

Silicon Chips That Are Transparent & Flexible

MIT's breakthrough could redefine photonic computing.

Swipe for insights →

THE DATA

300- millimeter

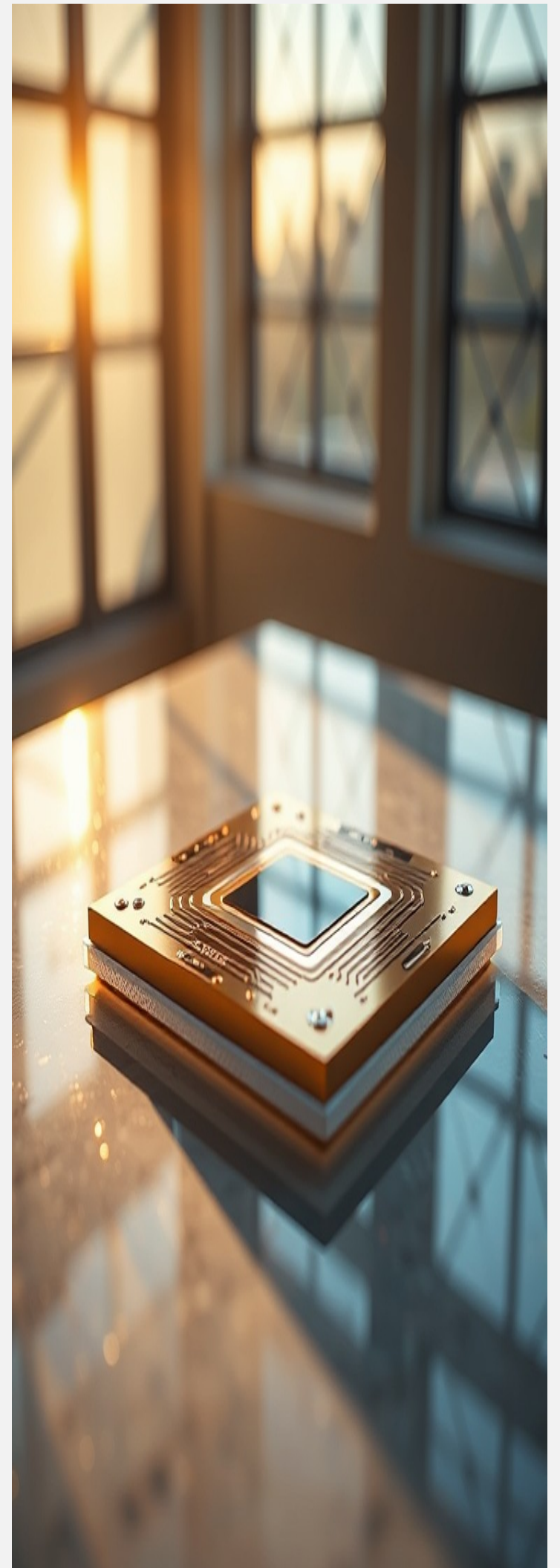
Wafer Scale

The new fabrication process produces wafers at the standard semiconductor scale.

This is the first time a wafer-scale platform has achieved both flexibility and transparency in silicon photonics. The 300-millimeter diameter—standard in industrial semiconductor manufacturing—means these chips can be produced at volume without sacrificing performance. This scalability is critical for moving beyond lab-scale prototypes into real-world applications.

Source: MIT News • Published September 3, 2026

<https://news.mit.edu/2026/fabrication-platform-could-enable-flexible-transparent-next-generation-photon-chips-0903>



01

Flexibility Enables New Form Factors

The ability to bend these chips around a screw-sized cylinder without performance loss means they can be integrated into curved surfaces—like pilot visors or wearable health monitors—without optical distortion. This redefines where photonic systems can operate, shifting from rigid, flat installations to dynamic, conformal platforms that adapt to physical environments.



02

Transparency Unlocks New Optical Architectures

Because the chips cause minimal haze and distortion when viewed through, they enable augmented-reality displays that overlay data on real-world vision. This isn't just about transparency—it's about preserving optical fidelity in layered systems. For AI-driven vision systems, this means real-time perception and processing can coexist with visual overlay, enabling next-gen human-machine interfaces.

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