

Up to Speed

JULY 08 | VOL 3

AUTOMOTIVE STRATEGIC BUSINESS UNIT

VP Corner



Welcome to the first eNewsletter of fiscal year 2008. We've got much in the way of new and exciting programs keeping us busy, and I'd like to take the opportunity to share with you a few of these items in this issue. First and foremost, I'd like to invite you to visit the automotive section of NEC Electronics America's web site at www.am.necel.com/automotive/. This newly revised site offers updated information about products supported in the Americas and provides additional links to collateral, industry news, design tools and more. We're continuing to work on adding new features, so please let us know if there's something you'd like to see included to complete the information experience. This is part of our ongoing commitment to provide our customers with tools to assist them in finding the right solution and support for their complete automotive component needs.

Earlier this year, we additionally enhanced our automotive executive management team. In April we announced the promotion of Sam Trinch to the position of general manager of the Automotive SBU. Sam's promotion underscores our commitment to serving customers by placing focused, talented individuals in key roles within the organization.

Through the years, we have been a trusted partner and have been committed not only to the business of automotive design but also to the business of relationships. What matters most to you matters to us, and we take this pledge seriously. We want to know you, want to hear from you, want to visit your facility to learn about your challenges. We want to provide a personal touch that gives each of you the confidence that NEC Electronics America is responsible and accountable—your trusted partner—in all that we do.

Please read on to see how several of our customers have recognized NEC Electronics and the value we provide. Our ability to provide high-quality products and on-time delivery is only half of the story. These customers have also recognized the value in our personalized service and support. When you know your customers, you are able to work together to see beyond industry challenges to the next generation of automotive excellence. So let's talk. Let's get to know each other better so we can solve tomorrow's challenges today.

Jim Trent
Vice President, Multipurpose Microcontroller and Automotive Group

**"TO MY CUSTOMER:
I MAY NOT HAVE THE
ANSWER, BUT I'LL
FIND IT. I MAY NOT
HAVE THE TIME,
BUT I'LL MAKE IT."**
— Author Unknown

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Global Manufacturing Update

On May 27, NEC Electronics announced its plans to make a large investment in NEC Semiconductors Yamagata, its manufacturing subsidiary headquartered in Tsuruoka City, Japan. This investment will take place through the end of March 2010 to enhance the facility's 300 mm capacity.

NEC Semiconductors Yamagata began production on its 300 mm fab in January 2005. Previously, the facility had a production capacity of 5,000 wafers/month and manufactured system LSI products for the digital consumer and game markets. The company currently manufactures products using 90 nm and 55 nm processes and has started ramping up production of products using its 40 nm process. Present capacity has increased substantially to 13,000 wafers/month.

According to NEC Electronics' investment plan, the company will invest 100 million dollars before the end of March 2009 to increase capacity to 20,000 wafers/month, and then make another investment in 2010 to raise production capacity to 25,000 wafers/month. This added capacity will be reached by constructing a new 5,750-square-meter clean room that, upon completion in 2010, will make NEC Semiconductors Yamagata one of the world's biggest 300 mm fabrication facilities (encompassing a total of 17,150 square meters), with production capacity up to 30,000 wafers/month.

NEC Electronics has already invested a total of 1.5 billion dollars in NEC Semiconductors Yamagata to support market demand, and the company has become recognized in the market as one of most advanced fabs, able to skillfully manufacture embedded DRAM (eDRAM). NEC Electronics recently won several large eDRAM design projects and has begun ramping up production for 90 nm automotive products, 55 nm system LSI products and 40 nm advanced technology products.



In The News

- [Visteon Recognized NEC Electronics for Contributions to its Value-Based Supply Chain](#)
- [NEC Electronics America Announces Executive Promotions in Its Automotive and General-Purpose Microcontroller Strategic Business Units](#)
- [VaST and NEC Electronics America Develop Models of V850-based Microcontrollers for Leading Automotive Customers](#)
- [NEC Electronics Expands F Series Microcontrollers for In-Vehicle Automotive Systems](#)

Product Spotlight

IMAPCAR® PROCESSOR



As automotive safety systems continue to evolve to include more advanced pre-crash functionality based on real-time video input, the need for higher-performance, application-specific processors will become essential. NEC Electronics has addressed this need with the IMAPCAR device. Custom tailored for embedded image processing systems, the IMAPCAR processor is an integrated single-instruction, multiple-data (SIMD) processor with 128 8- and 16-bit processing elements, a 16-bit RISC control processor and multiple external interfaces for video input, external memory and host control. As opposed to previous, off-the-shelf solutions that have been used for these systems, the IMAPCAR processor possesses the ideal mix of performance, flexibility and quality at the right power level and cost.

Performance: The IMAPCAR processor is multiple times faster than leading automotive image processors. By employing a parallel processing technology, IMAPCAR executes up to 100 giga (billion) operations per second (GOPS), enabling real-time processing of images for pedestrian detection, lane tracking and sign recognition. While a high-performance device, the IMAPCAR was also designed to consume low power, which is always a criterion for embedded automotive applications. Remarkably, the IMAPCAR is able to execute 100 GOPS at a frequency of only 100 MHz while consuming less than 2 watts of power.

Flexibility: The IMAPCAR is a full software-based solution and therefore does not require hardware accelerators or hardware filters. This flexibility enables developers to design customized systems that are easy to maintain and update. Having a software-customizable solution also gives designers an opportunity to differentiate their systems from other vision processing systems by developing their own unique algorithms and applications. By using the array of processing elements, engineers are additionally no longer restricted to processing images pixel by pixel, but instead can process row by row, line by line or by any number of ways. To further increase processing efficiency, a dedicated communications link allows fast exchange of pixel data and other information between processing elements. By taking advantage of the IMAPCAR's architecture, software engineers can develop algorithms that run more efficiently than a common DSP or general processor.

Quality: NEC Electronics is committed to providing proven, high-quality products. The IMAPCAR processor is designed to meet stringent automotive qualification requirements as well as automotive temperature ranges. Currently used today for vision processing in the Lexus LS460's pre-crash safety system, the IMAPCAR is based on innovative technology that is capable of running preventative safety systems.

Cost: Automakers can reduce their overall systems costs when using the IMAPCAR processor by leveraging the device's high-performance, single-chip solution. Because of IMAPCAR's power efficiency, designers can further reduce costs by minimizing requirements for cooling and power management. The end goal of IMAPCAR is to enable automakers to more efficiently develop active safety systems that are widely adopted in vehicles.

Customer Spotlight

VISTEON AND ELESYS RECOGNIZE NEC ELECTRONICS FOR SERVICE AND SUPPORT



April was an exciting month for NEC Electronics, as the company was recognized by two automotive customers for outstanding service and support.

On April 16, NEC Electronics was named a recipient of a 2007 Visteon Important Partner Award from Visteon Corporation. The annual award program recognizes suppliers that exemplify best-in-class performance and go above and beyond to meet Visteon's needs and expectations. Selection criteria focus on a supplier's performance in terms of quality, delivery, technology, launch and cost control.

"NEC Electronics has distinguished itself as an outstanding Visteon supplier, and its performance has been instrumental in helping Visteon deliver innovative, high-quality, cost-efficient products to vehicle manufacturers," said Patrick Bauer, Visteon senior director, material planning and logistics, indirect and central purchasing.

"Cultivating collaborative relationships with its supplier partners is crucial to Visteon's success in delivering innovative and high-quality products to vehicle manufacturers around the world. Earning a Visteon Important Partner award demonstrates that NEC Electronics has performed "at an extremely high level," according to Visteon President and Chief Operating Officer Donald J. Stebbins.

April brought another recognition award to the company. On April 18, NEC Electronics America was awarded the Delivery, Performance and Cost Reduction Award from Elesys for calendar year 2007. The delivery award criteria considered for this award included 99% or greater on-time delivery, 95% or greater quality score and no delivery-related issues.

While both of these awards were given for measurable deliverables, all companies recognize the importance of the relationship component in communicating specific needs and requirements so as to affect desired results. All will agree: best-in-class performance and collaboration go hand in hand.

Calendar of Events

Electronic Newsletters coming to you three times in the next 12 months: July, October, and March.

CONVERGENCE, OCTOBER 20-22

NEC Electronics is a gold sponsor of this event. Come see us in booth #130. Special guests will also be invited behind the scenes for a very special showcase tour.

CES 2009, JANUARY 8-11

Special guests will be invited to attend NEC Electronics' hospitality area at the Las Vegas Hilton Hotel.



Contact/Subscription Information

To contact us via email:
uptospeed@am.necel.com

Phone: 1-214-262-7850

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NEC Electronics America, Inc.
2880 Scott Boulevard
Santa Clara, CA 95050.

<http://www.am.necel.com/>



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