

ATHARVA ROBOTICS CENTER

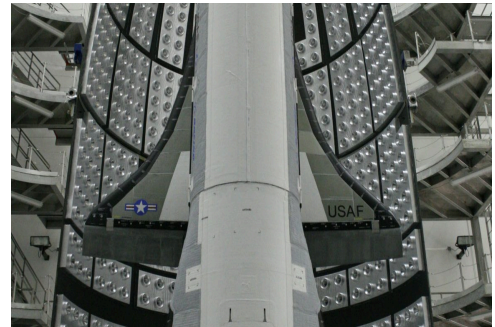
Daily News on Innovation & Technology

29th July, 2025

A secretive space plane is set to launch and test quantum navigation technology

By Eric Berger, July 28, 2025

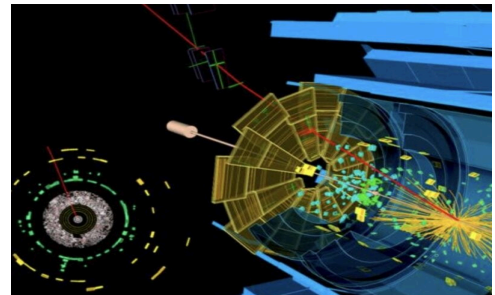
On Monday, the Space Force announced that it will fly the small, Space Shuttle-shaped vehicle on the program's eighth mission next month. The launch of the vehicle, on a Falcon 9 rocket, is scheduled to occur no earlier than August 21 from Kennedy Space Center in Florida.



Researchers develop semiconductors for experimental physics

By Jean-Pierre Joosting, July 28, 2025

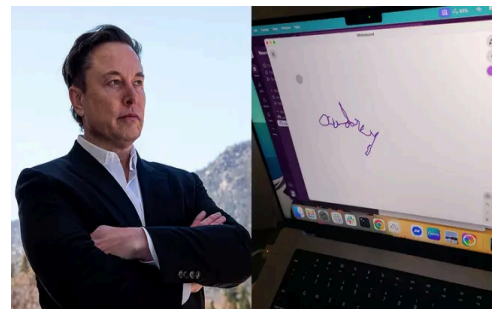
Situated inside a 17-mile-long tunnel that runs in a circle under the border between Switzerland and France, the Large Hadron Collider (LHC) accelerates particles close to the speed of light before smashing them together.



Paralysed woman writes her name after 20 years, thanks to Elon Musk's brain chip

By Aamir Khollam, July 28, 2025

A woman paralyzed for over two decades has written her name again, using only her mind. Audrey Crews, a participant in Elon Musk's Neuralink brain-computer interface (BCI) trial, stunned the internet by controlling her computer with pure thought.



[World's most advanced haptic gloves bring real-time touch into virtual reality](#)

By Aamir Khollam, July 28, 2025

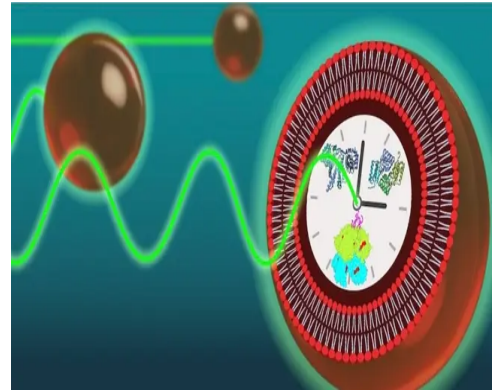
In a world where screens increasingly mediate human connection, touch is fading from daily interactions. But engineers at the USC Viterbi School of Engineering aim to change that with a new haptic system that brings physical sensations into virtual reality.



[Scientists create glowing artificial cells that pulse to 24-hour biological clock](#)

By Neetika Walter, July 28, 2025

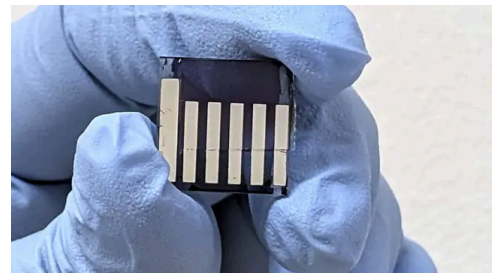
In a breakthrough blending biology and engineering, scientists have built synthetic cells that mimic nature's internal clockwork. Researchers at UC Merced engineered tiny artificial vesicles that pulsed with a steady, 24-hour rhythm in a feat that mirrors the circadian rhythms governing sleep, metabolism, and other essential processes in living organisms.



[World's smallest spectrometer captures full light spectrum in under one millisecond](#)

By Aamir Khollam, July 28, 2025

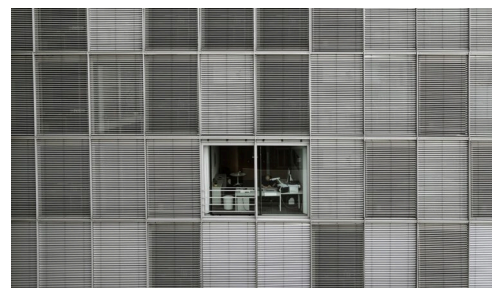
A new spectrometer developed at North Carolina State University could bring advanced chemical analysis tools to smartphones and other compact devices.



[Study finds APAC organisations overestimate AI readiness](#)

By FutureCIO Editors, July 28, 2025

A new study commissioned by IBM has revealed that Asia Pacific (APAC) organisations overestimate their actual AI maturity and struggle with fundamental challenges in adoption.



News Articles

AI Keeps Supplies Coming

Amid rising global uncertainties, supply chain disruptions, businesses are leaning on AI for predictability and agility, reports Annapurna Roy

In the face of tariff talks, trade tensions, volatile demand cycles and reconfigurations in global supply chains, businesses are increasingly relying on artificial intelligence technology for greater predictability and risk management.

Use cases are emerging across industries such as manufacturing, retail, consumer goods and large conglomerates. They include intelligent demand forecasting, dynamic route optimisation and sourcing, inventory and procurement management, digital twins of supply chains, tariff code management, order processing and quality control and logistics optimisation, experts and executives said.

The focus is on making supply chains more resilient, scanning global events to identify risks in real-time. Until recently deriving efficiency and reducing environmental impact were the major reasons for AI deployment in this domain. But the current global scenario has shifted the focus to stability as well, executives said.

More than 80% of enterprises are focused on piloting multiagent systems for autonomous value chain operations, according to a recent Nasscom survey. "With GenAI, value chain optimisation has emerged as an important use case as models learn from the value chain interactions and data flows to optimise resource, asset, and time efficiencies," the report said.

"This helps companies get more nimble. By using AI to predict disruptions, whether due to trade tensions, raw material shortages, or climate-related events, we can adapt quickly while continuing to deliver responsibly," a spokesperson for multinational industrial technology company Siemens AG told ETI. "Real-time data on demand shifts, component shortages, or regulatory changes allows us to respond quickly without compromising on our sustainability standards."

The firm is seeing improved capacity utilisation, faster response times, and significantly lower carbon impact by using AI in supply chain management. This includes a 15% reduction in logistics costs and 40% faster delivery times. It is also deploying AI-powered digital twins that simulate supply chain scenarios in real-time.

GenAI can reimagine nearly 60% of 122 supply chain processes, from design and planning to after-sales and service, according to Accenture analysis. "For example, embedding gen AI into supply chain control towers improves data interaction, real-time decision making and proactive risk management," said Vijay Kumar Bollyan,

MD and lead, Industry X, Accenture in India. "We are seeing an uptick in AI adoption in supply chain operations across industries, specifically in retail and e-commerce, consumer goods, healthcare and transportation."

Applications in sourcing and procurement include auto-generated vendor-specific insights to support contract renewals and contextualised performance metrics, he said. This enhances explainability efficiency and operational performance.

"We are seeing a sharp rise in AI adoption across sectors we serve, from energy to infrastructure to manufacturing," said Anshum

Jain, vice-president, global supply chain, greater India, Schneider Electric. "In India, where supply chains face unique challenges like infrastructural variability and regional disruptions, we're seeing AI play a critical role in building operational continuity. AI allows us to detect early signs of disruption, model various scenarios, and proactively address risks, whether it's a raw material shortage or a logistics bottleneck."

Firms are looking to strengthen their capacity to anticipate disruptions and respond with precision. "Machine

learning is used to model supply chain risks, while natural language processing enhances customer communication and sentiment analysis," said Naresh Kumar, COO of electrical and automation firm Laturiz Knudsen.

AI-driven sales value projections are enabling smarter monthly planning cycles for the company, grounded in real-time data, he added. "Amid ongoing geopolitical and macroeconomic uncertainties, businesses are grappling with challenges such as price volatility, supply chain disruptions, unplanned tariff costs and unpredictable operational shifts," said Prashanth Kaditi, partner, Deloitte India.

AI-driven tools for scenario planning and predictive analytics, including predictive simulations, are becoming indispensable for navigating uncertainty and managing disruptions, he said. For instance, AI can support complex tasks such as trade classification, cost structure analysis, and regula-

TRACKING AI USE

Over 60% of enterprises are focused on piloting multiagent systems for autonomous value chain operations: Nasscom

\$192.5 billion
Estimated market size of AI in global supply chain in 2034, a sharp rise from \$9.94 billion in 2025 – a CAGR of 39%



tory compliance, enabling faster and more strategic decisions.

Microsoft customers like L&T are leveraging AI to reduce project planning time from two weeks to 10 minutes, unlocking faster decisions and cost savings in infrastructure and EPC, said Himani Agrawal, COO, Microsoft India and South Asia. Globally, procurement and supply chain solutions provider GEP is driving around 50% productivity gains with its AI-powered procurement platform. In a rapidly evolving global environment where trade dynamics are shifting, AI is no longer optional. In fact, it's becoming foundational to how supply chains operate," said Agrawal.

USE CASES

Demand forecasting: Traditional statistical models are being replaced by GenAI-powered synthetic data generation

Autonomous sourcing and negotiation: GenAI can autonomously negotiate with suppliers and identify alternative materials in the event of stockouts by processing vast datasets

End-to-end product traceability: With faster computation capabilities, AI can track products from raw material origin to point-of-sale

Dynamic route optimisation: GenAI enables real-time route optimisation by adapting to changing traffic, weather, and delivery constraints

Strategic decision support: Agentic AI supports complex tasks such as trade classification, cost structure analysis, and regulatory compliance

Tariff code management: AI agents can classify and correct tariff codes, minimising misclassification penalties and expediting cross-border processing

SOURCE: PRECEDENCE RESEARCH, DELLOITTE

Source: The Economic Times Newspaper, 29-07-2025

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Link: <https://drive.google.com/file/d/1m11AGUb5rbPZ3UmsARmrltke0ViZ06cP/view>

NUETRENDS

Rapid AI advances maybe pushing startups to shut shop early, rethink product-market fit and core business models, reports **Swathi Moorthy**

In the last few weeks, four Indian AI startups have announced that they are shutting in the face of challenges such as scaling up, raising funds and pivoting as technology shifts rapidly. This includes two Y-Combinator companies Wuri and CodeParrotas as well as Subtl.ai and Locale.ai. This is not unusual in the world of startups. According to the US Bureau of Labor Statistics, more than 50% of the startups fail within five years.

However, unlike the previous cycles, beyond operational challenges, these closures are coming amid rapid technological development in artificial intelligence.

"Startups are shutting down quicker compared to before," said a Bengaluru-based investor. Unlike previous technology cycles during which founders could continue running businesses for longer until they found the right fit, many now realize it's better to shut down and start afresh than burn money. AI startups for instance are being rendered obsolete, Tencent Investments managing partner Jeffrey Li told a recent conference.

Case in point, the sheer number of AI tools that are going out of the market. AI tool aggregation platform Dang.ai said that of the 4,366 added, 1,301 have been terminated. In 2025, 227 AI tools ceased operations. In order to win in the age of AI, startups should pivot fast as the technology becomes more commoditised, experts said. While technology is important, it's key to focus on the problem that's to be solved.

RAPID PACE

"Right now is a very difficult time to be a founder because the developments are happening at such a rapid pace," said Akshay Megharaj, founder of Wuri. People always seek inspiration from past experience, which is not possible due to the sheer nature of how the technology is developing, he said.

"As much as artificial intelligence has made it easy to build products, the rapidly evolving technology is also making it challenging for startups to have a right to win," said Naman Maheshwari, co-founder, Tune AI, an orchestration platform that closed recently. This

The AI Startup Dilemma: To Pivot or Perish



Startups should pivot fast as the tech becomes more commoditised... it is key to focus on the problem they are solving: Experts

means that companies need to pivot and fast, to stay relevant.

PACE ATTACK

Speed, more than anything, is a primary moat in the world of AI, said Sanjay Nath, co-founder and partner, Blume Ventures. He explained that even if a startup has a great product, if

they don't keep pace with technology they will be left behind by competitors, who may have 20% inferior product but execute 50% faster. Gandhi said, "A large percentage of companies that we back at seed end up pivoting, and the ones that are agile and keep evolving are the ones that are likely to succeed in this crazy, fast-flowing environment."

The key is to find the right problem to solve.

To build enduring companies, startups need to solve fundamental issues in the areas of healthcare, climate and sustainability, Google country manager Preeti Lobana said at the recently concluded Google I/O event in Bengaluru. A Bengaluru-based investor said, "For most startups, AI is mostly an add-on. They need to ask themselves this question — are you solving a problem even if you take AI out of the equation."

Tanm.AI

The US AI Action Plan can benefit India by creating a strategic partnership in AI development and manufacturing, which could boost growth. As the US seeks reliable allies for its AI supply chains, India has a chance to position itself as a key player in technology production and innovation. This alignment can boost India's own AI ecosystem. The positive stance on open-source models fits well with the needs of India's growing startup and research communities.



IS THE US AI ACTION PLAN AN OPPORTUNITY OR

AI.sha

However, the plan could also present difficulties for India. Tightened AI export controls and penalties such as secondary tariffs for not aligning might force India into complex trade decisions, possibly restricting cooperation with other nations. There is a risk of progress and innovation slowing down if India gets caught in the quicksands of these geopolitical and trade conflicts. The US push to prioritise its own workforce and production could shrink opportunities for Indian tech workers and firms.

CHALLENGE FOR INDIA?



Source: The Economic Times Newspaper, 29-07-2025

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Link: <https://drive.google.com/file/d/1ml1AGUb5rbPZ3UmsARmrltke0ViZ06cP/view>



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