

Industry Roundup

Artificial Intelligence (AI) Model Can Help Improve Indoor Ventilation During Wildfire Season

OTTAWA, ONTARIO—Researchers from Carleton University in Canada have designed an AI-powered model that can help improve indoor ventilation when outdoor air quality is compromised by smoke. They used an advanced mathematical model to simulate varied enclosed spaces with different settings. This data was then used to train an AI algorithm, which allows designers to simulate how changes in room layout, such as the number of vents and where they are placed, could impact the well-being of occupants.

Nvidia-Backed Group, BlackRock, Strikes \$40 Billion AI Data Center Deal

DALLAS, TEXAS—An investor group including BlackRock, Microsoft and Nvidia is buying one of the world's biggest data center operators, Aligned Data Centers—which has nearly 80 sites—in a \$40 billion deal to secure computing capacity for artificial intelligence. This is the first deal for the AI Infrastructure Partnership formed last year that also includes Abu Dhabi-based fund, MGX, and Elon Musk's startup, xAI, among its backers. The acquisition is the latest in a series of big-ticket deals from Big Tech and Silicon Valley startups fueled by the boom in AI.

IAQ Doesn't Need to Increase Energy Costs, IWBI Summit Speakers Say

WASHINGTON, D.C.—Facilities managers can reduce energy costs while improving indoor air quality and health, panelists said at the International WELL Building Institute's National Policy Summit. "We have the tools and the knowledge to make buildings that are energy efficient and decarbonized," Bill McQuade, ASHRAE 2025-26 President, said at the event. "We have the skills, knowledge and understanding to make buildings that are healthy. And there's no reason that both can't be done simultaneously."

Study Shows Air Purifiers Reduce Absences from School

MILAN, ITALY—A new research paper has shown just how much there is to be gained by ensuring clean air in schools. The study showed that air purifiers reduce school student absences by 12.5%. The cost

per absence day avoided is \$12.35. The rate at which respiratory illness was reported as the reason for absence was reduced. The study did not investigate run-on effects of reducing school infections on the students' families. The air purifiers used reduced indoor air pollution inside the classroom by approximately one third. The effect was stable regardless of variations in outdoor air quality. The study centered on a randomized controlled trial with 95 classes spread across five public schools. The research was carried out by environmental economists in Milan. Alongside Poland, the Po Valley is Europe's worst region in terms of air pollution.

Physical AI—Building the Energy Infrastructure For Data Centers

VILARDEVOS, SPAIN—According to a 2024 report by the Lawrence Berkeley Laboratory, data centers consumed ~2% of total power generated in the United States in 2018. By 2028, this is projected to grow three to six times, drawing as much as 10% of the power generated by commercial grids. In raw numbers, power needs are projected to grow from 76 TWh in 2018 to 500 TWh in 2028. There is already pushback from local communities and grid operators against constructing data centers in their communities. A suggested solution is to encourage data center users (AI and crypto mining companies) to establish sustainable power generation and reduce loads on the electric grid, especially during peak power periods.

The \$3.3 Trillion Climate Question: Can Data Centers Take the Heat?

The AI-driven data center boom has been likened to a gold rush. Economies across the world are racing to attract investment in digital infrastructure to boost sovereignty and competitiveness. Environmental risks, however, cannot be overlooked when locating these vast banks of servers that underpin our modern economy. As the world has digitized, the importance of the data center has risen. Decisions on where to locate these data centers have become more complex over recent years. Traditional considerations, such as connectivity and space remain important, but energy and resilience are moving up the agenda. ■