



Science Diplomacy Alert

A Fortnightly newsletter on S&T, Science Policy and Diplomacy

Focus

India and Norway S&T Cooperation: The Future Ahead



India–Norway science and technology cooperation present significant opportunities to address pressing global challenges through collaborative innovation. In light of these challenges and complementary scientific strengths of both countries, some of the priority sectors for cooperation include Arctic and climate science, renewable energy and clean technologies, marine and ocean sciences, digital innovation and artificial intelligence, biotechnology and health, and sustainable urban development, etc. Focusing on these areas will allow India and Norway to effectively harness their respective capabilities while jointly advancing sustainable development objectives on a global scale. Sneha Sinha writes.

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SCIENCE POLICY & DIPLOMACY

International S&T Cooperation



India and UK Launch Connectivity & Innovation Centre

India and the UK have announced the establishment of the India-UK Connectivity and Innovation Centre, backed by a combined £24 million investment over four years. The Centre will focus on three key areas: transforming telecom with AI, developing non-terrestrial networks (NTNs) for rural connectivity, and enhancing telecom cybersecurity.

EU to Deploy Finnish-Estonian Digital Public Infrastructure Model in Nigeria

The European Union has announced support for Nigeria to adopt the X-Road open-source framework as used in Finland and Estonia to enable secure, real-time data exchange across government systems. The initiative includes deploying 90,000 km of fibre cables, enhancing digital literacy, building digital transformation centres, and strengthening data protection in public service delivery.

India and Kenya to Strengthen Agriculture Cooperation

Discussions focused on strengthening collaboration in agricultural land development, irrigation modernisation, animal husbandry and agricultural research.

India and Canada Expand Ties

India and Canada agreed to boost collaboration in emerging technologies such as artificial intelligence and digital public infrastructure. They also resolved to foster partnerships in clean-technology innovation, critical minerals for tech supply chains, and higher-education research networks.



Schneider Electric and Nvidia have announced a global strategic partnership to advance the development of infrastructure supporting artificial intelligence workloads.

NPCI, Razorpay and OpenAI Join Hands to Introduce AI Agentic Payments

India's National Payments Corporation (NPCI), fintech firm Razorpay and OpenAI are piloting "agentic payments" integrated into ChatGPT, enabling users to shop and pay (via UPI + Razorpay's tools) without leaving the AI app.

Chevron Expands India Hub to Boost Digital and AI Capabilities

Chevron India has inaugurated a 312,000sqft facility for its Engineering & Innovation Excellence Centre (ENGINE) in Bengaluru. The centre will support Chevron's global upstream and downstream operations using AI, digital twins, high-performance computing and IoT to improve machine performance and accelerate drilling and geologic modelling workflows.

Events & Meetings



World Space Week Held

World Space Week 2025 was celebrated worldwide from October 4 to 10, coordinated by the World Space Week Association under UNOOSA's guidance. The theme, Space and Climate Change, highlighted the role of space technology in addressing climate challenges. Over 90 countries hosted events such as lectures, exhibitions, and school programs to promote space awareness and education.

INDIAN SCIENCE NEWS

IISc and PEDDA Forge Green Hydrogen Pilot Project Using Paddy Straw

Punjab Energy Development Agency (PEDDA) has entered into a Memorandum of Understanding with the Indian Institute of Science (IISc) to launch a pilot demonstration for producing green hydrogen from paddy straw.

IISc & IIT-M Partner on Water Security Project

Aimed at enhancing water security and resilience in urban and peri-urban areas, the collaboration will focus on strengthening infrastructure, data systems, and policy mechanisms to better manage water resources amid growing climate stress.

IISER Kolkata Engineers Bacteria to Target Cancer

IISER Kolkata developed a strain of engineered beneficial bacteria that can selectively attack cancer cells while remaining safe to surrounding healthy tissue. The breakthrough could pave the way for novel, biologically based cancer therapies with fewer side effects.

ADVANCES IN S&T

NUS Researchers Develop Amino Acid-Infused Ice Method to Form Natural Gas Hydrates

The problem: Storing natural gas (methane) is energy-intensive and costly under current techniques (high pressure compression or cryogenic liquefaction).

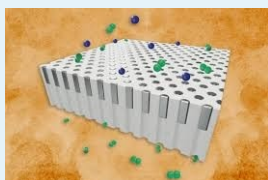
Moreover, conventional hydrate formation is too slow, limiting practical use.



The Method: The researchers mixed water with a small amount of amino acids and froze it to produce “amino-acid-modified ice” (AM-Ice). Exposing this ice to methane causes rapid hydrate formation: about 90 per cent storage in ~2.4 minutes, with methane occupying >90% of the hydrate cages. Hydrophobic amino acids (e.g. tryptophan, methionine, leucine) were especially effective, because they promote micro-liquid layers and porous structure formation that speed methane diffusion into the hydrate. The stored methane can be released by gentle heating, and the ice can be refrozen and reused.

Future Prospects: This technique offers a greener, faster pathway to solidified natural gas (SNG) storage, particularly suited to distributed or small-scale biomethane sources. Key challenges include scaling up reactor design to handle larger volumes and mixed gas streams, optimizing hydrate stability, and testing for gases beyond methane (e.g. CO₂, hydrogen). The method could enable safer, more efficient, and more sustainable gas storage, reducing reliance on high-pressure or cryogenic systems.

Heat-Resilient Palladium Filter to Enable Cheaper and More Efficient Hydrogen Fuel



The Problem: Conventional palladium membranes used to purify hydrogen degrade at high temperatures (≈ 800 K), forcing systems to cool gas streams before separation, which increases energy use, complexity, and cost.

The Method: The MIT team designed a novel membrane by “plugging” palladium deposits into the pores of a supporting substrate rather than forming a continuous film. These snugly fitted plugs maintain stability and hydrogen selectivity even at temperatures up to $\sim 1,000$ K over extended loading.

Future Prospects: This design opens the path for membranes that work closer to reactors without cooling steps, improving efficiency and lowering cost in high-temperature hydrogen production (e.g. steam methane reforming, ammonia cracking). With further scaling and industrial validation, it may play a key role in the hydrogen economy.

INSIGHTS & RESOURCES

NITI Aayog Releases Roadmap for Job Creation in the AI Economy

NITI Aayog today released a Roadmap for Job Creation in the AI Economy on 10 October 2025. The roadmap examines how Artificial Intelligence is reshaping the tech services industry through the lens of work, worker, and workforce.

- India could lose 1.5 million jobs by 2031 in tech and CX sectors if no action is taken, but with proactive strategy, it can create up to 4 million new AI-driven jobs.
- The report proposes an India AI Talent Mission based on three pillars: embedding AI across education, building a large reskilling engine, and positioning India as a global AI talent magnet.
- It calls for open-source AI commons and a federated national compute & innovation grid to democratize access to data, infrastructure, and innovation.

- The “Work-Worker-Workforce” framework is used to map how AI will transform tasks (work), roles (workers), and the overall labour market (workforce).
- Success depends on unified, mission-mode coordination among government, industry, and academia to turn AI disruption into opportunity.

EU Launches Two New AI Strategies to Boost Competitiveness and Science

The [Apply AI strategy](#) focuses on integrating AI across key sectors of the EU economy, while the [AI in Science strategy](#) promotes its development in science. The key highlights include:

- The ‘Apply AI’ strategy will channel about €1 billion toward embedding AI across key economic and public sectors, including healthcare, manufacturing, energy, mobility, and agriculture.
- It introduces an ‘AI-first’ mindset for both public administrations and businesses, encouraging early and systematic adoption of AI tools.
- To support implementation, the Commission will establish an AI Act Service Desk and compliance checker to help enterprises navigate emerging AI regulations.
- Support for SMEs is a central pillar — transforming Digital Innovation Hubs into AI Experience Centres to lower barriers for smaller firms to join the innovation ecosystem.
- The ‘AI in Science’ strategy centers on RAISE (Resource for AI Science in Europe), a virtual institute pooling data, computing, talent, and funding for AI-driven research.
- Horizon Europe will allocate €600 million to bolster access to computing power and AI-centric infrastructure for the research community.
- The EU aims to double annual AI investments under Horizon Europe to more than €3 billion, with greater emphasis on scientific applications.
- The Commission will also monitor AI’s socio-economic impact via an AI Observatory and sectoral indicators, and convene an AI in Science Summit to pilot RAISE.

We welcome your comments and valuable suggestions. Please write to us for receiving publications, up dates and notices regarding seminars, conferences etc. Contact us at science.diplomacy@ris.org.in.

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