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Cryptocurrency



RUPANKAR GHOSH

Cryptocurrency is a digitized and encrypted method of accounting for transactions and creating new units.

Unlike traditional currency, such as the Dollar, Euro, or Pesos, which is centralized to a government or institution, cryptocurrency is decentralized. Cryptocurrency relies on blockchain technology, with a blockchain being a digital, distributed ledger that is accessible to all and records every transaction, making it transparent and secure.

Bitcoin is the original cryptocurrency and the most widely recognized, hitting the market in 2009. Since then, many alternative coins, or altcoins, have been released, such as Ethereum, Ripple, and Litecoin.

Cryptocurrency is attractive for retail and institutional investment, online transactions, DeFi, and smart contracts.

A draw for many users is the ability to send money across the globe without the need for a bank as an intermediary, which is typically a lengthy and expensive process. The value and utility of cryptocurrency is influenced by regulation, technology, and the market, many of which are emerging concerns for individuals and institutions that are considering using or adopting cryptocurrency.

The 6 GHz Spectrum



TAUFIKA SULTANA

The 6 GHz spectrum is a massive breakthrough in wireless technology.

Spanning from 5.925 GHz to 7.125 GHz, this band opens up 1,200 MHz of clear airwaves, functioning like an empty, high-speed superhighway for data.

For years, our internet has suffered from traffic jams on crowded 2.4 GHz and 5 GHz bands, leading to lag. The 6 GHz spectrum solves this by offering ultra- wide channels exclusive to modern devices using WiFi 6E and WiFi 7.

Because legacy gadgets cannot access this band, users enjoy zero interference.

This leap delivers gigabit speeds and ultra-low latency, perfectly powering next- generation tech like 8K streaming, virtual reality, and smart automation.

Cloud Gaming



SUSMITA PAUL

The way people play video games is undergoing a profound shift, and cloud gaming sits at the very heart of that change. Instead of purchasing dedicated consoles or high-performance computers, players can now stream games in real time from remote data centers, accessing rich, immersive titles on nothing more than a phone, tablet, or budget laptop.

The processing power lives in the cloud—not on the desk. This model slashes the cost of entry and makes premium gaming accessible to audiences who could never previously justify the expense. Services like Xbox Cloud Gaming and NVIDIA GeForce NOW have pushed this vision into the mainstream, while the global rollout of 5G networks continues to shrink the latency that once made streamed game play feel sluggish.

For the industry, the implications stretch beyond convenience: developers can now build larger, more ambitious worlds—and with cloud gaming breaking down hardware barriers, a more inclusive future for interactive entertainment is well within reach.

E-Waste Recycling



KABITA DAS

E-waste recycling is the safe processing of discarded electronic devices to recover valuable materials and prevent environmental harm. Electronic waste (e-waste) includes discarded devices like computers, phones, televisions, and appliances. Rapid technological advancement and frequent upgrades have caused a massive global increase in e-waste. Throwing electronics into regular landfills causes toxic substances like lead, mercury, and cadmium to leak into soil and water. Additionally, burning them releases poisonous gases into the air, threatening health and the environment.

E-waste recycling involves collecting and processing old devices to recover reusable materials like plastic, glass, and metals. We should send e-waste to authorized collection centers, while repairing and reusing devices whenever possible. Schools, communities, and governments promote collection drives, awareness campaigns, and formal recycling units to stop unsafe burning or informal dumping. Recycling e-waste reduces pollution, conserves natural resources, and keeps our planet safe.

Hydrogen Fuel



SAIKAT SAHA

With the shift in global climate governance towards net-zero, green hydrogen does not stand as a simple alternative fuel source, but as a new paradigm of deep decarbonization. In contrast with intermittent renewables, hydrogen shows a high gravimetric energy density and allows for the decarbonization of even hard-to-abate sectors of the economy—primary steel production, heavy freight, and chemical fertilizers—with zero emissions, releasing only pure water vapor.

For an energy-import-dependent country such as India, hydrogen represents both ecological stewardship and geoeconomic sovereignty. Flagship projects like the National Green Hydrogen Mission (NGHM) allow the country to decouple its growth from fossil dependence and transition from being a net energy importer to a clean fuel exporter.

Nevertheless, structural obstacles lie ahead. High costs of water electrolysis, losses from round-trip conversion, pipeline degradation, and regionally limited water resources pose real threats. The full potential of hydrogen can be realized only through appropriate fiscal incentives, homegrown electrolyzer R&D, and strict safety procedures. Ultimately, hydrogen is not just a solution, but a critical piece of the puzzle.

Neural Networks



SUBHRADEEP ROY

A neural network is, at its core, a computing system that borrows its rough architecture from the way biological neurons are wired inside the human brain. The idea dates back to 1943, when McCulloch and Pitts first showed that simple mathematical units could mimic logical reasoning, but it truly gained traction after Rosenblatt built the perceptron in 1958.

Modern artificial neural networks arrange neurons in input, hidden, and output layers. During training, data passes forward, predictions are compared with known targets, and backpropagation sends error signals backward to nudge connection weights until guesses become accurate. Rather than following hardcoded rules, networks learn patterns independently. Today, variants like convolutional networks enable medical image recognition, recurrent networks process speech and language, and deeper architectures drive autonomous vehicles and fraud detection. Despite these breakthroughs, major challenges persist, including the opaque "black-box" nature of their decisions and a heavy reliance on large labeled datasets.

Career-Related Topics

Press Information Bureau (PIB)

The Union Budget 2026-27: Key Skilling Initiatives

- The Khelo India Mission proposes an integrated talent pathway, coach development, and greater use of sports science and technology.
- A pilot programme to upskill 10,000 tourist guides through a standardised 12-week hybrid course.
- 3 new All India Institutes of Ayurveda to strengthen education, research and clinical services.
- A National Institute of Design in eastern India to strengthen design education.
- AVGC Content Creator Labs in 15,000 schools and 500 colleges.
- NSQF-aligned programmes to train 1.5 lakh multi-skilled caregivers in geriatric and allied care.
- Five University Townships near industrial and logistics corridors. These townships will integrate higher education, research, skilling and residential infrastructure.

Industry Trends

The World Economic Forum

"5 trends that are set to transform factories in 2026" explores how advanced manufacturing is evolving through technology, human-centric design, and sustainability.

- Practical AI and Workforce Augmentation.
- Frontline Adoption & Upskilling Human Capital.
- Connected Factory & Real-Time Data Infrastructure.
- Agentic Operations & Dynamic Supply Chain Resilience.
- Sustainable Manufacturing & Net-Zero Operations.