

ASIC Design

Innotech Systems Inc. (ISI) specializes in all aspects of integrated circuit design service, from programmable logic devices through gate arrays, standard cell, and full custom—even mixed signal. Using domestic and international manufacturing resources ISI will ensure the most cost effective manufacturing for your volume and turn-around time requirements. If you would like, ISI will provide you with ASIC artwork or will handle every aspect of the assignment from design through manufacturing and test.

ISI will design your ASIC from any starting point. ISI will start, if you wish, from a functional specification or from a "top down" behavioral model, e.g. VHDL. ISI can take your SSI/MSI logic schematic and capture it in the cell library of choice.

ISI will optimize your design using the most appropriate ASIC technology for your requirements: PLD, FPGA, Gate Array, Standard Cell, and even full custom.

As an authorized design center for such leading semiconductor suppliers as Philips Semiconductor (VLSI Technology), ZMD America, and others, ISI has access to the latest process technologies including 0.18 micron CMOS digital and 0.35 micron analog, as well as the latest libraries and design tools.



Analog, Digital and Mixed Signal

ISI has designed digital IC's from 1,000 to 2,000,000 gates, and analog and mixed-signal IC's for a wide variety of applications and markets. ISI is expert with all phases of semi-custom and full custom ASIC design and manufacture – even device physics!

Simulations and layout

Detailed logic and timing simulations are run to ensure that the ASIC will perform as specified the first time out. ISI will take full responsibility for layout, place and route to ensure optimum gate utilization (gate array or FPGA) or size reduction (standard cell or full custom) keeping in mind all necessary timing requirements. Post layout delays are back-annotated for re-simulation for all designs. All layouts are validated for library electrical and geometric design rules to guarantee manufacturability.

Prototyping and low volume

Programmable logic devices are the optimal choice for fast turn around and ASIC prototyping. In fact, ISI can design and deliver programmable device prototypes in as little as 24 hours.

Gate Arrays

When your need is cost effective moderate to high volume ASICs, gate arrays are often the technology of choice. ISI has complete access to the most popular gate array libraries and the industry's most advanced gate array design tools.

Standard Cell

Standard cells may be used to implement custom functions married with standard cell libraries. Standard cell designs are usually more cost effective than gate arrays for high volume or mixed analog and digital designs.

Full Custom

Full custom is the most cost effective ASIC technology for high volume or highly specialized applications. ISI's designers have the most experience in full custom design of any design resource on the east coast.