

ATHARVA ROBOTICS CENTER

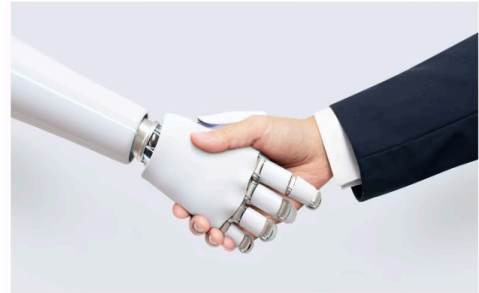
Daily News on Innovation & Technology

11th July, 2025

Robots can now feel: Scientists create artificial skin with human-like sensations

By Science Desk, July 10, 2025

A team of scientists might have been able to give robots the chance to 'feel' sensations and external stimuli. This is through a newly developed electric skin.



Semes' semiconductor cleaning process designated as South Korea's National Core Technology

By Lillian Chen, Taipei; Emily Kuo, DIGITIMES Asia, July 10, 2025

Semes, the semiconductor equipment subsidiary of Samsung Electronics, has had its semiconductor cleaning process technology recognized by the South Korean government as a National Core Technology (NCT).



AI and robotics transform precision in medical needle procedures

By University of North Carolina at Chapel Hill, July 10, 2025

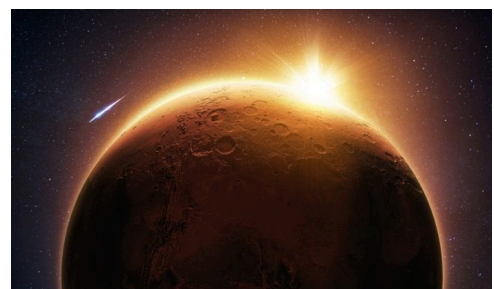
Imagine a physician attempting to reach a cancerous nodule deep within a patient's lung – a target the size of a pea, hidden behind a maze of critical blood vessels and airways that shift with every breath.



M-Matisse mission set to analyse Martian space weather with robots

By Innovation Network, July 10, 2025

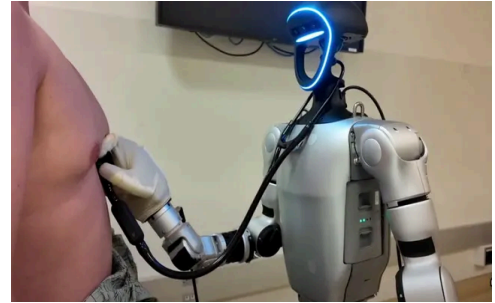
The M-Matisse mission marks a groundbreaking step in space exploration, as it is the first dedicated to studying Martian space weather and assessing the planet's potential to support human life.



[Humanoid surgical robots could ease doctor burnout, slash hospital wait times](#)

By Jijo Malayil, July 10, 2025

Humanoid surgical robots could provide a solution as hospitals face overcrowded waiting rooms, physician burnout, and rising surgery delays.



[‘Pupper’: US students build tiny ‘firefighter’ robot dog from basic hardware](#)

By Kaif Shaikh, July 10, 2025

Stanford University’s Computer Science 123 course gives undergraduates a crash course in the future of robotics by having them build and then upgrade their AI-powered robot dogs.



[China-made iron-air battery from heating pads can power phones, LEDs even in -63°F](#)

By Georgina Jedikovska, July 10, 2025

Researchers have developed a groundbreaking hydrogel-based iron-air battery that can be assembled from common warm paste, giving first responders a potentially life-saving new power option.



News Articles

Stay Tuned, Satcom Services May Come to You by Year-end

Eutelsat OneWeb, Jio-SES, Starlink have got permits, with govt working on spectrum allocation

Himanshi Lohchab & Romit Guha

Mumbai | New Delhi: Satellite communication services could be commercially launched in India by December, according to industry executives, with three major players — Bharti-backed Eutelsat OneWeb, Reliance Jio-SES and Elon Musk-owned Starlink — having secured the necessary permits and clearances and the government working on finalising terms of allocating spectrum.

“Trai (Telecom Regulatory Authority of India) had given its recommendation in May. The DoT (Department of Telecommunications) typically takes two to three months on the outer side to come back with its recommendations and present it to the DCC (Digital Communications Commission),” a senior executive at one of the satcom companies, which has secured all the permits, said on condition of anonymity. “Once the DCC gives its approval, it needs to be vetted by the cabinet. Then the DoT needs to come out with its rules for allotment. Optimistically, the government is likely to be in a position to give spectrum by October.”

After spectrum allotment, it wo

uld take around a month to start commercial services, according to two executives.

“We are looking at a November-end or December timeline (for launch of commercial services) at an optimistic level,” said the first executive.

SPACe), to start commercial satcom services in the country. Starlink received its Global Mobile Personal Communication by Satellite (GMPCS) permit last month.

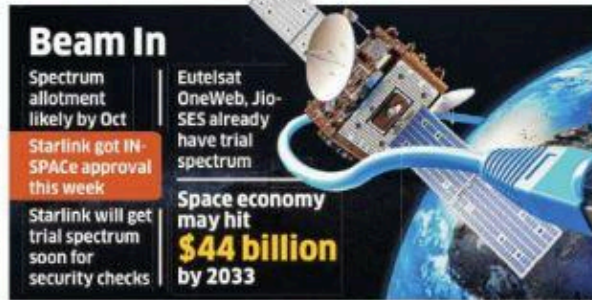
Two other global satcom services firms — Jeff Bezos-owned Amazon Kuiper and Apple’s satcom partner

cing and rules for allocating satellite spectrum administratively, having receiving recommendations from Trai after a bitter fight between telcos, which wanted the satcom spectrum to be auctioned, and satcom companies such as Starlink and Amazon Kuiper, which wanted the airwaves to be allotted administratively. The government and Trai have since decided on administrative allocation.

“We don’t believe any of the players will have a head start in launching commercial services. Since Airtel and Jio are also partners of Starlink, we expect all three (Starlink, Eutelsat OneWeb and Jio-SES) to start at the same time because that makes sense from a technical, commercial and a compliance standpoint,” said Rohan Dhamija, partner and head of India & Middle East at Analysys Mason.

Jio and Bharti Airtel, part of the Bharti Group, which is a large shareholder in Eutelsat OneWeb, have marketing tie-ups with Starlink.

Conceding that Jio-SES and Eutelsat OneWeb have lost out on the chance for a head start in offering satcom in India, a senior executive at one of the two firms said India also lost out in the process.



AJAY M

Eutelsat OneWeb, Jio-SES and Starlink didn’t respond to ET’s queries.

On Wednesday, US-based Starlink became the third satcom operator after Bharti-backed Eutelsat OneWeb and Reliance Jio-SES JV to get a clearance from the space regulator, Indian National Space Promotion and Authorization Centre (IN-

Globalstar — are awaiting approvals from the Indian authorities.

India’s space economy has a potential to hit \$44 billion by 2033 and account for about 8% of the global share, as per IN-SPACe. The country’s annual satcom business revenue opportunity is pegged at \$1 billion.

The DoT is expected to finalise pri-

Source: The EconomicTimes Newspaper, 11-07-2025

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Link: https://drive.google.com/file/d/1yhU_0sQdg3Ay8z_4dfdX7XoMj2J8a4y0/view

Digital path to a new India

MANAS MUKUL
BANDYOPADHYAY

Digital reforms refer to the transformation and modernization of existing processes, systems, and infrastructure through the use of digital technologies. This concept encompasses a wide range of initiatives aimed at improving efficiency, reducing costs, and enhancing customer or citizen experiences. In the context of governance, digital reforms seek to improve service delivery, increase transparency, and promote citizen engagement.

By leveraging digital technologies, governments can streamline processes, provide citizens with access to information, and enable them to track government services and policies. Digital reforms also involve legacy system modernization, data-driven decision making, digital literacy, and robust cyber security measures to protect digital systems and data. Overall, digital reforms have the potential to drive significant improvements in governance, economic growth, and the overall quality of life for citizens.

The advent of digital technologies has revolutionized the way governments, businesses, and citizens interact. In the Indian context, digital reforms have been instrumental in shaping the country's future, fostering inclusive growth, and enhancing governance. The government's emphasis on digital initiatives has been a hallmark of its policy agenda, with far-reaching implications for the nation's development.

The Aakash initiative, launched in 2010, aimed to provide affordable tablets to students, promoting digital literacy and access to educational resources. This pioneering effort paved the way for subsequent digital initiatives. The National Optical Fibre Network (NOFN) and the BharatNet Project have been instrumental in expanding broadband connectivity to rural areas, bridging the digital divide. These infrastructure development endeavours have laid the foundation for a robust digital ecosystem.

Launched in 2015, the Digital India programme is a flagship initiative that seeks to transform India into a digitally empowered society. The programme's three core components – digital infrastructure, digital governance, and digital literacy – have been designed to promote inclusive growth and citizen-centric governance. The initiative has led to the development of various digital platforms, such as the MyGov portal, which enables citizen engagement and participation in governance.

The government's push for digital payments has been a significant step towards promoting financial inclusion. Initiatives like Unified Payments Interface (UPI), Aadhaar-enabled Payment System (AEPS), and digital wallets have increased the adoption of digital payment modes. The Jan Dhan Yojana, a financial inclusion programme, has also contributed to the growth of digital transactions. These efforts have reduced the reliance on cash, increased transparency, and enhanced the efficiency of financial transactions.

The implementation of e-governance initiatives has improved the delivery of citizen services, making them more accessible and efficient. Platforms like the National Portal of India and the Mobile Seva initiative have enabled citizens to access various government services online. The Digital Locker facility, a part of the Digital India programme, allows citizens to store and access their documents digitally, reducing the need for physical documentation.

Despite the progress made in digital reforms, several challenges and concerns persist. Data security and privacy remain significant concerns, with the increasing risk of cyber-attacks and data breaches. The digital divide, although narrowing, still exists, with rural areas and marginalized communities facing limited access to digital infrastructure and services. Additionally, the lack of digital literacy and skills among citizens hinders the effective utilization of digital platforms.

To overcome these challenges and take digital reforms to the next



level, the government needs to focus on several key areas. Enhancing digital infrastructure, particularly in rural areas, is crucial for promoting inclusive growth. Strengthening data security measures and implementing robust privacy policies will help build trust in digital services. Digital literacy programmes and skills development initiatives will empower citizens to effectively utilize digital platforms.

Cyber-security measures are inextricably linked with digital reforms. India's digital reforms, as envisioned under Digital India initiative, have significantly transformed governance, economy, and citizen engagement. However, the rapid digitization of services, data storage, and online transactions has exposed the nation to substantial security risks. A critical concern is the protection of personal data, which was previously vulnerable due to the absence of a comprehensive data protection law.

Although the Digital Personal Data Protection Act, 2023, is a step forward, its effective implementation

remains crucial. Furthermore, many public sector systems rely on outdated infrastructure and legacy software, making them susceptible to cyber-attacks such as phishing and ransomware. The shortage of skilled cyber-security professionals in India exacerbates these challenges. To address these issues, it is essential to strengthen legal frameworks, invest in modernizing cyber-security infrastructure, build capacity through workforce training, and raise public awareness about safe online practices. By prioritizing cyber-security, India can ensure the success of its digital reforms and build trust in the digital ecosystem.

In conclusion, digital reforms have been a game-changer for India, promoting inclusive growth, enhancing governance, and improving citizen services. While challenges and concerns persist, the government's commitment to digital initiatives has been instrumental in shaping the country's future. As India continues to evolve as a digital economy, it is essential to address the existing challenges and

work towards creating a more inclusive and secure digital ecosystem. By doing so, India can harness the full potential of digital technologies and emerge as a leader in the digital age.

In this context, some proposals can be considered for maintaining an improved digital system:

- Enhance Digital Infrastructure – The government should invest in expanding broadband connectivity, particularly in rural areas, to bridge the digital divide.
- Strengthen Data Security
- Promote Digital Literacy
- Encourage Citizen Engagement
- Monitor and Evaluate – The government should regularly monitor and evaluate digital initiatives to identify areas of improvement and ensure effective implementation.

By implementing these proposals, India can continue to harness the benefits of digital reforms, promoting inclusive growth and enhancing the quality of life for its citizens.

(The writer is Associate Professor and Head, Political Science, (Retd. WBS), Chandernagore College, Chandernagore, Hooghly.)

Source: The Statesman Newspaper, 11-07-2025

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Link: <https://drive.google.com/file/d/1o2Y6ZvzqvURg-InMmTMePVDiQAHfqXk9/view>

EY launches AI academy to support talent upskilling

CONSULTING FIRM EY has launched an AI Academy to support enterprises in upskilling talent and helping them build critical AI capabilities.

The move comes at a time when there is a widespread discussion about how the advent of AI can unlock potential for productivity and economic gains.

A study released by EY earlier this year projected that by 2030, AI adoption could transform 38 million jobs, driving a 2.61% productivity boost to the Indian economy through gains in the organised sector and a potential for another 2.82% with the

The firm said its programme offers structured learning paths curated by leading AI experts

adoption of GenAI by the unorganised sector.

The report, in January stated that 24% of tasks across industries have the potential for full automation, while another 42% can be enhanced through AI, freeing up 8-10 hours per week for knowledge workers.

In a release on Thursday, EY said: "As artificial intelligence (AI) and generative AI (GenAI) continue to disrupt job roles, EY has launched AI Academy to support enterprises in upskilling their talent."

The firm said its programme offers structured learning paths curated by leading AI experts, covering foundational AI concepts to advanced GenAI applications, including real-world use cases tailored to specific industries. The initiative follows EY India's efforts to upskill over 44,000 employees internally in this latest technology. —PTI

Source: The Financial Express Newspaper, 11-07-2025
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Link: <https://epaper.financialexpress.com/4031772/Mumbai/July-11-2025#page/7/2>

● **FUTURE OF FINANCE**

A STRUCTURED APPROACH IS IMPORTANT TO MAKE AI ADOPTION IN BFSI DEEPER AND WIDER

AI road map for financial services

WHEN IT COMES to artificial intelligence (AI) adoption in the financial services (banking, financial services, and insurance) sector, India ranks as a global leader. According to some recent surveys by recognised firms, more than 30% of Indian companies have been trying to or plan to maximise value from AI. Fintechs, banking, and software sectors in India are at the forefront of this, leveraging AI for tasks such as customer interface and servicing, credit risk assessments, process and control efficiencies, and automation and fraud detection. The adoption of digital is exceptionally high, and India can boast of the highest fintech adoption. According to a survey, the adoption is 87% compared to a global average of 64%. About 46% of the world's banking digital transactions occur in India, reflecting the country's strong digital foundation.

There has been strong government backing as well as regulatory encouragement. The Reserve Bank of India (RBI) has played a significant role in both digital as well as AI adoption in banking. With the support of policymakers and regulators, the nation has built innovation and skilling hubs across several centres of excellence. Initiatives like India AI Mission and Digital India Bhashini are supporting indigenous AI models and language technologies, further strengthening the ecosystem for AI innovation and accessibility in financial services. There are guidelines and regulations framed by the regulators in areas like algorithmic trading, robo-advisory, and digital lending. The Digital Personal Data Protection (DPDP) Act establishes comprehensive data protection requirements for AI deployment in BFSI.

This article, in the backdrop of such an excitement around AI, examines the ways to make AI adoption in any BFSI constituents deeper and wider. It examines the essentials and parameters to build a robust framework of governance, and critical ingredients essential for a linear and structured growth of AI application in a

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company. Some of the pitfalls and risk management of undesired consequences are also discussed.

To help BFSI firms identify AI use cases and drive wider and deeper adoption, a company could follow these structured steps. The first critical step would be to align initiatives with business objectives (example revenue, growth, risk reduction, customer experience, etc.) followed by the creation of a framework for measuring impact from the shortlisted use cases. According to a survey report published by

the Bank of England (BOE) and the Financial Conduct Authority in 2024, the use cases ranged from optimisation of internal processes to cybersecurity and fraud detection. The survey also observed that a third of all the respondents across the BFSI sector deployed third-party implementation. This proportion of third-party implementation is accepted to be higher in India's BFSI sector, thanks to the growth of infrastructure including software engineering institutions, incubations centres, and a large number of entrepreneurial coders and solutions developers.

In regard to the materiality of applications, defined by the BOE survey, quantitative size-based measures, including exposure, book or market value, number of customers serviced or covered by the use case are not able. And in addition, there are qualitative factors vis-à-vis the purpose of the model and its relative importance to informing business decision and considering the potential impact on the firm's

solvency and financial performance. Of the total number of use cases reported by the respondent firms, 62% were rated low materiality, 22% as medium, and 16% as high. Low and medium materiality use cases were most common in operations and information technology (IT), whereas high materiality use cases were common in general insurance, risk and compliance, and retail banking.

This data, when analysed in the Indian context, could reveal either a planned decision to adopt low material use cases

with a view to demonstrate some early wins or that firms are focussing on other infrastructure blocks including building data foundations. What could be an adverse factor is that the low materiality use cases are more in the operations and IT areas.

Let us now examine the third important aspect of the framework, that of governance and accountability. The BOE survey covered the range of governance frameworks over a variety of approaches used by respondent firms. The most used framework, control or process specific to AI was to have an accountable person or persons with responsibility for the AI framework. This factor was closely followed by the second approach using an AI framework based on principles, guidelines or best practices and data governance. With regard to data management, the respondent firms believed that it was the key to governance. It is a major concern, however, that there is over-dependence on data science teams who are responsible for data ethics, bias reliability, and authenticity and fairness. In this approach, firms tend to use in-house databases which are for internal consumption rather than for customers and distribution partners.

It is believed that many firms have a partial understanding of the AI tech used and only a few have near-complete understanding

The last key ingredient to sound governance for adoption of AI is the firm's assessment of their own or third-party models. The aspects in the governance framework which are assessed include business need, evaluating how appropriate a particular type of model is to the business objectives. In the case of Indian BFSI firms use complexity tests, some of which are built into existing processes and some of which are AI-specific. AI-specific tests include consideration of methodology, data, complexity of code, interoperability, parameter count, and frequency of use. Complexity of data is also a central factor, particularly where large and multi-dimensional or multi-model data sets are involved. One very interesting aspect observed in firms worldwide is the understanding of AI technologies implemented in their operations. It is believed that a large number of firms have a partial understanding of the AI technologies used and a small number have near-complete understanding, underlying a major weakness which needs to be addressed over a period of time to strengthen governance and AI adoption.

To make AI adoption deeper and wider, a structured approach is an important factor. This needs a robust and dynamic framework to critically examine the materiality of the use case and a strategic approach to migrate from low materiality to high impact use cases and a governance framework making person/s accountable for framework as well as the use cases. Companies must address the aspect of partial understanding of the use cases or technologies used by way of creating awareness and gradually moving to making businesses own the responsibility for use cases.

Source: The Financial Express Newspaper, 11-07-2025

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Link: <https://epaper.financialexpress.com/4031772/Mumbai/July-11-2025#page/10/2>



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