SINGAPORE UNIVERSITY OF TECHNOLOGY AND DESIGN

Weekly Discovery

We SHARE to inspire and ignite ideas!

12 Jan - 16 Jan 2026

LinkedIn Learning Invest in Yourself

Did you know 1 cent doubled for 30 days = $5.368 Million

Similarly, your actions everyday can amount to much more!

Learn a new skill today with LinkedIn Learning and start investing in yourself!

Activate you free LinkedIn Learning Account and get started!

Featured Course

Getting Started with Python

3h 41m

Click Here to Start Learning

AI

Agents, Robots, And Us: Skill Partnerships in the Age Of AI

"Work in the future will be a partnership between people, agents, and robots—all powered by artificial intelligence. While much of the current public debate revolves around whether AI will lead to sweeping job losses, our focus is on how it will change the very building blocks of work—the skills that underpin productivity and growth. Our research suggests that although people may be shifted out of some work activities, many of their skills will remain essential. They will also be central in guiding and collaborating with AI, a change that is already redefining many roles across the economy.

In this research, we use "agents" and "robots" as broad, practical terms to describe all machines that can automate nonphysical and physical work, respectively. Many different technologies perform these functions, some based on AI and others not, with the boundaries between them fluid and changing. Using the terms in this expansive way lets us analyze how automation reshapes work overall.

This report builds on McKinsey's long-running research on automation and the future of work. Earlier studies examined individual activities, while this analysis also looks at how AI will transform entire workflows and what this means for skills. New forms of collaboration are emerging, creating skill partnerships between people and AI that raise demand for complementary human capabilities."

Source: Mckinsey (25 Nov 2025)

ARCHITECTURE

Architecture That Shapes Health: Lessons of Design and Well-Being In 2025

"Health has become a central concern in architecture, planning, and design, driven by a growing awareness of how the built environment influences physical, mental, social, and environmental well-being. In 2025, this awareness moved beyond specialized building types or performance metrics and became central to architectural decision-making, informing how spaces are conceived, built, and inhabited across diverse contexts. Architects are no longer treating health as an external requirement but as an integral condition of everyday life.

This shift reflects broader pressures shaping contemporary practice, including social inequality, displacement, environmental instability, aging populations, and the cumulative effects of stress and isolation. As health systems and public policy struggle to respond at the required pace and scale, architecture increasingly operates at the intersection of care, environment, and culture, translating complex health challenges into spatial, material, and social responses. Buildings, landscapes, and infrastructure are becoming active participants in shaping how people move, gather, recover, and coexist.

As the year concludes, this article reflects on lessons from 2025 through a set of built projects that reveal how health has informed architectural practice across regions and scales. Each project is examined as a distinct lens on health, from collective care and ecological stewardship to mental well-being, autonomy across the life course, domestic environmental quality, and spaces for shared encounter. Together, they suggest that health is not a singular design goal, but a guiding ethic that increasingly defines how architecture engages with life itself."

Source: Archdaily (3 Jan 2026)

ARCHITECTURE

Ten Ways That Architects Used Weathering Steel In 2025

"Weathering steel has been a trendy choice among architects for many years, but as this diverse roundup of projects completed in 2025 shows, any reports of it going out of style are greatly exaggerated."

Source: Dezeen (10 Jan 2026)

BATTERIES

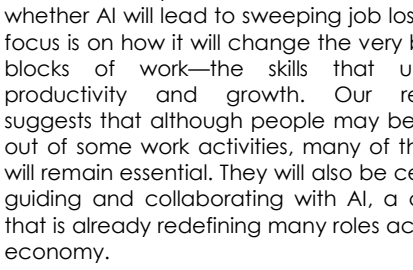
This Simple Design Change Could Finally Fix Solid-State Batteries

"Scientists in South Korea have discovered a way to make all-solid-state batteries safer and more powerful using inexpensive materials. Instead of adding costly metals, they redesigned the battery's internal structure to help lithium ions move faster. This simple structural tweak boosted performance by up to four times. The work points to cheaper, safer batteries for phones, electric vehicles, and beyond."

Source: KAIST (9 Jan 2025)

ELECTRIC CAR

Dutch Students Create Modular Electric Car "You Can Repair Yourself"



"A team of students from the Eindhoven University of Technology has built a prototype electric car with a built-in toolbox and components that can be easily repaired or replaced without specialist knowledge.

The university's TU/ecomotive group, which focuses on developing concepts for future sustainable vehicles, describes its ARIA concept as "a modular electric city car that you can repair yourself".

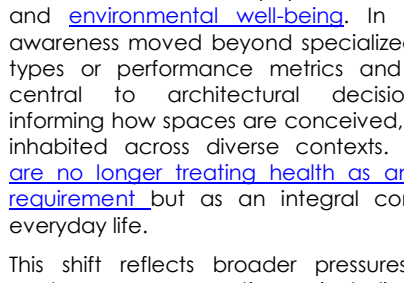
ARIA, which stands for Anyone Repairs It Anywhere, is constructed using standardised components including a battery, body panels and internal electronic elements that can be easily removed and replaced if a fault occurs.

With assistance from an instruction manual and a diagnostics app that provides detailed information about the car's status, users should be able to carry out their own maintenance using only the tools in the car's built-in toolbox, the TU/ecomotive team claimed."

Source: Dezeen (2 Jan 2026)

HEALTH TECH

Scientists Test a Tiny Eye Implant That Could Restore Sight



"Scientists at USC are launching a new trial to test a tiny stem cell implant that could restore vision in people with advanced dry macular degeneration. The hair-thin patch replaces damaged retinal cells responsible for sharp, central vision. Earlier studies showed the implant was safe and helped some patients see better. Researchers now hope it can deliver meaningful, lasting improvements in eyesight."

Source: University of Southern California (9 Jan 2026)

HEALTH TECH

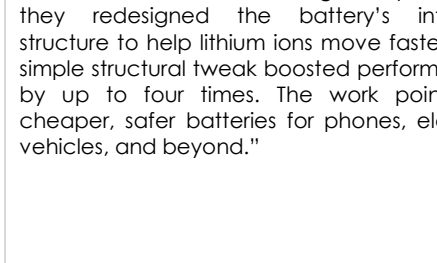
MIT's Smart Pill Confirms You Took Your Medicine

"MIT engineers have developed a pill that can wirelessly report when it's been swallowed. Inside the capsule is a biodegradable antenna that sends a signal within minutes of ingestion, then safely dissolves. The system is designed to work with existing medications and could help doctors track adherence for high-risk patients. Researchers hope it will prevent missed doses that can lead to serious health consequences."

Source: MIT (13 Jan 2026)

MACHINING

Hong Kong Researchers Break the Single-Field Barrier with Dual-Field Assisted Diamond Cutting



"A team at The Hong Kong Polytechnic University has created a machining method that takes a clear step beyond all existing field-assisted cutting techniques. Instead of using only one external energy field, such as heat or magnetism, the new approach applies a laser field and a magnetic field at the same time during diamond cutting. This dual-field method offers a way to machine advanced materials that are extremely difficult to process with conventional techniques.

Field-assisted machining has been used for years to support precision manufacturing. But these traditional methods rely on just one type of assistance, which increasingly falls short as industries turn to new high-strength materials. High-entropy alloys (HEAs), for example, are a promising class of metals with potential applications in aerospace, energy, and other demanding fields. Their exceptional properties, however, also make them very challenging to machine with accuracy.

To overcome these limits, Prof. Suet To and her co-workers developed an in-situ laser–magnetic dual-field assisted diamond cutting technique."

Source: Eurekalert! (12 Jan 2026)

SUGAR

This New Sugar Tastes Like the Real Thing Without the Usual Downsides

SURGERY

Machine Learning System Monitors Patient Pain During Surgery: A Camera and AI Combo Offers a Contactless Way to Assess Pain

SUSTAINABILITY

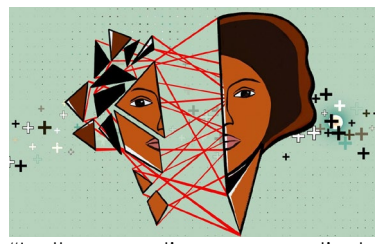
A Shocking Amount of Plastic Is Floating in City Air

WORKFORCE

Rewiring The Future of Work

"Scientists at Tufts have found a way to turn common glucose into a rare sugar that tastes almost exactly like table sugar—but with far fewer downsides. Using engineered bacteria as microscopic factories, the team can now produce tagatose efficiently and cheaply, achieving yields far higher than current methods. Tagatose delivers nearly the same sweetness as sugar with significantly fewer calories, minimal impact on blood sugar, and even potential benefits for oral and gut health."

Source: Tufts Uni (13 Jan 2026)

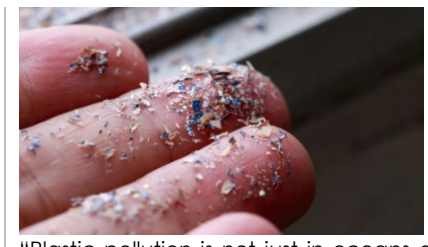


"In the operating room, patients undergoing procedures with local anesthesia, while still conscious, may have difficulty expressing their levels of pain. Some, such as infants or people with dementia, may not be able to communicate these feelings at all. In the search for a better way to monitor patients' pain, a team of researchers has developed a contactless method which analyzes a combination of patients' heart rate data and facial expressions to estimate the pain they're feeling. The approach is described in a study published 14 November in the IEEE Open Journal of Engineering in Medicine and Biology.

Bianca Reichard, a researcher at the Institute for Applied Informatics in Leipzig, Germany, notes that camera-based pain monitoring sidesteps the need for patients to wear sensors with wires, such as ECG electrodes and blood pressure cuffs, which could interfere with the delivery of medical care.

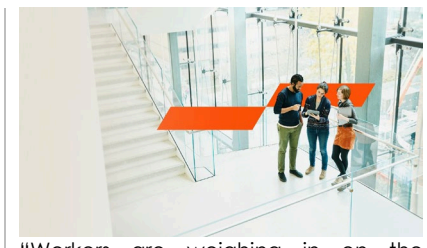
To create their contactless approach, the researchers created a machine learning algorithm capable of analyzing aspects of pain that can be detected visually by a camera. First, the algorithm analyzes the nuances of a person's facial expressions to estimate their pain levels."

Source: IEEE Spectrum (12 Jan 2026)



"Plastic pollution is not just in oceans and soil. Scientists have now found enormous amounts of microscopic plastic floating through urban air, far exceeding earlier estimates. Road dust and rainfall play a major role in moving these particles through the atmosphere. The findings suggest the air may be one of the most important pathways for plastic pollution."

Source: Chinese Academy of Sciences (12 Jan 2026)



"Workers are weighing in on the hotly debated question of AI's impact on productivity, growth, and jobs. PwC's Global Workforce Hopes and Fears Survey 2025 indicates AI's impact is growing and that optimism about its potential greatly outweighs anxiety. But our study—one of the world's largest, with nearly 50,000 respondents spanning 28 sectors in 48 major economies—also shows daily usage is still relatively low and that leaders have big opportunities to unleash motivation and accelerate **reinvention** and growth."

Source: pwc (12 Nov 2025)