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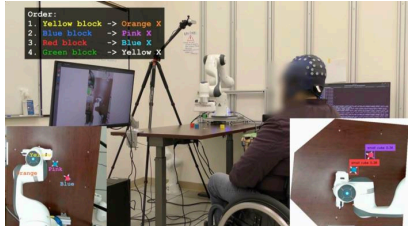
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AI

AI Co-Pilot Boosts Noninvasive Brain-Computer Interface by Interpreting User Intent



"UCLA engineers have developed a wearable, noninvasive brain-computer interface system that utilizes artificial intelligence as a co-pilot to help infer user intent and complete tasks by moving a robotic arm or a computer cursor.

Published in Nature Machine Intelligence, the study shows that the interface demonstrates a new level of performance in noninvasive brain-computer interface, or BCI, systems. This could lead to a range of technologies to help people with limited physical capabilities, such as those with paralysis or neurological conditions, handle and move objects more easily and precisely.

The team developed custom algorithms to decode electroencephalography, or EEG — a method of recording the brain's electrical activity — and extract signals that reflect movement intentions. They paired the decoded signals with a camera-based artificial intelligence platform that interprets user direction and intent in real time. The system allows individuals to complete tasks significantly faster than without AI assistance."

Source: [EurekAlert!](#) (1 Sep 2025)

AI

AI Exposes 1,000+ Fake Science Journals



"Researchers at the University of Colorado Boulder have unveiled an AI-powered system designed to expose predatory scientific journals—those that trick scientists into paying for publication without proper peer review. By analyzing journal websites for red flags like fake editorial boards, excessive self-citation, and sloppy errors, the AI flagged over 1,400 suspicious titles out of 15,200."

Source: [University of Colorado at Boulder](#) (30 Aug 2025)

ARCHITECTURE

Urban Mobility as a System: From Car-Centric to Human-Centered Cities



"Amid the traffic-clogged arteries of Los Angeles, where [cars have long ruled the streets](#), the future of urban mobility is being questioned. The reorientation focuses not on simply removing cars or introducing new technology, but on envisioning the city as an integrated system in which people, places, and vehicles coexist in balance. Automobiles are no longer the unquestioned centerpiece of urban life; instead, they are treated as one component of a broader, multimodal transportation network. Design now seeks to prioritize human needs and experiences over vehicular dominance.

This shift toward systemic thinking marks a turning point in urban planning since the advent of the automobile itself. For over a century, cities bent their form to accommodate vehicles - building freeways that sliced through neighborhoods and streets that privileged traffic over tree canopy and walkability. [Julia de Bono of BMW DesignWorks](#) describes this as "local culture obliterated by inappropriately dominant infrastructures, harming people and place for the sake of somewhere else." Today, the goal is to reverse that legacy, realigning mobility to serve human well-being, environmental quality, and social equity."

Source: [Archdaily](#) (1 Sep 2025)

ARCHITECTURE

Ten Upcoming Sports Stadiums Where Technology Takes to the Field



"After [construction photos of the Buffalo Bills' new stadium with its snow-melting system](#) attracted readers' attention on Dezeen this week, we've [rounded up](#) 10 upcoming [stadiums](#) that seek to harness technology.

[Highmark Stadium, USA, by Populous](#)

The new stadium for [National Football League](#) (NFL) team the Buffalo Bills features what architecture studio [Populous](#) claims is "the world's largest and technically advanced snow melt system".

Sensors on the steel canopy – which has also been engineered to amplify crowd noise – will react to snowfall and activate a hydronic system.

[Oxford United Football Club Stadium, UK, by AFL Architects](#)

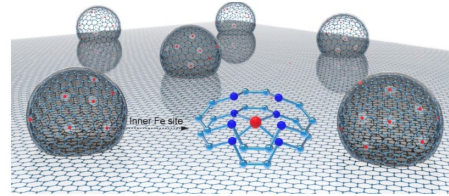
Oxford United Football Club's new home will be the first all-electric stadium in the UK when it completes, powered entirely by [renewable energy](#) with the help of 3,500 square metres of roof-mounted solar panels and an air-source heat pump.

Meanwhile in the US, international architecture studio HOK [is working on the first fully electric Major League Soccer stadium for New York City Football Club](#)."

Source: [Dezeen](#) (24 Aug 2025)

CLEAN ENERGY

Chinese Scientists Develop High-Performance Iron Catalyst for Fuel Cells



Construction of CS Fe/Ni-C (Image by ZHAO Yaoting)

"Proton exchange membrane fuel cells (PEMFCs), often referred to as "hydrogen power banks," are clean energy devices that generate electricity from hydrogen and oxygen with only water as a byproduct. Characterized by high efficiency, rapid start-up, and zero emissions, they hold great promise in transportation, portable electronics, and stationary power generation. Unfortunately, PEMFCs currently rely heavily on scarce and expensive platinum as a catalyst, making their widespread adoption impractical.

Now, however, a team of Chinese scientists has developed a high-performance iron-based catalyst for these fuel cells that could potentially reduce reliance on platinum. The new design, described as "inner activation, outer protection," enables record efficiency and long-term durability.

The findings were published in [Nature](#)."

Source: [CAS](#) (26 Aug 2025)

DESIGN

Royal Mail Introduces Solar-Powered Postboxes



"Royal Mail has given Britain's recognisable red pillar postbox the "biggest redesign in its 175-year history", integrating solar panels to power digitally activated drawers for larger parcels.

The 3,500 new designs, billed as "the postboxes of the future", will be rolled out across the UK within the coming months.

Solar panels are fitted to the roof of each postbox and oriented due south for optimal sun exposure.

The energy generated by the photovoltaics powers a barcode scanner, used to open an integrated drawer that can accommodate parcels as big as a shoebox. Each postbox is also fitted with a separate slot for smaller letters, as per tradition.

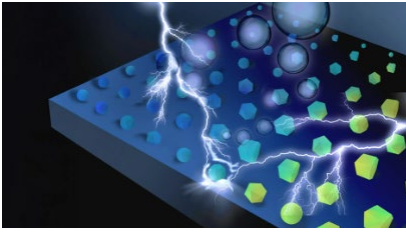
"The reimagining of the iconic red postbox is the biggest redesign in its 175-year history," said [Royal Mail](#).

The post service's aim with the new postboxes is to capture a slice of the [ever-rising number of parcels](#) being posted in lockers via competitors such as [inPost](#) or [Yodel](#), with the continued growth of e-commerce."

Source: [Dezeen](#) (28 Aug 2025)

ENERGY

A Tiny Chip May Have Solved One of Clean Energy's Biggest Problems



"For decades, researchers around the world have searched for alternatives to iridium, an extremely rare, incredibly expensive metal used in the production of clean hydrogen fuels.

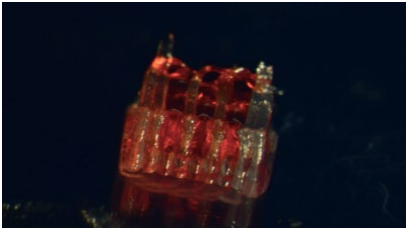
Now, a powerful new tool has found one – within a single afternoon.

Invented and developed at Northwestern University, that tool is called a megalibrary. The world's first nanomaterial "data factory," each megalibrary contains millions of uniquely designed nanoparticles on one tiny chip. In collaboration with researchers from the Toyota Research Institute (TRI), the team used this technology to discover commercially relevant catalysts for hydrogen production. Then, they scaled up the material and demonstrated it could work within a device -- all in record time."

Source: [Northwestern University](#) (28 Aug 2025)

MEDTECH

Rats Walk Again After Breakthrough Spinal Cord Repair With 3D Printing



"University of Minnesota researchers developed a 3D-printed scaffold that directs stem cells to grow into functioning nerve cells, successfully restoring movement in rats with severed spinal cords. This promising technique could transform future treatment for spinal cord injuries..."

Source: [University of Minnesota](#) (26 Aug 2025)

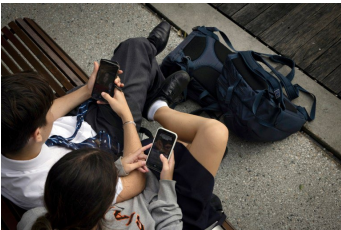
PLASTIC

These “Plastivore” Caterpillars Can Devour a Plastic Bag in Just 24 Hours



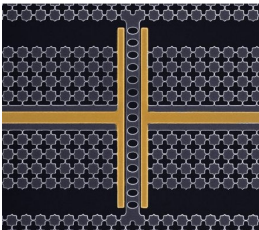
PUBLIC HEALTH

Do Social-Media Bans Benefit Young People? These Data Could Offer Clues



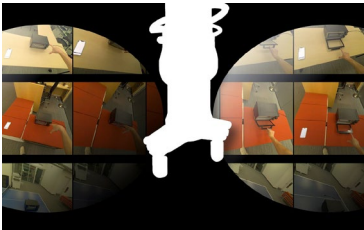
QUANTUM

Using Sound to Remember Quantum Information



ROBOTICS

Smart Glasses Help Train General-Purpose Robots: Data from Humans Allows Bots to Better Mimic Our Actions



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| <p>"Scientists have discovered that waxworm caterpillars can break down polyethylene plastic, one of the most common and persistent pollutants on Earth. These "plastivores" metabolize plastic into body fat within days, offering a striking potential solution to the global waste crisis. But there's a twist: on a plastic-only diet, the caterpillars weaken and die quickly..."</p> | <p>"In December, the Australian government will bring the Online Safety Amendment Act into force. The law will prevent people under 16 years of age from having accounts for <a href="#">a range of social-media platforms</a>, including Instagram, Facebook, TikTok and YouTube. The legislation, introduced in response to concerns over children's online safety and well-being<sup>1</sup>, provides a golden opportunity for researchers to investigate <a href="#">how social-media use might affect mental health</a> among adolescents — a complex issue that has been the <a href="#">subject of heated debate</a>.</p> <p>There's little time to plan and set up the ideal experiment. Assessing the mental-health status and Internet usage of tens of thousands of teenagers in Australia and comparator countries over time, before and after the legislation comes into force, is no mean feat. It would require substantial organization in schools, the recruitment of research staff, agreement about the research measures used and fast ethical review and parental consent, all of which takes many months. Nevertheless, there are <a href="#">more-feasible approaches</a> that could provide valuable information if researchers act promptly.</p> <p>An as-yet-unnamed advisory committee and research partner have been established by the government to review the effect of the act, but to our knowledge there have been no official announcements about the responsibilities, leadership or research strategies they will adopt. We urge the committee to consider implementing each of the following three approaches."</p> | <p>"While conventional computers store information in the form of bits, fundamental pieces of logic that take a value of either 0 or 1, quantum computers are based on qubits. These can have a state that is simultaneously both 0 and 1. This odd property, a quirk of quantum physics known as superposition, lies at the heart of quantum computing's promise to ultimately solve problems that are intractable for classical computers.</p> <p>Many existing quantum computers are based on superconducting electronic systems in which electrons flow without resistance at extremely low temperatures. In these systems, the quantum mechanical nature of electrons flowing through carefully designed resonators creates superconducting qubits. These qubits are excellent at quickly performing the logical operations needed for computing. However, storing information—in this case quantum states, mathematical descriptors of particular quantum systems—is not their strong suit. Quantum engineers have been seeking a way to boost the storage times of quantum states by constructing so-called "quantum memories" for superconducting qubits.</p> <p>Now a team of Caltech scientists has used a hybrid approach for quantum memories, effectively translating electrical information into sound so that quantum states from superconducting qubits can survive in storage for a period up to 30 times longer than in other techniques."</p> | <p>"General-purpose robots are hard to train. The dream is to have a robot like the Jetson's Rosie that can performing a range of household tasks, like tidying up or folding laundry. But for that to happen, the robot needs to learn from a large amount of data that match real-world conditions—that data can be difficult to collect. Currently, most training data is collected from multiple static cameras that have to be carefully set up to gather useful information. But what if bots could learn from the everyday interactions we already have with the physical world?</p> <p>That's a question that the General-purpose Robotics and AI Lab at New York University, led by Assistant Professor Lerrel Pinto, hopes to answer with EgoZero, a smart-glasses system that aids robot learning by collecting data with a souped-up version of Meta's glasses.</p> <p>In a recent preprint, which serves as a proof of concept for the approach, the researchers trained a robot to complete seven manipulation tasks, such as picking up a piece of bread and placing it on a nearby plate. For each task, they collected 20 minutes of data from humans performing these tasks while recording their actions with glasses from Meta's Project Aria. (These sensor-laden glasses are used exclusively for research purposes.) When then deployed to autonomously complete these tasks with a robot, the system achieved a 70 percent success rate."</p> |
| Source: <a href="#">Society for Experimental Biology</a> (27 Aug 2025)   | Source: <a href="#">Nature</a> (1 Sep 2025)  | Source: <a href="#">Caltech</a> (13 Aug 2025)  | Source: <a href="#">IEEE Spectrum</a> (19 Aug 2025)   |

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