

NEWS TODAY

Digital India initiative (DII) completes 9 years

Launched in 2015, Digital India Initiative (DII) is a flagship programme to transform India into a **digitally empowered society and knowledge economy**.

It is an **umbrella programme** that covers multiple projects of various Central Ministries/Departments and States and Union Territories (UTs).

Key Features of Digital India Initiative

Key Focus Areas:

- ⊖ Digital Infrastructure as a Utility to Every Citizen
- ⊖ Governance & Services on Demand
- ⊖ Digital Empowerment of Citizens

Pillars: Covers 9 pillars of growth areas (refer infographic).

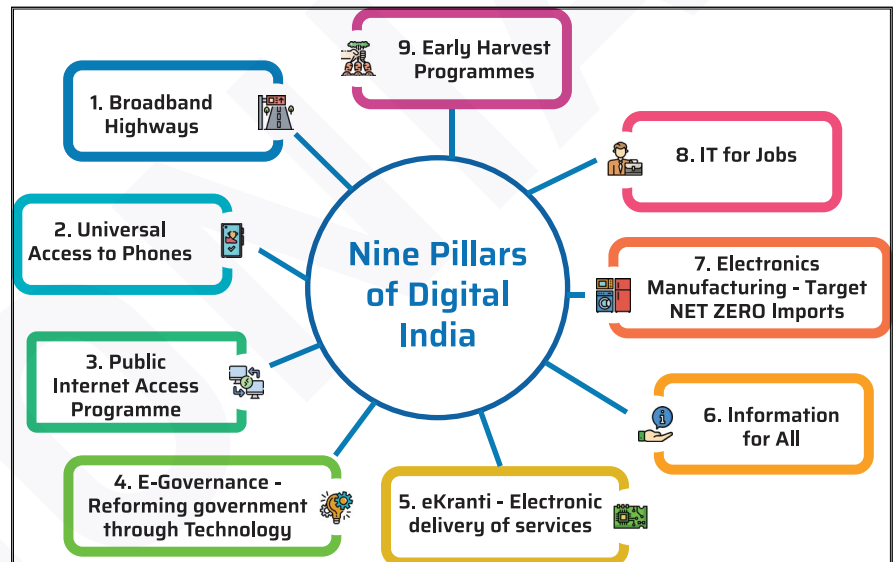
Implementation: **Department of Electronics and Information Technology (DeitY)** is a main coordination agency along with other ministries and monitoring committee (headed by Prime Minister).

Initiative launched: Unified Mobile Application for New-age Governance (UMANG), DigiLocker etc.

Digital India Initiative has led to **Ease of Living and transparency** in country:

- **Digital Public Infrastructure:** Enabling a technology-led model for growth that is collaborative, equitable, and democratises opportunity.
- **Financial Inclusion:** Over **11 Crore** farmers now receive money directly in their bank account.
 - ⊖ Over 137 Crore Aadhaar numbers generated.
- **BharatNet:** Under it, 6.83 lakh km of optical fibre network has been laid.

Key challenges faced by Initiative: **Coordination Issues** (Program covers many departments), Rural-urban digital divide, etc.



Reserve Bank of India (RBI) joins Project Nexus to enable instant cross-border retail payments

Nexus is a multilateral international initiative to enable instant cross-border retail payments by interlinking domestic Instant Payments Systems (IPS).

An IPS is an **electronic payments system which facilitates inter-bank fund transfer and sends confirmation of payment to the receiver and originator within a minute or less**. E.g. Unified Payments Interface (UPI).

About Project Nexus

Conceptualized by the Innovation Hub of the Bank for International Settlements (BIS).

- ⊖ BIS was established in 1930 with its head office in Basel, Switzerland and is owned by 63 central banks, including RBI.
- It will **connect IPS of four ASEAN countries** (Malaysia, Philippines, Singapore, and Thailand) and **India** and is expected to go **live by 2026**.
- Nexus is designed to standardise the way **domestic IPS connects to one another**.
 - ⊖ Rather than an IPS operator building custom connections for every new country to which it connects, the **operator only needs to make one connection to Nexus**.
- It aims to achieve G20 targets of enabling **cheaper, faster, more transparent and accessible cross-border payments**.

Benefits of Project Nexus:

- **Simplifies cross-border payments**, reducing complexity, cost, and transaction time.
- It offers complementary **low-cost and scalable** rail for all payment service providers.
- It **bridges gaps in interoperability** by fostering standardisation and harmonisation across diverse systems.

Challenges with Cross-Border Payment Systems

Lack of interoperability

Slow and expensive

Requirement of additional steps such as currency conversion.

Difficult to scale

NITI Aayog releases White Paper: Responsible AI for All (RAI) on Facial Recognition Technology (FRT)

This paper examines FRT as the **first use case under NITI Aayog's RAI principles** and aims to establish a framework for **responsible and safe development and deployment of FRT** within India.

- FRT is an AI system which allows **identification or verification of a person** based on certain images or video data using complex algorithms.

Working of FRT

- FRT primarily seeks to accomplish **three functions** -
 - ⊕ **Facial detection** which relies on algorithms to detect presence of human face.
 - ⊕ **Facial extraction** which uses mathematical representations to identify distinctive features on individual faces.
 - ⊕ **Facial recognition** which involves automatic cross-referencing of a person's facial features with pre-existing database.

Applications of FRT

- **Security Related:** Law and order enforcement (surveillance, identification of persons of interest, monitoring of crowd, screening for violation of public norms).
- **Non-Security related:**
 - ⊕ **Ease of access** in services (e.g. contactless onboarding at airports through Digi Yatra).
 - ⊕ **Ease in usability** such as unique IDs in educational institutions etc.
 - ⊕ **Authentication** for access to products, services, and public benefits.

Risks with FRT systems

- **Design-based risks:** Automation bias, discrimination, lack of accountability, misidentification/inaccuracy due to under-representations in databases.
- **Rights-based issues:** Privacy and lack of consent, informational autonomy, and processing of sensitive personal data etc.

Recommendations for responsible use of FRT

- **Principle of Privacy and Security:** Establish data protection regime fulfilling a three-pronged test of legality, reasonability and proportionality.
- **Principles of accountability:** Address issues pertaining to transparency, algorithmic accountability and AI biases.
- **Ensuring Safety and Reliability:** Publishing standards of FRT related to explainability, bias and errors.
- **Principle of protection and reinforcement of positive human values:** Constitute ethical committee to assess ethical implications and oversee mitigation measures.

Ministry of Defence (MoD) to acquire Li-Fi technology for Secure and Efficient Data Transmission

MoD funded a start-up under the **Innovations for Defence Excellence (iDEX)** to secure Li-Fi technology for the Indian Defence sector, particularly focusing on the Navy.

- **iDEX** fosters innovation and technology development in Defence and Aerospace sector.
 - ⊕ Managed by **Defence Innovation Organization** under **MoD**.

About Li-Fi (Light Fidelity) Technology

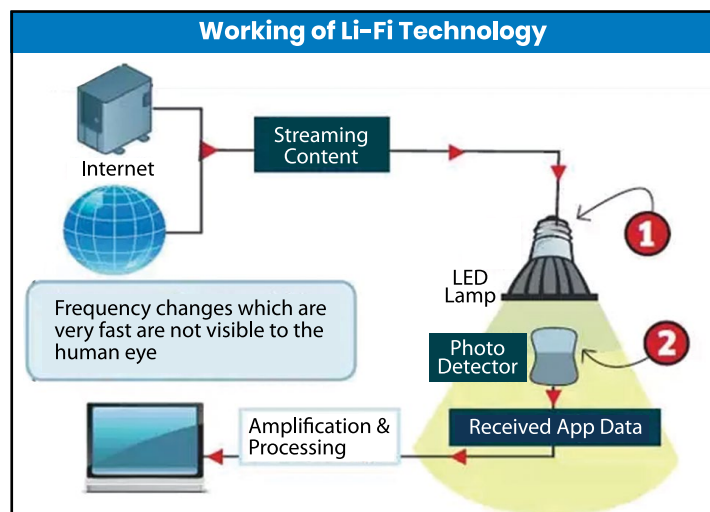
- A **bidirectional** wireless system that uses **visible light (400-800 Terahertz)** for communication, unlike **Wi-Fi which uses radio waves**.
 - ⊕ Transmits data with the help of **Light Emitting Diode (LED)**.
- **Working:**
 - ⊕ On/off activity of the **LED transmitter** enables data transmission in accordance with the **incoming binary codes** (switching ON is a logical '1', switching it OFF is a logical '0').
- **Applications:** Aircrafts, hospitals (operation theatres), power plants etc. where electromagnetic (Radio) interference creates security issues.

Advantage of Li-Fi over Wi-Fi

- **Faster:** Combination of low interference and high bandwidths provide high data rate.
- **Cheaper and sustainable:** It is up to 10 times cheaper than Wi-Fi, requires fewer components and uses less energy.
- **Secure:** Since light does not pass through walls like radio waves do, it prevents interception.

Disadvantages

- **Much shorter range** than Wi-Fi
- **Can't be accessed** beyond the **illumination range** of light, etc.



Goods and Services Tax (GST) completes 7 year

101st Constitutional Amendment Act introduced the GST in 2017.

- GST is a comprehensive **indirect tax** levied on the supply of goods and services.
 - ⊕ It is a value-added tax (VAT).

Key Features of GST

- **One Nation, One Tax:** Replaced multiple indirect taxes levied by the Central and State Governments, such as excise duty, service tax, etc.
- **Dual Structure:** Comprises of the **Central GST (CGST)** and the **State GST (SGST)**.
 - ⊕ In the case of Inter-state transactions, **Integrated GST (IGST)** is applicable, which is collected by the **Central Government** and apportioned to the respective State.
- **Destination-based Tax:** GST is a destination-based tax, levied at each stage of the supply chain.
- **Tax Slabs:** 0%, 5%, 12%, 18%, and 28%.
- **Governance:** GST Council is key decision making body.
 - ⊕ Goods and Services Tax Network (GSTN) provides IT system for the GST portal.

Key Achievements

- **Rise in number of GST taxpayers** (grew from 1.05 crore (April 2018) to 1.46 crore (April 2024))
- **Eliminated the cascading effect of taxes.**
- **Reduced compliance burden for small taxpayers (e.g composition scheme).**
- **Increased intrastate and interstate transactions** by electronic way (e-way) bills

Key Challenges/Concern and Potential Solutions

Challenges/Concern

- **Multiplicity of Tax Slabs** and various products are still outside purview of GST(e.g liquor)
- State's power of taxation has reduced
- Shortfall in revenue collection of states is not compensated timely.

Potential Solutions

- **Rationalizing Tax Structure**, reducing the number of Tax Slabs
- Revenue loss of states should be compensated on time
- Early operationalization of all the benches of the **GST Appellate Tribunal (GSTAT)**.

Karnataka Government notified rules extending social security to unorganized transportation workers

New Rules have been notified under the **Karnataka Motor Transport and Other Allied Workers Social Security and Welfare Act 2024**.

- It contains provision for establishment of a **dedicated Social Security Fund**, financed through cess on motor transport businesses, government grants, and contributions from beneficiaries.

Social Security in India

- In India, **Code on Social Security (CSS) 2020** is the primary legislation which extends social security to all employees and workers either in organized or unorganized sector.
 - ⊕ It provides for establishment of a **Social Security Fund** by central government.
- According to CSS 2020, **Social Security** means the measures of protection afforded to **unorganized workers, gig workers and platform workers** to ensure access to healthcare, and provide income security.
 - ⊕ **Unorganised worker** means a home-based workers, self-employed worker or wage worker in unorganized sector.
- Under CSS 2020, **central government and state governments can frame social security scheme** for unorganized workers.
 - ⊕ However, the Code has **not yet come into force**.

Need of Social Security for Unorganised Workers: Lack of job security, vulnerability to health and occupational hazards, lack of workplace benefits such as maternity leave etc.

Social security and welfare measures for unorganized workers

- **Life and Disability cover** through Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Pradhan Mantri Suraksha Bima Yojana (PMSBY).
- **Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM)** for old age protection.
- **National Pension Scheme for Traders and The Self-employed Persons (NPS)** for retail traders/shopkeepers and self-employed persons.
- **e-Shram portal** to register and support unorganized workers

Also in News



Steel Slag

Guidelines for Utilization and Processing of Steel Slag in Road Construction, released by **Central Road Research Institute (CRRI)**.

About Steel slag

- It is a **solid waste generated** in the **process of steel making**.
- It is composed of **oxides of calcium, iron, silicon, magnesium**, etc.
- **Key Applications:** **Road base** course material (**Steel Slag Road Technology (SSRT)**), Blending material for Portland cement, Fertilizer and soil improvement etc.
- **Benefits of SSRT**
 - ⊕ **Technical:** Improved durability of road; Improved skid resistance; Economical than bituminous etc.
 - ⊕ **Environmental:** Utilization of 19 million tons of steel slag waste, generated annually; Reduction of carbon footprint in road construction.



Megafauna

Archaeologists discovered world's oldest known 41,000-year-old **ostrich nest** in Andhra Pradesh.

- It could provide key information about the **extinction of megafauna** in the Indian subcontinent.

About Megafauna

- The term megafauna describes animals above a certain weight threshold (generally above 50 kg).
- Megafauna may be classified based on their dietary type as **megaherbivores** (plant-eaters), **megacarnivores** (meat-eaters), and **megaomnivores** (who eat both plants and meat).
- **Anthropogenic pressures** on megafauna since the Late Pleistocene have resulted in **dramatic losses**, especially in the megaherbivores and megacarnivores.
- Some **extinct megafaunal species** include woolly mammoths, sabre-toothed tigers, giant sloths etc.

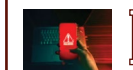


Colombo Process

India chaired its first meeting as Chair of the Colombo Process.

About Colombo Process

- Regional Consultative Process that provides platform for consultations on the management of **overseas employment and contractual labour**.
- Comprises of 12 Member States of Asia such as Bangladesh, Sri Lanka etc.
 - ⊕ India is one of the **founding members**.
- **Thematic priority areas are:** Skills and Qualification Recognition Processes; Fostering Ethical Recruitment Practices, etc.
- UN's **International Organization for Migration** provides technical and administrative support to the Colombo Process.



Snowblind Malware

A new malware called 'Snowblind' is targeting Android phones.

About Snowblind Malware

- It is a malware that targets Android devices to **steal banking** and other sensitive **information**.
 - ⊕ **Malware**, or malicious software, is any program or file that's intentionally harmful to a computer, network or server.
- People usually get this virus by downloading a **malicious app** that looks legitimate.
- It repackages an app to avoid detection and misuses **accessibility features** to steal sensitive information and control the app remotely.



Araku Coffee

Araku coffee found mention in Prime Minister's 'Mann ki Baat'.

About Araku Arabica Coffee

- Grows in the hilly tracks of Andhra Pradesh and Odisha.
- Accredited with **Geographical Indication (GI) Tag in 2019**.
- Takes its name from **Araku Valley**, situated in the **Eastern Ghats** (Andhra Pradesh).
 - ⊕ Weather of the valley with its **hot days** and **cold nights** along with the iron-rich soil allows the coffee to ripen slowly and gives it **aromatic richness and taste**.
- Produced by the tribals with emphasis on organic approach with use of organic manures, green manuring and organic pest management practices.



Enhanced Integrated Framework (EIF)

Finland is supporting Least-developed countries (LDCs) through projects funded by the EIF.

About EIF

- It is the only **multilateral partnership** dedicated to assisting LDCs to use trade as an engine for growth, sustainable development and poverty reduction.
- In it, 51 countries are partners.
- It is also supported by International organisations like the World Bank, World Trade Organisation (WTO), etc.
- **EIF Trust Fund Manager: United Nations Office for Project Services (UNOPS)**.



Nova Explosion

T Coronae Borealis (T CrB) or the "**Blaze Star**," is on the **precipice of a Nova explosion**.

- T CrB is a **binary star system** some **3,000 light-years** away that consists of a **white dwarf** and a **red giant**.

About Nova explosion

- It is the **instance of a star exploding** as it **interacts with another, nearby star**.
- The hydrogen from red giant accretes on the surface of white dwarf, causing a buildup of pressure and heat, eventually **triggering a big thermonuclear explosion**.
- For T CrB, this happens **roughly every 80 years**.



Zinc

Researchers have discovered that **legumes use zinc as a secondary signal to regulate nitrogen fixation efficiency**.

- **Nitrogen fixation** converts molecular nitrogen in atmosphere into nitrogen compounds that can be used by other biochemical processes.

Role of Zinc in farming

- It exists naturally in rocks and is an **essential micronutrient** for plant life.
- Discovery sheds light on its character as a **signal for nitrogen fixation** in leguminous plants.
 - ⊕ **Fixation Under Nitrate (FUN)**, a zinc sensor which regulates nitrogen fixation, can **transform legume farming** by enhancing crop efficiency and decreasing the dependence on synthetic fertilizers by adapting to environmental and soil conditions.

Places in News



Bolivia [Capital: La Paz (administrative); Sucre (constitutional)]

Bolivia has been hit by an economic turmoil fuelled by dependence on U.S. dollar, draining international reserves and mounting debts.

Bolivia [Capital: La Paz (administrative); Sucre (constitutional)]

- **Political features**
 - ⊕ **Largest landlocked country of Southern Hemisphere** located in **South America**.
 - ⊕ **Land boundary:** **Brazil** (north and east), **Paraguay** (southeast), **Argentina** (south), **Chile** (southwest and west) and **Peru** (northwest).
- **Geographical features**
 - ⊕ **Mountain range:** Andes Mountains.
 - ⊕ **Highest point:** Mt Sajama.
 - ⊕ **Major rivers:** Madeira, Paraguay, Mamore.
 - ⊕ It is also home to **Amazon rainforest**.
 - ⊕ Bolivia shares **Lake Titicaca, the second largest lake in South America** (after Lake Maracaibo), with Peru.

