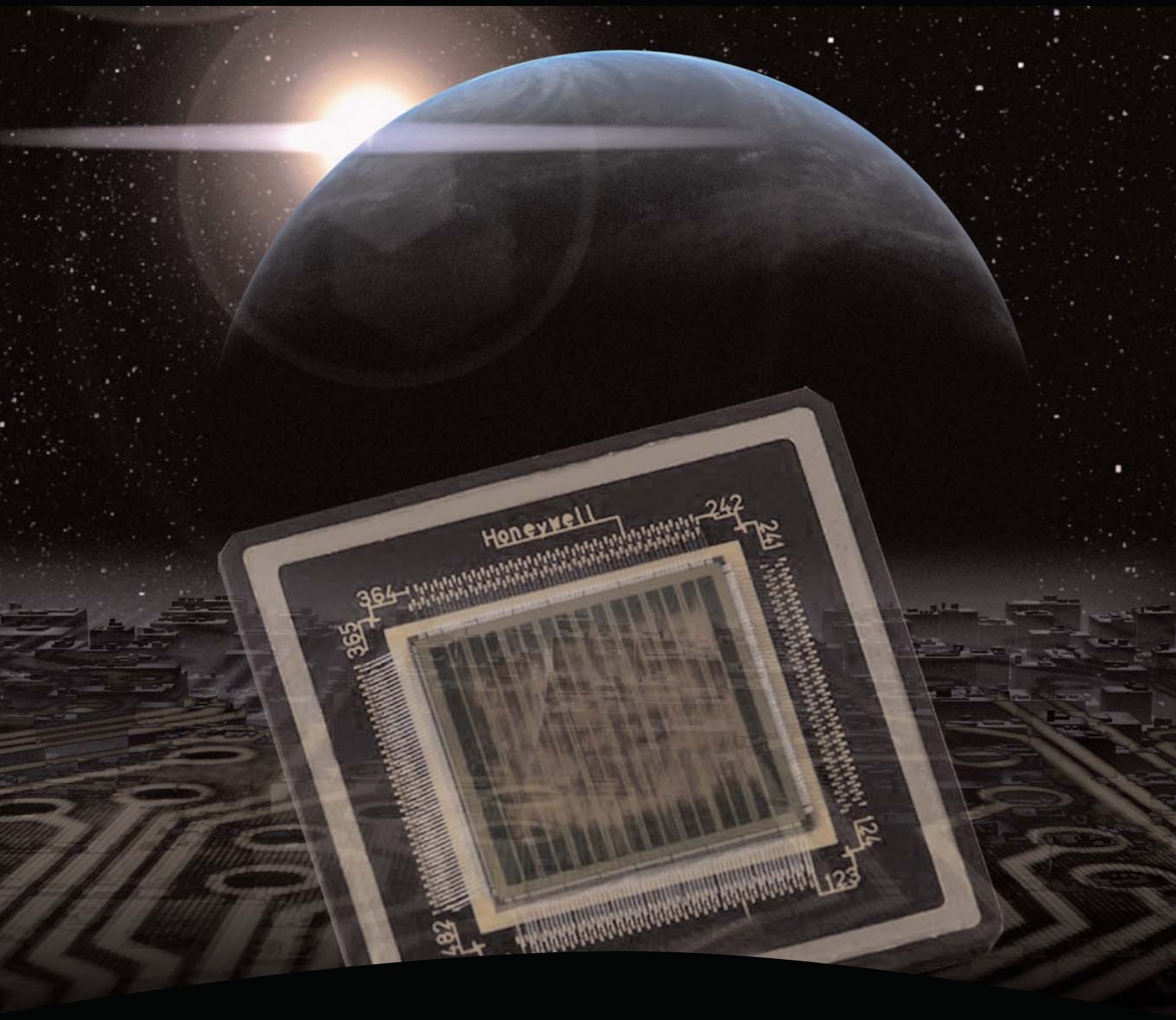
One Step Beyond



Concept-to-Parts Solutions for Next Generation Rad-Hard ASICs

Honeywell

SYNOPSYS®

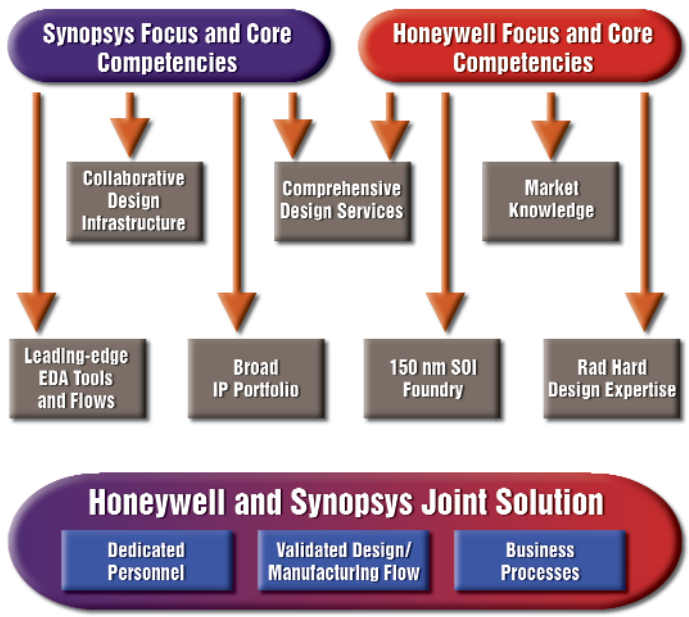
Technology That Supports Your Mission

Always looking one step beyond where we are today is the hallmark of true technology leaders. For many military and aerospace companies, taking new programs to the next level means finding ways to deal with the dramatic increase of electronic content in space-targeted systems. Highly integrated Application Specific Integrated Circuits (ASICs) designed and manufactured with very deep sub-micron (VDSM) technologies could be the answer–if they can be made to deliver leading-edge performance and meet radiation resistant requirements. To enable this advanced capability in a timely and cost-effective manner, it is vitally important to shrink the technology gap between commercial and military aerospace worlds. Together, Honeywell and Synopsys are leading the way with concept-to-parts design and manufacturing services for leading-edge, radiation-hardened (rad-hard) ASICs. Commercial and military customers can rely on these two technology leaders to go one step beyond current capabilities with multimillion-gate ASICs that meet aggressive performance goals and stringent radiation resistance requirements.

A COMPLETE, INTEGRATED SOLUTION

The combination of advanced design and manufacturing technologies from Honeywell and Synopsys creates a unique ASIC capability. World-class design tools and methodologies, an extensive portfolio of reusable design blocks ("semiconductor intellectual property"), and an advanced silicon on insulator (SOI) manufacturing process are blended into a complete concept-to-parts capability that delivers ASICs with commercial-class performance and radiation resistance of up to 1000 Krad (Si).

With expertise ranging from systems design to ASIC implementation to product engineering and logistics, Honeywell and Synopsys offer the comprehensive product development support you need to deliver on your programs–on time and on spec.



A single, silicon-proven offering for developing and implementing high-performance, leading-edge radiation-hardened ASICs

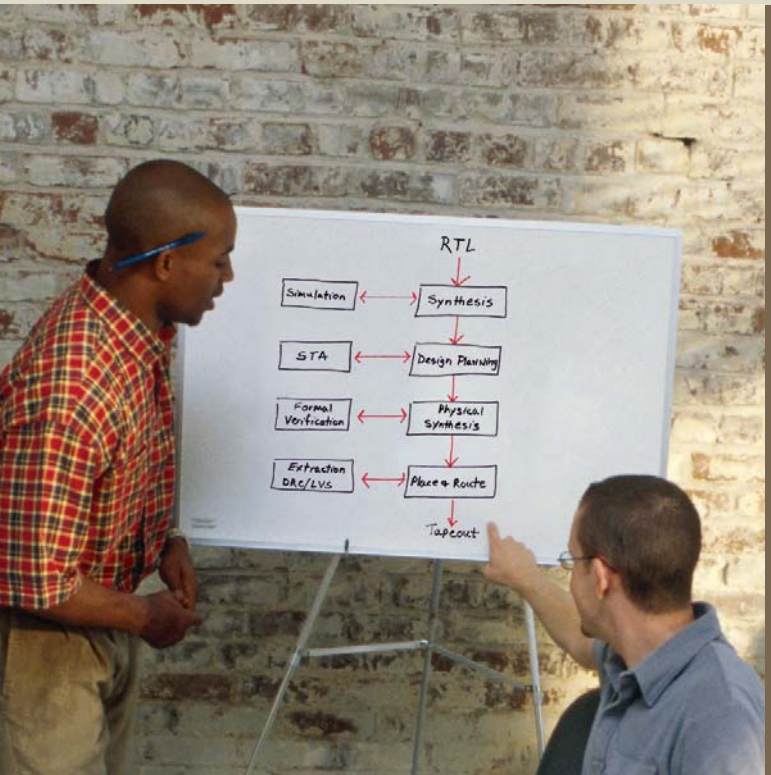
Industry-Leading Rad-Hard Technology

Honeywell is recognized as a world leader in rad-hard technology, and has over 30 years of experience in specialized IC design and manufacturing for commercial and military programs. The Honeywell SOI process offers unique benefits for radiation-sensitive applications, delivering high levels of integration, minimized power dissipation, and high performance for electronics that must survive in satellites, strategic missiles and other space-borne systems.

With advanced semiconductor manufacturing processes supporting digital and mixed-signal products down to 150-nanometers, Honeywell's family of ASIC technologies is designed for radiation-sensitive applications, with <1E-12 upsets / bit-day Single Event Upset (SEU) immunity.

ASIC Family	HX3000	HX4000	HX5000
Ldrawn (nm)	350	250	150
Leff (nm)	300	180	110
VDD (V)	3.3/2.5	2.5/1.8	1.8/1.5
Useable Gates	2M	5M	15M
Total Dose (Krad[Si])	1000	1000	up to 1000

Honeywell operates the world's first manufacturing facility for 150-nanometer, rad-hard ASICs



WORLD-CLASS DESIGN TOOLS AND FLOWS

As the world leader in Electronic Design Automation (EDA) software for semiconductor design, Synopsys tools and design flows have been proven in many of the world's most advanced chips. The Honeywell-Synopsys design flow is based on Synopsys' leading-edge Galaxy™ implementation and Discovery™ verification platforms, tailored to Honeywell's 150-nanometer SOI process technology.

The design flow incorporates best-in-class tools, including Synopsys' Design Compiler®, Physical Compiler®, Astro™, PrimeTime® and VCS® tools, employed for implementing almost every digital chip in the world. The design flow is geared for chips of high performance and high levels of integration, addressing VDSM issues such as timing closure, signal integrity, and power management. By leveraging Synopsys' significant investment and experience in deploying production flows for nanometer designs, the Honeywell-Synopsys design flow achieves both optimized performance and predictable tape-out schedules.

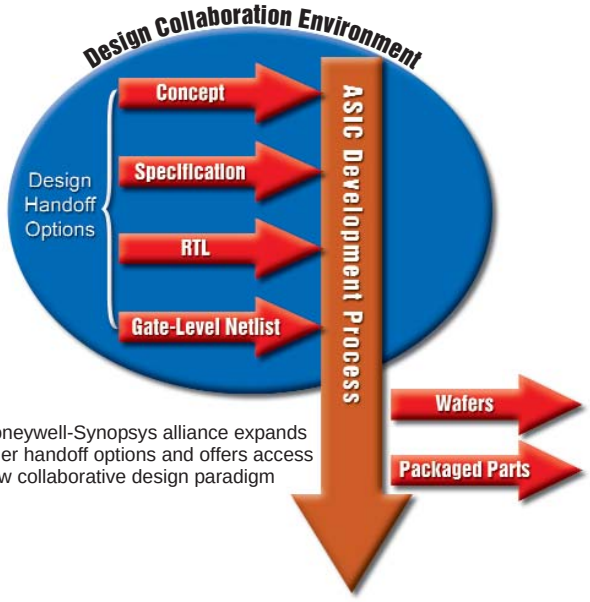
A Collaborative Offering Focused On Your Needs

Close technical and business cooperation between Honeywell and Synopsys are only part of the equation. Collaboration and communication with your design and management teams are also paramount for smooth program execution at every level. One significant benefit of the Honeywell-Synopsys alliance is the ability to support your ASIC needs beyond the traditional netlist handoff. Being able to handoff your ASIC design earlier in the development cycle (e.g., at specification or RTL) enables you to focus on systems design and software development while an expert team of chip designers completes your ASIC. And, if you choose, you can actively participate in the design process with the Synopsys and Honeywell design team through our innovative Design Collaboration Environment (DCE).

The DCE enables Honeywell, Synopsys, and your engineers to act as a single design team through a secure, web-based infrastructure. Based on proprietary technology developed by Synopsys to facilitate distributed design, the DCE allows the joint team to apply the right talent and number of resources for the task at hand–regardless of their location. The joint design team has on demand access to scalable compute and software tool resources to help avoid the bottlenecks that often stall critical phases of the design process, such as simulation and routing.

With Honeywell and Synopsys, you gain a flexible, single source for the design and manufacture of ASICs for radiation sensitive applications. Only the combination of Honeywell and Synopsys can deliver:

- 150-nanometer, 10-million+ gate ASIC capability.
- Scalable front- and back-end design resources to augment your team and accelerate your ASIC development.
- A complete RTL-to-GDSII flow validated for deep submicron designs.
- Flexible design handoff points (e.g., specification, RTL, netlist) and collaborative design infrastructure.
- Advanced SOI manufacturing foundry services capable of rad-hard performance.
- State-of-the-art packaging and advanced test capabilities.



The Honeywell-Synopsys alliance expands customer handoff options and offers access to a new collaborative design paradigm

DESIGN SERVICES AND SEMICONDUCTOR IP TO ACCELERATE SCHEDULES AND MITIGATE RISKS

The Honeywell-Synopsys alliance offers a comprehensive set of design and consulting services that supports all phases of IC design, implementation, and verification. Specializing in the design of high performance systems-on-chips (SoCs) and the Honeywell-Synopsys design flow, experienced design consultants are available to augment the skills of your team to create your nanometer-scale ASICs.

Semiconductor intellectual property (IP) can dramatically improve the product development cycle. The Honeywell-Synopsys solution provides access to the world's most widely used semiconductor IP portfolio, Synopsys' DesignWare® portfolio. The broad and proven collection of reusable design building blocks such as data path modules, memory, PCI, USB and processor cores -- can greatly reduce program schedule and cost uncertainties.

GO ONE STEP BEYOND!

Concept-to-parts solutions for multimillion gate rad-hard ASICs

Less risk and cost with commercially-proven EDA

Secure, Design Collaboration Environment

Advanced 150-nanometer manufacturing process technology

Extensive portfolio of pre-validated semiconductor IP

Business Card

Find out more

To find out more about how to realize your rad-hard,150-nanometer ASICs, please call 1-800-323-8295 or log on to www.myspaceparts.com.

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