

## **ATHARVA ROBOTICS CENTER**

### **Daily News on Innovation & Technology**

20<sup>TH</sup> October, 2025

#### **DRDO makes progress in semi-conductor tech: Chairman**

By The Hindu Bureau, October 19, 2025

Defence Research and Development Organisation (DRDO) has made significant strides in semi-conductor technology by developing indigenous methods for producing four-inch Silicon Carbide (SiC) wafers and fabricating Gallium Nitride (GaN) High Electron Mobility Transistors (HEMTs) up to 150 W, informed chairman and secretary, Department of Defence Research and Development (DDR&D) Samir V. Kamat.



#### **New twist on classic material could advance quantum computing, cut data center energy use**

By Prabhat Ranjan Mishra, October 20, 2025

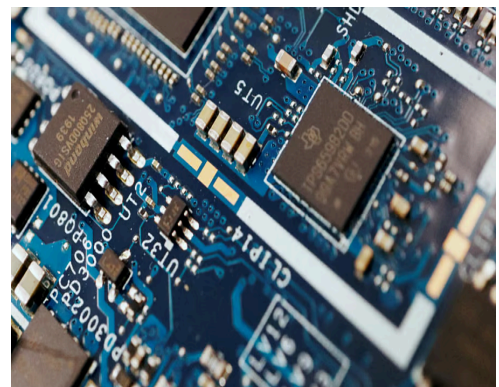
Researchers from the United States have confirmed that a new twist on a classic material could advance quantum computing. The research team at Penn State University highlighted that the new approach could make modern data centers more energy efficient. Researchers worked on Barium titanate, first discovered in 1941, that is known for its powerful electro-optic properties in bulk, or three-dimensional crystals.



#### **India's first 7 nanometer computer chip design to be ready by 2028**

By PTI, October 18, 2025

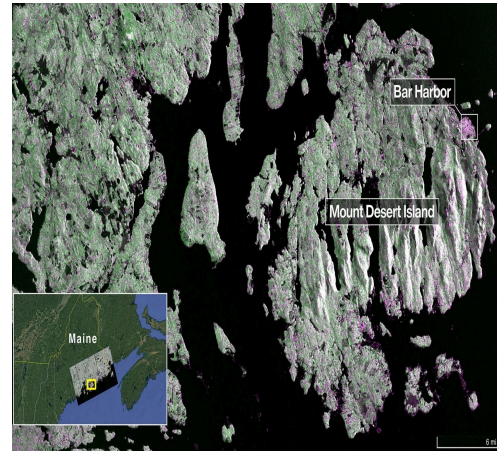
Semiconductor chips are seen on a circuit board of a computer. (Image for representation only) Credit: Reuters File Photo New Delhi: India's first indigenously-designed 7 nanometer computer processor 'Shakti' is expected to be ready by 2028, be produced at chip plant locally in future, the IIT Madras-based team informed Union minister Ashwini Vaishnaw on Saturday.



## [NASA and India Launch World's Most Powerful Radar Satellite – First Images Are Unprecedented](#)

By Sarah Talbi, October 17, 2025

The satellite, a joint effort between the two nations, is designed to scan the planet with unmatched precision and frequency—capturing data critical to understanding environmental changes, natural disasters, and land use. Still in its testing phase, NISAR has already produced high-resolution radar images that highlight its potential impact. Developed over several years of technical collaboration, the satellite combines advanced dual-band radar technology with a sweeping global mission to track changes in Earth's surface in near real time.



## [Yogi: New humanoid robot capable of 'genuine human connection' could take over homes](#)

By Chris Young, October 17, 2025

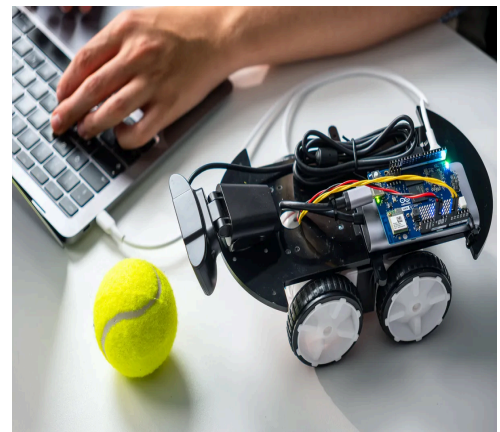
Cartwheel Robotics is developing a humanoid robot called "Yogi", which is designed to move naturally, perform household tasks, and bring a friendly presence to homes. Humanoid Global Holdings Corp., a publicly traded investment issuer, has provided an update on the humanoid robot, as Cartwheel is one of its portfolio companies. While high-profile firms like Tesla look to fill factories with robots, Cartwheel Robotics is focusing on human connection.



## [Qualcomm Buys Arduino, and the Open-Source Community Is Skeptical The acquisition raises concerns about open-source hardware's future](#)

By Matthew S. Smith, October 18, 2025

On 7 October, the open-source hardware community woke up to surprising news. Qualcomm, the tech giant behind the Snapdragon chips found in billions of smartphones, tablets, and laptops worldwide, had acquired Arduino, an Italian hardware company known for its open-source microcontrollers and educational electronics starter kits.



### [China's new humanoid robot handles raw egg with world-first cross-shaped wrist arm](#)

By Kaif Shaikh, October 20, 2025

Agibot has officially launched its next-generation industrial-grade embodied robot, the Agibot G2, specifically for commercial environments. The G2 humanoid integrates advanced motion systems, multimodal AI interaction, and autonomous operation capabilities to support diverse applications, from factory production and logistics to guided tours.



## News Articles



### **Indian Army**

An Indian Army soldier operates a robotic mule ahead of the Diwali festival at the Line of Control along the Akhnoor sector in Jammu on Friday. (ANI)

## **MHA orders judicial probe into killing of four people in Ladakh**

**STATESMAN NEWS SERVICE**  
*Jammu, 17 October*

The Ministry of Home Affairs (MHA) has ordered a judicial probe by a retired Supreme Court judge into the 24 September police firing in Leh that killed four people, including a retired soldier of the Indian Army.

A notification from the MHA on Friday shared on X by Sajjad Kargili, one of the members of the Kargil Democratic Alliance, spearheading the ongoing agitation for statehood and the Sixth Schedule for the union territory, says that Dr Justice BS Chauhan, former judge of the apex court, will inquire into the circumstances leading to the serious law and order situation, the police action, and the resultant unfortunate death of four



individuals. The MHA said that "the government has always been open for dialogue at any time. We would continue to welcome the discussion with the Apex Body Leh (ABL) and Kargil Democratic Alliance (KDA) through the high-powered committee on Ladakh or any such platform".

"We are confident that continuous dialogue will yield the desired results in the near future. The government stands

committed to the aspirations of the people of Ladakh", the notification added.

Reacting to the government's decision, Kargili wrote on X, "We welcome the step, but justice remains incomplete without the release of the climate activist Sonam Wangchuk and all detainees". He also highlighted the demand for "compensation and medical aid for victims and statehood and the Sixth Schedule for Ladakh".

The ABL and KDA have already rejected further talks with the MHA until Wangchuk is released from the Rajasthan jail and all others detained are also set free. They have also sought adequate compensation for those killed and injured. They had rejected the magisterial probe that was ordered by the Ladakh administration.

Source: The Statesman Newspaper, 18-10-2025

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Link: <http://drive.google.com/file/d/1833tyR8RpeYoSFovKuDHLPDvrFdtYBR/view>

# What you need to know for the EU's new biometric data

The system requires the collection of biometric information from visitors crossing borders. It will eventually replace the stamps in your passport

CHRISTINE CHUNG

FOR THE FIRST time, the European Union will require visitors to submit personal data, their faces and fingerprints, when they enter or exit borders.

The Entry/Exit System, or EES, began last week and is scheduled to be rolled out to all border security checkpoints at ports, airports and land crossings over the next six months. It will lead to the elimination of passport stamping, and it is part of a broad effort by

the European Union to better secure its borders. "This patchwork rollout underscores that the launch of EES is a process rather than a single moment," said Jo Antoons, a partner at the global immigration firm Fragomen. "The question isn't so much which countries will switch on but rather which border posts are ready and how quickly they can bring the system online." Here's what travellers should know.

**What is the EES?** It is an automated system that registers a traveller's entry and exit dates at borders of the European Union's 29-country Schengen Area, and their travel documents and personal data. The passport officers will take a photo of a traveller's face and scan their fingerprints. After this, passport control officers will verify a traveller's identity using this record. The EU says that in addition to making border checks more efficient, EES will be able to identify people who have overstayed in the Schengen Area and those travelling on fake documents. Refused entries will be recorded in a traveller's file.

**Whom is it for?** The new system applies



to travellers who aren't nationals of EU countries or Iceland, Liechtenstein, Norway and Switzerland and who are travelling for a short stay (90 days in a 180-day period), regardless of whether they have a visa.

Children under 12, regardless of their nationality, will not be fingerprinted.

**Where is the system in effect?** The system won't initially be in place everywhere. The EU says EES will be fully deployed at all

border crossings by April 10. Member states are prioritising particular airports, ports and land crossings rather than moving in unison, Antoons said. She added that Düsseldorf Airport in Germany and Findel Airport in Luxembourg would use EES from the start, while Schiphol Airport in Amsterdam planned to begin in early November. Some border crossings may have self-service equipment or mobile apps on which travellers can submit their information.

**What happens to my passport?** Passports will continue to be stamped until April next year, according to EU officials. Travellers will still need to carry passports after the system is fully in place.

**What happens to my data?** EES is mandatory, and those who refuse biometric collection will be denied entry. The length of time for which data is stored can vary; generally, it will be three years.

**How does it compare with systems in other countries?** EU officials emphasised that the new system was not an outlier and that biometric collection had become more common across the world. Britain regularly uses facial recognition at its automated security eGates. The US collects fingerprints from visitors entering the country and has been deploying facial recognition when passengers exit. South Korea has been fingerprinting visitors and taking their photos for over a decade.

**What other changes are coming?** An entry requirement called the European Travel Information and Authorization System is scheduled to begin late next year. This travel authorisation, which has been delayed, will be required for visa-exempt travellers entering 30 European countries for short stays. It will cost 20 euros, and will apply to 1.4 billion people from countries in Europe. —NYT

PASSPORTS WILL CONTINUE TO BE STAMPED UNTIL APRIL 2026. BUT TRAVELLERS NEED TO CARRY PASSPORTS EVEN AFTER THE SYSTEM IS IN PLACE

Source: FINANCIAL EXPRESS Newspaper, 19-10-2025

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Link: <https://drive.google.com/file/d/1NFs3bTd38AkUECKgmmZ6O4U0nJpBo3TT/view>



# DIWALI WITH FAMILY, FRIENDS & BOIS

A host of services powered by artificial intelligence are now integral to the festival ecosystem

SREYA DEB

**A** 21ST-CENTURY Diwali in 2025 would be incomplete without a significant touch of AI brightening up our festivities. As per the 2025 Festive Season Report by Integral Ad Sciences, during prime festive shopping moments, including Ganesh Chaturthi, Navratras, and Diwali, spilling into holiday buying around Christmas, consumers are starting to explore utilising AI tools to help in their shopping for the season. As many as 57% are open to using AI tools to help in their shopping, 32% plan to use AI tools in researching online for product and gift ideas.

The shift has been happening for some years now. The Maharashtra government in 2022 sent nearly 40 million personalised video greetings in Marathi to residents across the state, addressed from then chief minister Eknath Shinde and deputy chief minister Devendra Fadnis.

### Gifting & greetings

Greeting cards with AI generated, Diwali themed designs and backgrounds have found a lot of pull with consumers, given that several AI design websites including PhotoGPT offer specific themed designs during this festival. AI design websites are all running special Diwali marketing lines, including Canva, Varnz, Freepik, and Adobe.

Not just that, but gifting websites will also leverage AI to personalise Diwali gifts, be it design or a picture or name embossed on the product, or even colour customisations. Gifting websites allow consumers to view the product exactly as it will be delivered, before placing the order. When buying clothes, showpieces, furniture or decor, certain websites use AR to allow the consumer to see what the product would look like in their liv-

ing spaces—the height or width of the product, the space it would occupy, its aesthetic appeal in a realistic view and more.

Supriya Singh, 36, resident of Kolkata describes her festive days around Diwali as 'practised chaos', balancing prayers for rituals and decorations. One thing she does not have to worry about or spend on are the Diwali greetings that must go out to each and every family member and friend. "For the past couple of years, we have been sending AI designed e-cards to our friends and family for our Diwali get-togethers," she shares. "Rather than making calls and going through the process of formally asking people to attend, we can not only simply forward them on Whatsapp, but we can customise them with family pictures and festive backgrounds and mass forward them to family and friends."

### Making corporates happy

Several companies and big corporations are using AI platforms for Diwali gifts to employees. Platforms like AdvantageClub.ai make this process user-friendly and convenient. AdvantageClub.ai is a global AI-powered employee engagement, rewards, and wellness platform with offerings like OPD plans, annual health checkup, wellness challenges, sales incentive automation, flexible benefits. Rather than budgeting for the same gifts across the board, AdvantageClub.ai allows for customisation, a range of choices, as well as other options to make it a better experience for employees, while also maintaining a budget cap for the sake of the company. The platform has a Diwali campaign called 'My Gift, My Choice' which now has enhanced flexibility and enhanced gifting options among other features. With AdvantageClub, companies can make space for personalisation of gifts, moving away from the

one-size-fits-all policy commonly followed in corporate Diwali. From gift cards and curated products to global brand vouchers - employees have the freedom to choose. Last year the campaign had a 92% redemption rate. Artificial intelligence can help chart Diwali trends, predict consumer preferences as well as track satisfaction rates to drive future business decisions.

### Gods in Cloud

The Shubh Diwali mobile app for Android which released in 2023 is an online Diwali guide for all, with its latest updates including AI since 2024. This app will present the user with an updated Diwali calendar, dates for puja, list of all Diwali muhurtas or auspicious times, lyrics to relevant bhajans, rangoli ideas, mantras for different goddesses, suggestions for rituals and more. With over 10,000 downloads already, several families are celebrating Diwali with the aid of this app. Platforms like OnlinePuja.com and RudraRatna.com give recommendations, provide live translation of chants and allow family members living away to partake in the rituals.

### Festive mood

"This Diwali I have tried on many accessories, sunglasses to clothes on virtual try-on features," says Jagriti Bhardwal, a 31-year-old Delhi resident, who says she can avoid Diwali traffic and crowds with these AI features.

Other features like smart lighting systems now allow users to control and regulate lighting with settings for different patterns and brightnesses. AI controlled facade lighting elevates a space during festivities, with brands offering various types of smart lighting. For instance, Philips released an AI dri-

ven smart lighting system for Diwali in 2023.

"We have smart lights in various parts of our house," says Suresh Kumar, 38-year-old from Delhi. "The AI system allows you to regulate the lighting as per mood. It is not only more beautiful and adds a festive touch, with colours and patterns, besides being practical," says Kumar.

Artificial intelligence is contributing to safety during Diwali as well. AI-enabled AQI monitors for indoor spaces or smaller areas can alert users when the air quality is dropping too low. These AQI monitors work on smart sensors that pick up data from pollutants. Some countries have also developed AI-enabled devices and sensors to identify illegal firecrackers being burnt and might be put to use in India as well, considering the Supreme Court has called for a nationwide ban on crackers.

Last year, Burger King launched a fun AI-driven activity for consumers, giving them the opportunity to design their own firecracker inspired packaging for their food. Consumers would get to select from six popular Burger King items, and design an appropriate Diwali themed packaging, and then tag Burger King on that post with the campaign hashtag #BurgerKingsWaadaKaFataha.

Last Diwali, Samsung also came up with a Diwali campaign with their Samsung AI TV, "to bring a Diwali spark in the family", as the tagline went.

It's easy to imagine a future, where more aspects of this festive season will be bolstered if not ruled by artificial intelligence. From predicting trends, enhancing features on household electronics, launching more innovative themed offers based on customer preferences, better AI powered safety measures for the festival and more — AI is here for not just Diwali but year-round festivities.

Source: FINANCIAL EXPRESS Newspaper, 19-10-2025

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