IMPORTANT PIB RELEASE
SUMMARY

DATE :
04 September 2024

The Knowledge & Learning Enterprise

1. **India Graphene Engineering and Innovation Centre (IGEIC) under the vision of Viksit Bharat@2047 launched by Ministry of Electronics and Information Technology**

The Ministry of Electronics and Information Technology (MeitY), Government of India, has officially announced the launch of the India Graphene Engineering and Innovation Centre (IGEIC), a key initiative under the vision of Viksit Bharat@2047.

IGEIC, first of its kind not for profit, section 8 company is exclusively incorporated to create a hub of excellence in graphene technology commercialization focusing on a range of applications from electronics and energy storage to healthcare to material coating and conveyance systems and sustainable material development.

India's leadership in graphene technology

IGEIC, articulated as India's push towards leadership in graphene technology commercialization, is strategically located with its R&D setup in Trivandrum, Kerala, and a Corporate & Business Development hub in Bangalore, Karnataka. The manufacturing unit, supported by the Government of Kerala, is situated in Palakkad, Kerala, creating a comprehensive ecosystem for the development and commercialization of graphene technology. This program shall build the Graphene ecosystem in the country with startup, SMEs, academia, industry, government including bi-lateral collaborations forming part of this global initiative.

2. Digital Agriculture Mission: Tech for Transforming Farmers' Lives

Introduction.

India's digital revolution has significantly transformed governance and service delivery in recent years by creating digital identities, secured payments and transactions. This progress has paved the way for a thriving digital ecosystem across various sectors, including finance, healthcare, education, and retail, positioning India as a leader in citizen-centric digital solutions.

The Digital Agriculture Mission is designed as an umbrella scheme to support various digital agriculture initiatives. These include creating Digital Public Infrastructure (DPI), implementing the Digital General Crop Estimation Survey (DGCES), and supporting IT initiatives by the Central Government, State Governments, and Academic and Research Institutions.

The scheme is built on two foundational pillars:

- Agri Stack
- Krishi Decision Support System.

Additionally, the mission includes *'Soil Profile Mapping'* and aims to enable farmer-centric digital services to provide timely and reliable information for the agriculture sector.

A. AgriStack: Kisan ki Pehchaan

AgriStack is designed as a farmer-centric Digital Public Infrastructure (DPI) to streamline services and scheme delivery to farmers. It comprises three key components:

1. Farmers' Registry
2. Geo-referenced village maps
3. Crop Sown Registry

A crucial feature of AgriStack is the introduction of a 'Farmer ID', similar to Aadhaar card, serving as a trusted digital identity for farmers.

These IDs, created and maintained by the State Governments/ Union Territories, will be linked to various farmer-related data, including land records, livestock ownership, crops sown, and benefits availed.

The implementation of AgriStack is progressing through partnerships between the Central and State Governments, with 19 states having signed MoUs with the Ministry of Agriculture. Pilot projects have been conducted in six states to test the creation of Farmer IDs and the Digital Crop Survey. The six states include Uttar Pradesh (Farrukhabad), Gujarat (Gandhinagar), Maharashtra (Beed), Haryana (Yamuna Nagar), Punjab (Fatehgarh Sahib), and Tamil Nadu (Virudhnagar).

B. Krishi Decision Support System

The Krishi Decision Support System (DSS) will integrate remote sensing data on crops, soil, weather, and water resources into a comprehensive geospatial system.

C. Soil Profile Mapping

Under the mission, detailed soil profile maps on a 1:10,000 scale for approximately 142 million hectares of agricultural land have been envisaged, with 29 million hectares of soil profile inventory already being mapped.

Further under the Digital Agriculture Mission, the Digital General Crop Estimation Survey (DGCES) will be used for crop-cutting experiments to provide precise yield estimates, enhancing agricultural production accuracy.

The mission is expected to create direct and indirect employment in agriculture, providing opportunities for around 2,50,000 trained local youth and Krishi Sakhis.
By leveraging modern technologies like data analytics, AI, and remote sensing, the mission will improve service delivery for farmers, including streamlined access to government schemes, crop loans, and real-time advisories.

Key Components of the Mission

The Digital Agriculture Mission focuses on grassroots implementation, targeting farmers as the primary beneficiaries.

Some of the key benefits of the mission include:

1. Digital authentication for accessing services and benefits, reducing paperwork and the need for physical visits.
2. Enhanced efficiency and transparency in government schemes, crop insurance, and loan systems through accurate data on crop area and yield.
3. Crop map generation and monitoring for better disaster response and insurance claims.
4. Development of digital infrastructure to optimise value chains and provide tailored advisory services for crop planning, health, pest management, and irrigation.

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Digital Public Infrastructure for Agriculture

Union Finance Minister Nirmala Sitharaman announced in the Union Budget 2024-25 that the Government, in partnership with states, will implement Digital Public Infrastructure (DPI) for agriculture over the next three years.

This initiative will cover farmers and their lands, with a digital crop survey for Kharif planned for 400 districts this year. The goal is to update registries with details of 6 crore farmers and their lands.

The Union Budget 2023-24 had previously introduced the DPI for agriculture, which aims to provide comprehensive data on farmers, including demographic details, land holdings, and crops sown. The DPI will integrate with state and central digital infrastructures to offer a range of farmer-centric services, including information on livestock, fisheries, soil health, and available benefits.

These comprehensive approaches leverage digital technologies to enhance productivity, efficiency, and sustainability in India's agricultural sector, potentially transforming the lives of millions of farmers across the country. By extending the digital revolution to agriculture, India aims to further solidify its position as a global leader in innovative, technology-driven solutions for critical sectors of the economy.

3. India’s textile industry expected to grow to US$350 bn by 2030 and add 3.5 crore jobs

India’s textile industry is expected to grow to US$350 bn by 2030 and add 3.5 crore jobs.

The Union Government’s PLI scheme for textiles will enable the apparel industry to boost production and promote their branding. The Minister also added that the PLI scheme will enable linking of the textile value chain and lure FDI in the country.
Bharat Tex 2025 is a global textiles event being organised by a consortium of Textile Export Promotion Councils (EPCs) and supported by the Ministry of Textiles. Scheduled to be held from February 14-17, 2025 BHARAT TEX 2025 is positioned as a global scale textile trade fair and knowledge platform.

Bharat Tex 2025 aims to build on the resounding success of the last edition in 2024. Built around the twin themes of resilient global value chains and textile sustainability, this year’s show promises to be even more vibrant and attractive than the first edition, attracting top policymakers, global CEOs, international exhibitors and global buyers.The Bharat Tex exhibition will feature Apparel, Home Furnishings, Floor Coverings, Fibres, Yarns, Threads, Fabrics, Carpets, Silk, Textiles based Handicrafts, Technical Textiles and many more. It will also have a retail High Street focusing on India’s fashion retail market opportunities. Besides, exhibitions on handicrafts and apparel machinery, displays of ethnic wear shall be hosted at the sister venue of India Expo Centre and Mart, Greater Noida.The textile extravaganza will offer a range of activities, a global sized trade fair and expo, a global scale textiles conference, seminars, CEO roundtables, and B2B and G2G meetings. It will also feature strategic investment announcements, product launches, and collaborations poised to reshape the global textile industry. Attendees can look forward to live demonstrations, cultural events, and fashion presentations, designer and brand exhibitions and sustainability workshops, and expert talks.

4. Decade of Transformative E-Governance Reforms

These reforms have impacted four key areas:

1. **Governance Reforms:** Introducing accountability, transparency, and time-bound service delivery to citizens.
2. **Ease of Living:** Making life simpler for citizens through streamlined processes.
3. **Democratisation of Administrative Processes:** Ensuring a level playing field across administrative functions.
4. **Change in Mindset:** Shifting perspectives among administrators and fulfilling the aspirations of ordinary citizens.

5. PCIM&H achieves key ISO/SO IMS certifications marking a milestone for Ayush sector

The Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H) under the aegis of Ministry of Ayush has achieved the Bureau of Indian Standards (BIS) Integrated Management System (IMS) Certifications. This achievement marks a significant advancement for the Ayush sector, paving the way for enhanced global recognition and setting a new standard for excellence in Indian Medicine & Homeopathy.

PCIM&H has been awarded with IS/ISO 9001:2015 for Quality Management System (QMS), IS/ISO 14001:2015 for Environmental Management System (EMS) and IS/ISO 45001:2018 for Occupational Health & Safety Management System (OHSMS).

These accolades affirm PCIM&H's commitment to upholding global standards of quality, environmental stewardship, and workplace safety. The certifications not only enhance PCIM&H's operational efficiency but also support the Ministry of Ayush's mission to promote high standards in Ayurveda, Siddha, Unani, and Homoeopathy.

These certifications, granted by BIS, reflect PCIM&H's dedication to adhering to international standards. The Quality Management System certification affirms PCIM&H's ability to consistently meet and exceed customer expectations. The Environmental Management System certification highlights the organisation's commitment to reducing its environmental impact and fostering sustainable practices. The Occupational Health & Safety Management System certification demonstrates PCIM&H's proactive measures in maintaining a safe and healthy work environment.

About Pharmacopoeia Commission for Indian Medicine & Homoeopathy (PCIM&H):
PCIM&H is a leading institution dedicated to establishing and maintaining standards for Indian medicine and homoeopathy. Its mission is to ensure the highest quality, safety, and efficacy of medicines through comprehensive standards and guidelines.

6. Workshop on Institutional Development Plan for Higher Education Institutes and releases UGC Compendium of Regulations (1957-2023)

About the Workshop:
The workshop on Institutional Development Plan (IDP) brings together higher education institutions to discuss strategies for institutional growth and development. The compendium will serve as a valuable resource for institutions as they develop and implement their IDP. Over 170 representatives from HEIs across India are participating in this workshop. Aligning with the National Education Policy (NEP) 2020, the IDP provides institutions with a clear roadmap to develop their vision, mission and goals for a future-ready education system.

About UGC Compendium:
To provide a single source of reference to all the stakeholders, UGC has prepared a Compendium of all UGC Regulations, Rules and Notifications from 1957-2023. The compendium includes 15 Rules, 87 Regulations, and 28 Notifications covering a wide range of topics, including inspection, the fitness of institutions for grants, return of information, budget and accounts, establishments, affiliation, autonomy, accreditation, admission & fees, specification of degrees, and other miscellaneous matters. The compendium provides a one-stop reference for all regulatory requirements, ensuring that institutions can easily access and comply with UGC guidelines. This is expected to streamline operations and support informed decision-making, creating an environment of compliance and best practices. This compendium having more than 1100 pages, is available in the form of a PDF and e-book on the UGC website.

About IDP:
Institutional Development Plan (IDP) Guidelines were launched by UGC on 6th February 2024. The IDP Guidelines will help institutions make a strategic Institutional Development Plan with the joint participation of Board members, institutional leaders, faculty, students and staff based on which institutions will develop initiatives, assess their progress, and reach the goals set therein.
Visit: **https://www.ugc.gov.in/pdfnews/1713699_IDP-Guidelines.pdf**

7. APEDA to promote alcoholic beverage exports as a part of 'Make in India' initiative

The global demand for Indian spirits is increasing, presenting an opportunity for growth. The Agricultural and Processed Food Export Development Authority (APEDA) plans to promote both the Indian alcoholic and non-alcoholic beverages globally with a target of $1 billion in export revenue over the next few years. APEDA as part of the 'Make in India' initiative has been targeting to increase exports of Indian Spirits to major foreign destinations. India currently ranks 40th in the world for alcoholic beverage exports. In a landmark move for Indian spirits, Single malt whisky is all set to launch in the United Kingdom as an artisanal single malt whisky made in Rajasthan, India.

8. New heat-based approach to cancer treatment can reduce chemotherapy doses Researchers have used a combination of ultra-small magnetic nanoparticles

(MDs) along with a heat shock protein 90 inhibitor (HSP90i) at suboptimal doses for effective magnetic hyperthermia-based cancer therapy. The technique could significantly enhance treatment efficacy by reducing the required chemotherapy dosage, serving as an adjuvant therapy that minimises side effects.

As cancer rates rise worldwide, the need for new treatment methods is crucial. Traditional treatments like chemotherapy and surgery have significant limitations, including drug resistance and severe side effects. To address these challenges, we are developing innovative treatments, such as nano therapy, which has fewer side effects.

Scientists of Institute of Nano Science and Technology (INST), Mohali, an autonomous institute of Department of Science and Technology have shown that a combination therapy consisting of combination strategy that uses 17-DMAG, an inhibitor of Heat Shock Protein 90 (HSP90), in conjunction with magnetic hyperthermia-based cancer therapy (MHCT) can improve the effectiveness of heat-based cancer treatments.

The treatment of animal models by administering the combination through intra-tumoral injections, resulted in maximum glioma cell death in a rat glioma model with Tumour inhibition rates reaching 65% and 53% at the primary and secondary tumour sites, respectively, within 8 days.

The method published in ACS Nano is less invasive and causes fewer side effects. The research team demonstrated that MNPs, when exposed to an alternating magnetic field (AMF), can effectively combat tumours. This combined magnetic hyperthermia and chemotherapy (MHCT) approach can reduce the required amount of chemotherapy, making the treatment both safer and more effective. Additionally, the therapy can treat distant tumours without the need for an additional dose at the secondary tumour site, making it a highly effective cancer treatment.

Extensive global research is needed to realise the clinical application of the new therapy, potentially developing an adjuvant or alternative cancer therapy. The study paves the way for more efficient and tolerable anti-cancer treatments, offering substantial benefits to millions of patients and providing new directions for hyperthermia-based therapies.

A key advantage of this innovative therapy lies in its potential to stimulate the immune system, enhancing the body's natural defense against cancer. Furthermore, by overcoming drug resistance, a common challenge in cancer treatment, this approach offers a new frontier in combating this formidable disease.
The researchers hypothesise that the treatment activates an immune response through cytokine secretion, further enhancing its anti-tumour effects.
Publication link: **https://doi.org/10.1021/acsnano.4c03887**

9. Scientists take a major step towards unification of classical & quantum gravity

In a step forward to unify the classical theory of gravitation and quantum mechanics researchers, through their calculations have obtained an uncertainty relation induced from the noise of gravitons—the hypothetical quantum of gravity, an elementary particle that mediates the force of gravitational interaction. While classical physics is a set of laws and equations that describe how ordinary objects behave, quantum physics describes the world of atoms and smaller objects.

Quantum gravity (QG) is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics. It deals with environments in which neither gravitational nor quantum effects can be ignored,[1] such as in the vicinity of black holes or similar compact astrophysical objects, such as neutron stars.

It has earlier been shown that when the gravitational field is treated quantum mechanically, it induces fluctuations, or noise, in the lengths of the arms of gravitational wave detectors like LIGO's interferometer.

The characteristics of the noise depend on the quantum state of the gravitational field. Detection of this fundamental noise would constitute direct evidence for the quantisation of gravity and the existence of gravitons—the connecting link between Gravitation and Quantum theory.

Taking forward works like this, Prof. Gangopadhyay and Mr. Soham Sen have examined the fate of freely falling bodies in a quantum gravitational field. Their calculations have obtained an uncertainty relation between the position and momentum variables induced from the noise of gravitons.

The uncertainty relation indicates a true quantum gravitational effect and the calculations clearly indicate that there is true coupling of the degrees of freedom of the particle with the quantised gravitational field.

"Our derivation of the generalised uncertainty principle is robust in the sense that the result was obtained by taking into account the quantum nature of gravity", said Prof. Sunandan Gangopadhyay.

Publication links:

1. Soham Sen and Sunandan Gangopadhyay, "Uncertainty principle from the noise of gravitons", Eur. Phys. J. C 84 (2024) 116.
2. S. Chawla and M. Parikh, "Quantum gravity corrections to the fall of an apple", Phys. Rev. D 107 (2023) 066024.

10. MHI awards 10 GWh capacity to one bidder under PLI ACC scheme

The Ministry of Heavy Industries (MHI), Government of India has announced the selection of successful bidder under the Production Linked Incentive (PLI) Scheme for Advanced Chemistry Cell (ACC) Battery Storage. Reliance Industries Limited has been awarded 10 GWh ACC capacity under Production Linked Incentive (PLI) scheme based on QCBS mechanism. This initiative is another step towards enhancing domestic manufacturing capacity, reducing import dependence, and positioning India as a global leader in ACC battery manufacturing.

Ministry of Heavy Industries (MHI) had received bids from seven bidders under global tender for there-bidding of Production Linked Incentives (PLI) for 10 GWh Advanced Chemistry Cell (ACC) manufacturing with maximum budgetary outlay of Rs.3,620 crores, announced on 24th January 2024.

The list of bidders (in alphabetical order) who had submitted bids in response to this tender were ACME Cleantech Solutions Private Limited, Amara Raja Advanced Cell Technologies Private Limited, Anvi Power Industries Private Limited, JSW Neo Energy Limited, Lucas TVS Limited, Reliance Industries Limited, and Waaree Energies Limited for a cumulative capacity of 70 GWh.

All seven (7) bids were evaluated, and six (6) companies were shortlisted for financial evaluation as per the requirements under the RFP. Accordingly, the financial bids for the qualified bidders were opened on 2ndAugust, 2024, after announcement of the results of technical evaluation, under transparent global tender process of RFP through CPP portal of Govt. of India.

Final evaluation of the Shortlisted Bidders was carried out as per Quality & Cost Based Selection (QCBS) mechanism and the bidders were ranked based on their combined technical and financial scores. The Ministry has awarded the 10 GWh PLI ACC capacity to the shortlisted bidder with highest the overall score, i.e., Reliance Industries Limited, and the remaining five shortlisted bidders are put in the waiting list as per their rank, starting from Rank II onwards. Bidders who were waitlisted under the Program are: ACME Cleantech Solutions Private Limited (Waitlist 1), Amara Raja Advanced Cell Technologies Private Limited (Waitlist 2), Waaree Energies Limited (Waitlist 3), JSW Neo Energy Limited(Waitlist 4), and Lucas TVS Limited(Waitlist 5).

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In May 2021, the Cabinet had approved the technology agnostic PLI Scheme on 'National Programme on Advanced Chemistry Cell (ACC) Battery Storage' for achieving manufacturing capacity of Fifty (50) Giga Watt hours (GWh) of ACC with an outlay of Rs.18,100 Crore. The first round of the ACC PLI bidding was concluded in March 2022, and three beneficiary firms were allocated a total capacity of Thirty (30) Giga Watt hours (GWh), and the programme agreement with selected beneficiary firms were signed in July 2022.

The PLI ACC scheme has been a huge success in terms of the bids received to manufacture advanced chemistry cells in India. The overwhelming response shows that industry has reposed its faith in India's stellar progress as a world class manufacturing destination which resonates strongly with PM's clarion call of Atmanirbhar Bharat- a self-reliant India.

11. **Government launches Vishvasya-Blockchain Technology Stack; To offer Blockchain-as-a-Service with a geographically distributed infrastructure**

The Ministry of Electronics and Information Technology (MeitY), has launched the **Vishvasya-Blockchain Technology** Stack to offer Blockchain-as-a-Service with a geographically distributed infrastructure designed to support various permissioned Blockchain based applications.

MeitY also unveiled the NBFLite-Lightweight Blockchain Platform, **Praamaanik** an innovative blockchain-enabled solution for verifying mobile app origin and National Blockchain Portal.

National Blockchain Framework to Enhance Digital Trust and Service Delivery

MeitY, with the vision to create trusted digital platforms, initiated **National Blockchain Framework (NBF)** for promoting research and application development; facilitating state of the art, transparent, secure and trusted digital service delivery to citizens.

National Blockchain Framework technology stack is architected with Distributed Infrastructure, Core Framework functionality, Smart Contracts & API Gateway, Security, Privacy & Interoperability and Applications development offering Blockchain as a Service (BaaS). NBF currently supports **two permissioned Blockchain platforms** and is extensible. The Technology Stack is hosted on geographically distributed infrastructure at NIC Data centers i.e. Bhubaneswar, Pune, Hyderabad.

Blockchain Sandbox for Startups and Academia

NBFLite, a Blockchain sandbox platform, is developed especially for startups/academia for rapid prototyping of applications, carrying out research and capacity building. These technologies have been developed by collaborating efforts of C-DAC, NIC, IDRBT Hyderabad, IIT Hyderabad, IIIT Hyderabad and SETS Chennai under the MeitY support.