

Supply Chain Explorer

By the Emerging Technology Observatory

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Design

Logic chip design involves specification, logic design, physical design, and validation and verification. Specification determines how the chip should operate in the system using it. Logic design creates a schematic model of interconnected electrical components. Physical design translates this model to a physical layout of electrical components and interconnects, the wires that connect components. Validation and verification ensure chips based on the design will operate as expected.

The United States designs most of the world's logic chips, with South Korea, Europe, Japan, Taiwan, and China each capturing small shares. High-value categories in logic chip design include high-end CPU design, discrete GPU design, FPGA design, and AI ASIC design.

Country provision

