



Software Technology Parks of India

[Source: PIB](#)

[Software Technology Parks of India \(STPI\)](#) recently celebrated its **33rd Foundation Day**.

- Software Technology Parks of India (STPI) was established and registered as an **autonomous society** under the [Societies Registration Act 1860](#), in 1991, under the Ministry of Electronics & Information Technology.
- The objective was to implement [Software Technology Park \(STP\)](#) and **Electronics Hardware Technology Park (EHTP) schemes** and set up and manage infrastructure facilities.
- STPI is nurturing the pan India start-up ecosystem through its initiatives like **Centres of Entrepreneurship (CoEs) & Next Generation Incubation Scheme (NGIS)**.
 - STPI launched a networking and resource discovery platform (**SayujNet**) and **STPI Workspace portal (STPI-Workspace)**.
- The STPI announced "**Ananta**", which will be a **hyperscale cloud** made by Indians for Indians.
 - Apart from the conventional **Compute Infrastructure Services (IAAS)**, Ananta will also offer PAAS (platform as a service), SaaS (software as a service) and **graphics processing unit (GPU)** based services.
- The **DeepTech Knowledge Report** on, '**Cutting-Edge Tech Forging India as a Software Product Nation**', was also released to provide strategic insights into the current state of cutting-edge technologies in India.

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Hawking Radiation

Recently, scientists proposed that small, hot "morsel" [black holes](#), ejected during larger **black hole mergers**, could emit detectable **high-energy photons**. These morsel black holes would emit **Hawking radiation** (named after Stephen Hawking) at an increasing rate as they lose mass, leading to their **explosive demise**.

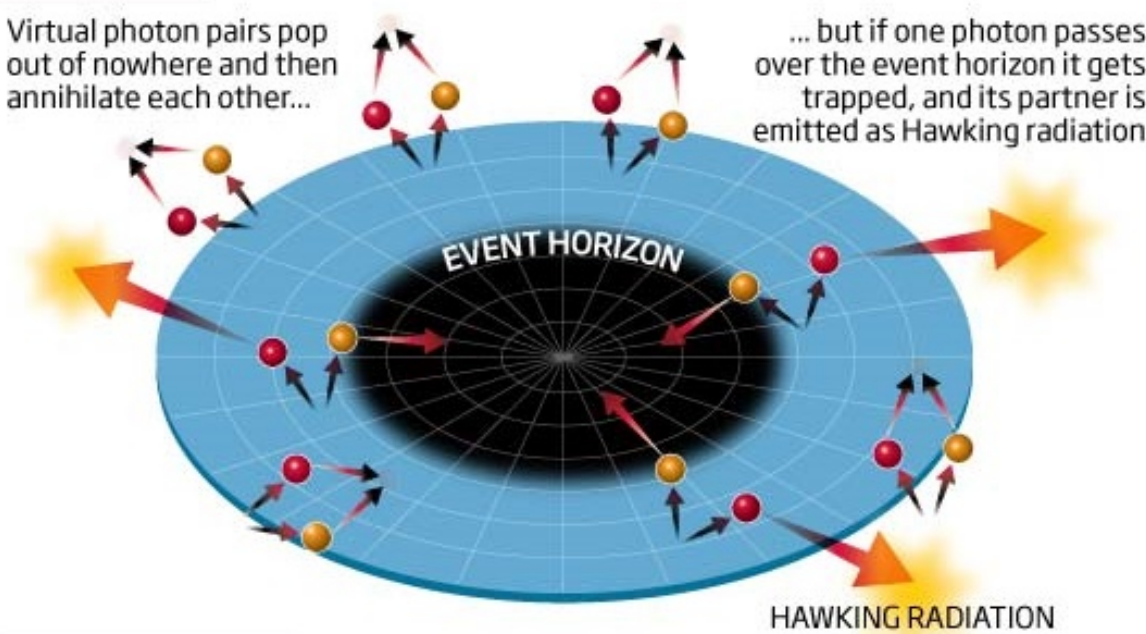
- Smaller black holes are hotter and emit Hawking radiation faster than larger ones.
- [Gravitational waves](#) could detect black hole mergers, followed by [gamma-ray telescopes](#) spotting **high-energy photons** from morsel black holes as they emit Hawking Radiation.
 - It is predicted that the gravitational field of a black hole should **cause the creation of particles**, mostly photons directly from the vacuum of space.
- **Hawking's Radiation:**
 - It is the idea that black holes leak [thermal radiation](#), gradually evaporating and ending their existence with a final explosion.
 - When one particle goes past the [event horizon](#), it can't join back with its partner. The particles outside are known as Hawking radiation.
 - The event horizon is a region of space **beyond the black hole** or "point of no return."

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BLACK HOLE

Virtual photon pairs pop out of nowhere and then annihilate each other...

... but if one photon passes over the event horizon it gets trapped, and its partner is emitted as Hawking radiation



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Pump and Dump Scheme

Source: BS

Recently, the [Securities Exchange Board of India \(SEBI\)](#) has slapped a fine on 11 individuals for allegedly operating a '**pump and dump**' scheme.

- A pump-and-dump scheme is a **type of manipulation activity** that involves **artificially inflating** the price of a stock through false and misleading information, only to sell the stock at the **inflated price** and leave investors with significant losses.
- This manipulative tactic is particularly prevalent in the **micro-cap and small-cap sectors**, where companies often have **limited public information** and trading volumes are lower.
- Under the SEBI guidelines, pump-and-dump schemes are **completely banned**.
- Participants in pump-and-dump manipulation can face **severe legal penalties**, including fines, disgorgement of profits, and imprisonment.
- These schemes **undermine confidence** in the [financial markets](#) making legitimate investors wary of potential fraud.
- **Pump and Dump scheme is different from Insider trading** as there is no misuse of confidential information of company in pump and dump scheme.
 - While, [Insider trading](#) is **buying or selling** a publicly traded company's stock by someone with information that could **substantially impact an investor's decision** to buy or sell a security that has not been made available to the public.

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Nano-Fertilizer Plant at Kakinada

Source: TH

Recently, Coromandel International (an agriculture solutions provider) has opened a [nano-fertiliser](#) plant at its Kakinada complex in Andhra Pradesh.

- The nano fertilisers (such as [Nano DAP](#) and [Nano urea](#)) **ensure optimal nutrient delivery** and absorption by the plants, potentially replacing conventional fertilisers and increasing crop yield.
- **Nano fertilisers** are highly efficient types of fertilisers that provide nutrients like nitrogen to crops through **fine granules**.
 - They are made up of **nanoparticles**, which are particles that are **less than 100 nanometers in size**.
 - This small size allows the nanoparticles to **penetrate plant cells more easily and deliver nutrients directly to the plant**.

Comparison item	Nano-fertilizers	Traditional-fertilizers
Solubility and dispersion of mineral nutrients	Improve solubility, reduced soil fixation & its absorption and increased nutrient bioavailability	Lower bioavailability to plants based on large size of particle and less its solubility
Nutrient uptake efficiency	Increase fertilizer efficiency (50-70%), uptake of nutrients by root and reduced applied fertilizer doses	Lower nutrient efficiency by roots (20-50% based applied nutrient)
Controlled release modes	High release rate and its pattern of nutrients due to its encapsulation or coating	High release of nutrients may cause toxicity and ecological problem in soil
Effective duration of nutrient release	Long duration of nutrient supply into soil up to 50 days	Short duration up to 10 days depends on nutrient
Loss rate of nutrients in applied fertilizers	Reduce loss rate of nutrients into soil by leaching due to nano-structured formulation	High loss rate by leaching and/or runoff process

Read more: [Nano Fertilisers](#), [Nano DAP](#)

Authorised Economic Operators Programme

[Source: ET](#)

Why in News?

Recently, the **gem and jewellery sector has been granted Authorised Economic Operator (AEO)** status by the [Ministry of Finance](#), easing export-import processes with shorter cargo release times and reduced bank guarantees.

What is the Authorised Economic Operators Programme?

- The [Authorised Economic Operator \(AEO\) programme](#) is a global initiative launched in 2007 under the [World Customs Organization's \(WCO\) SAFE Framework of Standards](#). It serves a dual purpose
 - **Enhancing International Supply Chain Security:** The AEO programme aims to **strengthen security measures** throughout the international movement of goods, minimising risks associated with smuggling and counterfeiting.
 - **Facilitating Trade Flow:** By recognising businesses that meet stringent security standards, the programme **aims to expedite customs clearance processes**, reducing delays and costs for legitimate traders.
- Under this, an entity engaged in international trade is approved by WCO as compliant with supply chain security standards and granted AEO status.
- An entity with an **AEO status** is considered a **'secure' trader** and a reliable trading partner.
- Benefits of AEO status include **expedited clearance times, fewer examinations, and** improved security and communication between supply chain partners.
- AEO is a **voluntary programme**.
- India has also launched **pilot project** in 2011, the [Indian AEO Programme](#) that leverages the security standards established by the **WCO SAFE Framework**.
 - This program offers a **three-tiered system** for **both exporters and importers**, allowing companies to progressively demonstrate their commitment to secure trade practices.

World Customs Organisation

- The [World Customs Organization \(WCO\)](#), **established in 1952** as the **Customs Co-operation Council (CCC)** is an independent intergovernmental body whose mission is to **enhance the effectiveness and efficiency of customs administrations**.
- At present, it represents **183 customs administrations** across the globe that collectively process approximately 98% of world trade.
- **India** became the **vice-chair (regional head)** of the **Asia Pacific region** of the WCO for a period of **two years 2018- 2020**.
- It is the only international organization with competence in **customs matters** and which can rightly call itself the voice of the international Customs community.
- It has its **headquarters in Brussels, Belgium**.

SAFE Framework

- In June **2005** the **WCO Council adopted the Framework of Standards to Secure and Facilitate Global Trade (SAFE Framework)** that would act as a **deterrent to international terrorism**, to secure revenue collections and to promote trade facilitation worldwide.
- The SAFE Framework has emerged as the global customs community's concerted response to threats to [supply chain security](#), equally supporting facilitation of legitimate and secure businesses.
- It **prescribes baseline standards** for trade facilitation that have been tested and are working well around the globe.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims:

Q1. In the context of which of the following do you sometimes find the terms 'amber box, blue box and green box' in the news? (2016)

- (a) WTO affairs
- (b) SAARC affairs
- (c) UNFCCC affairs
- (d) India-EU negotiations on FTA

Ans: (a)

Q2. Consider the following statements: (2017)

1. India has ratified the Trade Facilitation Agreement (TFA) of WTO.
2. TFA is a part of WTO's Bali Ministerial Package of 2013.
3. TFA came into force in January 2016.

Which of the statements given above is/are correct?

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

Ans: (a)

Developmental Groups in India

DEVELOPMENTAL GROUPS IN INDIA

Self-Help Groups (SHGs)

- ↳ Self-governed peer-controlled information group of people with similar socio-economic backgrounds and interests
 - ↳ Members allowed: 5-20 | Registration not required
 - ↳ SHGs use savings amounts for giving loans to members
- ↳ **NABARD's SHG-Bank Linkage Programme (1992)** - To connect SHGs with formal banking institutions
- ↳ ~88% of SHGs in India have all-women members
- ↳ **Success Stories:**
 - ↳ Self-Employed Women's Association (SEWA) since 1972
 - ↳ Kudumbashree (1998) in Kerala

Cooperative Societies

- ↳ **People-centred** enterprises, owned, controlled, and run by and for their members.
 - ↳ Capital raised through shared contributions from members.
- ↳ **Regulating Acts:**
 - ↳ Multi-State Co-operative Societies Act, 2002
 - ↳ State Cooperative Societies Acts
- ↳ **97th Constitutional Amendment (2011):**
 - ↳ Right to form cooperatives - a fundamental right (Article 19(1)(c))
 - ↳ Article 43B (DPSP) - Promotion of Cooperatives
 - ↳ Part IX-B titled "The Co-operative Societies" (Articles 243-ZH to 243-ZT).
- ↳ **Examples:** AMUL, IFFCO and PACS

Non-Governmental Organisations (NGOs)

- ↳ Pursue activities to relieve suffering, promote the interests of the poor, protect the environment, provide basic social services, or undertake community development
- ↳ **Registered as:**
 - ↳ **Societies:** Societies Registration Act, 1860
 - ↳ **Trusts:** Indian Trusts Act, 1882
 - ↳ **Companies:** Section 8 Companies Act, 2013
- ↳ **Constitutional Provisions:**
 - ↳ **Article 19(1)(c)**
 - ↳ **Article 43**
 - ↳ **Concurrent List mentions** Charities and charitable institutions
- ↳ **Prominent NGOs:**
 - ↳ **NGO Pratham:** Pioneered the **ASER report** to assess the learning levels of children in rural India.
 - ↳ **Akshaya Patra Foundation:** Provided nutritious mid-day meals to school children.

FCRA mandates registration for all NGOs intending to receive foreign donations.

NGO-DARPAN Platform - An interface between NGOs and Government Bodies.



Drishti IAS

Read More: [SBI's Study on Empowering Women Through SHGs](#), [Cancellation of FCRA Registration of NGOs](#), [India's Cooperative Sector](#).

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