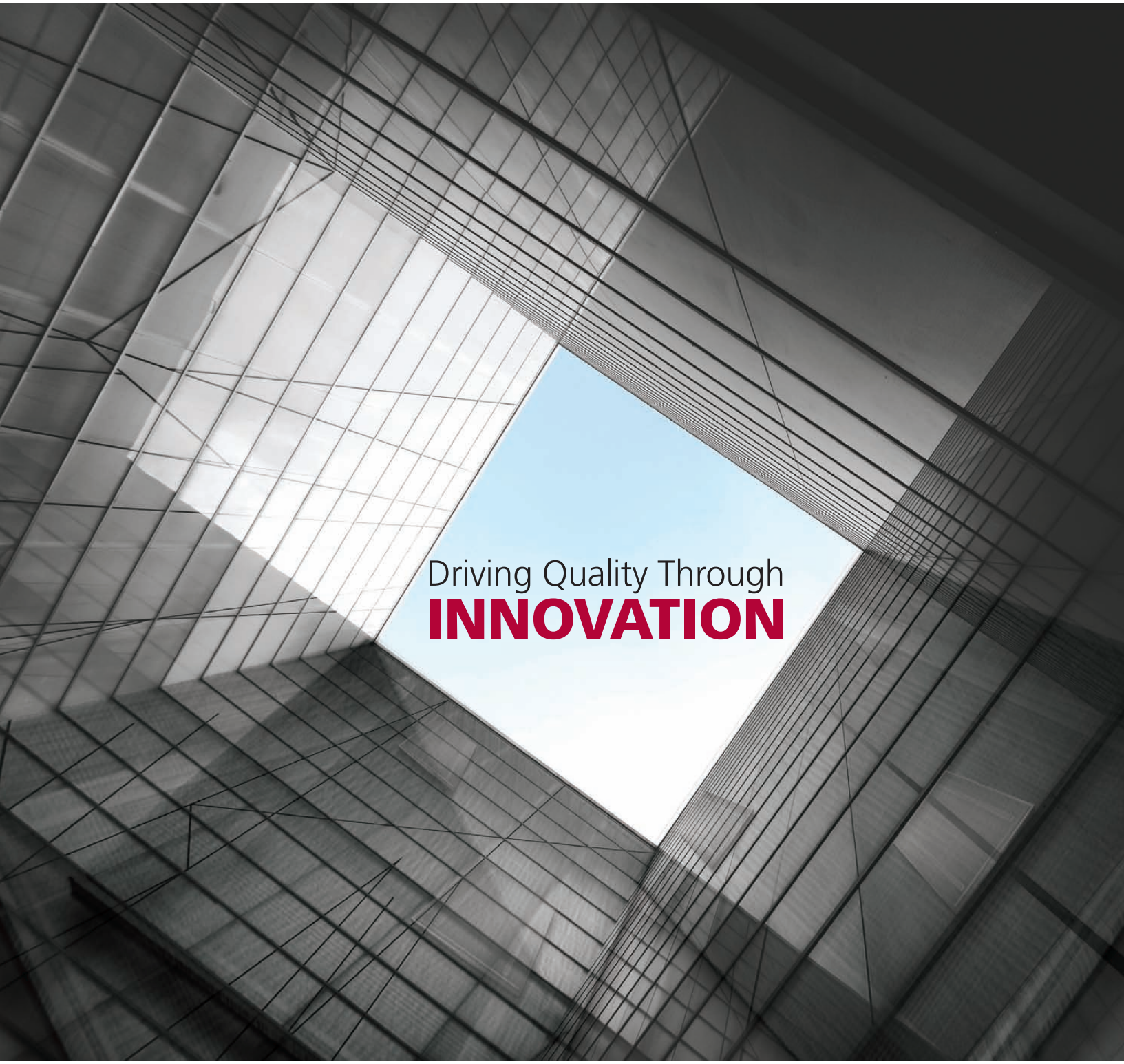
XILINX®



2008 Quality Annual Report

CUSTOMER-DRIVEN QUALITY CULTURE

Quality-driven innovation is at the heart of everything we do at Xilinx.® It's a commitment that unites employees, suppliers, and stakeholders in a common mission to put customers first: listening, understanding, and executing to address their business requirements.

This inaugural Annual Quality Report and the accompanying datasheets provide insight into the significant philosophies, programs, and results driving our quality initiatives over the past year. We'll explore the key elements of our company's quality culture, from significant milestones and breakthroughs to actual case studies and metrics used to evaluate progress and set actionable, forward-looking goals for the coming year.

Industry leaders count on Xilinx to deliver the feature-rich and complex components that power today's electronics systems. It's a trust that comes from our relentless commitment to delivering programmable platform solutions and services with superb quality — on time, every time.

Ours is a Customer-driven Quality Culture that permeates the entire Xilinx organization. It brings together sophisticated IC design, advanced process technology, and superior design software in world-class platforms that enable our customers to compete more effectively.

This culture touches everything we do—from the design of our leading programmable devices to the software tools and intellectual property (IP) portfolio that help to differentiate them. Our executive management team focuses on the quality issues that most affect our customers, and our global quality team is engaged in all aspects of our business to drive change where needed to ensure a flawless customer experience. Ultimately, our culture even shapes the world-class service and support that we deliver to customers.

Xilinx has made significant progress in enhancing quality in recent years. This focus has yielded measurable results and strengthened our global organization's ability to deliver the finest products in the industry. We've successfully:

- Executed new product introductions with faster process stability, greater test coverage, and higher reliability
- Delivered generation-over-generation improvements in electrical, mechanical, and logistical quality
- Realized shorter turnaround times for diagnosing customer issues
- Achieved numerous industry awards and quality certifications

These are the hallmarks of quality, and we remain dedicated to this mission.

Moshe Gavrielov
President & CEO
Xilinx, Inc.

Vincent Tong
Senior Vice President, Quality & New Product Introductions
Xilinx, Inc.
Board of Directors, Global Semiconductor Alliance

3 C's OF XILINX QUALITY

CUSTOMERS, COMMITMENT, CULTURE

THE XILINX QUALITY MISSION:

Relentless commitment to delivering innovative programmable platform solutions and services with superb quality — on time, every time.

Xilinx field programmable gate arrays (FPGAs) have become the ubiquitous programmable platforms upon which many electronics systems are built. Achieving a high standard of quality across all aspects of our platform solutions — silicon devices, software, IP, development boards and services — translates into very real bottom-line benefits for our customers, investors, and employees.

Our quality philosophy is the culmination of three fundamental imperatives that drive us to meet the highest standards in the industry from development through delivery:

- **Customer**-driven quality built into all Xilinx processes and products
- **Commitment** to quality at all the levels of the Xilinx global organization
- **Culture** of continuous improvement and innovation embraced throughout the Xilinx ecosystem

This operating model makes Xilinx the partner of choice for product developers in industries ranging from wired and wireless communications, consumer, aerospace and defense, to automotive, audio/video broadcast, and industrial, scientific, and medical electronics.

CUSTOMER-DRIVEN QUALITY

Customers play an integral role in our quality initiatives. They provide valuable feedback that helps Xilinx teams to determine areas of focus and to better understand the root causes of quality issues. To this end, we've implemented a closed-loop process that ensures exceptional interaction and accountability with every initiative:

- Understand top issues facing engineers
- Analyze data points from customers, suppliers, and employees
- Implement initiatives with metrics for measuring and reporting progress
- Listen to customers using a structured "voice of the customer" (VOC) approach

COMMITMENT AT ALL LEVELS

Across the organization — and the globe — Xilinx is committed to keeping our quality promise. Our senior executives provide leadership and direction in our relentless pursuit of perfection. Our worldwide organization of more than 300 quality professionals, led by the Senior Vice President of Worldwide Quality and New Product Introductions reporting directly to the CEO, operates globally and implements locally in each of the major geographic regions in which Xilinx operates.

CULTURE OF CONTINUOUS IMPROVEMENT AND INNOVATION

Quality begins with our employees. Whether the measure is perfection with incoming inspections, trouble-free service in the field, or timely and accurate customer service, we recognize that our employees ultimately control these factors. That's why our quality mission is shared throughout the Xilinx organization with a simple formula that empowers people and establishes accountability.

In striving for zero defects, we invest heavily in the training and development of our people. This includes a focus on preventative versus reactive measures, which saves time and money. Xilinx managers instill practices that get it right the first time by driving issues to root cause and eliminating repeat problems. Our teams collaborate with customers and suppliers to address quality upfront in the development process and to resolve issues with a sense of urgency.

At Xilinx, quality is an ongoing journey during which we learn from experience and constantly raise our standards of excellence. Quality is the foundation upon which the Xilinx legacy of innovation will endure for generations in the products our customers bring to the global marketplace.

THE XILINX QUALITY FORMULA

- Hire great people.
- Set common goals.
- Build teamwork.
- Encourage critical thinking.

WORLDWIDE QUALITY & NEW PRODUCT INTRODUCTION GROUP

DRIVING QUALITY THROUGH INNOVATION

"FPGA silicon is the engine, but it's the combination of silicon, software, IP and development systems that deliver the ultimate value of Xilinx programmable platforms. We've put in place a rigorous development process to achieve the most stringent quality standards."

Moshe Gavrielov
President and CEO
Xilinx, Inc.

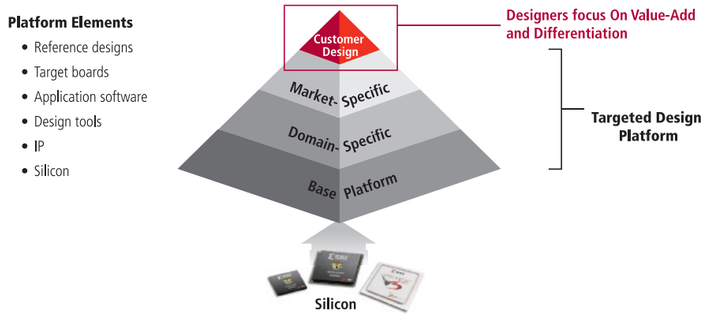
Semiconductor design and manufacturing technologies are getting increasingly complex. At the same time, there is an increasing need for application-specific IP to fuel innovation in electronics across diverse markets. Xilinx is meeting these demands with fully integrated platform solutions that deliver higher quality for each new generation.

To accomplish this, we've re-defined and implemented key changes in our development approach and principles that improve quality of execution and product results through:

- Better customer-driven product definition
- Stronger and earlier development controls
- Enhanced customer design capabilities with software support before silicon
- Threefold tighter release criteria for engineering samples and transition to production

These efforts have come together in our new, robust Integrated Platform Development Lifecycle model. The process involves the early planning and architecture of an aligned set of pre-validated elements that are delivered as a complete "design platform" solution to offer optimal performance, the highest quality results, and a superior "out-of-the-box" design experience. With our comprehensive portfolio of baseline, domain-specific, and market-specific design platforms, Xilinx customers can focus on their own value-add and product differentiation. This platform approach is a cornerstone of the Xilinx Quality philosophy that has been adopted across all functional and geographic development teams within the company.

XILINX PLATFORM SOLUTIONS



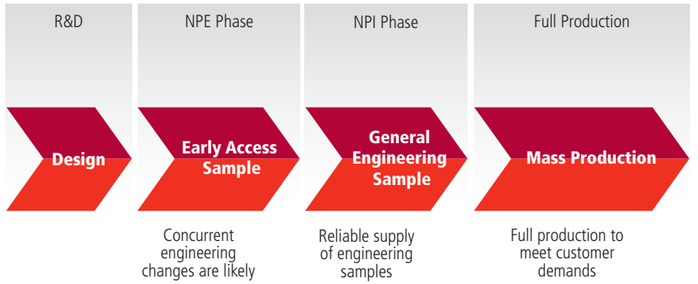
QUALITY PRODUCTS BY DESIGN

Xilinx pioneered a fundamentally different approach to device development that integrates new materials, design techniques, and verification methodologies to drive quality and product innovation. It takes into account the business impact of change and comprehends that programmable solutions are used in a broad array of applications, and thus are held to many more standards than traditional semiconductor products. We've realigned our organization to create well-defined roles and responsibilities for a more repeatable decision-making process across our entire development ecosystem and supply chain.

These efforts are supported with a formal, consistent process for new product evaluation and introduction (NPE and NPI) that identifies issues as early as possible and guarantees quality products by design. It starts with extensive verification and characterization and provides early access to engineering samples for a limited number of customers prior to product introduction. When it is time for a silicon release, rigorous product qualification is initiated with general availability of engineering samples to all customers. Successful qualification, coupled with production volume ramp-up, results in the smooth release to mass production, enabling our customers to meet volume demands.

The synergistic combination of our comprehensive approach to new product introduction, investment in advanced technologies, and commitment to global initiatives is setting new standards in quality for the semiconductor industry and across the markets we serve.

NEW PRODUCT INTRODUCTION PROCESS



CASE STUDY:

Virtex-5 New Product Evaluation

Initiative

Establish superior process stability and manufacturing readiness for launch of Virtex®-5 FPGA family through extensive design validation and characterization of the front-end fabrication process through package and assembly.

Quality Milestones

Virtex-5 LX and LXT FPGA platforms were the first ever to be put through Xilinx New Product Evaluation and New Product Introduction processes.

Key Results

- Dual-source fabrication with processes from two foundries included in evaluation
- 65-nm process achieved world-class minimum failure rates
  - 14.6 FIT for HTOL
- Met our delivery commitments
  - New product 100% on time production release
  - 95% + on time to factory schedule dates

* Review the complete case study and current FIT rate in the enclosed Xilinx Quality Results and Metric Overview

DRIVING QUALITY THROUGH TECHNOLOGY LEADERSHIP

"Crisp operational execution can only be achieved through established world-class quality and product reliability. At Xilinx, this is an integrated fabric of customer service, supplier management, manufacturing, and our commitment to deliver exceptional quality products. This finely-tuned and comprehensive infrastructure is absolutely key to our success as a fabless company and in remaining at the forefront of the world's most advanced chip-making processes with each new product generation."

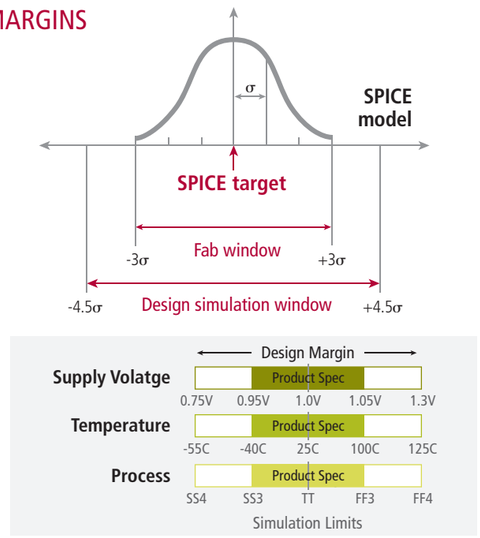
Raja Petrakian
Vice President, Supply Chain Management

Building quality products on leading-edge programmable technology is a proven formula that Xilinx customers depend on to deliver next-generation functionality with lower costs and better performance. With each new generation of FPGA platform, Xilinx effectively manages greater complexity with new process nodes, outsourced manufacturing, tighter design margins, and the perpetual push for higher performance, lower cost products.

Through partnerships with our suppliers and the dedicated engineering teams at Xilinx, we constantly improve quality by increasing simulation and product margin, reducing defect density, expanding testability, and driving issues to resolution with exhaustive root cause identification and analysis.

As a result, Xilinx FPGAs drive higher yields with the most advanced manufacturing technologies the semiconductor industry has to offer, and have become the de-facto yield improvement devices among top tier foundries today.

DESIGN MARGINS

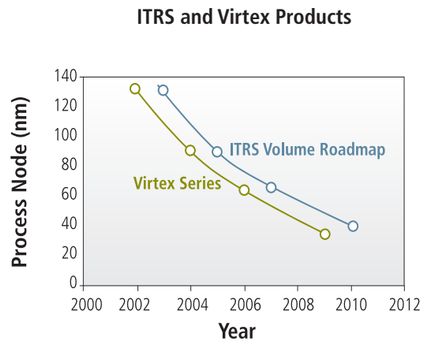


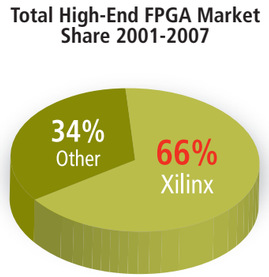
Driving quality through technology establishes process leadership at each technology node and allows us to build a foundation for our product which is reliable, cost effective, and defect free. This is critical to both delivering new products on time and improving defect densities at each process node. Our continuous improvement in defect densities has a direct effect on product quality and eliminates defects permanently at their source.

As Xilinx delivers to market 40 and 45 nanometer (nm) products and develops our 32nm process, we leverage best practices to build upon the improvements that we have gained from generation to generation.

Technology, as well as product and manufacturing leadership, continues to be at the heart of our core competency as the PLD industry leader and the driving force for delivering the highest quality platform solutions.

TECHNOLOGY INNOVATION LEADS TO MARKET SHARE LEADERSHIP





* International Technology Roadmap for Semiconductors 2001-2007

"Xilinx FPGAs are ideally suited to prove and test advanced manufacturing processes, due to their symmetrical structure and re-programmability. Defects can be more easily identified and isolated during manufacturing than with traditional, fixed semiconductor device architectures, making them an ideal process driver for a leading edge, high volume manufacturer such as UMC."

Dr. Shih-Wei Sun
Chief Executive Officer
United Microelectronics Corporation

DRIVING QUALITY THROUGH MANUFACTURING EXCELLENCE

CASE STUDY:

High Volume Consumer HDTV Application

Initiative

A leading Japanese consumer electronics company had a high-volume consumer HDTV application with which to hit the customer time-to-market window. Xilinx has delivered the technology, overcome customer design issues, and now shipped over 5.5 million units without issue.

Quality Milestones

- Required low-cost consumer price point and stringent consumer market quality
- Utilized key Spartan®-3E FPGA technology
- Demonstrated excellent reliability and characterization to satisfy customer's application needs
- Identified and quickly resolved customer design issues in manufacturing
- Delivered flawlessly to meet customer's time-to-market window goals

Key Results

- Shipped 5.5 million displays worldwide with 100% on-time delivery
- Achieved 0 PPM in high-volume manufacturing
- Increased customer loyalty by quickly resolving line-down situations
- Selected as FPGA supplier of choice for all subsequent HDTV platforms and models

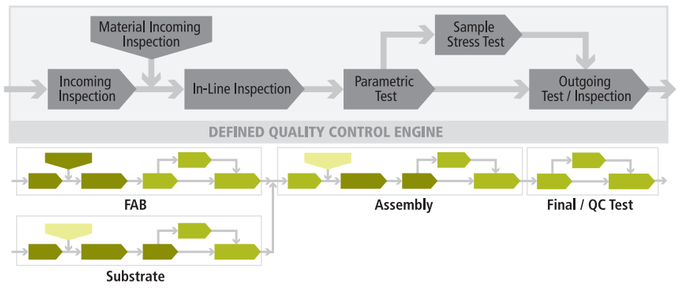
Our company's fabless model is a proven core competency and the benchmark by which other companies are measured. Xilinx holds over 50 percent of the PLD industry market segment. We've been recognized by the Global Semiconductor Alliance (GSA) as one of the "top ten semiconductor companies" every year since 2002.

These results are realized through close collaboration with our suppliers and a relentless focus on enhancing the overall customer experience — regardless of the source of a specific technology, component, or service. In many instances, Xilinx employs a dual technology-supplier model to harness the benefits of leading-edge technologies, the best cost structure, adequate production capacity, and risk mitigation.

We've established a comprehensive set of supplier quality management (SQM) elements and installed control systems in our fabrication, substrate, assembly and test manufacturing sites. These include processes covering supplier selection, qualification, ongoing monitors, and timely problem resolution. In addition, we use real-time systems for Quality Control that allow Xilinx engineers to monitor manufacturing results at supplier factories.

We also build synergy between design and manufacturing into our product development through structured feedback mechanisms, yield engineering methodologies, and analysis techniques. These include design for manufacturability (DFM), built-in product margin, design failure mode effects analysis (FMEA) and risk assessment, product lifetime performance analysis, and a complete process capability assessment prior to silicon tapeout.

QUALITY MANAGEMENT IN SUPPLY CHAIN



Xilinx is leading the industry's transition to knowledge-based qualification. The Xilinx reliability program integrates testing into the manufacturing process, which takes place on standard production material at wafer sort. This flow creates a "quick reaction" reliability monitor that ensures the integrity of material prior to shipment, gathers trend analysis data for internal corrective actions, and maintains a meaningful database for customer review.

Through Design for Test (DFT), Xilinx has increased FPGA testability with every generation of development. Test coverage for our 65nm Virtex-5 FPGA family is now greater than 99 percent in production. And, coverage for our EasyPath™ program for volume production is better than 99.9 percent.

Key Element	Quality Objective	Targeted Result
Design & Process Harmony Achieve high product quality and reliability with structural harmony between product design and manufacturing.	Statistical process control limits within the manufacturing plants guardband the design technology used to configure the circuit and layout in Xilinx automated design methodology.	Implemented new development lifecycle with a 3x increase in stronger, robust release criteria. Design simulation window covering +/- 4.5 Sigma and extends beyond the operating window to ensure product margin.
Characterization Every product design is evaluated over extremes of operating temperature, supply voltage, and clock frequency before release to production.	Proper guardbanding of test program to ensure consistent compliance to datasheet limits.	Characterization covers full process, voltage and temperature window. Over 440,836,411 data points collected to date on Virtex-5 and Spartan-3A product families.
Qualification Every new product design undergoes comprehensive series of life, electrical and environmental tests before release to production.	Employ industry standard environmental and life tests.	World-class reliability for 90nm products has achieved 3.5 FIT. Reliability for new 65nm products has reached 14.6 FIT in production.
Parts per Million (PPM) Measure outgoing quality through careful statistical sampling of production lots prior to shipment.	Target Electrical PPM of ≤ 50 for all products.	Overall customer-reported PPM: - Electrical 3 PPM in Q3 2008 - Mechanical 0 PPM Q3 and Q4 2008 - Logistical errors reached all time low of 22 LPM in Q3 2008

DRIVING QUALITY THROUGH WORLD-CLASS SYSTEMS

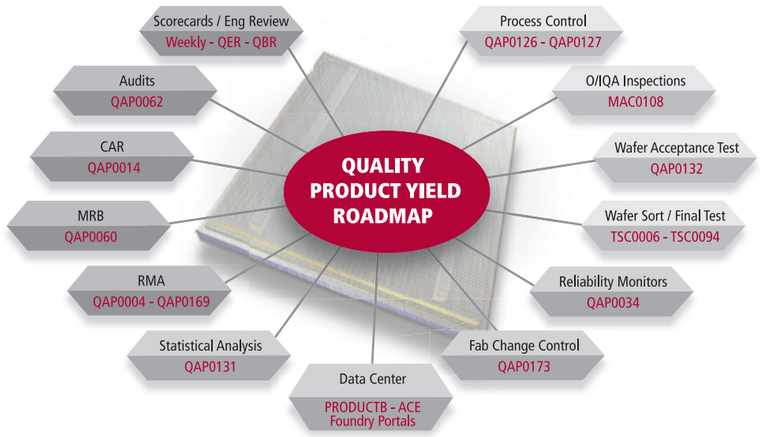
It takes world-class systems and processes to sustain the level of quality and continuous improvement that drives innovation. The Xilinx Quality and Reliability System is built on a comprehensive platform that has been developed and refined during our 25 years in the fabless semiconductor business. This system is put into practice through an integrated fabric of customer service, supplier management, and quality management processes that guide our company as well as our ecosystem of third-party technology, product and service providers. These processes are audited on a regular basis to maintain their effectiveness, and to adopt new technologies and methods as needed to ensure quality at every customer touch point.

SUPPLIER QUALITY MANAGEMENT (SQM)

Xilinx works closely with semiconductor supply chain partners to define and implement quality processes and metrics that maximize the benefits of the fabless semiconductor model. In this way, our ecosystem partners focus on their core competencies, such as foundry services, packaging, assembly, and test functions. We focus on rapidly designing advanced product architectures, software tools, and FPGA IP, while delivering products built on the world's most advanced chip-making process technologies.

Issue resolution is a collaborative effort between Xilinx and supplier engineering teams facilitated by data-driven decision making. Detailed supplier scorecards are reviewed quarterly with each supplier. In addition, yield and quality engineers are located throughout the US, EMEA, and Asia for 24-hour monitoring programs with direct access to in-line data.

GOAL-DRIVEN QUALITY SYSTEM



QUALITY MANAGEMENT SYSTEMS (QMS)

Xilinx has a proven track record of pursuing quality management system improvements through our semiconductor industry and vertical market certification efforts.

Xilinx is the only PLD supplier with both TL9000 and TS16949 certifications. We were the first to achieve TL9000 certification. And, the first and only fabless company to achieve TS16949 certification. TS16949 certification is critical for doing business in automotive markets.

Quality Certifications:

- ISO9001, TL9000 and TS16949 certifications for our development and manufacturing teams
- ISO9001 certifications for software and Xilinx Design Services (XDS) teams
- ISO14001 Environmental certification for manufacturing sites in San Jose, Ireland, and Singapore
- OHSAS18001 Health and Safety certification for manufacturing sites in San Jose, Ireland, and Singapore

We lead the PLD industry in delivering automotive solutions. We deliver products that exceed AEC-Q100 qualifications using systems modeled upon rigorous methods from industry-leading automotive companies that include:

- FMEA in product design and manufacturing processes
- Advanced product quality plans
- Statistical bin limiting and analysis (SBL/SBA)
- Control plans
- MSA (measurement system analysis)
- PPAP (production part approval process) documentation

"There are many fabless companies who would like to attain TS16949 certification, but have not succeeded. Xilinx has a strategic benefit that others do not have. GSA believes the automotive market is important and is committed to supporting fabless companies worldwide who can differentiate their products and leverage their market presence to take advantage of opportunities that are growing in this important sector."

Lisa Tafoya
Vice President of Global Research
Global Semiconductor Alliance (GSA)

DRIVING QUALITY THROUGH BEST-IN-CLASS SUPPORT

CASE STUDY:

Streamlining the Returns Process

Initiative

Improve the customer returns support process in Asia-Pacific and Japan. Open two new engineering labs. Expand capacity to support 40% of global RMA activities by March 2009. Enhance overall customer service experience.

Quality Milestones

- Expanded RMA regional support in Xilinx Singapore headquarters
- Began rolling out practical tools and training programs
- Reduced RMA cycle times to less than 12 days on average

Key Results

- Delivered RMA portal to address customer support needs
  - Simplify case initiation and status review
  - Deliver real-time status notifications
- Provided FPGA quality design training and best practices checklist
  - Empower designers to produce more robust FPGA designs
  - Reduce Xilinx customer service requirements

* Review the complete case study in the enclosed Xilinx Quality Results and Metric Overview

Quality doesn't end when a product ships from Xilinx. It's the point where our commitment to the best possible customer experience begins.

We provide a host of technical support resources, automated tools, and training programs. These include: 24/7 hotline services, streamlined Return Materials Authorization (RMA) process for hardware and software products, browser-based queries into on-demand answer databases, real-time online discussion forums for the Xilinx user community, and an array of instructor-led classes and e-learning options.

Xilinx places a high priority on resolving product quality issues and customer returns as quickly as possible. We provide each customer with a single-point RMA interface, and our interactive online RMA system enables direct communication between Xilinx representatives and customers with visibility into the status of reported problems at every step of the process.

In addition, we've developed a robust VOC process for better collaboration with our customers. This allows us to more closely monitor issues, develop actionable improvements, and measure our progress. By implementing this closed-loop flow, we're able to integrate customer feedback across multiple operations within the company.

INCREASING CUSTOMER SATISFACTION & QUALITY AWARDS

Ericsson
Highest score in > 2 yrs

SONY
Quality Award

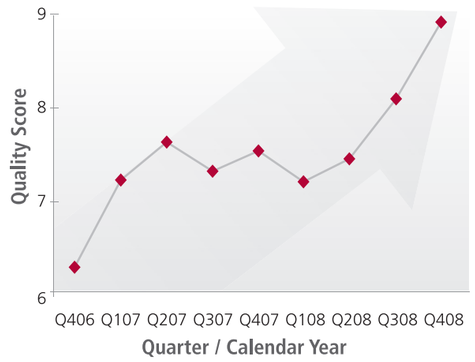
CISCO
All Time High Quality Score

Huawei
Most-Valued Supplier Award
Core Partner Award

Tellabs
Perfect 20/20 Quality Score

General Dynamics
Strategic Supplier Award

Harman Becker
Quality level is Top 10% semi. suppliers



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65NM PRODUCT RELIABILITY

Xilinx ships approximately 90 percent of the world's high-end FPGAs and is on track to deliver 40/45nm FPGA platforms in the first half of 2009. In keeping with that tradition and in anticipation of future customer requirements, research and development is also well underway at 32nm and below.

HTOL Test Results for 0.065 µm Si Gate CMOS Device Type XC5VxXxxx

Device	Lot Quantity	Fail Quantity	Device Quantity	Actual Device Hours at T_A=125°C	Equivalent Device Hours at T_J=125°C	Failure Rate at 60% CL and T_J=55°C (FIT)
XC5VLX110T	3	1(1)	207	423,543	670,798	
XC5VLX30T	1	0	45	90,405	153,599	
XC5VLX50T	5	0	253	509,316	883,961	
XC5VSX50T	1	0	49	99,029	169,598	
XC5VFX70T	1	0	32	32,704	72,428	
XC5VxXxxx	11	1	586	1,154,997	1,950,379	13 FIT

Notes: 1. Failure is result of Metal 1 defect. Process improvement has been implemented.

THB Test Results for Si Gate CMOS Device Type XC5VxXxxx

Device	Lot Quantity	Fail Quantity	Device Quantity	Total Device Hours
XC5VSX50T	1	0	40	40,000
XC5VLX50T	9	0	516	520,364
XC5VxXxxx	10	0	520	523,824

TH Test Results for Si Gate CMOS Device Type XC5VxXxxx

Device	Lot Quantity	Fail Quantity	Device Quantity	Total Device Hours
XC5VLX50T	6	0	279	283,190

Temperature Storage Life Test Results for Si Gate CMOS Device Type XCXxXxxx

Device	Stress Condition	Lot Quantity	Fail Quantity	Device Quantity	Total Device Cycles
XC5VLX50	B: -55°C to +125°C	4	0	257	268,347
XC5VLX30T	B: -55°C to +125°C	1	0	20	20,520
XC5VLX50T	B: -55°C to +125°C	3	0	219	226,539
XC5VLX110T	B: -55°C to +125°C	34	0	1,299	1,334,514
XC5VLX330T	B: -55°C to +125°C	13	0	388	392,974
XC5VSX50T	B: -55°C to +125°C	4	0	264	272,964
XC5VSX95T	B: -55°C to +125°C	4	0	100	100,975
XC5VFX70T	B: -55°C to +125°C	4	0	137	138,008
XC5VFX130T	B: -55°C to +125°C	1	0	63	63,000
XC5VxXxxx	B: -55°C to +125°C	66	0	2,573	2,638,192

High-temperature Storage Life Test Results of Si Gate CMOS Device Type XC5VxXxxx

Device	Lot Quantity	Fail Quantity	Device Quantity	Total Device Hours
XC5VLX50T	8	0	452	462,132

CASE STUDY:

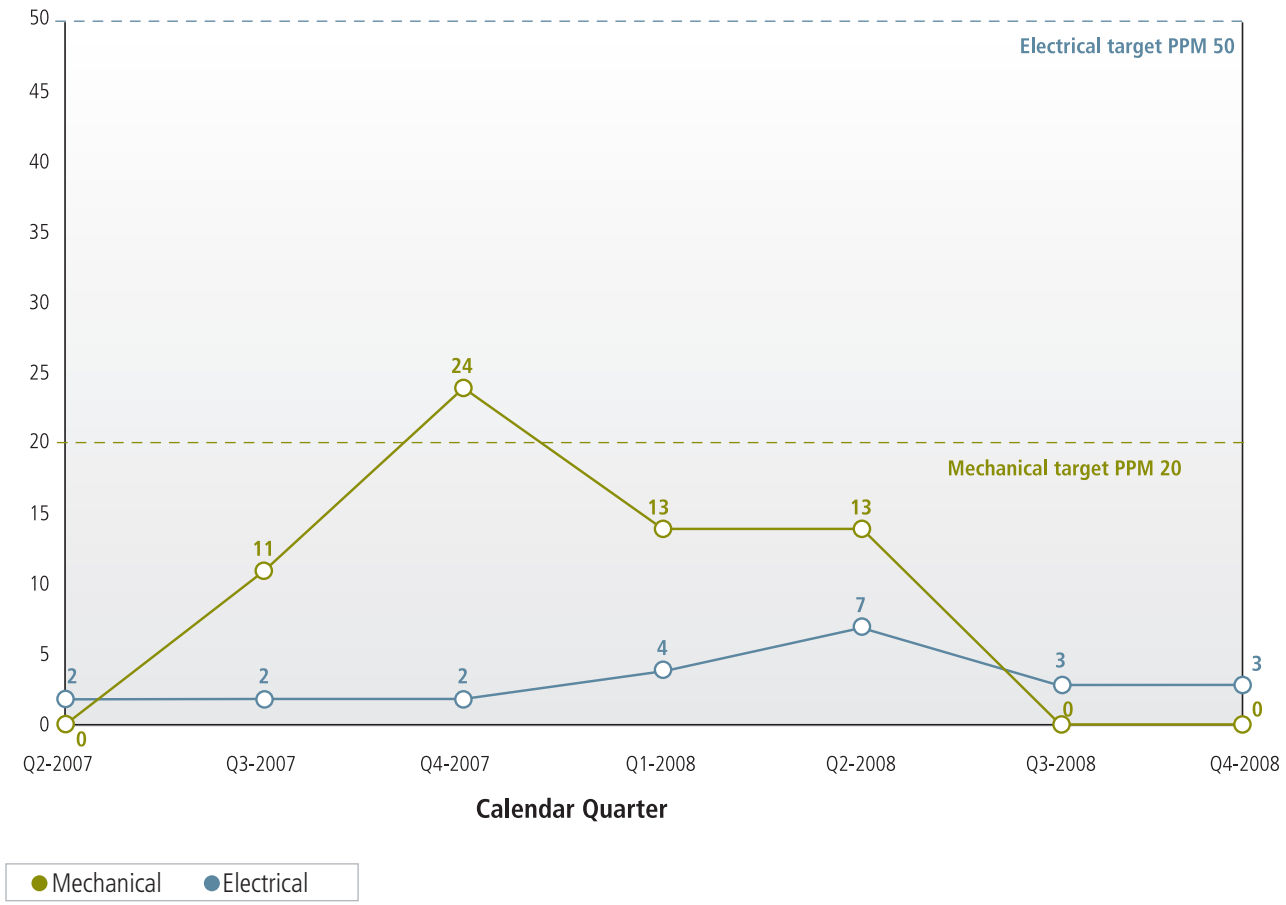
10 PPM PROJECT

Getting it Right the First Time by Striving for Zero Defects

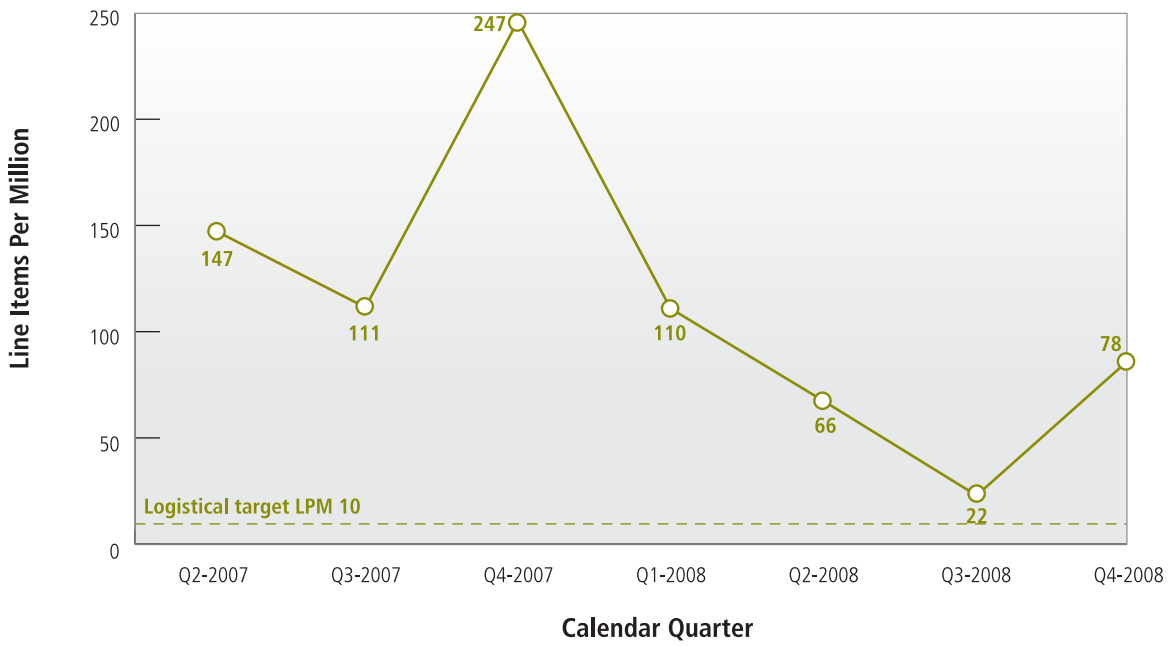
CUSTOMER PPM / LPM

Category	Q1	Q2	Q3	Q4	TARGET
Electrical	4	7	3	3	50 ppm
Mechanical	13	13	0	0	20 ppm
Logistical	110	66	22	78	20 ppm

CONFIRMED CUSTOMER EXPERIENCE (PPM) - QUARTERLY



LOGISTICAL QUALITY (LPM) - QUARTERLY



INITIATIVE GOAL:

Drive global efforts to reduce logistics quality excursions to 10 LPM level with overall goal toward zero defects

QUALITY MILESTONES	KEY RESULTS
Executed against all committed improvement actions: • Improve Logistics interim target from 70 LPM to 50 LPM • Implement FMEA continuous improvement culture	• Achieved Logistics 22 LPM versus interim goal of 50 LPM • Validated that long-term Logistical defect goal of 10 LPM is achievable: - 3 quarters @ 0 LPM in Xilinx Ireland - 1 quarter @ 0 LPM in Xilinx San Jose • 5S implementation to further drive continuous improvement culture • Every complaint investigated and understood through 8D process • Logistics FMEA completed and focused effort on longer term preventive actions • Third party and customer audits have resulted in perfect scores

QUALITY TRENDS

Xilinx pushes the boundaries of technology to raise the bar for quality and innovation. We continually develop new methods and standards that make it possible to deliver superior solutions with greater efficiency to the 20,000 customers served across diverse markets.

QUALITY FOCUS	CALENDAR YEAR 2008 RESULTS	QUALITY IMPROVEMENT FACTORS
Overall Quality	• No major customer recalls in more than three years • PPM levels achieving targets	Benefited from: - Strong Maverick controls established - Implemented spatial outlier elimination - Earlier qualification - Expanded product testing and coverage - Re-designed new products process and release criteria
Fab Quality	• 90nm defect density: 14% improvement from 2007 • 65nm defect density: 16% improvement from 2007 • Internal issues down 40% from 2006	Benefited from change control and statistical process control
Assembly Quality	• Mechanical AOQL achieved 0 PPM in the two most recent quarters (Q3 and Q4 CY08) • Internal issues down 25% from 2006	Benefited from direct material control and FMEA
Test Quality	• Electrical AOQL achieving targets: Overall = 3 PPM • Interconnect test coverage at 99% overall • Embedded IP test coverage at 98% overall • Virtex-5 platform: Interconnect and embedded IP test coverage at 99%	Benefited from DFT, BIST, software optimization for test, and process control

RELIABILITY FAILURE RATE SUMMARY

The failure rate is typically defined in FIT units. One FIT equals 1 falure per 1 billion device hours. For example, 5 failures expected out of 1 million components operating for 1000 hours will have a failure rate of 5 FIT. The following is the failure rate calculation method.

Equation 1-1

$$\text{Failure Rate} = \frac{x^2 10^9}{2(\text{No. of Devices})(\text{No. of Hours})(\text{Acc.Factor})}$$

Where:

x^2 = Chi-squared value at a desired confidence level and (2f +2) degrees of freedom, where f is the number of failures.

The acceleration factor is calculated using the Arrhenius relationship:

Equation 1-2

$$A = \exp\left\{\frac{E_a}{k\left(\frac{1}{T_{J1}} - \frac{1}{T_{J2}}\right)}\right\}$$

Where:

E_a = Thermal activation energy (0.7eV is assumed and used in failure rate calculation except EPROM in which 0.58 eV is used).

A = Acceleration factor

k = Boltzman's constant, 8.617164 x 10-5 eV/°K

T_{J1} = Use junction temperature in degrees Kelven (°K = °C +273.16)

T_{J2} = Stress junction temperature in degrees Kelvin (°K = °C +273.16)

Summary of the Failure Rates

Process Technology	Device Hours at T_J = 125°C	FIT(1)
0.065 µm	1,950,379	13
0.09 µm	8,934,645	3
0.13 µm	2,192,422	5
0.15 µm (FPGA)	3,111,774	17
0.15 µm (EPROM)	2,117,438	12
0.18 / 0.15 µm	2,544,396	10
0.18 µm	3,813,663	14
0.22 / 0.18 µm	2,034,840	13
0.22 µm	1,926,728	6
0.25 µm	3,046,159	4
0.35 µm / 0.25 µm	2,210,904	5
0.35 µm	4,518,098	15
0.35 µm (EPROM)	1,032,068	24
0.5 µm	2,113,046	12
0.6 µm	813,592	14
0.6 µm (EPROM)	1,039,921	24

Notes: 1. FIT is calculated based on an 0.7eV for EPROM, 60% C.L. and T_J of 55°C

QUALITY INDUSTRY CERTIFICATIONS

Xilinx is the:

- Only PLD supplier to achieve both TL9000 and TS16949 certifications
- First PLD supplier to achieve TL9000 certification
- First and only fabless company to achieve TS16949 certifications

XILINX FACILITY	QUALITY CERTIFICATION	CERTIFIED SINCE
San Jose, California	TL9000 / ISO 9001:2000 ISO / TS16949 2002 ISO 14001:2004 OHSAS18001	January 2004 August 2004 August 2002 October 2008
Dublin, Ireland	TL9000 / ISO 9001:2000 ISO / TS16949 2002 ISO 14001:2004 OHSAS18001	January 2004 August 2004 August 1999 October 2008
Singapore	TL9000 / ISO 9001:2000 ISO / TS16949 2002 ISO 14001:2004 OHSAS18001	January 2005 August 2005 August 2006 October 2008
Albuquerque, New Mexico	TL9000 / ISO 9001:2000 ISO / TS16949 2002	January 2005 August 2005
Denver, Colorado	ISO9001	December 2004
Hyderabad, India	TS16949	November 2008

XILINX SUPPLIERS	QUALITY CERTIFICATION	ECOSYSTEM RELATIONSHIP
UMC, Hsin-Chu, Taiwan Toshiba, Japan	TS16949:2002 ISO9001:2000	Foundry
Amkor, Korea Amkor, Phillipines STATS ChipPAC SPIL	TS16949:2002 TS16949:2002 TS16949:2002 TS16949:2002	Assembly and Test

TECHNOLOGY AND CORPORATE LEADERSHIP

Twenty-five years ago Xilinx invented the FPGA and pioneered the fabless manufacturing model. Since then, Xilinx has established a reputation as a semiconductor industry leader that consistently delivers products on cutting-edge technologies and drives innovation that sets new standards for quality.

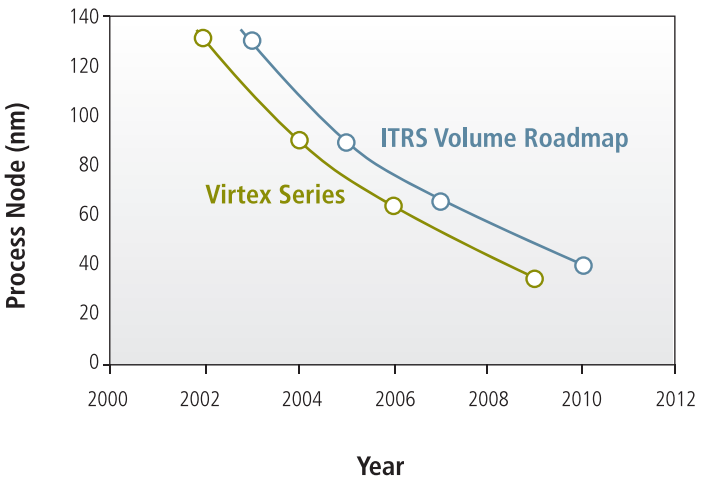
2008 INDUSTRY AWARDS	XILINX RECIPIENT	AWARD SPONSOR
Most Respected Public Fabless Company	Xilinx Corporate	Global Semiconductor Alliance (third award in last seven years)
ALICE Industrial Collaboration	Xilinx Corporate	CERN
100 Best Corporate Citizens	Xilinx Corporate	CRO Magazine
Best Product of the Year	Virtex-5 FXT FPGA	EDN China
Leading Product of the Year	ISE 10.1 Design Tools	EDN China
Top 10 China Influential Embedded System Finalist	Virtex-5 FXT FPGA MicroBlaze v7 Processor AccelDSP and System Generator for DSP Tools	EEPW China
Editor's Choice Award	Spartan-3A FPGA	Portable Design Magazine
2007 INDUSTRY AWARDS	**XILINX RECIPIENT**	**AWARD SPONSOR**
Influential Embedded System New Technology Award	Spartan-3A DSP FPGA	EEPW China
Top 10 China Influential Embedded System	Virtex-5 FPGAs	EEPW China
Digital IC Product of the Year	Virtex-5 LXT FPGAs	EDN China
Semiconductor Product of Year	Virtex-5 LXT FPGA Platform	Elektra Awards
Hot 100 Products	Spartan-3AN FPGA Platform	EDN Magazine
Best of 2007 EDA/FPGA Tool	ISE 9.1i Design Tools	Electronic Design Magazine
Green Mark Platinum Award	Xilinx Asia-Pacific HQ	Singapore Ministry of National Development
LEED Green Building Certification	Xilinx North America HQ	US Green Building Council
Design Vision Award	PlanAhead™ 8.2 Software	IEC
Product & Innovation of the Year	Virtex-5 FPGA	EDN Magazine
Design Team of the Year	Virtex-5 FPGA Design Team	EDN Magazine
Product of the Year	Virtex-5 FPGA	EE Times China
Company of the Year Finalist	Xilinx Corporate	EE Times China
Ultimate Product Finalist	Virtex-5 FPGA PlanAhead 8.2 Software	EE Times ACE Awards
Most Innovative Product of Year	Virtex-5 FPGA	Electronique Magazine
100 Best Corporate Citizens for	Xilinx Corporate	CRO/Business Ethics Magazine

CASE STUDY:

VIRTEX-5 FPGA NEW PRODUCT EVALUATION

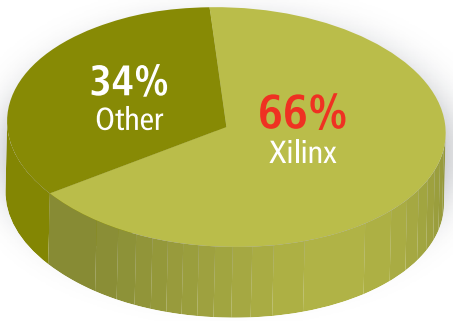
Technology Innovation Leads to Market Share Leadership

ITRS and Virtex Products



* International Technology Roadmap for Semiconductors 2001-2007

Total High-End FPGA Market Share 2001-2007



INITIATIVE GOAL:

Establish process stability and manufacturing readiness

QUALITY MILESTONES

Virtex-5 LX and LXT FPGA platforms were first products put through NPE and NPI process

- Performed extensive design validation and characterization
- Started early qualification evaluations
- Stronger release criteria for engineering samples and production conversions

Significantly increased overall coverage as compared to previous generation products

KEY RESULTS

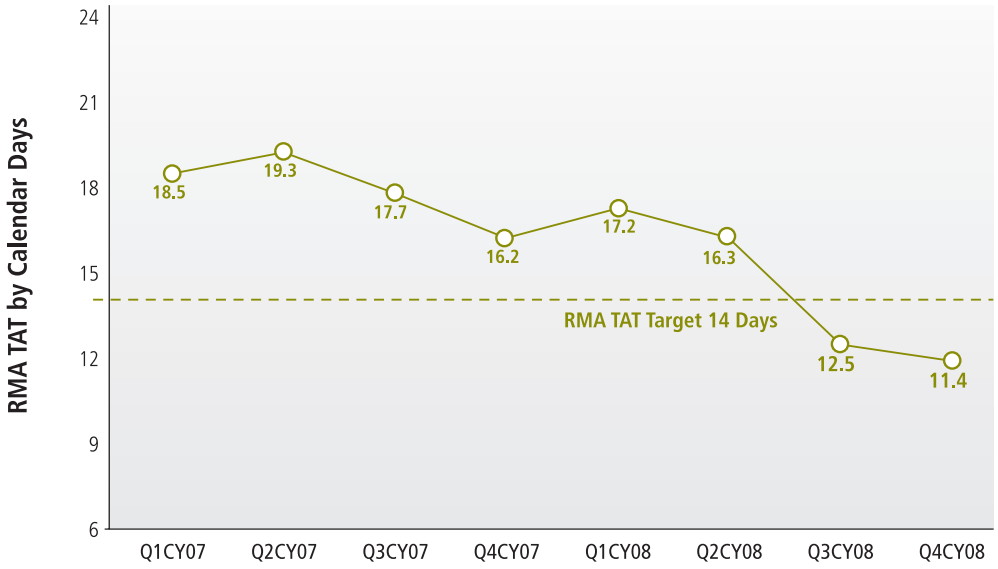
- Dual source with fabrication process and materials from both foundries included in the evaluation
- Reliability of UMC 65nm process achieved world-class minimum failure rates.
  - Virtex-5 devices achieved 14.6 FIT* for HTOL, a score that rivals many mature processes
- Expanded voltage and temperature ranges beyond datasheet specifications to ensure sufficient margin for functional operation
  - Calibrated to industrial grade range to provide further assurance of safe and comfortable operating margin
- Expanded number and type of tests to ensure product feature coverage
  - Virtex-5 FPGA 383,418,575 measurements vs. Virtex-4 FPGA 100,680,000 measurements
  - Nearly 400% increase in coverage
- Met delivery commitments
  - 100% on time for production release (new product)
  - 95%+ on time delivery to factory schedule dates

*See Xilinx Reliability Report for current FIT rate.

CASE STUDY:

STREAMLINING THE RETURNS PROCESS

Global Infrastructure, Regional Support



INITIATIVE GOAL:

Improve customer product returns process worldwide

QUALITY MILESTONES

Launched new online RMA web portal

Established two new engineering labs:

- Product Quality Engineering (PQE) Lab for RMA fault isolation
- Device Analysis Lab (DAL) for physical failure analysis

Expanded RMA regional support in Xilinx Singapore headquarters

Deployed FPGA best practices training to customers for improved designs and fewer manufacturing delays.

KEY RESULTS

- Reduced overall factory average RMA cycle time to 11.4 calendar days
- Customer-oriented approach allows transparent view into Xilinx processes:
  - Direct case initiation for quickly opening new cases
  - 24/7 status for in-process cases
  - Improved communication through real-time notifications and updates
- 28% of global RMA activities in Sep 2008 supported in Singapore
  - Increase to 50% in January 2009, 3 months ahead of schedule
- System designers empowered to perform quality control through more rigorous design and production release reviews
- More robust FPGA designs for customers and fewer production issues and product returns
- Best practices checklist: http://www.xilinx.com/products/quality/fpga_best_practices.htm

XILINX QUALITY RESOURCE GUIDE

Xilinx publishes a comprehensive range of information about its global quality programs, metrics, and documentation. This table provides an overview of the detailed reports accessible to Xilinx customers either by request or online, as well as direct links to Xilinx training and support sites.

Please visit the Xilinx Quality home page at: http://www.xilinx.com/products/quality/index.htm

REPORT TITLE	REPORT AVAILABILITY
Quality Policy	http://www.xilinx.com/products/quality/Xilinx_Quality_Policy.pdf
Xilinx Quality Manual	http://www.xilinx.com/products/quality/QualityManual.pdf
Quality Certifications	See links to documentation for each of the following certifications at: http://www.xilinx.com/products/quality/index.htm ISO 9001:2000 / TL 9000 (XSJ, XAQ, XIR, XAP) ISO 9001:2000 (XCO) ISO/TS 16949:2002 (XSJ) ISO/TS 16949:2002 (XAQ) ISO/TS 16949:2002 (XIR) ISO/TS 16949:2002 (XAP) QML per MIL-PRF-38535 ISO 14001:2004 (XSJ) ISO 14001:2004 (XIR) ISO 14001:2004 (XAP) OHSAS 18001:2007 (XIR, XSJ, XAP) MIL-PRF-38535
Device Reliability Report (quarterly)	http://www.xilinx.com/support/documentation/user_guides/ug116.pdf
Product Characterization Reports	Available on request
Silicon Stepping	http://www.xilinx.com/products/quality/silicon-stepping.htm
RoHS and Pb-Free Compliance	http://www.xilinx.com/support/mysupport.htm
Supplier Management	http://www.xilinx.com/products/quality/submgmt.htm
Product Change Notifications	http://www.xilinx.com/support/documentation/customer_notices.htm
RMA and Returns Instructions	http://www.xilinx.com/products/quality/rma.htm
FPGA Design Best Practices	http://www.xilinx.com/products/quality/fpga_best_practices.htm
Training	http://www.xilinx.com/support/education-home.htm
Xilinx Support Home Page	http://www.xilinx.com/support/mysupport.htm
Contact Us	http://www.xilinx.com/company/contact.htm