israel's strike

- **R**: Retaliation anticipated
- **I**: IAEA non-compliance
- **S**: Strategic targets hit
- **I**: IRGC leadership decapitated
- **N**: Nuclear sites crippled
- **G**: Global oil prices spike

SINDHU – India's evacuation

- **S**: Students evacuated
- **I**: Indian embassies involved
- **N**: Northern Iran route
- **D**: Diplomatic coordination
- **H**: Helpline & control room
- **U**: Urgency amid airspace closures

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17. U.S.–China Rare Earths Trade Deal:

Main Takeaway

On June 27, 2025, the United States and China finalized a framework agreement allowing the resumption of rare earth elements (REEs) and permanent magnet exports from China to the U.S. In return, the United States agreed to lift certain countermeasures and export restrictions. This landmark agreement came after months of escalating trade tensions and aims to stabilize vital industrial supply chains in electronics, green technology, defense, robotics, and telecommunications.

Understanding Rare Earths

a) What Are Rare Earth Elements (REEs)?

Rare earths are 17 chemically similar elements, critical for high-tech applications:

- Consumer Electronics: Phones, laptops, cameras
- Green Energy: Electric vehicle (EV) motors, wind turbines
- Defense: Radar, avionics, stealth tech, precision missiles
- Robotics & Medical: MRI machines, automated systems

b) China's Dominance in REE Supply

- Controls ~90% of global refining and 60–70% of mining
- In April 2025, China imposed dual-use export controls on 7 heavy REEs, citing national security

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Crisis Timeline: Key Milestones

Date	Event

Apr 2, 2025	China imposes REE export licensing on 7 strategic elements
May 2025	U.S. retaliates with countermeasures on chip design tools, jet engines, and visa threats
May 8, 2025	Geneva Agreement: Both sides reduce maximum tariffs (U.S. to 30%, China to 10%)
Jun 10–11	London talks produce framework agreement pending top-level approval
Jun 27, 2025	Formal deal signed; both sides agree to relax export controls

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Framework Agreement: Terms & Conditions

a) China's Commitments

- Expedite REE export licenses for compliant, civilian U.S. uses
- Continue banning REE shipments to military-linked users
- Add two fentanyl precursors to controlled list (demanded by U.S.)

b) U.S. Commitments

- Revoke May 2025 sanctions on:
    - Semiconductor software exports
    - Jet engines
    - Ethane shipments
- Pause Chinese student visa cancellations
- Resume educational and scientific ties (non-military)

Issues in Implementation

a) Bureaucratic Delays

- Only 25% of U.S. applications were approved by early July

- Companies like Ford, Boeing, Lockheed Martin faced production halts
- Licensing still requires detailed end-use declarations

b) Military Constraints

- China maintains export blocks for military-linked U.S. firms
- **Defense contractors** report critical shortages in specialized magnets

c) Non-Chinese Alternatives

- Neo Performance (Estonia), Australia, and MP Materials (U.S.) ramp up
- Price surge: Buyers pay $10–$30/kg more for non-Chinese magnets

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Market Impact: July 2025 Snapshot

a) REE Price Movement

Material	Price (per ton)	% Change
Cerium Oxide	$1,490.88	▼ 2.57%
Neodymium Oxide	$63,093.70	▲ 2.66%
RE Carbonate	$5,124.40	No change
Terbium Oxide	$1,013.22	▲ 0.56%

b) Supply Chain Effects

- **Ford** reactivates Chicago EV plant
- **Tesla** resumes production of Model 3/Y
- **Defense sector** still faces uncertainty

c) Procurement Strategy

- Maintain 60–90 day inventories
- Prioritize diversified sourcing (e.g., Europe, Australia, Canada)

Broader Geopolitical & Trade Context

a) Global Tariff Landscape

- Tariff truce expires July 9, 2025
- Trump imposed a 10% baseline global tariff in Jan 2025
- Reciprocal tariffs (up to 50%) delayed until Sept 1

b) Unresolved Disputes

- Still no progress on:
  - Forced tech transfer
  - Industrial subsidies
  - IP theft
  - $262B U.S.–China trade deficit

c) Other Flashpoints

- Trump suspends trade talks with Canada over Digital Services Tax
- Fentanyl controls remain a lever for future U.S. tariffs

Sector-Wise Strategic Implications

Sector	Outcome
Green Tech & EVs	Production resumes; magnet flow restored
Defense	Partial relief; military-specific components still blocked
Electronics	Stability returns to consumer & cloud-tech manufacturing
Higher Education	Visa thaw enables Chinese STEM student return
Robotics	Supply recovery supports industrial automation projects

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U.S. Strategic Response: Resilience Agenda

a) Rare Earths Resilience Act (2025)

- Funds for:
    - U.S. magnet factories
    - Strategic stockpiles
    - REE recycling programs

b) Government-Backed R&D

- DoE pilot plants for refining
- Pentagon contracts for defense alloy development

c) Industry Recommendations

- Lock-in long-term non-Chinese contracts
- Track China's license approvals monthly
- Scenario plan for renewed restrictions

Where Does This Lead?

This agreement marks a temporary stabilization of a volatile supply situation, but many strategic and ideological tensions remain unresolved. The U.S. must use this window to build resilience, localize production, and ensure it does not face future coercive shortages. The coming months, especially leading up to the September 1 tariff reset, will test the durability of this fragile calm.

Mnemonics for Quick Recall

RARE-EARTH Mnemonic – Key Themes:

- **R** – Rare earth dominance (China's monopoly)
- **A** – Agreement signed (June 27 framework)
- **R** – Rollback of U.S. countermeasures

- **E** – Export licenses (case-by-case, 25% cleared)
- **E** – End-use scrutiny (military users barred)
- **A** – Alternatives rise (Estonia, Australia)
- **R** – Resilience Act (U.S. domestic plans)
- **T** – Tariff truce (expires July 9)
- **H** – High prices ($10–30/kg premium for non-China)

18. Türkiye–Indonesia KAAN Fighter-Jet Deal: World's Latest 5th-Gen Export Milestone

Overview

On June 11, 2025, Türkiye signed its first-ever export deal for the KAAN fifth-generation fighter jet, with Indonesia purchasing 48 aircraft during the Indo Defence 2025 Expo in Jakarta. Valued at US $10 billion, this agreement marks Türkiye's largest defence export and Indonesia's entry into the elite stealth-aircraft operator club.

Deliveries: Over a 10-year period (2028–2038), with co-production elements and phased payments.
Signed By: Türkiye's SSB (Defence Industries) & TAI with Indonesia's Ministry of Defence
Witnessed By: Presidents Erdoğan and Prabowo Subianto

Historical & Contextual Background

- KAAN, formerly TF-X, is Türkiye's fully indigenous fifth-generation fighter program, initiated after its removal from the U.S. F-35 program in 2019.
- Developed by Turkish Aerospace Industries (TAI).
- Maiden Flight: February 2024
- Second Flight: May 2024
- As of 2025, six prototypes are under construction.

Key Facts & Developments

- Signed at Indo Defence 2025, with senior-level presence from both governments and TAI/SSB officials.

- Includes technology transfer and co-production framework: final assembly, wire harnessing, and composite components to be manufactured in Indonesia.
- Indonesia to establish a joint flight-test centre with TAI.
- Jets will transition from GE F110 engines to Turkish TF-35000 turbofan by 2032.

Indonesia's Strategic Perspective

- Indonesia diversifies suppliers and modernises its ageing F-16A/B fleet.
- Gains strategic autonomy, avoiding ITAR restrictions.
- Industrial offsets nurture PT Dirgantara's aerospace ecosystem.
- Fills the void left by stalled Su-35 deal and slow Rafale deliveries.
- Trims stake in KF-21 KF-X programme post-KAAN deal, indicating strategic pivot.

Technical & Commercial Details

Metric	KAAN Block-I Export	F-35A (Comparison)
Generation	5th-gen stealth, sensor-fusion	5th-gen
Dimensions (L × W)	21.0 m × 14.0 m	15.6 m × 10.7 m
Engines	2 × GE F110-GE-129 (120 kN each)	1 × P&W F135 (191 kN)
Max Speed	Mach 1.8	Mach 1.6
Combat Radius	600 nmi	590 nmi
Internal Payload	10 tonnes (fuel + weapons)	6 tonnes
Avionics	AESA radar, IRST, DIRCM, AI fusion	Similar
Growth Potential	DEWs, drone swarms, loyal wingman	Block 4 roadmap

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Programme Timeline

Year	Milestone
2016	TF-X program launched after CAATSA friction

2019	Removed from F-35; KAAN prioritised and renamed
Feb 2024	Maiden flight of Prototype-01
May 2024	Second test flight completed
2025	MoU signed with Indonesia; six prototypes in build
Q1 2026	Prototype-02 to begin full flight-testing
2028–30	20 KAAN Block-10 jets delivered to Turkish Air Force
2030–32	TF-35000 engines begin replacing GE F110s
2033+	Block-20 with manned-unmanned teaming and DEWs launched

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Impact on Türkiye's Defence-Export Portfolio

Indicator	**2024**	**Post-KAAN (2029 projection)**
Defence exports	$7.15 billion	$12 billion
TAI share	—	~$2.4 billion/year
SIPRI Rank	11th	Top-8
Key Prospects	Saudi Arabia, Azerbaijan, UAE, Malaysia, Egypt, Pakistan	

Economies of scale from 68 confirmed orders (20 domestic + 48 Indonesian) are expected to reduce KAAN per-unit cost by **15%**.

Risk Factors & Mitigation

Risk	**Concern**	**Mitigation**
Engine localisation	TF-35000 maturity by 2030 critical	Rolls-Royce consultancy & early integration testing
Supply-chain scaling	68 jets require industrial surge capacity	Second TAI line + Indonesian offsets
ITAR issues	GE F110 requires U.S. export licence	ITAR-free Turkish components; TF-35000 path

Budget strain (Indonesia)	Deal exceeds 2024 defence budget	Phased payments; syndicated export-credit finance

Global Strategic Context

- Türkiye joins U.S., Russia, and China as the 4th country exporting 5th-gen fighters.
- Prospective buyers include: Saudi Arabia (100 jets), Azerbaijan, UAE, Pakistan, Malaysia, Egypt.
- Could shape a Turkish-Indonesian-Saudi technology bloc, challenging Western stealth dominance.
- Indo-Pacific balance shifts, as Indonesia joins Singapore as ASEAN's only stealth-aircraft operators.

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10. Comparative Procurement Snapshot

Deal	Qty	Value	5th-gen?	Local Workshare	Status
KAAN (IDN-TUR)	48	$10 bn	✓	High (co-production)	Signed (Jun 2025)
Rafale (IDN-FRA)	42	$8.1 bn	✗	Medium (training)	Signed (Feb 2022)
KF-21 (KOR-IDN)	48 opt.	$6.2 bn	4.5-gen	Medium	Trimmed (Jun 2025)
F-35A (SGP)	12	$2.8 bn	✓	Low	On Order (2024)

Economic & Strategic Impacts

- Indonesia's $10 bn KAAN deal exceeds its 2024 defence budget (~$9 bn).
- Improves deterrence over Natuna Sea & South China Sea.

- Strengthens Türkiye's credibility as a major defence exporter & co-development partner.

Mnemonic – "KAAN WINGS"

K – Key $10 bn contract

A – Advanced stealth, AI fusion

A – ASEAN's first 5th-gen import

N – No-strings tech-transfer

W – Workshare for Jakarta

I – Industrial scaling in Ankara

N – New export revenue stream

G – Geostrategic realignment

S – Stealth deterrence in SE Asia

19. Dr. Bobby Mukkamala: First Indian-Origin President of the American Medical Association

Overview

Founded in Philadelphia in 1847, the American Medical Association (AMA) has been the cornerstone of U.S. healthcare policy and physician ethics. Its core mission is to "promote the art and science of medicine and the betterment of public health."

In June 2025, Dr. Srinivas "Bobby" Mukkamala became the 180th President of the AMA, making history as the first physician of Indian origin to lead the organization. This moment is not just symbolic but reflects a deeper evolution in representation and inclusivity within American medicine.

Historical & Structural Snapshot

Category	Information
Founding Year	1847
Founded In	Philadelphia
Founding Figure	Nathan Smith Davis
First President	Nathaniel Chapman (1847–48)
2nd President	Alexander Hodgdon Stevens (1848–49)
Presidential Term	1 year
Policymaking Body	House of Delegates (similar to a "Congress")
Flagship Journal	JAMA – Journal of the American Medical Association

Avg. Annual Lobbying	~$18 million (1998–2020)
PAC Donations (118th)	>$1 million (59.7% Democrats, 40.3% Republicans)

Dr. Bobby Mukkamala – Profile at a Glance

Attribute	Detail
Full Name	Srinivas "Bobby" Mukkamala
Birth Year	1971
Place of Birth	Pittsburgh, PA
Ethnic Heritage	Andhra Pradesh, India (parents)
Raised In	Flint, Michigan
Medical Education	University of Michigan (MD); Residency at Loyola University Chicago
Medical Specialization	Otolaryngology (ENT)
Current Practice	Solo ENT practitioner in Flint, Michigan
Spouse	Dr. Nita Kulkarni (OB-GYN)
Health Crisis (2024)	Diagnosed with 8-cm brain tumor; 90% removed via surgery

Career Timeline & AMA Contributions

- 2009: Elected to AMA Council on Science and Public Health
- 2016–2017: Served as Chair of the Council

- 2017 & 2021: Elected and re-elected to AMA Board of Trustees
- Currently chairs the Substance Use and Pain Care Task Force
- Recipient of AMA Foundation's "Excellence in Medicine" Leadership Award

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Presidential Agenda (2025–26)

- Reform Medicare reimbursement models
- Combat physician burnout
- Simplify prior authorization protocols
- Improve EHR interoperability
- Expand physician workforce including IMGs (International Medical Graduates)
- Promote nutrition education in medical curricula
- Highlight risks of ultraprocessed foods
- Shift system from sick-care to preventive care

Significance & Strategic Impact

Theme	Relevance
Representation	First AMA president of Indian/South Asian descent
Equity	Personal illness deepened commitment to equitable healthcare access
Policy Shift	Emphasizes chronic disease prevention and care delivery reform
Immigrant Community Voice	Emboldens AAPI and Indian-origin physicians in U.S. medical leadership

International Graduates	Advocates for broader inclusion and integration into U.S. systems

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Related Institutions

- **AAPI (American Association of Physicians of Indian Origin)**
  - Founded: 1982
  - Represents Indian-origin medical professionals in the U.S.
  - Collaborates with AMA to combat bias, promote education, and support IMGs

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Recent AMA Presidential Timeline

Order	President	Term	Notes
178th	Dr. Jesse Ehrenfeld	June 2023–2024	First openly gay AMA president
179th	Dr. Bruce A. Scott	June 2024–2025	Veteran otolaryngologist
180th	Dr. Bobby Mukkamala	June 2025–2026	First Indian-origin and South Asian leader
181st	Dr. Willie Underwood III	June 2026–2027 (elect)	Will succeed Mukkamala

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Comparative Highlights

Dimension	Value
Years Since AMA Formation	178 years (as of 2025)
Indian-Origin Presidents	1 (Dr. Mukkamala)

Journal Reach	JAMA is one of the world's most-cited medical journals
Influence Level	AMA shapes federal health policies and lobbies extensively

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Mnemonic – "B.O.B.B.Y. M.D."

B – **B**urnout reduction focus

O – **O**tolaryngologist leader

B – **B**oard of Trustees veteran

B – **B**rain surgery survivor & advocate

Y – **Y**outh section alum in AMA

M – **M**edicare reform champion

D – **D**iversity milestone for AMA

20. UNESCO's GEM Report 2024–25: Leadership in Education — Lead for Learning

Overview

UNESCO's Global Education Monitoring (GEM) Report 2024–25, titled "Leadership in Education: Lead for Learning," evaluates how leadership at various levels — school, system, and policy — impacts learning outcomes, especially amid global education crises. The report highlights leadership quality, accountability gaps, gender inequality, decentralization, training deficiencies, and financing challenges while assessing progress toward SDG 4 (Quality Education).

Historical Context & Structure

Parameter	Details
Full Name	Global Education Monitoring Report
Launched	2002 (as EFA Report), rebranded in 2016
Publisher	UNESCO, via the Institute for Statistics (UIS), with editorial independence
Frequency	Annual
SDG Focus	SDG 4: Ensure inclusive, equitable, quality education for all
2024–25 Theme	**Leadership in Education: Lead for Learning**
Dataset Support	UIS Data Refresh (Feb 2025), PEER Database (211 education systems)

Key Global Findings (2024–25)

Area	Findings
Learning Poverty	6 in 10 children globally can't read or do basic math by end of primary school
Dropout Crisis	75 million children projected to be out of school by 2025
Pandemic Regression	Girls' math proficiency declined globally (Brazil, UK, Italy) post-COVID
Out-of-School Gap	Shortfall of 4–6% in national SDG targets for primary/secondary levels
Ministerial Instability	50% of education ministers left within 2 years (2010–2023); 77% lacked teaching experience
Leadership Training Gap	<50% of countries require any pre-appointment training for principals
Recruitment & Induction	Only 31% have induction policies; 63% use open recruitment
Leadership Programmes	Only 50% of training globally includes collaboration or people development
Female Representation	Only 19% of education ministers and 11% of principal recruitment systems have gender equity policies
Finance Gaps	Aid to education declined sharply in 2024; only 29% of humanitarian needs funded

India-Specific Insights

Indicator	Status
Enrolment	>95% in primary education (near-universal)
Learning Gaps	43% of Class 3 students can read Class 2 text (ASER 2023); 25% Class 8 math proficiency (NAS 2021)
Dropouts	Over 1 crore dropped out in 2023–24
Worsening States	Bihar, Assam
Principal Training (NEP 2020)	50 hours mandated annually, but not implemented in most states
Female Teachers	60% (elementary level)
Female Principals	35%
Female HEI Leadership	5% of vice-chancellors (2021)
Decentralized Leadership	Delhi pilot increased teacher trust and collaboration
Literacy	Mizoram: First fully literate state (98.2%)
Child Labour Eradication Goal	Uttar Pradesh targets 2027

Gender Disparities Across Education Tiers

Parameter	Global Average
Female Teachers (Primary/Secondary)	High

Parameter	Global Average
Female Principals	20% lower than female teacher percentage
Female Ministers (2010–13 vs 2020–23)	23% → 30%
Countries with Gender Equity in Principal Recruitment	11%
Female Leadership Impact (Francophone Africa)	Women-led schools yielded 6–12 months more learning gains

Leadership & Learning Correlation

- Leadership quality ranks second only to teachers in influencing student performance
- In the US, principals & teachers contribute 27% variance in student outcomes
- Women school leaders in Benin, Senegal, Madagascar, Togo achieved nearly 1 extra year of learning
- Delhi's middle-leader mentorship model led to better teacher collaboration, trust, and motivation

Positive Trends

- Growing female teacher workforce (>60% in India)
- Recognition of leadership in NEP 2020
- Expanding data monitoring through PEER (211 systems)
- Delhi mentorship pilot offers scalable model
- Over 100 countries contributed to leadership data and best practices

Negative Trends

- Learning outcomes remain low despite enrolment
- Girls' post-pandemic learning losses deeper in math and digital access
- Opaque, hierarchical, and politicized leadership recruitment in many countries
- Low induction and training rates
- Aid to education shrinking; deeper cuts projected by 2027
- High leadership turnover with unqualified appointees

Static GK Integration

Indicator	Value (India)
HDI Rank (2025)	130/193 — Medium Human Development
GII Rank (2025)	102 (Value: 0.403)
Female Labour Force Participation	41.7%
SDG 4 Target Year	2030
Top HDI Countries	Norway, Switzerland, Iceland (>0.95)
India's NEP 2020	Policy recognising leadership training, inclusion, and outcome-based learning

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Global Strategic Context & Gaps

Country	Challenge
Brazil, UK, Italy	Girls' math proficiency fell post-pandemic
Global Average	SDG 4 reading target only by 2133 at current pace
50% of high-income countries	No mandatory principal training
Only 33% of nations	Include collaboration in leadership training

Way Forward: UNESCO's Recommendations

Focus Area	Action Steps
Leadership Training	Mandatory certifications, embed 4 core leadership pillars
Women's Representation	Targeted acceleration programmes, mentoring, quota policies
Recruitment Reforms	Open, merit-based, competitive hiring with transparency
Learning Outcome Metrics	Shift from enrolment-based targets to NAS, ASER-style assessments
Mentorship Models	Scale Delhi's middle-leader mentorship state-wide
Decentralization	Promote localized governance and teacher-led leadership
Financing	Boost funding to pre-pandemic levels, restore education's GDP share
Digital Equity	Invest in infrastructure and girls' digital learning in LICs

Mnemonic: L.E.A.R.N.G.

L – **Learning Crisis** → High enrolment, low outcomes (India & globally)

E – **Enrolment vs Outcome Gap** → 95% in school, but 25% math proficiency (India)

A – **Accountability Missing** → Few induction or pre-service training systems globally

R – **Role of Women Leaders** → Boosts results; still underrepresented in top roles

N – **Nurturing Pipelines** → Delhi pilot shows leadership can be taught, scaled

G – **Gender Gaps** → Only 19% of education ministers globally are women

21. Exercise Shakti?

Overview

Exercise Shakti is a biennial joint military exercise between the Indian Army and the French Army, designed to strengthen defence cooperation, improve interoperability, and boost preparedness for sub-conventional warfare and UN Chapter VII peacekeeping missions.

2025 Edition (8th): Held from 18 June – 1 July 2025, at Camp Larzac, La Cavalerie, France

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Objective & Focus Areas

Theme	Details
Primary Aim	Enhance multi-domain operational capability in sub-conventional scenarios
UN Charter Reference	Chapter VII – Peace Enforcement
Key Training Areas	Urban warfare, counter-terrorism, EW, counter-UAS, joint command and planning

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Participating Units (2025)

Country	Forces
India	90 personnel from Jammu & Kashmir Rifles, supported by signals, engineers, logistics

Country	Forces
France	90 personnel from 13th Foreign Legion Half-Brigade (13e DBLE) and other tri-service assets

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Training Phases

Phase	Activities
Phase 1 (18–21 June)	Marksmanship, obstacle training, tactical planning at Monclar
Phase 2 (22–26 June)	Semi-urban combat, day/night ops, physical endurance in Hérault
Specialist Modules	Electronic Warfare (jamming, signal interception), Counter-UAS (drone neutralisation)

Tactical Environment

- ~50 tactical/armoured vehicles
- Simulated semi-urban terrains resembling modern asymmetric conflict zones
- Command-level simulations & digitally enabled joint operations

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Strategic Importance

- Deepens India–France military relations
- Builds capacity for UN Peacekeeping and Indo-Pacific strategic cooperation
- Facilitates joint doctrine exchange and technology familiarisation
- Boosts trust, camaraderie, and combined mission readiness

Historical Timeline

Edition	Year	Venue
8th	2025	**France – La Cavalerie, Camp Larzac**
7th	2024	**India – Umroi, Meghalaya** (13–26 May 2024)
Started	2011	Alternates biennially between India and France

Associated Indo-France Exercises

Exercise	Domain	Highlights
Varuna	Naval	Bilateral exercise since 1983, focuses on ASW, mine warfare, cross-deck ops
FRINJEX	Army	Tactical-level HADR & IDP camp establishment (2023 inaugural edition)
Tarang Shakti	Air	India's largest multinational air drill (2024), France participated
Garuda	Air	Indo-French air exercise boosting joint air combat tactics
Desert Knight	Tri-Service	High-level strategic drill in planning phase

Technological Synergy

- **EW Systems**: Interception, spectrum denial, battlefield jamming
- **C-UAS**: Drone jamming, detection, neutralisation

- **Command Simulation**: Joint mission planning using networked platforms
- **TTP Exchange**: Real-time learning in CT, room-clearing, and Cordon & Search ops

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Mnemonic: S.H.A.K.T.I.

Letter	Hook
S – Sub-Conventional Focus	Trains both armies in peace enforcement & urban warfare
H – Hybrid Tactics	Covers EW, C-UAS, combat engineering, night ops
A – Allied Camaraderie	Builds trust, shared values, and long-term defence ties
K – Knowledge Sharing	TTPs, tech-exchange, signal ops, and coordination drills
T – Tri-Service Exposure	Includes support from Air & Naval branches (France)
I – Indo-Pacific Strategy	

22. Axiom-4 Mission: Indian Astronaut Shubhanshu Shukla & India's First Space Cuisine (2025)

Who is Shubhanshu Shukla?

- Rank: Group Captain, Indian Air Force (IAF)
- Background: IAF test pilot, selected by ISRO
- Historic Role:
    - Second Indian in Space after Rakesh Sharma (1984)
    - First Indian on the International Space Station (ISS)
    - First to carry Indian food to space
- Age: 39 (in 2025)

Mission Details: Axiom Mission-4 (Ax-4)

Parameter	Description
Mission	Axiom Space Mission-4 (Ax-4)
Launch Date	**June 11, 2025**, 5:30 PM IST *(delayed from June 10 due to poor weather)*
Launch Site	Kennedy Space Center, Florida
Duration in Orbit	**18 days**
Return Date	Mid-July 2025
Destination	International Space Station (ISS)

Parameter	Description
Partners	Axiom Space, NASA, ISRO
Indian Investment	₹548–550 crore *(≈$65 million)*, includes logistics, training, and R&D
Salary	Shukla drew **no personal salary** – national mission

Onboard Scientific Work

Aspect	Details
Total Experiments	60
India-led Experiments	7 – by ISRO, DRDO & Indian academic institutions
Key Research Areas	

- Space Biology: Microbial adaptation, tardigrades
- Agriculture in Space: Moong & methi crops
- Health: Muscle atrophy, stress under screen time
- Food Studies: Nutritional preservation in zero gravity |

These experiments provide baseline data for Gaganyaan and future long-duration spaceflight missions.

Mission Significance for India

- Demonstrates India's readiness for crewed space missions
- Builds technical capacity for food systems, astronaut health, space agriculture
- Enhances India–NASA–Axiom cooperation

- Sets stage for Gaganyaan (2027) — India's first full-fledged human space mission

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Future Use & Gaganyaan Mission (2027)

Element	Role in Gaganyaan
Food Tech	Menu & packaging to be adapted for Gaganyaan
Experiment Templates	Biological & agricultural experiments will inform future long-haul mission planning
Habitat Learnings	Onboard adaptation & zero-gravity behavioural response guide astronaut training
Psychological Impact	Positive morale boost from familiar food shows relevance of culturally sensitive planning

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Mnemonic – "SHUKLA SPACE MISSION"

S – Space cuisine (Gajar halwa, Moong dal halwa, Aamras onboard ISS)

H – Historic first Indian on the ISS

U – Unprecedented Indo-US collaboration

K – Knowledge experiments (60 scientific tests, incl. microbial & crop studies)

L – Launch from Kennedy Space Centre, Florida

A – Axiom-4 mission as a precursor to Gaganyaan

S – Shukla's fitness & mindfulness in diet/yoga

P – Prepared food by ISRO & DRDO with 12-month shelf life

A – ASAT-level space tech & zero-gravity packaging

C – Cultural soft power via cuisine diplomacy

E – Experiments led by Indian scientists

M – Mission cost ~ ₹550 crore

I – India's return to manned space after 41 years

S – Sterile, rehydratable food containers for space meals

S – Scientific legacy and start of new astronaut era

23. UNFPA State of World Population Report 2025: "The Real Fertility Crisis"

Overview:

- The United Nations Population Fund (UNFPA) released its State of World Population (SOWP) 2025 titled "The Real Fertility Crisis."
- It redefines the crisis as a matter of unmet fertility goals and reproductive agency, not merely over- or under-population.
- India is confirmed as the most populous country, with 146.39 crore people, expected to peak at 170 crore in early 2060s.

Key Themes of the Report:

Theme	Description
Reproductive Agency	Right to decide freely on reproduction, access to contraception, childbirth timing
Fertility Inequality	Fertility patterns vary due to gender, education, access, and geography
Demographic Resilience	Nations must adapt to ageing, fertility shifts, and migration
Youth Bulge	In LMICs like India, young population is large and holds economic potential

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India-Specific Demographics:

Indicator	Data
Population (2025)	146.39 crore (highest globally)
Projected Peak	~170 crore in early 2060s
Life Expectancy	Men: 71 years; Women: 74 years
Median Age	28.2 years
Working Age (15–64)	68% (961 million)
Youth (10–24)	26%
Children (0–14)	24%
Elderly (65+)	7%

Fertility Indicators:

Metric	Status
Total Fertility Rate (TFR)	1.9 (below replacement level 2.1)
TFR (SRS 2021)	2.0
High TFR States	Bihar (3.0), Meghalaya (2.9), UP (2.7), Jharkhand (2.3)
Low TFR States	Delhi (1.6), Kerala (1.8), Sikkim (1.1)
Total Wanted Fertility Rate (TWFR)	Bihar – 2.2, Meghalaya – 2.2

Reproductive Health Challenges:

Barrier	% Affected
Financial constraints	38–40%
Housing	22%
Job insecurity	21%
Childcare	18%
Health/Infertility	13–14%
Social/family pressure	19%
Climate/political/economic anxiety	Rising factor
Unintended Pregnancies	36%
Adolescent Fertility Rate	14.1 per 1,000 girls (15–19)

Static GK Snapshot:

Indicator	Data Source	Value
Literacy Rate (Adult)	NFHS-5	Male – 87.4%, Female – 71.5%
Overall Literacy (15+)	NSO 2021	77.7%
LFPR (15+)	PLFS	Male – 78.8%, Female – 41.7%, Total – 60.1%
Dependency Ratio	–	47%
Mental Health Prevalence	–	15%
NCD Prevalence	–	>20%

Climate Vulnerability	–	>80% of Indians live in climate-risk zones

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Global Insights:

Aspect	Global Snapshot
Population	8.2 billion
Global TFR	2.25 (was 5.0 in 1950), to hit 2.1 by 2050
Fertility Extremes	Highest: Niger (6.7), Lowest: S. Korea (0.7)
Ageing Nations	Japan (30% elderly), Europe (20%), India (7%)

About UNFPA:

- **Established:** 1969 (as UN Fund for Population Activities), renamed in 1987
- **Mandate:** Reproductive health, women's empowerment, youth potential
- **Key Focus:**
    - SDG 3 (Health), SDG 4 (Education), SDG 5 (Gender)
    - 3 Goals by 2030:
        1. Zero unmet need for family planning
        2. Zero preventable maternal deaths
        3. Zero gender-based violence and harmful practices
- **Funding:** 100% voluntary contributions

Causes of Fertility Decline in India:

- Improved female education (TFR: 1.8 for 12+ yrs schooling)

- Institutional deliveries (88%), reduced infant mortality (28/1000)
- Delayed marriages, job and housing insecurity
- Smaller family preference (41% women & 33% men want only 2 kids)
- Rising infertility (27.5 million couples)
- Social campaigns like **Mission Parivar Vikas**

Implications of Fertility Decline:

Positive:

- Demographic dividend till 2055–56
- Women's empowerment, better health & education
- Lower environmental pressure

Negative:

- Shrinking workforce (long-term)
- Ageing population care burden
- Unmet fertility goals (30% can't have desired kids)
- Social isolation, elder care fragmentation
- Regional population imbalance (e.g., Sikkim vs Bihar)
- Irreversible TFR trend once below 2.1

Government Schemes:

Scheme	Focus
NPP 2000	Achieve replacement-level fertility, rights-based approach

Mission Parivar Vikas (2016)	146 high TFR districts; ASHA, spacing methods
FP2020 / FP2030	New contraceptives (Antara, Chhaya), ASHA training
NHM	RMNCH+A, adolescent reproductive health
JSY & JSSK	Incentives for institutional delivery, maternal care
ASHA Workers	Crucial for rural contraceptive outreach
Child Marriage Act	Proposes raising girls' marriage age to 21

Global Best Practices:

Country	Strategy
Germany	Parental leave, childcare support
Denmark	Free IVF for <40 women
Hungary	Nationalised IVF clinics
Russia	One-time payment for 2nd child
Poland	Monthly benefits for 3+ children

Key Terms & Concepts:

- **TFR:** Avg. no. of children born per woman
- **TWFR:** No. of children women ideally want
- **Demographic Dividend:** Economic boost from large working-age population
- **Demographic Resilience:** Society's ability to adapt to demographic shifts
- **Reproductive Agency:** Right to choose freely, without coercion or pressure

Recommendations & Way Forward:

- Shift to rights-based approach (fertility as choice, not control)
- Extend SRH access to unmarried, LGBTQIA+, and rural poor
- Remove economic barriers: housing, job security, childcare
- Improve TWFR & unmet need tracking (beyond TFR)
- Run social campaigns: fertility literacy, end stigma
- Conduct Census 2027 to revise policies

Mnemonic: FERTILITY DROP INDIA

F – Falling TFR: 1.9 (below replacement)

E – Education & Empowerment lowering fertility

R – Regional disparities: Bihar vs Kerala

T – TWFR gap → unmet fertility needs

I – Infertility (27.5M couples), limited access

L – Labour force large (68%), dividend till 2055

I – Institutional deliveries now >88%

T – Teen pregnancies high (14.1 per 1000)

Y – Youth bulge: 26% aged 10–24

D – Demographic transition peaking ~2060

R – Reproductive autonomy emphasized

O – Over 80% in climate-vulnerable zones

P – Population Policy: NPP 2000, FP2020

I – Income insecurity as top barrier

N – National ageing trend: 7% elderly (and rising)

D – Declining fertility = irreversible?

I – Inclusive SRH needed for all

A – ASHA workers: frontline in awareness

24. Air India AI171 Crash – June 2025 | Boeing 787-8 Dreamliner Disaster

Overview:

- **Date:** 12 June 2025
- **Flight:** Air India AI171 (Ahmedabad → London Gatwick)
- **Aircraft:** Boeing 787-8 Dreamliner (VT-ANB)
- **Crash Site:** Near Sardar Vallabhbhai Patel International Airport, Ahmedabad (into a doctors' hostel)
- **Fatalities:** 241 (including 19 on the ground); only 1 survivor (British national)

What Happened?

Event Detail	Description
Takeoff Time	13:39 IST (Runway 23)
Mayday Issued	Immediately after takeoff
Crash	Aircraft lost altitude (~625 feet) and crashed in a residential area
Aircraft Contact with ATC	Made Mayday call; no further response
Emergency Response	3 NDRF teams (90 personnel), Gujarat Police, hospitals on standby
Helpline Issued	1800 5691 444 (Air India), 07925620359 (Ahmedabad Police)
Visible Signs	Thick black smoke; major fire at crash site

Aircraft & Crew

Feature	Details
Aircraft Model	Boeing 787-8 Dreamliner (VT-ANB)
Age	~11 years old
Engines	GE GEnx-1B70 engines
Captain	Capt. Sumeet Sabharwal (56 yrs, 15,600 hrs, 8,600 on 787)
First Officer	Clive Kunder (32 yrs, 3,400 hrs, 1,100 on 787)
Piloting at Takeoff	First Officer Kunder

Passenger Manifest

Nationality Breakdown	Number
Indian Nationals	169
British Nationals	53
Portuguese	7
Canadian	1
Total Onboard	**242** (230 passengers + 12 crew)

Crash Investigation – Preliminary Findings

Focus Area	Findings

Engine Fuel Switches	Both switches moved from RUN → CUTOFF within 1 second	
Cockpit CVR Transcript	FO: "Why did he cut off?"	Capt: "I did not do so"
Fuel Flow Recovery	Restored 10 seconds later but altitude too low to recover	
RAT (Emergency Power)	Deployed before crash; aircraft failed to regain altitude	
Fault Likelihood	Mechanical failure unlikely; switches mechanically locked	
Switch Design Concern	FAA 2018 advisory noted locking issues; no mandatory inspection mandated	
Crew Reaction	Confusion and rapid action; possible misidentification of switches	

Dreamliner Background & Features

Feature	Specification / Info
First Commercial Flight	2012 (after delays due to supply issues and tech faults)
Structure	Carbon-fibre composite (25% more fuel-efficient than older jets)
Variants	787-8, 787-9, 787-10
787-8 (AI171's model)	248 seats; range: 13,530 km; 57m long; 60m wingspan

Cabin Features	Improved air pressure, large windows, humidity comfort

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Safety Concerns Over the Years

- **2013 Battery Crisis:** Entire fleet grounded globally over lithium-ion fire risk
- **FAA Scrutiny:** Continuous inspections on fuselage joints and assembly flaws
- **Whistleblower Alerts:** Allegations on substandard parts and rushed production
- **March 2024 Incident:** Latam 787 nosedive due to pilot error; no fatalities
- **Boeing 737 MAX Legacy:** Corporate oversight and software faults (2018–19 crashes)
- **Re-inspection Ordered:** FAA in May 2024 mandated checks on in-production 787s

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Theories & Speculations

Theory	Description
Cockpit Confusion	Stabiliser & fuel switches placed closely—misidentification possible
Intentional Cutoff	No evidence yet; CVR reveals captain denial
Mechanical Fault	Unlikely due to dual fuel cut in 1 second; still under probe
Mental Health Angle	Flagged in media; unverified; part of larger investigation

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Broader Aviation Implications

- **First Fatal Boeing 787 Crash Globally**
- Urgent questions raised on:
    - Fuel cutoff switch design & location
    - Cockpit ergonomics and pilot workload

  - Mental health monitoring and transparency
  - Installation of cockpit video recorders
  - Review of switch guard mechanisms
- ICAO likely to issue revised safety circulars
- May trigger lawsuits against Boeing and raise certification scrutiny

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Responses & Fallout

Entity	Action Taken or Reaction
Air India	Fleet-wide 787 checks; public hotline; ongoing cooperation
Federation of Indian Pilots	Urged non-political, pilot-inclusive inquiry process
Investigative Agencies	UK AAIB, US NTSB, FAA, Boeing, GE dispatched teams
Media/Public	Renewed pressure on Boeing safety culture; call for reforms
Gujarat Govt	Coordinated emergency & hospital care; disaster zone containment

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Static GK – Aircraft & Safety

Term / Concept	Description
Mayday Call	Emergency signal indicating grave danger
RAT (Ram Air Turbine)	Deployable mini-turbine providing emergency power
CVR (Cockpit Voice Recorder)	Records cockpit conversation for crash investigation

FAA (US)	Federal Aviation Administration – regulates aircraft safety
ICAO (UN agency)	Sets international aviation safety standards
NTSB (US)	National Transportation Safety Board – investigates transport accidents
AAIB (UK)	Air Accidents Investigation Branch – UK's lead air accident agency

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Mnemonic – "AIR INDIA DOWNED"

A – Ahmedabad takeoff, crashed within 625 feet

I – Investigation revealed fuel switch cutoff event

R – RAT deployed, failed to regain control

I – International cooperation: FAA, NTSB, AAIB, Boeing

N – NDRF deployed for rescue, police helpline activated

D – Dreamliner's first ever fatal crash

I – Indian nationals were majority (169/230 pax)

A – Aircraft struck medical college doctors' hostel

D – Dual fuel switches moved from RUN to CUTOFF in <1 sec

O – Only 1 British passenger survived the crash

W – Whistleblowers flagged Boeing production defects

N – No response after Mayday; radio silence

E – Emergency systems (RAT) activated too late

D – Design safeguards under review by global agencies

25. SIPRI Yearbook 2025 – Global Nuclear Trends and India's Strategic Posture

Overview

- **Report Released By:** Stockholm International Peace Research Institute (SIPRI)
- **Date of Release:** Mid-2025 (Annual Yearbook)
- **Founded:** 1966, headquartered in Stockholm, Sweden
- **Purpose:** Provides data and analysis on armed conflicts, military expenditure, arms trade, nuclear forces, and disarmament

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Global Nuclear Arsenal – Key Findings

Indicator	Value/Status (Jan 2025)
Total Global Nuclear Warheads	~12,121 (including retired stock); 9,585 in military stockpiles
High Operational Alert	~2,100 warheads (mainly USA & Russia); China possibly joins alert club
Nuclear-Armed Countries	9 (USA, Russia, UK, France, China, India, Pakistan, Israel, North Korea)
Russia	5,459 warheads
USA	5,177 warheads
China	600–500+ (sharp increase from 410 in 2023)

North Korea	~50 warheads; enough fissile material for up to 90
Israel	Estimated stock; modernising arsenal & enhancing plutonium capacity

Technological Advancements

Technology	Details
Dual-Capable Missiles	Developed/modernised by Russia, China, India, Pakistan, North Korea
MIRVs	Deployed: USA, Russia, UK, France, China; Developing: India, Pakistan, N. Korea
Canisterised Missiles	India, Pakistan developing for quicker, more secure launch options
Warhead-Missile Mating	India may move towards peacetime mating for rapid response

India-Specific Insights

Parameter	Status / Insight
Nuclear Warheads (Jan 2025)	180 (slight increase from 172 in Jan 2024)
Rank	6th globally
Comparison	Pakistan – 170; China – 600
Nuclear Triad	Present – Air (fighters), Land (ballistic missiles), Sea (SSBNs)

Strategic Focus	Traditional deterrence against Pakistan; shift to counter China
Patrols & Operational Readiness	Increased submarine patrols and preparedness
Advanced Systems	Longer-range delivery platforms under development

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Global Security & Diplomatic Challenges

- **Arms Control Setbacks:**
  - Russia suspended participation in the New START Treaty
  - Withdrew ratification from the CTBT
- **Geopolitical Tensions:**
  - Ukraine war, Gaza conflict, Iran-US tensions derail diplomatic dialogue
- **Operational Trends:**
  - More states placing warheads on high alert
  - China may now have warheads ready for instant launch – a first
- **Other SIPRI Alerts:**
  - Rise of private military contractors
  - AI, cyberspace, and outer space risks
  - Civilian protection failures and accountability gaps

Challenges to India's Nuclear Program

Challenge	Explanation
Border Tensions	China & Pakistan threats keep deterrence posture alive

Cybersecurity Threats	Kudankulam 2019 incident exposed vulnerabilities
New Age Warfare	Hypersonics, AI-driven weapons complicate deterrence
Energy Program Concerns	Safety, radioactive waste, contamination risks

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Way Forward for India

- **Credible Minimum Deterrence:** Maintain while modernising arsenal
- **Advanced Reactors:** Focus on fast-breeder, thorium-based tech
- **Strategic Diplomacy:** Deepen NSG/GICNT/IAEA engagement
- **Confidence-Building:** Establish crisis communication with China & Pakistan
- **Cyber & AI Safeguards:** Ensure nuclear command systems are secure

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Key International Treaties & India's Role

Treaty / Mechanism	India's Status
NPT (Non-Proliferation Treaty)	Not a signatory; stays outside
CTBT (Comprehensive Test Ban)	Not signed
PTBT (Partial Test Ban)	Compliant; bans certain types of nuclear tests
TPNW (Prohibition of Nuclear Weapons)	Not a member
NSG	India has waiver; not full member
MTCR, Wassenaar, Australia Group	India joined (2016–2018)

India’s Nuclear Evolution

- **1974:** First test (Smiling Buddha)
- **1998:** Pokhran-II reaffirmed India's nuclear capability
- **2024 Milestone:** Core loading of PFBR at Kalpakkam
- **IAEA:** India has facility-specific safeguards
- **No First Use Policy:** Maintained despite strategic shifts

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Static GK – SIPRI & Nuclear Terms

Term / Institution	Description
SIPRI	Global peace institute based in Sweden, 1966
MIRV	Multiple warheads on a single missile, targeting different locations
Canisterised Missiles	Housed in launch-ready, sealed containers for mobility and security
SSBN	Submarine with nuclear propulsion & ballistic missile capability
CTBT/NPT	Core global treaties on testing & non-proliferation
PFBR	Prototype Fast Breeder Reactor – advanced Indian reactor project

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Mnemonic – NUCLEAR RACE SIPRI

N – Nine nuclear-armed countries (US, Russia, China, India, etc.)
U – Unprecedented modernisation by all states
C – China's rapid arsenal expansion & alert posture
L – Lockout from treaties (Russia exits CTBT, New START)
E – Emerging threats: AI, cyber, space warfare
A – Arms diplomacy setbacks (Israel-Hamas, Ukraine wars)
R – Responsible India adapting to regional challenges

R – Readiness via triad, MIRVs, canisterised systems

A – Advancement in delivery tech: long-range & sea-based

C – Civilian risks & PMCs flagged by SIPRI

E – Expansion of warhead counts: India 180, China 600+

S – Strategic posture: From Pakistan-focused to dual-front

I – India's 2024 PFBR milestone

P – Plutonium refinement & triad patrols enhanced

R – Resilient doctrine: NFU retained despite pressure

I – International regime engagement continues

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26. UK Terminally Ill Adults (End of Life) Bill – Legalising Assisted Dying

Why in News

- The UK House of Commons passed the Terminally Ill Adults (End of Life) Bill in June 2025, allowing assisted dying for terminally ill adults under strict conditions.
- 330 MPs voted in favour, 275 against. Voting was conducted as a "free vote".
- The bill, introduced by Labour MP Kim Leadbeater in November 2024, is a private member's bill and now proceeds to the House of Lords (First reading on 23 June 2025; second reading awaited).

Current Legal Status (UK & India)

Country	Status	Key Details
UK	Assisted dying is currently illegal	Suicide Act 1961 punishes assisted suicide with up to 14 years' imprisonment
India	Passive euthanasia legal (since 2018)	SC ruling allows withdrawal of life support in certain cases; requires family & medical consent. 2023 guidelines refreshed but awareness still low

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Key Provisions of the UK Bill

1. 18+ years old
2. Mentally capable (Mental Capacity Act 2005)
3. Terminally ill (progressive, irreversible disease, death expected within 6 months)
4. Resident in England/Wales for 12+ months, and registered with a GP | |

5. Exclusions | Persons only with disability or mental disorder not considered terminally ill. Voluntary refusal of food/drink is excluded. Eating disorders not eligible | | Voluntariness | Must be clear, settled, informed, free of coercion. Decision must be patient-initiated |

Request and Review Process

➤ **Preliminary Discussion**

- With coordinating doctor: diagnosis, prognosis, treatment, hospice/palliative options discussed

➤ **First Declaration**

- Signed by the person in presence of:
    - Coordinating doctor (willing practitioner), and
    - Another witness (non-medical)
- Declaration confirms eligibility, voluntariness, and that it may be withdrawn anytime

➤ **Assessments**

- Coordinating doctor verifies eligibility, mental capacity, and voluntariness
- Referral to independent doctor (second opinion)
- 7-day reflection period after first assessment
- Third opinion can be requested if doubts persist
- Doctors may consult relevant health or social care professionals

➤ **Assisted Dying Review Panel**

- Referred by Voluntary Assisted Dying Commissioner
- Panel composition:
    - Lawyer (senior judge/King's Counsel)

- Psychiatrist
- Social worker

- If criteria met → Certificate of Eligibility issued
- Denial → appeal possible → second panel review

➤ **Second Declaration**

- Minimum 14-day reflection period (or 48 hrs if life expectancy <1 month)
- Reconfirmed voluntariness, capacity
- Coordinating doctor signs supporting statement
- Must be witnessed by independent person (not coordinating/independent doctor)

Provision of Assistance

Aspect	Provision
Approved Substance	Provided in-person by coordinating doctor (type set via regulation)
Administration	Must be self-administered by patient. Doctor may assist preparation or provide device but not execute act
Supervision	Doctor must remain until patient dies, but need not be in same room
Delegation	Functions may be transferred to another named registered doctor

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Role of Social Workers & Independent Advocates

- **Social workers** serve on review panels
- **Independent advocates** (appointed by Secretary of State) to support individuals with:

- Learning disabilities, autism, or mental disorders
- Substantial difficulty in understanding provisions

- Advocates help interpret options and ensure informed decision-making

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Conscientious Objection & Legal Protections

Provision	Explanation
No Duty to Participate	No health/social professional is obligated to take part
Employment Protections	No discrimination based on choice to participate or abstain
Legal Shield	Participants in good faith not liable under Suicide Act 1961 or civil law
Defence Clause	Actions are protected if person reasonably believed they complied and exercised due diligence

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New Offences Under the Bill

Offence	Description
Coercion or Undue Pressure	Persuading someone to sign/retain declarations through dishonesty or manipulation
Falsified Documents	Making/using false declarations; destroying valid ones
Misleading Assessments	Issuing knowingly false or reckless medical evaluations

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Oversight, Monitoring & Implementation

➤ **Voluntary Assisted Dying Commissioner**

- Appointed by PM (must be senior judge)
- Refers cases to panels, maintains panelist list, investigates issues
- Publishes annual report; monitors application with disability lens

➤ **Disability Advisory Board**

- Includes disabled persons & organisations
- Advises Commissioner; submits annual report to Parliament

➤ **Secretary of State Duties**

- Issue codes of practice, specify approved substances, ensure NHS service access
- Initiate statutory review within 5–6 years
- Regulate service advertising bans with exceptions

➤ **Wales**

- Welsh Ministers may issue specific regulations and guidance

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Advertising Ban & Civil Exemptions

- Advertising or promoting assisted dying services is banned UK-wide
- Civil or criminal liability does not arise for those acting in accordance with bill

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India: Legal Position & Comparison

Category	India's Position
Type Allowed	Only **passive euthanasia** legal (2018 SC ruling)

Conditions	Requires **doctor panel** + **family consent**
Assisted Dying	Still illegal
Awareness	Poor implementation; 2023 guidelines aimed to clarify process
Ethical Landscape	Conservative social/religious views limit policy traction

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Mnemonic – DIGNITY PATH for UK Assisted Dying Bill

D – Decision must be voluntary, informed & settled

I – Independent doctor review after coordinating doctor

G – GP registration & 12-month UK residency required

N – No coercion, false declarations or dishonest conduct

I – Independent advocates assist persons with cognitive challenges

T – Terminal illness (≤6 months) required, not disability alone

Y – Yes to legal defence for reasonable belief and due diligence

P – Panel grants certificate (lawyer + psychiatrist + social worker)

A – Approved substance provided by doctor, patient self-administers

T – Two declarations + two reflection periods required

H – High oversight: Annual reviews, Parliament updates, Commissioner role

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27. Time Out's 50 Best Cities in the World 2025

Why in News

- Time Out released its annual list of 50 best cities in 2025, based on feedback from 18,500+ locals across the world, evaluating 44 urban experience metrics.
- Cape Town topped the rankings, while London secured the 5th position and was named the most-loved city by Time Out staff.
- The list celebrates cities that offer the best food, culture, community spirit, livability, affordability, green spaces, and sustainability.
- The UK performed strongly with six cities featured: London, Edinburgh, Brighton, Glasgow, Belfast, and Bristol.
- Mumbai ranked 49th, the only Indian city in the Top 50.

Top 10 Global Cities

Rank	City	Key Features
1	Cape Town	97% locals happy; food, beauty, nature, and culture
2	Bangkok	Exceptional street food, affordability, nightlife
3	New York	Cultural vibrancy, dining diversity, arts
4	Melbourne	Coffee culture, creative arts, livability
5	London	Cuisine, pubs, shopping, inclusion, culture, green spaces
6	New Orleans	Unique cultural identity, music, affordability

7	Mexico City	History, culinary depth, artistic energy
8	Porto	Architecture, emerging food culture
9	Shanghai	Modern dynamism, urban fusion
10	Copenhagen	Sustainability, Nordic design, happiness

Mnemonic: TOP TEN – Time Out's Premier Ten Excellence Network

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Regional & Continental Breakdown

- **Europe (16 cities):** UK (London-5, Edinburgh-13, Brighton-34, Glasgow-36, Belfast-47, Bristol-48), Spain (Barcelona-17, Seville-18, Madrid-22, Valencia-43, Bilbao-45), Portugal (Lisbon-12, Porto-8), Netherlands (Amsterdam-16), France (Paris-19, Marseille-38), Germany (Berlin-23), Czech Republic (Prague-35).
- **Asia-Pacific (13 cities):** Australia (Melbourne-4, Sydney-15, Perth-33, Brisbane-37), China (Shanghai-9, Beijing-27, Hong Kong-14), Thailand (Bangkok-2, Chiang Mai-28), Singapore-25, Tokyo-31, Seoul-42, Jakarta-29.
- **North America (6 cities):** US (New York-3, New Orleans-6, Chicago-11, Los Angeles-40), Canada (Montreal-44), Mexico (Mexico City-7).
- **South America (2 cities):** Brazil (Rio de Janeiro-26), Colombia (Medellín-20).
- **Africa (2 cities):** Cape Town (1), Lagos (41).

UK Cities Performance

City	Rank	Notable Points
London	5	Most-loved by staff; top in green space & culture
Edinburgh	13	Festivals, history, architecture

Brighton	34	Walkability, coastal charm, LGBTQ+ inclusivity
Glasgow	36	Nightlife, arts, cultural scene
Belfast	47	Reviving community and history
Bristol	48	Green city, creative and independent spirit

Methodology & Ranking Criteria

- Based on feedback from 18,500+ locals, city-specific insights from editors, and input from expert contributors.
- Evaluated using 44 urban lifestyle metrics:
    - Food & Drink
    - Culture & Nightlife
    - Affordability & Livability
    - Community & Inclusion
    - Environmental Sustainability
    - Happiness, Walkability, and Public Space Access

Notable Trends & Patterns

- Cape Town leads Africa's emergence in global urban rankings.
- Medellín, Colombia recognised for successful transformation.
- Hanoi, Lagos, Porto rise with dynamic cultural and food scenes.
- Copenhagen, Melbourne, Brighton showcase green urbanism.
- Bangkok, Mexico City, Cape Town show high experience at low cost.

- Cities with strong post-pandemic adaptation (London, NY, Bangkok) performed well.

Culinary & Cultural Excellence

City	Highlight
Bangkok	World-famous street food
London	Multicultural dining & iconic pubs
New York	Arts, museums, music, diverse food
Melbourne	Coffee culture, street art
Edinburgh	Festival city, arts and heritage
Mexico City	Rich culinary heritage, street vibrancy
Cape Town	Scenic beauty + diverse food & communities
Porto	Portuguese authenticity with food culture

Challenges & Considerations

- Infrastructure pressure from tourism and population density
- Gentrification impacts local affordability
- Environmental sustainability vs. urban expansion
- Balancing visitor interest with community needs
- Housing cost concerns in top-tier cities

US Cities Deep Dive

City	Rank	Highlights
New York	3	Arts, food, nightlife, diversity
New Orleans	6	Music, culture, affordability, local pride
Chicago	11	Food & drink, urban beauty, vibrant city life
Los Angeles	40	Dropped due to cost, inequality, traffic issues
Notable Absences	-	SF, Miami, Boston, DC, Las Vegas excluded

Strategic Insights

- **Geographic Diversity:** Rankings spread across continents; Africa & Latin America gain recognition.
- **Value over Luxury:** Cities like Bangkok, Cape Town score for affordability.
- **Cultural Authenticity:** Porto, New Orleans, Medellín celebrated for community character.
- **Sustainability:** High-ranking cities emphasize green spaces & climate-conscious policies.
- **Post-Pandemic Priorities:** Livability, community, and localism preferred over mass tourism.

India's Standing

- **Mumbai ranked 49th**, cited for cultural vibrancy, diversity, and resilience.
- Challenges:
    - Lack of green spaces
    - Urban congestion & inequality

- Need for better walkability, transit, and inclusivity

- Opportunity for Indian metros to improve on:
  - Sustainable urban development
  - Climate resilience
  - Community-oriented infrastructure

Mnemonic – "BEST CITIES"

B – Bangkok for street food brilliance
E – Edinburgh for festivals and heritage
S – Shanghai's urban fusion of East & West
T – Tokyo's tradition and efficiency
C – Cape Town's scenic culture leadership
I – Inclusion in London, Brighton communities
T – Time Out's top staff pick: London
I – Innovation hubs like Copenhagen, Singapore
E – Europe's dominance with 16 entries
S – Sustainability: Brighton, Copenhagen, Melbourne

28. QS World University Rankings 2026

Why in News

- QS World University Rankings 2026 have been released by Quacquarelli Symonds (QS), featuring 1,501 ranked institutions from 106 countries, including 112 new entrants.
- A moment of pride for India: 54 Indian universities have secured their place in the rankings, making India the 4th most represented country globally after the USA, UK, and Mainland China.
- This marks a five-fold growth from 11 in 2015 to 54 in 2026, underscoring the success of India's higher education transformation under the National Education Policy (NEP) 2020.

India's Performance –

Insight	Details
Total Indian Universities Ranked	54 (Up from 11 in 2015)
Global Representation Rank	4th (After USA - 192, UK - 90, China - 72)
New Entrants from India	8 (Highest for any country in 2026)
Rank Improvement	48% of Indian universities improved positions
Top 250 Representation	6 Indian institutions ranked in the global top 250
Highest Ranked Indian Institute	IIT Delhi (Rank = 123, up from 150)
Biggest Indian Rank Jump	IIT Madras (Moved from 227 to 180)

Indian Institutes of Technology	12 IITs featured
Employer Reputation Top 100	5 Indian institutions in global top 100
Citations per Faculty	8 institutions in top 100 globally (Average score: 43.7)
Institutional Diversity	Central, State, Private, Deemed, and Technical Institutes included

Top Indian Institutions – QS 2026

Institution	Rank
Indian Institute of Technology Delhi	=123
Indian Institute of Technology Bombay	129
Indian Institute of Technology Madras	180
Indian Institute of Technology Kharagpur	=215
Indian Institute of Science Bangalore	=219
Indian Institute of Technology Kanpur	222
University of Delhi	=328
Indian Institute of Technology Guwahati	=334
Indian Institute of Technology Roorkee	=339
Anna University	=465

Notable Private Indian Universities

Institution	Rank
Shoolini University of Biotechnology & Mgmt Sciences	503
Chandigarh University	575
Vellore Institute of Technology (VIT)	=691
Symbiosis International (Deemed University)	696
Lovely Professional University (LPU)	901–950
Amity University	951–1000

These institutions stood out for global engagement, student diversity, and research output.

Top 10 Global Universities – QS 2026

Rank	Institution	Country	Change from 2025
1	Massachusetts Institute of Technology	USA	0
2	Imperial College London	UK	0
3	Stanford University	USA	↑3
4	University of Oxford	UK	↓1
5	Harvard University	USA	↓1
6	University of Cambridge	UK	↓1
7	ETH Zurich	Switzerland	0
8	National University of Singapore	Singapore	0

9	University College London (UCL)	UK	0
10	California Institute of Technology	USA	0

Highlight: Stanford's jump credited to sustainability and international faculty indicators.

Global Statistics – QS 2026

Metric	Data
Total Institutions Ranked	1,501
Countries Represented	106 (up from 103 in 2025)
Newly Ranked Institutions	112
Universities That Moved Up	478
Universities That Moved Down	573
Top Global Climber	Sunway University, Malaysia (↑129)
India's Improvement Rate	41% of Indian institutions improved their ranks

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Ranking Methodology (QS)

Lens	Indicators
Research & Discovery	Academic Reputation, Citations per Faculty
Learning Experience	Faculty-Student Ratio
Employability	Employment Outcomes, Employer Reputation

Global Engagement	International Student/Faculty Ratios, Research Network, Diversity
Sustainability	Environmental and Institutional Impact

Mnemonic: RLEGS – **R**esearch, **L**earning, **E**mployability, **G**lobalisation, **S**ustainability

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Global Movements

- **Sunway University (Malaysia):** +129 positions
- **University of Chicago (USA):** Up 8 ranks to 13th
- **Yonsei University (South Korea):** Broke into Top 50
- **Adelaide University (Australia):** Debuted at 82nd globally after merger

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Government of India Reaction

- Education Minister Dharmendra Pradhan:

"With a record 54 HEIs among the world's best, India hits a new high in the QS Rankings. This five-fold jump is a testament to transformative reforms under PM Modi ji's leadership."

- India recognised as fastest-growing education system in the G20.

About QS World Rankings

- **Launched by:** Quacquarelli Symonds (QS), UK-based education services firm
- **Purpose:** Transparent global comparison of academic excellence, employability, and sustainability
- **Used by:** Students, policymakers, and institutions worldwide for benchmarking

Mnemonic: QS RANK

- **Q** – Quality Research

- **S** – Sustainability focus
- **R** – Reputation (Academic + Employer)
- **A** – Academic Excellence
- **N** – Network & Diversity
- **K** – Knowledge Production (Citations)

29. Bar Council of India vs Society of Indian Law Firms: Foreign Lawyers Entry Debate

Why in News

- The Bar Council of India (BCI) is creating a centralised registry of all law firms and lawyers to establish a democratically elected, pan-India organisation.
- This move is in response to the Society of Indian Law Firms (SILF)'s opposition to the May 2025 notification allowing the entry and operation of foreign lawyers and law firms in India.
- BCI alleges SILF does not represent the broader legal community and works only to protect elite commercial interests.

Background and Context

2.1 May 2025 Notification

- Permits foreign lawyers/firms to offer non-litigious legal services:
  - Advice on foreign/international law
  - International arbitration
- Prohibits:
  - Practice of Indian law
  - Appearance in Indian courts
  - Filing petitions or conveyancing work

Formation of Committees

- June 14, 2025: BCI set up a committee chaired by Cyril Shroff (Cyril Amarchand Mangaldas) to review concerns.

- June 17, 2025: SILF formed a counter-committee chaired by Shardul Shroff (Shardul Amarchand Mangaldas) to suggest changes.

Key Stakeholders and Their Positions

Stakeholder	Position
BCI	Supports regulated foreign entry, promotes democratic representation, criticises SILF for elitism
SILF	Opposes current foreign entry framework, calls for reforms and proper safeguards, represents elite firms

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BCI's Allegations Against SILF

- SILF acts as an exclusive body serving elite firms, excluding over 90% of Indian legal practitioners.
- SILF firms allegedly funnel foreign legal work through informal collaborations, forming a "parallel legal economy".
- SILF aims to preserve monopolies and restrict policy participation by small or regional firms.

BCI's Key Initiatives

5.1 Centralised Registry

Parameter	Description
Scope	All law firms and individual lawyers across regions and specialisations
Objective	Ensure transparent governance and enable **elected representation**

Outcome	Empowerment of young and regional legal professionals in national policy dialogue

Policy Dialogue Platform

- Focused on inclusive participation
- Ensures regional, generational, and specialisation-based representation

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Foreign Lawyers Entry: Rules & Limitations (May 2025)

A) Permitted Activities

- Advisory on foreign law
- Participation in international arbitration
- Cross-border legal transactions in collaboration with Indian firms

B) Prohibited Activities

- Practicing Indian law or appearing before Indian courts
- Filing cases or conducting litigation
- Conveyancing and property-related services

C) Mandatory Requirements

- Registration with Bar Council of India
- No Objection Certificate (NOC) required
- Must operate in partnership with Indian firms

Economic & Professional Implications

A) For Young Lawyers

Pros	Cons

Global exposure	Fierce competition with experienced foreign lawyers
New opportunities	Qualification and experience gaps
Higher remuneration potential	Cost barriers and cultural challenges

B) For Established Firms

Pros	Cons
Specialisation incentives	Pressure to match international standards
Collaboration prospects	Fee competition and brand risk

C) Service Quality Impact

Advantages	Concerns
Global best practices	Costlier services
Higher client satisfaction	Elite firm consolidation
Legal knowledge transfer	Brain drain risks

International Comparisons

Country	Model Features
Singapore	Qualified Foreign Lawyers (QFL), joint ventures, limited local practice
UAE	Foreign law firms allowed in free zones, restrictions on mainland services

Success Factors:

- Pilot implementation
- Regulatory oversight

- Clear role boundaries

Implementation & Governance Challenges

A) Registry Development

- Technological infrastructure and data verification
- Seamless integration with legal systems
- Real-time updates and compliance management

B) Electoral & Governance Systems

- Defining voting constituencies (region, size, specialisation)
- Transparent electoral process and dispute resolution
- Avoiding elite capture in elected positions

Stakeholder Perspectives

A) Young Lawyers

- Opportunities in international law
- Barriers due to inexperience and cost
- Career growth, global exposure
- Pressure from global competition

B) Small/Medium Firms

- Entry into new legal niches
- Client and talent migration to large/global firms
- Innovation and diversification
- Limited resources to match foreign infrastructure

Legal and Policy Framework Requirements

A) Regulatory Measures

- Foreign lawyer licensing rules
- Clear demarcation of permitted services
- Dispute redressal and penalties

B) Quality and Ethics

- Continued legal education
- Ethics enforcement across cross-border services
- Professional indemnity norms

C)Market Monitoring

- Fee control mechanisms
- Client protection systems
- Market studies and periodic impact review

Future Outlook & Recommendations

A) Short-Term Priorities

- Pilot rollouts of registry in selected states
- Stakeholder engagement and training
- Infrastructure setup and awareness drives

B) Medium-Term Goals

- Electoral design for democratic representation
- Inclusive policy forums

- Transparency and feedback systems

C) Long-Term Vision

- Managed liberalisation
- Empowerment of domestic legal professionals
- Seamless global-local integration of legal services

Mnemonic: BCI VS SILF DEBATE

- **B** – Bar Council's Committee (Cyril Shroff)
- **C** – Centralised Registry Initiative
- **I** – Inclusive Representation
- **V** – Vocal Opposition by SILF (Shardul Shroff)
- **S** – Scope of Permitted Services
- **D** – Democratic Legal Governance
- **E** – Economic & Career Impact
- **B** – Brain Drain Threat
- **A** – Arbitration & Foreign Law Focus
- **T** – Transparency, Tech, and Training
- **E** – Ethical & Regulatory Reforms

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30. Paris Diamond League 2025: Neeraj Chopra's Gold-Medal Throw

Why in News

- Neeraj Chopra clinched gold at the Paris Diamond League 2025 on 20 June at Stade Sébastien-Charléty.
- His first throw of 88.16m secured the title and marked his first Diamond League victory since June 2023 (Lausanne).
- This was the eighth stop on the 2025 Diamond League circuit and marked his first major win in 2025, following defeats in Doha and Poland.

Final Standings

Rank	Athlete	Nation	Best Throw	Notes
🥇 1	Neeraj Chopra	IN India	88.16 m	Season's 2nd-best for him
🥈 2	Julian Weber	DE Germany	87.88 m	Season-best (PB: 91.06 m)
🥉 3	Luiz Maurício da Silva	BR Brazil	86.62 m	South American record

Other Competitors:

- **Keshorn Walcott** (TTO) – 81.66 m (PB: 90.16 m)
- **Anderson Peters** (GRN) – 80.29 m (PB: 93.07 m)
- **Julius Yego** (KEN) – 80.26 m (PB: 92.72 m)
- **Andrian Mardare** (MDA) – 76.66 m (PB: 86.66 m)

- **Remi Rougetet** (FRA) – 70.37 m (PB: 80.49 m)

Neeraj Chopra's Throw-by-Throw Performance

Attempt	Distance	Remark
1st	88.16 m	Winning throw
2nd	85.10 m	Solid backup
3rd	X	Foul
4th	X	Foul
5th	X	Foul
6th	82.69 m	Safe close

- His opening throw dominated the field; Weber couldn't surpass it.
- Demonstrated consistency under pressure with two legal throws above 85m.

Rivalry & Redemption

- In Doha (May 2025), Neeraj achieved a new PB and national record (90.23 m) but lost to Weber's 91.06 m.
- Also lost to Weber at the Janusz Kusocinski Memorial Meet (threw 84.14 m).
- In Paris, he reversed the trend, beating Weber for the first time in 2025.

Full Result Table

Athlete	Nation	Season Best	Personal Best	Throws

Neeraj Chopra	IN	90.23 m	90.23 m	88.16, 85.10, X, X, X, 82.69
Julian Weber	DE	91.06 m	91.06 m	87.88, 86.20, 82.03, 83.13, 84.50, 81.08
Luiz M. da Silva	BR	86.62 m	86.62 m	75.68, 76.72, 86.62, 76.97, 78.50, 78.56
Keshorn Walcott	TT	84.65 m	90.16 m	80.94, 81.66, 80.01, X, 75.19, —
Anderson Peters	GD	85.64 m	93.07 m	77.89, 80.25, 80.29, 79.66, X, —
Julius Yego	KE	78.74 m	92.72 m	79.54, X, 78.51, 80.26, X, —
Andrian Mardare	MD	80.51 m	86.66 m	75.74, 76.66, X, 75.25, X, —
Remi Rougetet	FR	80.49 m	80.49 m	X, 70.37, —, R, —, —

Diamond League 2025 – Men's Javelin Snapshot

Meet	Winner	Winning Mark	Neeraj's Result
Doha	Julian Weber	91.06 m	2nd – 90.23 m (PB/NR)
Paris	Neeraj Chopra	88.16 m	1st
Monaco	—	—	Scheduled (July)
London	—	—	Scheduled (July)
Zurich	—	—	Qualified for Final (August)

Significance for Indian Athletics

- **Diamond League Points**: 8 points boost his lead in the standings.

- **Rivalry Advantage**: Overcomes recent setbacks against Weber.
- **6th Indian Diamond League Win**: 5 by Neeraj (Lausanne '22 & '23, Zurich '23 Final, Paris '25), 1 by Avinash Sable (steeplechase 2024).
- **Season Consistency**: 90.23 m (Doha) + 88.16 m (Paris) signal elite form.

About the Paris Diamond League (Meeting de Paris)

- Prestigious annual track-and-field event, held at Stade Sébastien-Charléty.
- Began in 1999, part of IAAF Golden League before becoming a Diamond League meet in 2010.
- Venue shifted permanently to Charléty in 2017, after early years at Stade de France.

Historical Highlights

- Usain Bolt: 9.79s 100m (2005 & 2009).
- Jakob Ingebrigtsen: World Best in 2-mile (7:54.10 – 2023).
- Faith Kipyegon: WR in 5000m (14:05.20 – 2023) & 1500m (3:49.04 – 2024).
- Lamecha Girma: 3,000m steeple WR (7:52.11 – 2023).

2025 Edition Highlights

- 30th edition of the meet.
- Faith Cherotich: 8:53.37 in women's 3000m steeple (6th fastest in history).
- Azzedine Habz: French record in 1500m (3:27.49 – WL).
- Rai Benjamin: Meet record in 400m hurdles (46.93s).

What's Next for Neeraj?

- MC Monaco & GB London DL meets – July 2025.

- CH Zurich Diamond League Final – August 2025 – defending champion.
- JP World Athletics Championships (Tokyo) – September 2025.
- US Los Angeles Olympics 2026 – Long-term goal.

Mnemonic: **NEERAJ GOLD**

- **N** – Neeraj's first major win since 2023
- **E** – Early dominance in Paris with 88.16 m
- **E** – Elite global form (90.23 + 88.16)
- **R** – Rival Weber defeated for first time in 2025
- **A** – Avinash & Neeraj – India's Diamond duo
- **J** – Javelin standings lead (8 pts)
- **G** – Grand venue – Stade Charléty
- **O** – Olympic prep on track
- **L** – Legacy of records in Paris
- **D** – Diamond Final (Zurich) next

31. Adani Commissions India's First Off-Grid 5 MW Green Hydrogen Pilot Plant

Why in News

- On June 23, 2025, the Adani Group commissioned India's first off-grid 5 megawatt (MW) green hydrogen pilot plant in Kutch, Gujarat.
- Developed by Adani New Industries Limited (ANIL), the clean energy arm of Adani Enterprises Ltd, the plant is hailed as a technical breakthrough and a benchmark for decentralised, renewable-powered industrial hydrogen production.
- This project aligns with India's National Green Hydrogen Mission (NGHM) and the vision of Atmanirbhar Bharat (self-reliant India).

Key Features of the Plant

- Capacity: 5 megawatts (MW).
- Power Source: 100% solar energy.
- Energy Backup: Integrated with a Battery Energy Storage System (BESS).
- Operation: Completely off-grid — does not rely on the main electricity grid.
- Technology: Features a fully automated, closed-loop electrolyser system that dynamically adjusts to real-time solar energy inputs.
- Efficiency: Ensures high operational efficiency, safety, and flexibility — especially crucial due to the intermittency of solar power.)

Green Hydrogen: What & Why

- Hydrogen is the lightest and most abundant element in the universe, producing only water vapour when burnt.
- Green Hydrogen is generated via electrolysis of water using renewable energy sources.
- Colour Codes of Hydrogen:
    - Grey Hydrogen: Produced from fossil fuels (e.g., natural gas).
    - Green Hydrogen: Produced using solar/wind energy, entirely carbon-free.

Industrial and Environmental Significance

- Target Sectors:
    - Fertiliser production
    - Oil refining
    - Heavy transport (e.g., shipping, long-haul trucking)
- These are "hard-to-abate" sectors where decarbonisation is difficult.
- The plant acts as a proof-of-concept for renewable-powered hydrogen use in such sectors.

ANIL's Green Hydrogen Ecosystem at Mundra

- ANIL is building a Green Hydrogen Hub in Mundra, Gujarat.
- The ecosystem includes:
    - Production of Green Hydrogen and its derivatives:
        - Green Ammonia
        - Green Methanol
        - Sustainable Aviation Fuel (SAF)
    - Manufacturing Facilities for:

  - Solar cells, wafers, ingots, modules
  - Wind turbine generators
  - Electrolysers
- **Goal**: Cater to **domestic and global** green energy demand.

Alignment with National Objectives

- Supports the objectives of the National Green Hydrogen Mission (NGHM):
  - Reduce fossil fuel imports
  - Enhance energy self-reliance
  - Accelerate decarbonisation
  - Position India as a global exporter of green hydrogen by 2030
- Aligns with Atmanirbhar Bharat and India's net-zero commitments.

Technological Highlights and Industry Impact

- India's first-ever fully off-grid green hydrogen plant powered exclusively by solar.
- Incorporates real-time response capabilities to fluctuating renewable inputs via its automated electrolyser system.
- Demonstrates technical feasibility of integrating renewable generation and hydrogen production in a decentralised manner.
- Benchmark for future installations — proving green hydrogen's role in industrial decarbonisation.
- Reinforces India's global leadership in sustainable energy innovation.

Global Significance and Future Strategy

- Proof-of-concept for global scale-up of similar off-grid plants.
- Supports India's entry into global green hydrogen supply chains.
- Could catalyse similar industrial deployments in developing economies.
- Potential to shape policy, technology, and export leadership in clean fuels.

Way Forward

- Commissioning of the Green Hydrogen Hub at Mundra — much larger in capacity.
- Diversification into green ammonia, methanol, SAF for global export.
- Focus on technological innovation, cost reduction, and scale-up.
- Enabling industrial-scale decarbonisation across India's energy-intensive sectors.

Mnemonic – HITS:

H – Hydrogen hub expansion

I – Innovation in technology

T – Trade (exports)

S – Scale-up and sector-wide decarbonisation

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32. Parag Jain Appointed as R&AW Chief – Complete Profile & Strategic Overview

Appointment Highlights

- On June 28, 2025, the Appointments Committee of the Cabinet appointed Parag Jain, a 1989-batch IPS officer (Punjab cadre), as the new Secretary of the Research and Analysis Wing (R&AW), India's premier external intelligence agency.
- He will succeed Ravi Sinha, whose term ends on June 30, 2025.
- Jain will assume office on July 1, 2025, for a fixed two-year term.
- He has been promoted to the rank of Secretary under the Cabinet Secretariat.

Career Profile

- Batch & Cadre: 1989 IPS batch, Punjab cadre.
- Current Role: Head of the Aviation Research Centre (ARC) — R&AW's technical wing handling aerial surveillance, SIGINT (Signals Intelligence), PHOTINT (Photo Reconnaissance), and IMINT (Imagery Intelligence).
- Previous Assignments:
    - Head of Pakistan Desk in R&AW.
    - Station Chief in Canada — tracked Khalistan terror modules.
    - Station Chief in Sri Lanka during the 2024 elections and regime transition.
    - Posted in J&K during the 2019 abrogation of Article 370.
    - SSP Chandigarh and DIG Ludhiana during Punjab's militancy phase.

Operational Contributions

A. Operation Sindoor (May 7, 2025)

- Jain masterminded intelligence gathering for precision missile strikes on 9 terror camps in Pakistan and PoK, including those of Jaish-e-Mohammed (JeM) and Lashkar-e-Taiba (LeT).
- Intelligence fusion of HUMINT + TECHINT ensured pinpoint targeting.

B. Sri Lanka: Strategic Diplomacy

- As station chief in Sri Lanka, he played a crucial role during the political transition post the economic crisis of 2022.
- Helped India counter Chinese influence and maintain regional bilateral stability.

C. Canada: Counter-Khalistan Monitoring

- Monitored and neutralised Khalistani terror modules.

D. Punjab & Kashmir Duties

- In Punjab, he led crackdowns on militants as SSP Chandigarh and DIG Ludhiana.
- Was deployed in Jammu & Kashmir post-Article 370, ensuring strategic stability during high-alert operations.

Leadership Style and Traits

- Known for a quiet, methodical, and low-profile leadership style.
- Highly respected as a "super sleuth" within the intelligence community.
- Skilled at merging field intelligence with technical operations.
- Colleagues describe him as hard-working, hands-on, and gentlemanly.

Mnemonic – INTEL STAR:

I – Integrated intelligence
N – No-nonsense leadership

T – Technical + Human synergy

E – Experienced in geopolitics

L – Low-profile operator

S – Sri Lanka & Canada expert

T – Terrorism operations veteran

A – Abrogation of Article 370

R – Reformer and moderniser

33. 51st G7 Summit – Kananaskis, Canada | India's Role and Global Impact

Overview of the G7 and the 2025 Summit

- **What is G7?**
  - Informal forum of world's leading democracies and advanced economies:
    - Members: Canada, France, Germany, Italy, Japan, UK, USA
    - Non-enumerated Member: European Union (EU)
    - Origin: Formed in 1975 as G6, became G7 in 1976, G8 with Russia (1997), reverted to G7 (2014)
  - No permanent secretariat or binding laws; decisions made by consensus.
  - Economic Significance:
    - 40% of global GDP, 10% of population
    - 36% of global power generation, 25% of energy-related CO_2 emissions
- **51st Summit Venue & Dates**:
  - Held from June 15–17, 2025 at Kananaskis, Banff, Alberta, Canada
  - Host: PM Mark Carney of Canada
  - Theme:
    - Protecting communities & the world
    - Energy security & digital transition
    - Securing future partnerships

Participating Leaders & Outreach Countries

- **G7 Leaders**:
  - Canada: Mark Carney
  - France: Emmanuel Macron
  - Germany: Friedrich Merz
  - Italy: Giorgia Meloni
  - Japan: Shigeru Ishiba
  - UK: Keir Starmer
  - USA: Donald Trump
  - EU: Ursula von der Leyen (Commission), Antonio Costa (Council)
- Outreach Countries Invited: India, Australia, Brazil, Mexico, South Africa, South Korea, Ukraine

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Key Issues & Working Sessions

- Global trade & economic realignment
- Energy security and climate cooperation
- AI ethics, cybersecurity, digital governance
- Geopolitical threats: Israel–Iran, Russia–Ukraine
- Terrorism, migrant smuggling, wildfires

Artificial Intelligence & Digital Cooperation

- **Canada's Priority**: Digital public infrastructure & AI regulation
- Outcomes:

- Reaffirmed Hiroshima AI Code of Conduct (2023, Japan)
- Supported OECD AI framework
- Canada launched Ministry of AI & Digital Innovation

- **India's Role**:
  - PM Modi advocated "Responsible AI", watermarking of deepfakes
  - Showcased UPI, Aadhaar, Digital Public Infrastructure
  - Called for Global South equity, multilateralism & anti-terror unity
- **GovAI Grand Challenge**:
  - Launched by Canada to scale public sector AI adoption with Rapid Solution Labs
  - Supports UN Global Digital Compact to bridge digital divide

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Climate, Energy & Wildfire Action

- **Kananaskis Wildfire Charter**:
  - Local + science-based + nature-based solutions
  - Aligns with Glasgow Leaders' Declaration (2021) to reverse deforestation by 2030
- **Critical Minerals Action Plan**:
  - Builds on 2023 Japan's Five-Point Plan
  - India is a co-endorser
- **RISE Partnership** (World Bank-led):
  - Resilient & Inclusive Supply Chain Enhancement
- India:
  - Ahead of schedule on Paris climate goals

- Promoted International Solar Alliance as cooperation model

Mnemonic – WARM-RISE:

W – Wildfire Charter
A – AI-led climate response
R – RISE Partnership
M – Minerals plan
R – Renewable energy
I – India's solar diplomacy
S – Sustainable transitions
E – Emissions accountability

Israel–Iran Conflict & Global Security

- Conflict escalated during summit opening
- G7 Statement:
  - Affirmed Israel's right to self-defence
  - Blamed Iran as destabiliser
  - Divergence: Macron vs Trump over peace mediation
- US President Trump left summit early due to crisis

Russia–Ukraine War & G7's Divided Stand

- Ukraine's Zelenskyy received C$2B military aid from Canada
- Trump opposed a strong joint G7 statement
- Canada released only a Chair's Summary
- India maintained neutrality, focused on humanitarian aid

Trade Agreements & Economic Realignment

- **US–UK Post-Brexit Deal**:
  - Tariff reduction on automotive, aerospace, beef, ethanol
  - Steel disputes remain
- **US–Canada**:
  - Initiated 30-day framework to resolve tariff friction

Key Global Commitments and Declarations

- **G7 GovAI Grand Challenge**:
  - Canada-led initiative for scalable public sector AI
- **G7 Coalition on Migrant Smuggling**:
  - 2024 Action Plan reinforced
- **Condemned Transnational Repression (TNR)**:
  - State or proxy intimidation across borders
- **AI & Quantum Computing**:
  - Global cooperation roadmap laid out

India at the G7: Strategic Takeaways

- PM Modi's 6th G7 appearance, 12th overall as Outreach invitee
- Raised voice against global apathy to terrorism
  - "Will nations realize terrorism's danger only when they're targeted?"
  - Called for differentiation between terror-victims and perpetrators
- India–Canada agreed to restore normal diplomatic services

- Promoted Digital Public Infrastructure and responsible AI ethics
- Advocated debt relief, development finance, and Global South equity

MODI-ACT:

M – Multilateral support

O – Outreach country (6th invite)

D – Digital infra showcase

I – India–Canada thaw

A – AI diplomacy

C – Climate goals reaffirmed

T – Terrorism challenge posed

34. World Environment Day 2025 – Beat Plastic Pollution | Republic of Korea Hosts Global Celebration

What is World Environment Day (WED)?

- United Nations' flagship global initiative for environmental awareness and action.
- Launched in 1972 at the Stockholm Conference on the Human Environment, which also led to the creation of UNEP (United Nations Environment Programme).
- First official WED celebrated on June 5, 1973, with the theme "Only One Earth" and Sweden as the host.
- Celebrated annually in over 150 countries.
- WED has addressed critical environmental challenges such as climate change, marine pollution, wildlife crime, sustainable production, and more.
- Serves as a global platform for governments, civil society, schools, youth, and corporations to take collective action.

Theme & Host Country for 2025

- **Theme**: **"Beat Plastic Pollution"** – Urging drastic reduction in plastic use and transition to sustainable alternatives.
- **Host**: **Republic of Korea**, with events centered in Jeju Province:
    - Notable for plastic-free zones, marine ecosystem conservation, and waste management innovation.
    - Targeting zero plastic waste by 2040, and championing deposit-refund systems and eco-packaging mandates.

Why "Beat Plastic Pollution" Matters

- Over 400 million tonnes of plastic produced yearly; only 9% recycled.
- Microplastics found in oceans, soil, food, and even human blood.
- Takes 500 years to degrade; accumulates in landfills and ecosystems.
- Harms marine life, biodiversity, food chains, and contributes to climate change.
- 2025 focus:
    - Strengthening momentum for a UN Plastic Pollution Treaty (due for negotiations post-WED).
    - Showcasing global innovation in sustainable packaging and circular economy.
    - Highlighting link between plastic and SDGs.

Republic of Korea's Role as Host

- Hosting global celebrations in Jeju Province.
- Demonstrated leadership in:
    - Ban on single-use plastic items
    - Mandatory eco-packaging standards
    - R&D into biodegradable materials
    - National marine cleanup operations
    - Eco-innovation and plastic credit schemes

India's Initiatives for WED 2025

- Afforestation Campaign (Andhra Pradesh): Plan to plant 1 crore saplings in one day.

- Water Revival (Rajasthan): 'Vande Ganga Jal Abhiyan' to restore traditional water bodies.
- Youth Awareness (Assam): Science Centre in Guwahati hosts rallies, lectures, and art competitions.
- Other national efforts:
    - Campus-level plastic audits
    - Plastic-free school pledges
    - Community-level deposit-refund mechanisms

How to Participate in WED 2025

- **Clean-Up Drives**: Join or organize beach, river, park, or street cleanups.
- **Refuse Single-Use**: Say no to plastic bags, straws, cups, and opt for reusables.
- **Plant Trees**: Fight climate change and enhance biodiversity.
- **Host Awareness Events**: Community meetings, school workshops, art and poster contests.
- **Social Media Campaigns**: Use #WorldEnvironmentDay and #BeatPlasticPollution to spread the message.

WED and the Sustainable Development Goals (SDGs)

- **SDG 12**: Responsible Consumption and Production
- **SDG 13**: Climate Action
- **SDG 14**: Life Below Water
- **SDG 15**: Life on Land

World Environment Day fosters action toward a greener, fairer, and more resilient world.

History and Evolution of WED

- **1972**: Proposed during the UN Conference in Stockholm; UNEP founded.
- **1973**: First WED celebrated on June 5 with theme "Only One Earth".
- Over the decades, WED themes have included climate change, biodiversity, marine protection, clean energy, and land restoration.
- **2022**: Nations agreed to begin negotiations for a global plastic pollution treaty.
- Evolved into the largest global platform for environmental outreach, engaging millions annually.

35. Sitha App – India's First Women-Exclusive Gig Platform | Empowering Women from Coding to Crafts

Main Takeaway

Launched in June 2025 by entrepreneur Swathi Nelabhatla, with Telangana IT Minister Duddilla Sridhar Babu as chief guest, Sitha App is India's first women-only gig marketplace, enabling flexible monetization of technical, creative, artisanal, and domestic skills — from coding and wellness to crafts and legal consulting.

Founder Background & Vision

- Swathi Nelabhatla: Tech professional, founder of SheJobs, and mother of a child with autism.
- Identified the gender gap in gig economy platforms, especially for non-tech skilled women.
- Previously launched SheJobs, a five-year-old platform initially in the US, later expanded to India with a user base of nearly 1 lakh women.
- Vision: "No woman should have to choose between career and family."
- Sitha was inspired by feedback from women with non-tech skills — tailoring, wellness, art — who had no platform to earn flexibly.
- She described Sitha as a movement to empower women, not just an app.

Platform Features

- **"Woman-First" Design**: Safe onboarding, identity verification, and profile support
- **AI-Powered Gig Matching**: Tailored gig suggestions based on skills, location, preferences

- **Verified Services & Secure Payments**: In-app wallet, milestone-based transactions, and reviews
- **Support System**: Skill building, onboarding assistance via WhatsApp and calls, app walkthroughs
- **Categories**: 100+ service types — from home services to legal and design consulting
- **E-commerce Component**: Women can also list and sell products (e.g. sarees, jewelry, paintings)
- **Community-Based Gigs**: Services offered include beauty, event management, teaching, legal advice, and wellness
- **Digital & Rural Inclusion**: Built for scale across metros, tier-2 cities, and rural areas

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Service Categories (Examples)

- **Technical**: Software development, coding, web design, data analysis
- **Creative**: Music, graphic design, content writing, photography
- **Artisanal**: Tailoring, handicrafts, home decor, traditional arts
- **Domestic & Wellness**: Fitness coaching, yoga, elder care, child tutoring
- **Professional**: Legal consulting, accounting, career counseling, HR
- **Product Sales**: Sarees, jewelry, crafts, artwork

Scale and Expansion

- Available Nationwide: On Android and iOS, already launched in Telangana & Andhra Pradesh
- First Phase Marketing: Town- and city-specific awareness campaigns
- Goal: Empower 1 million women entrepreneurs by 2027

- Leverages SheJobs Data: 1 lakh+ women professionals already registered from prior venture

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Launch Event Highlights

- Chief Guest: Telangana Minister Duddilla Sridhar Babu called it a "women's movement" for financial independence.
- Venue: Trident Hyderabad
- Nelabhatla's Remarks: "We are creating a world where no woman has to choose between career and family."
- Minister said: "Let us rise, break barriers and lead. Women shouldn't have to choose between dreams and duty."
- Swathi Nelabhatla thanked him, calling his presence a message of encouragement for thousands of women.

Differentiators & Social Impact

- India's First Women-Only Gig Platform: Inclusive of professional and domestic skills
- Flexible & Dignified Livelihoods: Validates traditionally unpaid work like tailoring, elder care
- AI-Driven Personalization: Matches gigs with verified women professionals
- Local Economic Boost: Encourages town- and grassroots-level entrepreneurship
- Gender-Inclusive Digital Economy: Demonstrates scalable model for regulatory frameworks
- Rural Access: App designed for users with low tech exposure
- No Listing Fees: Onboarding support is free and beginner-friendly

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User Journey

1. **Sign-Up**: Create profile, verify identity, choose service/product category
2. **Skill Listing**: Add descriptions, photos, and pricing for offerings
3. **AI Matching**: Personalized gig suggestions
4. **Engagement**: Chat with clients, agree on milestones
5. **Payments**: In-app secure wallet with escrow milestone-based release
6. **Ratings**: Users earn feedback, "Top Woman Pro" badges, and ranking visibility

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Mnemonic – SHE HEROES:

S – Secure onboarding & wallet
H – Homegrown & Hyderabad-based
E – Earning through skills
H – Handicrafts to high-tech gigs
E – Empowering 1M women
R – Real-time AI matching
O – Opportunities for all skills
E – Entrepreneurship for all
S – Support from community & state