ATAL INNOVATION MISSION

- It is led **by the NITI Aayog was established in 2016** as an opportunity to improve the entrepreneurial and innovative culture of Indian administration.
- It aims to promote a **culture of innovation and entrepreneurship across India.**
- **Objectives:**

Encourage creativity as the foundation for strategic planning across various sectors

Facilitating collaboration by providing a platform for diverse stakeholders

Serving as a central body to oversee and integrate the **nation's technological infrastructure.**

- The NITI Aayog's Atal Innovation Mission (AIM) has launched several key initiatives to foster innovation and entrepreneurship:
- **Atal Tinkering Laboratories (ATL):**
    - It is designed to spark creativity and innovation among young minds.
    - It provides access to advanced **technology for students who are 12 years and above.** It focuses on teaching concepts of science, technology, engineering, and mathematics (STEM) using modern tools and equipments.
- **Atal Incubation Centres (AIC):** It actively **supports innovative entrepreneurs** to enhance accessibility, sustainability, and scalability.
    - It aims to establish world-class startups and long-term businesses in 110 smart cities and the top five institutions in each state. It **provides infrastructure, mentorship, and access** to funding to help innovators thrive in their fields.
- **Atal Research and Innovation for Small Businesses (ARISE):**
    - It aims to **enhance the performance of Indian startups and MSMEs** by fostering research and technology-driven initiatives.
    - It focuses on creating a steady pipeline of innovative products, with initial clients being Central Government Ministries/Departments.

BEYOND E20: INDIA'S ETHANOL PUSH AND THE ROAD AHEAD

- Ethanol blending means mixing ethanol (a fuel made mainly from sugarcane or grain) with petrol. The number after "E" tells the ethanol percentage — so E20 means 80% petrol and 20% ethanol.
- India achieved the **20% blending target in 2025**, five years ahead of schedule.
- The government's new measures point in two different directions:
    - The first move — shifting from E20 to higher blends like E25 — affects most existing petrol cars on Indian roads today.
    - The second move — recognising E85 and E100 — is meant for a completely new category of vehicles called **flex-fuel vehicles**, which can run on varying combinations of petrol and ethanol.

Why Are Consumers Worried?

- Several specific concerns have been raised:
    - **Engine damage**: Ethanol contains more water than petrol, and water is corrosive. Engines not designed for higher ethanol blends could suffer damage to engine components over time.
    - **Drop in mileage**: Many users reported a 5-12% drop in mileage after shifting from E10 to E20. The government, however, says this drop is only "marginal."
    - **No choice at the pump**: Unlike in Brazil, Indian consumers currently cannot choose between different fuel blends at the pump — everyone gets the same standard fuel, whatever it is. Brazil also gives price discounts for higher ethanol blends, something India does not currently offer.
    - **Cold start problems**: Ethanol burns at a higher temperature than petrol, which can make cars harder to start on cold winter mornings.
    - **Worsening performance at higher blends**: While E10 caused barely noticeable problems, blends above E10 create issues for non-compatible engines — and these problems get worse at a faster rate as the ethanol percentage increases.

Why Are Automakers Concerned?

- For carmakers, the E25 transition means fresh rounds of engineering work — testing engine calibration, fuel-system durability, corrosion resistance, and material compatibility — just months after completing similar work for the E20 transition.
- There's also a **supply-side challenge**: Oil Marketing Companies (OMCs) have indicated they can practically manage only two ethanol blends at a time at their pumps — making a smooth, nationwide simultaneous rollout logistically difficult.

Why Is the Government Pushing for Higher Blends?

- **Energy Security** - India currently imports about 88.5% of its crude oil requirement. Higher ethanol blending is part of India's strategy to cut oil import dependence and improve energy self-reliance.
- **The Agricultural Angle** - There is also a strong political and agricultural dimension. States like Maharashtra and Uttar Pradesh have large sugarcane-growing regions, and farmers there are sitting on excess sugarcane production. Higher ethanol blending creates a ready market for this surplus, benefiting the agricultural lobby in these states.
- **Government's Reassurance**
    - The government insists the rollout will happen only after proper testing and consultation.
    - The Bureau of Indian Standards (BIS) has already notified fuel standards for these higher blends.
    - The transition is "not being pushed through in a hurry" and that adequate time will be given to both vehicle makers and oil companies to prepare.

Conclusion

- India's ethanol ambition is sound in principle — less oil imported means more energy security and a market for farmers' surplus crops.
- But Brazil's success shows that choice, pricing incentives, and phased implementation matter as much as the blending target itself.
- Without these, the cost of the transition risks falling unfairly on ordinary vehicle owners.

SHIP RECYCLING IN INDIA AND THE NEW GREEN RECYCLING

- **Ship recycling** refers to the dismantling of old or decommissioned ships for recovering valuable materials such as **steel, machinery, spare parts, and reusable equipment**.
- It also ensures the environmentally safe disposal of hazardous substances present in ships.
- Ship recycling is economically important because ships contain large quantities of recyclable steel and equipment, making the sector valuable for the **metal, manufacturing, and shipping industries**.
- India is one of the world's leading ship recycling nations and plays an important role in the global maritime economy.

Major Ship Recycling Centres in India

- India's ship recycling industry is concentrated primarily in:
  - Alang-Sosiya Ship Recycling Yard, Gujarat
  - Ship recycling facilities in Maharashtra and Tamil Nadu
- Among these, **Alang in Gujarat** is globally significant and represents one of the **largest ship recycling clusters in the world**.
- The region hosts around 120 operational plots, representing one of the highest concentrations of Hong Kong International Convention (HKC)-compliant ship recycling facilities worldwide.

Legal and Environmental Framework

- Ship recycling involves environmental and occupational safety risks because old vessels often contain hazardous materials such as:
  - Asbestos, Heavy metals
  - Toxic oils and chemicals, Polluting waste materials
- To regulate the sector, India enacted the **Recycling of Ships Act, 2019**, which aligns domestic regulations with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC).

- The Act seeks to:
  - Promote safe recycling practices
  - Improve worker safety standards
  - Reduce marine and coastal pollution
  - Encourage environmentally sustainable dismantling
- India ratified the **Hong Kong Convention in 2019**, strengthening its position as a major global ship recycling destination.

Economic Importance of Ship Recycling

- The ship recycling sector contributes to:
  - Recovery of steel for domestic industries
  - Employment generation in coastal regions
  - Growth of maritime ancillary industries
  - Reduction in dependence on imported scrap metal
- Additionally, the sector supports India's broader maritime ambitions under initiatives such as the **Maritime India Vision 2030** and the **Blue Economy framework**.

Early Industry Response and Challenges

- Industry stakeholders have welcomed the move, viewing it as a **positive beginning for India's maritime manufacturing ecosystem**.
- According to the Ship Recycling Industries Association (India), around 119 ships were recycled in the country during FY26, accounting for nearly one-third of global ship recycling activity by number of vessels.
- However, India processed only around **13% of recycled tonnage globally**, indicating that the country still mainly handles relatively smaller ships.
- Experts argue that while the scheme is promising, success will depend on:
  - Faster implementation of digital credit note systems
  - Simplified approval processes
  - Expansion of domestic shipbuilding capacity
  - Availability of skilled maritime labour

INDIA-FRANCE RELATIONS - EXPANDING COOPERATION IN TRADE, TECHNOLOGY, DEFENCE AND GLOBAL GOVERNANCE

- The Indian PM and French President (Emmanuel Macron) held bilateral talks in **Nice**, France.
- This was their first meeting after the elevation of India-France relations to a "Special Global Strategic Partnership", marking a new phase in bilateral cooperation.
- The discussions covered defence, trade, innovation, artificial intelligence (AI), space, nuclear energy, education, mobility, and global geopolitical issues.
- The Indian PM also discussed India's participation in the upcoming **G7** Summit, reflecting France's support for India's role in global governance discussions.

India-France Relations:

- **Overview**: Diplomatic relations, established soon after India's independence in 1947, were elevated to Strategic Partnership (first-ever for India with a Western nation, and the first for France with a non-Western nation) with France in **1998**.
- **The core of partnership**: Shared democratic values, belief in multilateralism, respect for international law, and strong economic, cultural, academic, and people-to-people ties (~119,000 Indian diaspora in mainland France).
- **Horizon 2047**: In 2023, the year which marked 25 years of India-France strategic partnership, both sides set the course for the next 25 years until 2047.
- **Bilateral trade:** Within the EU, France is India's **3rd**-largest trading partner, after the Netherlands and Germany. Indian exports to France amounted to $7.1 billion in 2025-26 (out of total bilateral trade of $15.81 billion).
- **Defence cooperation**: Bilateral army exercise SHAKTI; both air forces also participate in biennial Ex-GARUDA (bilateral), and TARANG SHAKTI and MILAN (multilateral); and bilateral naval exercise VARUNA.

- **India France Year of Innovation:** India and France are celebrating the India-France Year of Innovation in the year 2026, which was jointly inaugurated by the French President and the Indian PM in 2026 in Mumbai.

Conclusion:

- The India-France Special Global Strategic Partnership is evolving beyond traditional defence cooperation into a comprehensive framework.
- The outcomes of the Nice summit underscore the **shared ambition** of both countries to build a resilient, technology-driven and strategically significant partnership capable of addressing 21st-century geopolitical and economic challenges.

WHAT ARE ARBITRAGE FUNDS?

- Arbitrage funds are **equity-oriented hybrid funds** that l**everage arbitrage opportunities in the market.**
- The basic principle behind arbitrage is to **take advantage of temporary price differences to generate profits** with **minimal risk.**
- The fund manager of an arbitrage fund **buys and sells the shares at the same time** and **earns the difference** between the **selling price and the buying price** of the share.
- **Benefits**:
    - **Low Risk, Equity-Like Returns:** Since the buying and selling are hedged, the risk is minimal, making it an attractive option for risk-averse investors.
    - **Tax Advantages: Gains** from arbitrage funds **held for more than one year qualify as long-term capital gains (LTCG).**
    - **Liquidity:** Arbitrage funds offer high liquidity, allowing investors to **redeem** their **money quickly** when needed.
    - **Diversified Portfolio:** These funds diversify investments across various sectors and instruments, reducing the risk.

- Limitations:
  - **Market Dependency:** Returns are linked to market volatility; low volatility means fewer opportunities for arbitrage.
  - **Short-Term Focus**: They may **not be ideal for long-term wealth creation.**

MUKUNDRA HILLS TIGER RESERVE

- **Location:** It is located in **Rajasthan.**
- It is also known as the **Darrah Wildlife Sanctuary.**
- It is situated in a valley formed by two **parallel mountains, viz. Mukundra and Gargola.**
- It encompasses the area of **Mukandra National Park, Darrah Sanctuary, Jawahar Sagar Sanctuary, and part of Chambal Sanctuary** (from Garadia Mahadev to Jawahar Sagar Dam), forming its core/critical tiger habitat.
- It is strategically located between **Ranthambore and Madhya Pradesh's Kuno National Park,** making it a vital corridor for tiger movement.

River: It is located on the eastern bank of the **Chambal River** and is drained by its tributaries.

Vegetation: Dry Deciduous Forest

Flora: Kala Dhok, or Kaladhi, is the predominant species, along with Khair, Ber, Kakan, Raunj, etc.

Fauna: Leopard, Sloth bear, Nilgai, Chinkara, Spotted Deer, Small Indian Civet, Toddy Cat, Jackal, Hyena, Jungle Cat, Common Langur, etc.

GREATER HOG BADGER

- It is a **nocturnal small burrowing omnivore mammal.**
- It is called **'mati gahori' in Assamese.**
- Globally, there are three extant species of this mammal—the **greater hog badger**, the **northern hog badger** (Arctonyx albogularis), and the **Sumatran hog badger** (Arctonyx hoevenii). The **first two are found in India.**
- **Distribution:** It is distributed across parts of **South, Central, and Southeast Asia.**
  - Its range extends from Bangladesh and **northeastern India eastwards** through Myanmar, Thailand, Lao PDR and Vietnam.
- **Habitat:** They live in tropical **evergreen forests, savanna, grasslands** and shrubland, hills, and mountains.
- **Characteristics:**
  - It is a **ground-dwelling very shy and leads** a secretive solitary life.
  - These are **territorial creatures** that **mark their territories with their scents on the grass,** rocks, and tree trunks.
  - They are **excellent burrowers** and dig into the ground to create burrows for shelter and to find their food.
  - **Diet:** Its diet includes worms, insects, small mammals but also fruits, tubers, and roots.
- **Ecological Role:** It contributes to ecosystem **function as a highly fossorial mammal** (a term for animals adapted for digging, burrowing, or living primarily underground) through soil **disturbance, nutrient redistribution, and leaf litter turnover** during foraging.
  - Such digging behaviour enhances soil aeration and may facilitate seed germination and micro-habitat formation for invertebrates and small vertebrates.
- **Conservation Status**
  - **IUCN:** Vulnerable
  - **Wildlife Protection Act of 1972:** Schedule I