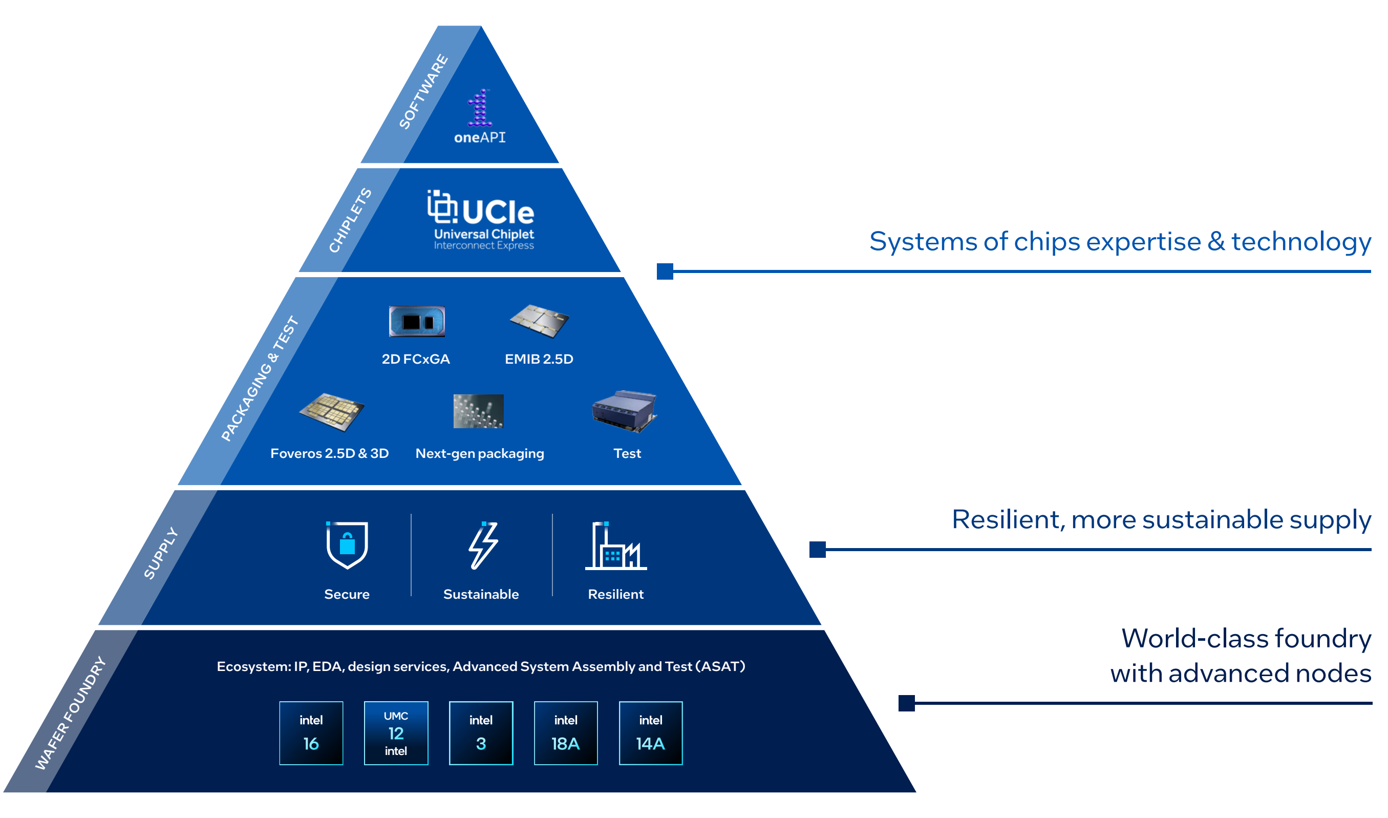
intel foundry

Eleven Reasons to Work With Intel Foundry

Intel Foundry has only recently opened its doors to the industry, but we have more than half a century of innovation and global manufacturing experience to share. Here are the top 11 reasons fabless manufacturers should choose to work with us.

1 A systems foundry approach

Now you can work with one turnkey semiconductor provider that meets your full breadth of needs. Intel Foundry is the world's first "systems foundry" — using a full stack approach that integrates design, fab, package, and test. We can take you from initial specifications to finished devices and deliver it all at global scale.



Systems of chips expertise & technology

Resilient, more sustainable supply

World-class foundry
with advanced nodes

2 We're flexible

Intel Foundry is open and flexible. Bring your own tooling, designers, and EDA partners. Mix and match our services with preferred vendors, or rely on us for your entire project.

30+ ecosystem partners across EDA, IP, design services, cloud, and United States Military, Aerospace and Government (USMAG) alliances

3 Bring us in at any point

We meet you where you are at any point in your process. Design with us, fab with us, or send us dies to package and test.

4 Design with any architecture or IP you want

Our fabs are ready to produce ARM, RISC-V, x86, and custom ASICs. We also partner with leading industry design firms to ensure smooth, efficient production.

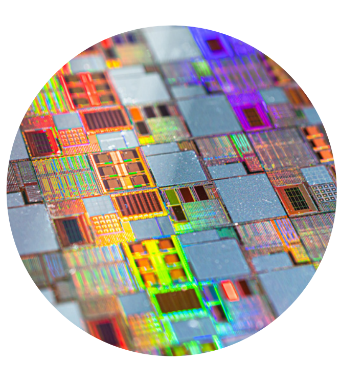
5 Equipped and optimized for the AI era

Our tooling, process nodes, and packaging technologies are geared for industrial production of complex, systems-of-chips designs for AI-enabled processors across the performance spectrum.

6 Build on the latest process technologies

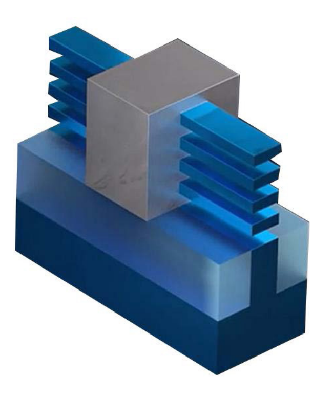
Intel 18A is ready for design and scheduled for mass production in 2024. Intel 18A introduces major process advances that expand performance beyond the lithography.

Intel 18A advances



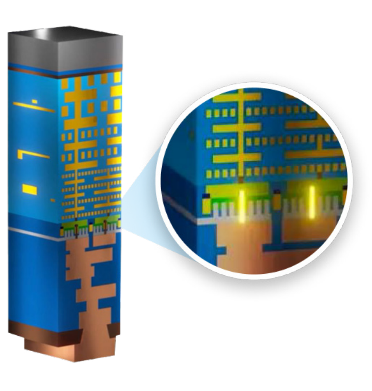
ASML extreme UV lithography

Optimized ribbon stack on Intel 18A is the foundation for greater density and higher performance.



RibbonFET gate-all-around (GAA) transistors

New transistor architecture delivers faster switching speeds and better performance.

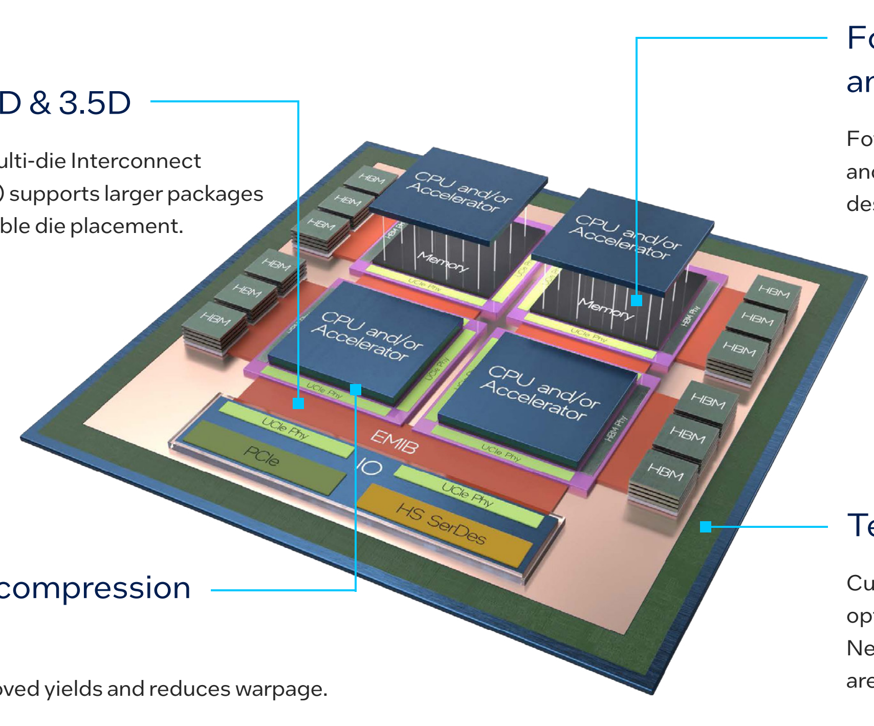


PowerVia backside power

Breakthrough power delivery separates signal and power wires in isolated layers for a significant frequency boost and reduced power leakage.

7 Advanced chiplet packaging

As the largest producer of 2.5D packages, we offer more than 100 proven 2.5D designs. Our advanced, 3D packaging techniques deliver complex systems of chips that increase density and performance for AI accelerators.



EMIB 2.5D & 3.5D

Embedded Multi-die Interconnect Bridge (EMIB) supports larger packages and more flexible die placement.

Foveros 2.5D & 3D and Foveros Direct 3D

Foveros increases interconnect and IO density, unlocking new design possibilities.

Thermal compression bonding

Enables improved yields and reduces warpage.

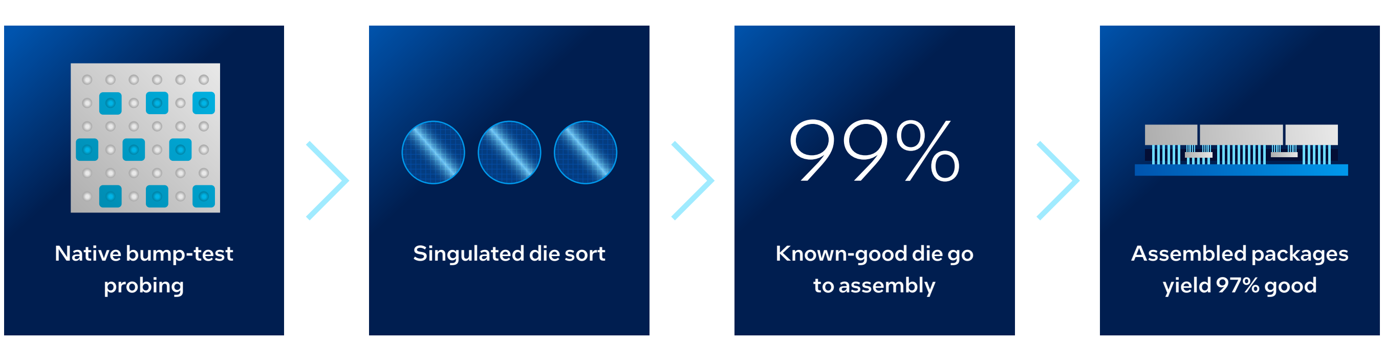
Temp-stable substrates

Current-generation board recipes optimize heat management. Next-generation glass substrates are moving from lab to production.

8 Excellent testing, high yields

Advanced, multi-stage testing eliminates faulty dies early in the process, ensuring only known-good dies advance to packaging and testing.

Test process



Native bump-test probing

Singulated die sort

99%
Known-good die go to assembly

Assembled packages yield 97% good

9 Reliable supply chain

We maintain a robust, global pipeline for everything from raw silica to finished components. We have fabs on four continents, and we're prepared to invest up to $200B in capacity over the next five years.[1]

10 We're committed to sustainability

We're committed and on track to reducing our environmental, energy, and waste footprints.

107% water restoration

Through recycling and ecosystem restoration, Intel generates more water than it uses.[2]

93% renewable energy

Intel operated on 93% renewable energy in 2022.[2]

67% upcycled manufacturing waste

Intel upcycled approximately 112,000 tons of manufacturing waste in 2022.[2]

11 A long legacy of innovation

Intel commercialized the semiconductor 50 years ago, and we haven't stopped innovating and scaling since. Today, we're prepared to invest up to $200B in capacity over the next five years in the United States, Ireland, Germany, and Israel.[1] Now we're sharing all of our expertise and advancing Moore's Law for the entire industry.

Wait. There's an Intel Foundry?

Intel Foundry is an independent, full-service semiconductor manufacturer headquartered in the United States. We offer design, foundry, packaging, assembly, and test through a global network of fabs and assembly and test sites.

Let's talk

Intel Foundry is open to fabless semiconductor designers, government agencies, research labs, and academic programs. We appreciate any opportunity to discuss your manufacturing, assembly, and test needs.

intel.com/foundry →

Sources:

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1. Subject to market conditions and incentives. Scale of some investments contingent on U.S. and EU support. These statements are based on current expectations and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at www.intc.com.

2. Intel is committed to the continued development of more sustainable products, processes, and supply chain as we strive to prioritize greenhouse gas reduction and improve our global environmental impact. Where applicable, environmental attributes of a product family or specific SKU will be stated with specificity. Refer to the Intel 2022-23 Corporate Responsibility Report for further information.

Intel is committed to respecting human rights and avoiding causing or contributing to adverse impacts on human rights. See Intel's Global Human Rights Principles. Intel's products and software are intended only to be used in applications that do not cause or contribute to adverse impacts on human rights.

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