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Leveraging Agriculture Innovations for Farmers Welfare

The Ministry of Agriculture and Farmers Welfare is taking strategic steps and initiatives to ensure that the exponential growth in the Agri-tech sector is appropriately leveraged for the benefit of farmers across the country.

The Ministry of Agriculture and Farmers Welfare has constituted a screening committee that will evaluate innovative solutions that directly impact the well-being of farmers.



The Ministry invites Expressions of Interest (EoI), and proposals on the problem statements from Agri techs, start-ups, etc. to collaborate and share their expertise with the government.

The agricultural sector in India is undergoing a remarkable transformation, driven by rapid advancements in technology and innovative practices. This evolution is further accelerated by the significant presence of Agri-Start-ups and private sector entities equipped with cutting-edge technological capabilities.



The integration of a robust Digital Public Infrastructure, harnessing the potential of the Internet of Things, Artificial Intelligence, and Machine Learning, has already demonstrated promising outcomes in this domain. Additionally, the sector is witnessing the emergence of unique themes such as hyperspectral data analysis, photo-analytics, and the retrieval of precise weather parameters through geostationary satellites.

Segmentation techniques and parcel-level crop mapping are providing unprecedented insights, thereby enhancing the efficiency and precision of agricultural practices. These collective advancements signify a pivotal moment in agriculture, ushering in an era of unprecedented productivity and sustainability. Consequently, the Ministry of Agriculture and Farmers Welfare is taking strategic steps and initiatives to ensure that the exponential growth in the Agri-tech sector is appropriately leveraged for the benefit of farmers across the country.

In order to leverage these innovations, the Ministry of Agriculture and Farmers Welfare has constituted a screening committee that comprises experts in the field from esteemed institutions such as IITs, IIMs, IISc, IISERs, etc. This also has domain experts and experts from the industry. This committee will evaluate innovative solutions that directly impact the well-being of farmers. For this, the Ministry of Agriculture and Farmers Welfare has prepared a set of problem statements on which the proposals are being invited from such interested entities.

This has opened an avenue for the entities who are working or willing to work in the agriculture sector and apply their innovative solutions to address the inherent challenges of the sector. The agri-tech sector has seen exponential growth over the last decade due to young talents who are earnestly working for the sector. One of the challenges faced by such entities is the lack of reliable data and strategic guidance from the sector.

The Ministry of Agriculture and Farmers Welfare will shape and provide opportunities to all such entities by providing them the necessary support in the form of the ecosystem to pilot their solutions and perfect to effectively address the challenges. If the solutions are innovative then these may be implemented nationwide.

Writ Jurisdiction of High Courts

The Allahabad High Court recently refused to exercise its writ jurisdiction in a petition seeking compliance of a Supreme Court order.

Writs

Indian Law



About Writ Jurisdiction of High Courts:

According to Articles 12-35 of the Indian Constitution, every citizen is given a number of Fundamental rights.

Article 32 and Article 226 provide a remedy for the protection of fundamental rights by allowing the Supreme Court and the High Court's, respectively, to issue writs when a citizen's basic rights are violated.

It allows the courts to issue formal orders to the authorities in cases of violations of fundamental rights by government authorities or government bodies.

Article 226 empowers the High Courts to issue writs not only for the enforcement of fundamental rights but also for any other legal right. Thus, writ jurisdiction of the High Court is wider than that of Supreme Court (SC) because the SC can issue writs only for the enforcement of fundamental rights under Article 32.



The remedy provided under Article 226 of the Constitution is a discretionary remedy of the court and thereby cannot be claimed as a matter of right.

Thus, unlike the Supreme Court, which must issue writs when fundamental rights are violated (since the right to approach the SC in case of a violation of a Fundamental Right is in itself a Fundamental Right), the High Court has discretion when granting writs.

Under Article 226, a writ petition can be filed before any High Court within whose jurisdiction the cause of action arises, either wholly or in part.

It is immaterial if the authority against whom the writ petition is filed is within the territory or not.

Types of writs mentioned in the Indian Constitution:

Habeas Corpus:

‘Habeas Corpus’ literally means “to have a body of”.

This writ is used to release a person who has been unlawfully detained or imprisoned.

By virtue of this writ, the Court directs the person so detained to be brought before it to examine the legality of his detention.

If the Court concludes that the detention was unlawful, then it directs the person to be released immediately.

Mandamus:

Mandamus’ means ‘we command’.

It is issued by the Court to direct a public authority to perform the legal duties which it has not or refused to perform.

It can be issued by the Court against a public official, public corporation, tribunal, inferior court or the government.

It cannot be issued against a private individual or body, the President or Governors of States, or against a working Chief Justices.

Prohibition:



It is issued by the High Court or the Supreme Court to the subordinate court or the tribunal to prevent them from exceeding their jurisdiction which hasn't been vested upon them under the law.

It cannot be applied to statutory bodies, administrative agencies, or private individuals or businesses.

Only judicial and quasi-judicial organisations are subject to it.

Certiorari:

It is issued by the High Court or the Supreme Court to the judicial or quasi-judicial authorities when such authority passes the order without having jurisdiction in such a case, exceeding the jurisdiction conferred upon it, or when it violates the principle of natural justice.

It is issued against a lower court or tribunal in order to transfer the matter to another superior body for careful consideration.

Quo Warranto:

It is issued by the court to inquire into the legality of the claim made by the person who is holding a public office.

The ministerial office cannot be the target of it.

This writ is used to determine who has the legal authority to hold a public office in the event of a disagreement.

Navratna Status

RITES Limited, a PSU under the Ministry of Railways involved in transport consultancy and the engineering sector, was recently granted Navratna status.

The government categorises all Public Sector Undertakings (PSUs) into three categories, namely Maharatna, Navratna, and Miniratna.

Criteria to grant Navratna status:

To get Navratna status, the PSU should be a Miniratna-I, Schedule 'A' company, should have obtained an 'excellent' or 'very good' MoU rating in three of the last five years, and must have a composite score of 60 in six performance indicators.

For a company to achieve Navratna status, it must report a net profit of more than Rs 5,000 crore for three consecutive years and maintain an average annual



turnover of Rs 25,000 crore for three years or have an annual average net worth of over Rs 15,000 crore for three years.

Navratna companies can achieve 'Maharatna' status by meeting specific performance benchmarks and fulfilling certain eligibility criteria.

How does Navratna status benefit PSUs?

Navratna PSUs have a comparative advantage over other companies as they have been granted financial independence to invest up to Rs 1,000 crore without seeking approval from the Union government.

The board of the 'Navratna' companies has autonomy to incur capital expenditure on the purchase of new items or for replacement without any monetary ceiling and to enter into technology joint ventures or strategic alliances, among others.

The status gives the Board of Directors of these CPSEs the power to allow mergers and acquisitions in India and abroad.

However, they need approval from the Cabinet Committee on Economic Affairs (CCEA) to make investments abroad.

The Chief Executive of the PSE gets the power to approve business tours abroad of functional directors up to five days' duration (other than study tours, seminars, etc) in emergencies, under intimation to the Secretary of the administrative ministry.

Bufoides bhupathi

A group of scientists from India and the United Kingdom have discovered a new species of toad - *Bufoides bhupathi* in the Dampa Tiger Reserve in Mizoram.



Bufoides is a small genus of true toads family.

The genus is endemic to Northeast India, with one species known from the Garo and Khasi Hills.

Bufoides are small toads; the maximum sizes of the two species are 30 and 47 mm.

There are two recognized species:

Bufoides kempi

Bufoides meghalayanus

Bufoides bhupathyi Naveen

ASASSN-21qj

The afterglow of a massive collision between two giant planets may have been detected for the first time. The wreckage of the collision could eventually cool and form an entirely new planet.

ASASSN-21qj



Details

Observations and Interpretation

In December 2021, astronomers noticed unusual flickering in the otherwise unremarkable sun-like star ASASSN-21qj, located approximately 1,800 light years from Earth.

The subsequent rise in infrared light emission, noted two and a half years before the star's dimming, suggested the occurrence of a cataclysmic collision between two Neptune-like planets rich in ice.

Confirmation and Explanation

The post-impact body resulting from the collision was estimated to be several times the size of Earth, indicating the substantial size of the colliding planets, possibly on par with Uranus and Neptune.

The relatively lower temperature of around 700°C implied that the planets were not solely composed of rock and metal but also contained elements with low boiling temperatures, such as water.

Debris and Impact Effects

The collision is believed to have ejected significant debris and generated plumes of vaporized material. This collision led to the intermittent dimming of the star's light when the trash crossed the path between ASASSN-21qj and Earth.

The event's distance from the star, further than Earth's from the Sun, suggested a planetary system more akin to our own, with ice giants positioned farther from the central star.

Implications for Research

Future observations, particularly with advanced telescopes like NASA's JWST, will enable the determination of the composition of the debris cloud, analysis of the upper layers of the post-impact body, tracking of the cooling process, and potentially, the observation of the emergence of new moons.

This ongoing observation will provide invaluable insights into how giant impacts shape planetary systems and allow the study of the birth of a new planet in real-time.

ENERGY EFFICIENCY SERVICES LIMITED (EESL)



Energy Efficiency Services Limited (EESL) plans to create a special online store where they will only feature the most energy-efficient electric appliances.



Key Highlights

Energy Efficiency Services Limited (EESL), a joint venture of public sector undertakings (PSU) under the Ministry of Power, plans to establish an e-commerce portal dedicated to showcasing electric appliances with the highest efficiency ratings.

The primary objective of this initiative is to generate consumer awareness and encourage the adoption of energy-efficient appliances, particularly those rated "five stars and above."

The portal will initially serve as a platform for businesses to trade energy-efficient appliances among themselves and may later expand to encompass wider retail sales.

EESL is associated with the Bureau of Energy Efficiency (BEE), which has been running a 'star-rating' system for electric appliances. This system rates appliances from 1 star (lowest efficiency) to 5 stars (highest efficiency) and is designed to guide consumers toward more energy-efficient choices.

The BEE has mandated star ratings for 15 appliances and made it voluntary for 20 appliances in 2023. The list of appliances subject to this rating system may change periodically, and the ratings are usually valid for a specific duration. This means that an appliance may change its rating from 5 stars to 4 stars over time.

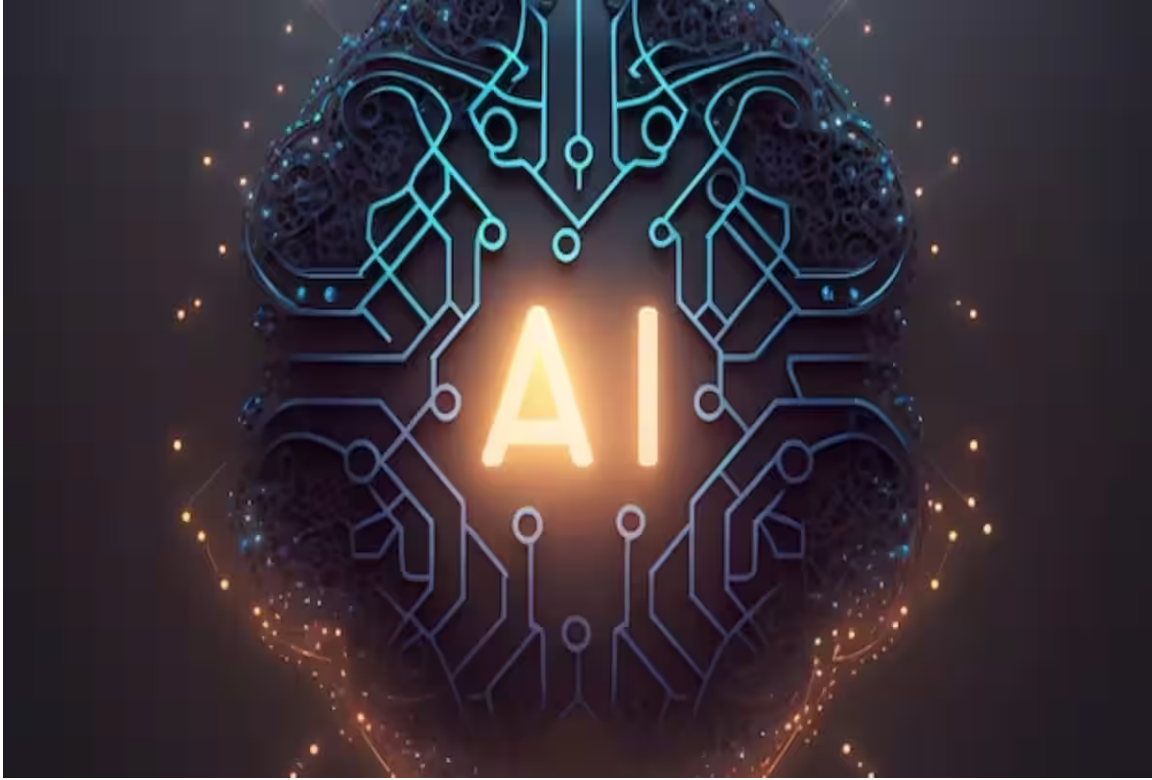
India is committed to doubling its energy efficiency by 2030, from 2.2% to 4%. The BEE claims that its star-rating system has helped prevent the emission of 300 million tonnes of CO₂, contributing to India's energy security strategy.

INDIAN GOVT'S AI ROADMAP

The Indian government is considering partnerships to advance the development of semiconductor chips and artificial intelligence (AI) infrastructure. Six working groups were formed to advise on the country's AI roadmap, and they have submitted their initial report.

Key Highlights of the report

The report recommends leveraging public-private partnerships to manufacture semiconductor chips specifically designed for AI applications. This indicates the government's commitment to fostering domestic semiconductor production for AI technology.



The PPP model will also be used to establish "GPU clusters," which are large groups of resource-intensive graphics processors used in AI applications. These clusters will be made available to Indian startups and researchers, providing them with the necessary infrastructure for AI development.

The AI initiative will focus on various use cases, including agriculture, healthcare, education, fintech, security, and governance. These sectors are expected to benefit from AI technologies in various ways, from improving efficiency to enhancing services.

The government plans to create an extensive collection of anonymized datasets to support Indian researchers and startups in training their AI models. Datasets are crucial for training AI systems and making them more effective.

The draft National Strategy on Robotics is aimed at harnessing the potential of robotics in various sectors. It emphasizes the importance of robotics for competitiveness, cost-efficiency, and computer vision, particularly in manufacturing.



The draft strategy suggests fiscal interventions to promote local manufacturing of robotics hardware. It also encourages the creation of "demonstration facilities" for testing and showcasing robotics technologies. Additionally, building capacity in the robotics sector is highlighted as a key objective.

The report argues that robotics can have a significant impact on various industries and sectors by deploying robotics at scale. It emphasizes the benefits of robotics in terms of quality assessment through computer vision and increased efficiency. It challenges the idea that robotics necessarily leads to job losses and focuses on the positive aspects of automation.