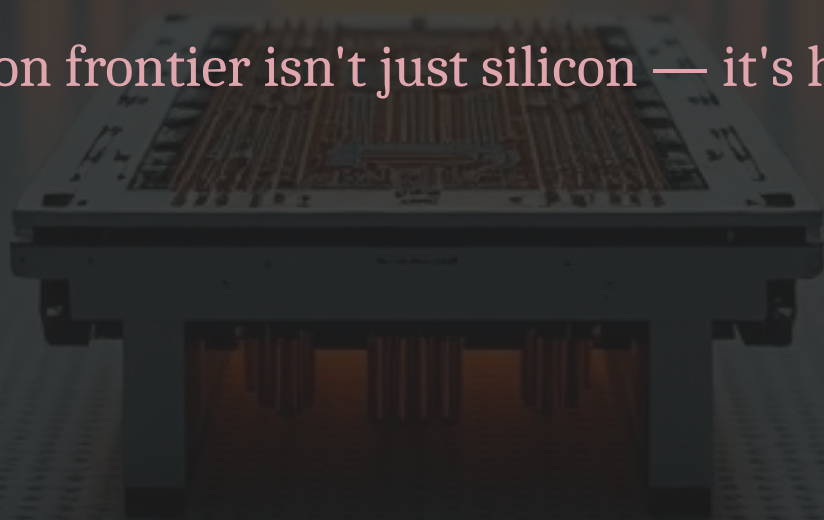


AI Chips Are Stuck in the Packaging Bottleneck

The real innovation frontier isn't just silicon — it's how we connect it.



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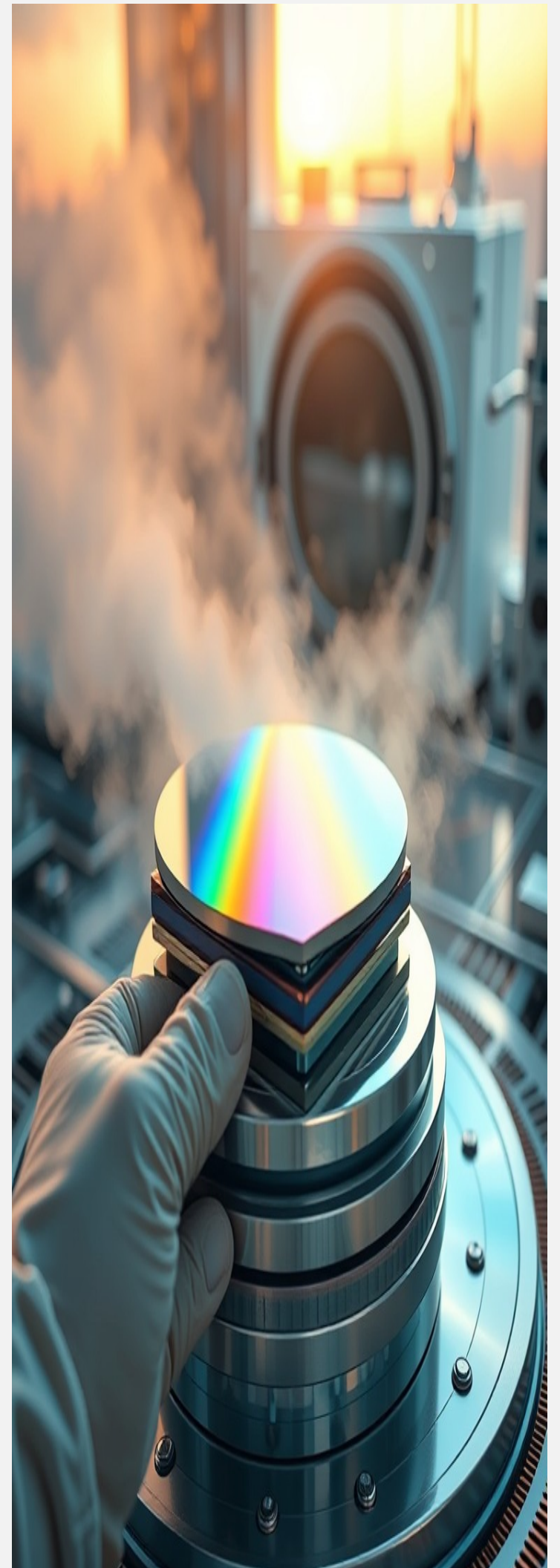
2027

IEEE Technical Field Awards Year

The 2027 IEEE Technical Field Awards highlight a growing emphasis on system-level innovation in semiconductor technology.

The IEEE's 2027 Technical Field Awards spotlight a critical shift: recognition is no longer limited to transistor scaling or circuit design. Instead, the most impactful honors now go to breakthroughs in system integration, power delivery, and packaging — the very layers that determine whether AI chips can perform at scale. This signals that the semiconductor industry has moved beyond pure lithography advances and now prioritizes holistic system performance.

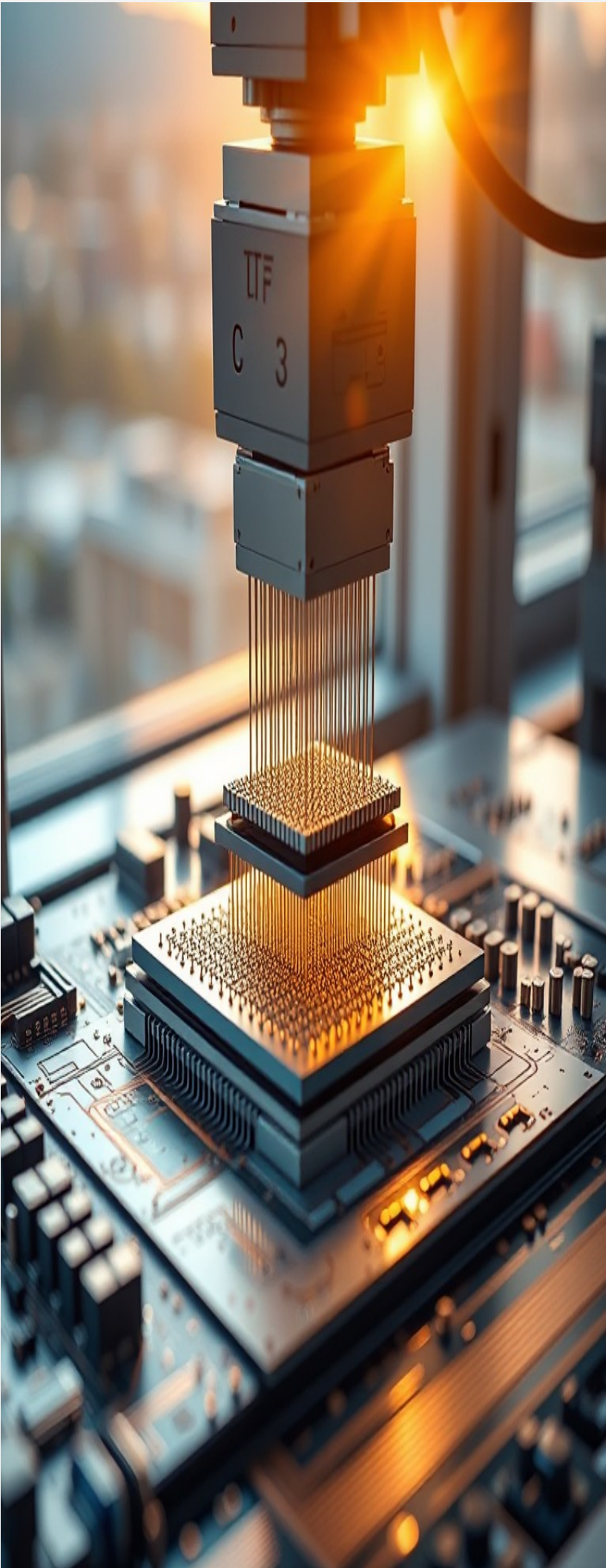
Source: IEEE Spectrum • Published October 02, 2026
<https://spectrum.ieee.org/ieee-technical-field-awards-2027>



01

Packaging Is the New Frontier

The IEEE's 2027 awards reveal that the most transformative work in semiconductors today is not in the design of individual transistors, but in how they are interconnected. The recognition of Ann B. Kelleher for leading the advancement of CMOS process technology with backside power delivery underscores a paradigm shift: power delivery and signal integrity are now as critical as transistor density. This indicates that AI chip performance is increasingly limited by interconnects, not gate counts.



02

System Integration Drives Real-World Impact

The awards' focus on distributed clinical research infrastructures (Innovation in Societal Infrastructure Award) and video compression standards (Arun N. Netravali Award) reveals a deeper trend: the most valuable semiconductor innovations are those that enable complex, large-scale systems to function securely and efficiently. For AI, this means that progress is no longer measured in FLOPS alone, but in how well chips integrate into real-world applications — from medical data networks to cloud-scale video processing.

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