eSilicon®

The right chip. Right Now.

eSilicon, a leading independent semiconductor design and manufacturing solutions provider, guides customers through a fast, accurate, transparent, low-risk ASIC journey, from concept to volume production. We provide system-on-chip (SoC) design, custom IP, manufacturing solutions and online decision-making tools. Our strength is in optimizing our customers' complex chips for cost, schedule, power, performance and area.

Strike the right balance

Custom IC design isn't simply about getting the highest performance anymore. It's about getting the target performance at the optimized power and area, on time, on budget, and into volume production for faster time to revenue. The right chip. Right now.™

Choose the right partner

eSilicon supports custom IC design and manufacturing with three offerings and best-in-class supply chain partners that include the top companies in design services, design tools, semiconductor IP, manufacturing, test, and package/assembly.

Our ASIC solutions offering provides ASIC design, development and production management services to help you implement your ASIC and choose the optimal third-party or custom IP for your design. Then we manage your ASIC through test and yield to predictable, on-time device delivery in volume.

Our semiconductor manufacturing services (SMS) include managing your tested, production-ready chips through volume production and customer delivery.

Our custom IP offerings support our ASIC customers as well as stand-alone IP engagements. We supply an array of 14/16nm-180nm silicon-proven customizable memories, including ternary and binary content-addressable memory (TCAM, BCAM), SRAM, cache, ROM, asynchronous register files and multi-port register files (MPRF).

With embedded memory often occupying as much as 70 percent of a system-on-chip design, custom memories can optimize your SoC for power, performance or area (PPA) to deliver the right chip at the right price for your market.

We also offer a range of general-purpose I/O (GPIO), DDR I/O and specialty I/O libraries, including HBM1 and HBM2 PHY, DLL and I/O libraries.

Our customers are semiconductor companies, integrated device manufacturers (IDMs), OEMs and wafer foundries that sell their products into a variety of end markets, including communications, computing, consumer, industrial and medical.

Get the chip right

The permutations of technologies, variants, libraries, and IP are increasing exponentially for complex custom ICs. eSilicon's design virtualization platform

allows for analysis of a broad set of possible solutions based on our experience with over 300 complex SoC designs for our customers.

IC design virtualization: The right chip, right now

Design virtualization technology allows a large number of alternatives to be explored, facilitating the rapid identification of best matches for system requirements. Design virtualization is a layer between the design and its implementation technology. It allows design optimization by considering multiple variables, such as technology, libraries, voltages, power-supply tolerances and temperature limits. There's no need for time-consuming, costly implementation trials. Design virtualization delivers the required information quickly and accurately.

At its core, design virtualization technology utilizes big data strategies to capture engineering knowledge from suppliers worldwide regarding how process options, IP, foundation libraries, memory architectures and operating conditions interact with each other to impact the PPA of an SoC design. This information is accessed through the cloud and provides real-time, predictive analysis to guide the optimal choice for these variables.

eSilicon STAR design virtualization platform

The eSilicon® STAR online design virtualization platform is a self-service, transparent, accurate, real-time ASIC design and delivery

Quote & Compare
MPW Explorer

Browse & Try IP
Navigator

eSilicon®
STAR

Track WIP
Tracker

Quote & Compare
GDSII Explorer

environment using eSilicon smart tools and big data on a secure cloud platform. The STAR online design virtualization platform helps you manage complexity and make the right decisions on your ASIC journey from concept to volume production. https://star.esilicon.com

What makes eSilicon unique

eSilicon's core attributes make us uniquely qualified to deliver ASIC design and manufacturing products and services:

- Independent supplier. We can choose from any supply chain partner, based on our customers' needs

- Substantial knowledge. We are familiar with the capabilities of each supply chain partner and how their products and services interact with each other, allowing us to facilitate the best team for each customer

- Extensive experience. We've successfully executed many advanced custom IC designs. We do more designs per year than most of our customers, allowing for the delivery of expert-level support

- Unique customer experience. Thanks to our sophisticated automation backbone, we offer a unique, online experience for IP browsing & procurement, design optimization, instant GDSII and multi-project wafer (MPW) quote generation and work-in-process tracking. We call this online platform eSilicon STAR, and it's available to everyone 24/7, free of charge

eSilicon services
Engage at RTL, netlist, GDSII, or production

RTL	Netlist	GDSII	Production (SMS)
• Synthesis • Simulation • Verification	• Place & route • Design for test (DFT) • Formal verification • Timing optimization • Power optimization	• DRC/LVS • Tapeout • Assembly/ test • Product • Product engineering • Quality/ reliability	• Capacity scheduling • Delivery scheduling • Product cost management • Supply chain management

We can explore trade-offs in multiple dimensions (NRE/ASP, die/package, standard IP/custom IP) to help determine the right design solution for your custom chip. Our flexible model means you can engage with us at almost any point in the design process: RTL, netlist, GDSII or proven chip, then ramp to volume production.

Global company, local support

Whether you need access to our top engineering talent or a local interface to our supply chain partners, eSilicon is nearby with teams in the U.S., Asia and Europe. Please contact eSilicon at sales@esilicon.com for more information or visit www.esilicon.com and https://star.esilicon.com.

From design through volume production, we get your chip right.

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