Consumer Reports: E/E Quality Very High

We first analyzed Consumer Reports’ reliability data in 1993, for 1992 model year vehicles. At that time, electrical systems were by far the most trouble-prone part of the average car. Fast forward 17 years and it is clear that the overall quality and reliability of today’s vehicles, including their electrical systems, has dramatically improved. In Consumer Reports’ 2009 Annual Auto Survey only one percent of respondents reported serious electrical system problems in their 2009 cars, which at the time of the survey had about 3,000 miles on their odometers.

The 2009 survey results are based on 1.4 million responses from vehicle owners reporting problems they consider serious because of cost, failure, safety or downtime. The magazine compares its survey results for each model against the average in 16 trouble spot areas and assigns a relative reliability score illustrated with red and black filled or partially filled circles. Because problem rates are generally very low, the “worst” score is only applied when that model’s problem rate exceeds 3%; the “best” score indicates a problem rate below 1%.

While most vehicle systems rely on electronics, we looked closely at the areas of electrical, power equipment and the electronics, we looked closely at the areas of electrical, power equipment and the electronics. The “best” score indicates a problem rate below 1%; the “worst” score is only applied when that model’s problem rate exceeds 3%. The “best” score indicates a problem rate below 1%

Anticompetitive Practices Among Electrical Component Suppliers Alleged

Experts Say Authorities Likely Have Credible Evidence

The investigations in Japan, Europe and the United States into alleged anticompetitive practices among five major wiring harness manufacturers and two auto parts suppliers will almost certainly lead to serious fines, and in the United States possibly even jail time for company executives.

“The fact that there were simultaneous raids in Japan, Europe and the States that the Department of Justice used search warrants [for the raids in the States] suggests to me there is some pretty credible evidence,” said a U.S. antitrust attorney who doesn’t want his name mentioned. “Participating in anticompetitive activities is a felony in the United States,” he said. “In such cases companies can be fined as much as 10% of their annual sales—not just 10% of the sales of the division involved, but 10% of the sales of the entire group.”

Yazaki, the world’s largest wiring harness maker, said its Michigan offices were raided by the FBI and the U.S. Department of Justice on February 23, 2010, and the European Commission raided its European operations the following day. The Japanese Fair Trade Commission is investigating Yazaki in Japan, according to The Wall Street Journal. Denso’s U.S. offices were also raided on February 23.

At its analyst and investor conference on March 25, Europe’s largest automotive wiring systems supplier, Leoni AG, acknowledged that it was among those being investigated. Lear Corporation has also issued a statement confirming it is under investigation by the EC.

Methode Electronics Wins Ford’s “Touch” Center Stack Business

Field-Effect Switches Beat Out Capacitive Switches

This summer, Ford will roll out its new, branded driver interface system called MyFord Touch or MyLincoln Touch depending on the model. As the name implies, the system’s most significant attributes are an eight-inch touch screen display in the center stack, and below that an electronic finish panel (control head) that features solid-state touch switches to control both the audio and climate systems.

The electronic finish panel, including field-effect touch switches, will be manufactured by Methode Electronics, the Chicago-based manufacturer and designer of electromechanical devices. With annual sales of roughly a half billion dollars, Methode is usually a tier-two supplier of components; the electronic finish panel order is the company’s first as a tier-one. Methode’s order does not include the display.

Approximately 60% of Ford’s 2011 Edge and all 2011 Lincoln MKX models will come with the touch-sensitive control head supplied by Methode. Ford looked at touch-sensitive switches from several suppliers and considered switches that use resistive, capacitive and field-effect technologies. Ford already uses capacitive touch switches in a remote keyless entry keypad, but chose the field-effect switches because they are more robust and less expensive to implement. Capacitive switches must be coupled with a microcontroller to run detection and calibration software; field-effect switches are software free, so you don’t need a microcontroller.

Problem Ratings for MY 2009 Vehicle Electrical Systems

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<th>Make</th>
<th>Score</th>
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<tr>
<td>BMW</td>
<td>0.90</td>
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<td>Honda</td>
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<td>Hyundai/Kia</td>
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<td>Toyota</td>
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<td>Mazda</td>
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Includes alternator, starter, battery cables, engine harness, coil, ignition switch, electronic ignition, distributor or rotor, spark plugs and wires, sensors or module.
Ford selected field-effect technology because of its ability to accurately detect the precise location of the finger’s touch. “That was particularly helpful in creating the volume and fan control slide switches on the Lincoln center stack,” explained Sonya Nematollahi, a Ford product development engineer who worked on the electronic finish panel. “The switch has multiple touch cells. With a swipe of your finger you can take audio volume or fan speed up and down.” Each slider has ten distinct touch points; three full swipes bring the system to maximum volume or speed. Customers can also touch anywhere along the slider to get a corresponding increase or decrease. The panel has been tuned to respond to a bare hand or thin-gloved hand.

“The studio guys just love the touch switches,” said Ms. Nematollahi. “The panel’s polycarbonate PC or ABS surface is unbroken, without gaps or openings that you would have with conventional switches, which can let in dust. And the panel doesn’t need to be flat; it can be contoured.”

The electronic finish panel connects to the vehicle’s high- and medium-speed CAN communications link via a four-way connector.

Methode Electronics acquired the field-effect switch technology in March 2007, when it bought TouchSensor Technologies from Gemtron Corporation for $65 million. At the time TouchSensor produced about $38 million in sales annually, shipping mostly to makers of appli-ances. Methode has several other automotive TouchSensor projects in the pipeline involving both domestic and Asian carmakers.

Consumer Reports...

audio system, which includes infotainment. To compare the major carmakers’ reliability in those three areas, we assign a numerical value to Consumer Reports’ relative reliability scores and weight those values with U.S. sales of each model using sales data published by Automotive News or provided by the carmakers directly.

Although overall reliability for all carmakers’ new vehicles is very high and the final scoring extremely close, Japanese carmakers for many years have claimed the final scoring extremely close, Japanese carmakers' new vehicles is very high and or provided by the carmakers directly.

includes cruise control, heated/cooled seats, body control module, keyless entry, wiper motor or washer, tire pressure monitor, interior/exterior lights, horn, gauges, 12V power plug, alarm/security, backup camera/sensors. has been backsliding on quality, coming in fourth in audio and fifth in power equipment.

Traditionally, carmakers like BMW and Mercedes, who produce high-end vehicles with high electrical/electronics content, fare worse than makers of high volume entry-level models. This year BMW tied with Honda and Hyundai for best score in electrical.

Consumer Reports’ 2009 survey results covered noticeably fewer models than in prior years, likely due to dramatically lower vehicle sales in the U.S. last year. Missing because of insufficient data are both large vehicles, such as the Ford Explorer, and small cars like the Nissan Sentra. Only Mercedes’ C class, GLK and Smart are included; one Audi (the A4); no Volvo models; and only BMW’s 3 series, X5 and Mini Cooper.

The Hansen Report...

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Salim Momin on E/E Tool Integration

Last month at Mentor Graphics’ Integrated Electrical Solutions Forum in Detroit, I ran into Salim Momin, a 25-year industry veteran and automotive electronics expert who knows both hardware and software. That meeting led to a subsequent conversation about something he is very passionate about: comprehensive engineering tools that link all electrical and electronics design domains.

The industry has only recently begun to integrate software development tools, and yet Mr. Momin sees a not-too-distant future where all E/E engineering tools will be completely integrated, from product planning through design and development, to production release and on to maintenance. “The tools environment must span all the engineering domains—hardware, software, wiring and networking—and feature a common user interface and data sharing,” he said. “The auto industry has gotten so competitive that carmakers and suppliers can’t possibly succeed only by cutting costs and improving productivity. They must rapidly innovate, and to do that they will need an integrated tools environment.”

Mr. Momin worked for Motorola Semiconductor, now Freescale, in many different capacities including developing automotive strategy. In 1998 he started Freescale’s Virtual Garage research lab, which became a self-funded operation by 2002 and a business unit with its own P&L in 2008. Virtual Garage developed and sold tools and software and provided consulting services to carmakers. In December 2009, Freescale sold the Virtual Garage name and two of the tools the business unit developed to Mentor Graphics. One of the tools helps to minimize wiring harness complexity and the other provides service documentation to the dealerships tied to specific VINs (vehicle identification numbers). Another Virtual Garage tool chain, one that helps customers more easily apply Freescale microcontrollers, was retained by Freescale. Mr. Momin is now consulting with OEMs and suppliers in the areas of systems engineering, processes and collaboration, as well as working with startups aiming to serve the automotive industry.

Integrating the Tool Chain Requires a Blueprint and a Champion

The benefits of a fully integrated tool chain are obvious and immense: Carmakers would be able to bring high-quality innovation to the market more quickly and they would save money through lower engineering costs.

“One of the great challenges of mechatronics and electronics development is there are so many sides to it. The system has electromechanical and mechanical components in addition to functionality that needs to be modeled, and then you have the software and hardware aspects, the wiring and the networks. Today each of these domains is run more or less independently as silos within the corporation. Carmakers need to link all of the domains together to improve collaboration, get reliable data interchange and facilitate change management,” Mr. Momin advised.

He also noted that the need for a connected tool chain becomes all the more significant as carmakers outsource more development work to their suppliers and offshore engineering partners, in addition to their own global development centers.

Software and network development tools are just beginning to be integrated. Vector Informatik has taken a positive step with its eASEE tool chain, according to Mr. Momin, but software and networks are only two aspects of the electronics development chain. “Remember, software is dependent on hardware. If something changes with the hardware or wiring, it can impact the software and the networks. If functionality changes, it impacts software. Today these domains are only loosely coupled,” he said.

“In order for carmakers to be able to build a comprehensive engineering development tool, a new level of collaboration between IT technologists and engineering needs to happen; well-placed information technology people need to work closely with people from each of the engineering disciplines. Separate engineering departments tend to have their own IT personnel who build their own IT infrastructure, with their own data repositories. They can share data within the department reasonably well, but these separate islands and their hodgepodge of tools need to be connected. That is where the IT organization comes in. Automotive engineers are good at what they do in their own domains, but they don’t understand user interface design, they don’t understand databases, they don’t understand Web-based technology.”

The integrated E/E tool chain envisioned by Mr. Momin would be a huge undertaking for any carmaker, one that requires a well conceived blueprint and a very senior champion within the company who is willing to push hard for three years or more to bring it to life. “Everything starts with an idea, a dream. This is not a bridge too far.” The car industry can leverage the efforts of Boeing with its OSEE (Open Systems Engineering Environment) initiative. Salim Momin can be reached at salim.momin@ns-ent.com.

Important Annual Ludwigsburg Conference Coming Up June 15–16

An estimated 300 decision makers from the automotive and automotive electronics industries will gather in Ludwigsburg, Germany, June 15-16, 2010. More than any other conference, the annual Advances in Automotive Electronics meeting brings together the OEMs, suppliers and engineering partners who architect the cars of the future.

Willibert Schleuter, former head of E/E development for Audi, chairs the program committee this year. Key topics for 2010 include: trends in systems and architectures; infotainment; the role of electronics in future car concepts for energy, CO2 and E-Mobility; and semiconductors.

Volkmar Denner, member of the board of management of Robert Bosch, will deliver the keynote address. Dr. Denner has responsibility for Bosch’s Car Multimedia and Automotive Electronics divisions, and as of July 1, corporate sector research and advanced engineering, product planning and technology. His presentation at Ludwigsburg is titled “Networking and Electrification—New Challenges for Automotive Electronics.”

Other presenters include Ricki Hudi, chief executive engineer E/E, Audi AG; Michael Wurtenberger, vice president of ConnectedDrive and infotainment at BMW; and Professor Herbert Kohler, vice president of e-Drive and Future Mobility, Daimler AG. Also represented will be Microsoft, Ford, Continental, Renesas, Renault and many others.

To learn more about the conference and/or to register, visit www.elektroniktagung.de; telephone 49 8191/125-321; or email the conference manager, Marcus Dworak: marcus.dworak@m-i-c.de.
The Company Profile... ON Semiconductor

**Thumbnail Sketch**

**Headquarters:** 5005 East McDowell Road, Phoenix, Arizona 85008, USA; Telephone: 602-244-6600; www.onsemi.com

**2009 Sales:** $1,768.9 million

**R&D:** 11.2% of sales

**Interest Expense:** 3.7% of sales

**Net Margin:** 3.4%

**Working Capital:** $549.6 million

**Long Term Debt:** $727.6 million

**Stockholders’ Equity:** $1,004.6

**Employees:** 12,887

**2009 Sales per Employee:** $137,262

**2009 Market Capitalization:** $3.4 billion as of March 29, 2010

**Background**

ON Semiconductor manufactures a broad range of power and signal management, logic, discrete and custom devices—some 42,000 products in all—for the automotive industry as well as for the computing, communications, consumer, medical, military and other markets. Automotive electronics contributed 18% of ON’s total sales; the company’s largest market segment is computing, which accounted for 26% of 2009 sales.

ON Semiconductor was created in 1999 through the spinoff of Motorola’s Semiconductor Components Group. Motorola retained approximately 10% of the stock and received $1.6 billion in cash and notes from a private investor, Texas Pacific Group. The first public offering of ON shares was held on April 27, 2000. Texas Pacific Group remained the primary shareholder until 2007 when it sold off the last of its shares. ON Semiconductor stock is traded on the NASDAQ Global Exchange under the symbol ONNN.

Since it was spun off, ON has operated under a heavy load of long-term debt. In 2003, the company began taking measures to reduce its total debt level, which that year was $1.3 billion. By the end of 2009, the figure was down to $934 million. As a result, annual interest expense is down significantly—from $151.1 million in 2003 to $64.6 million in 2009.

“We were able to do that because we have been very focused on product cost reduction, keeping R&D and operational expenses under control,” noted Andy Williams, senior vice president and general manager of the Automotive and Power Group, which had $401 million in revenue in 2009. “And as we have made acquisitions, we’ve been able to consolidate factories. Our focus on new products has led to increases in our gross margin. As a result we have been generating a lot of free cash flow that services the debt.”

ON’s credit rating from Standard & Poor’s is below investment grade: BB-, which means it “faces major ongoing uncertainties or exposure to adverse business, financial, or economic conditions which could lead to ... inadequate capacity to meet its financial commitment on the obligation.” The company competes most directly in the automotive sector against Infineon, STMicroelectronics and Texas Instruments.

**Automotive Business Benefits from AMIS Acquisition**

“What I especially like about the automotive semiconductor business is that it is a growing business that demands high quality products, and that makes the whole organization better,” said Mr. Williams. “Plus, in normal times, it is a very stable market.”

While the automotive market is growing at about 7% per year, Mr. Williams expects ON’s automotive sales to grow annually at more than 7%, largely due to
The continuing synergistic effects of ON’s March 2008 acquisition of AMI Semiconductor (AMIS). AMIS’ automotive ASIC capability is creating additional sales opportunities for ON’s traditional power semiconductor devices such as the rectifiers and MOSFETs that connect to ASICs.

ON acquired the Pocatello, Idaho-based AMI Semiconductor for $938 million in an all stock transaction. In 2007 AMIS had sales of $615.8 million. ON’s automotive organization was combined with AMIS’ automotive organization in the second quarter of 2009.

“In 2000, the last time you profiled us, we were largely just a discrete semiconductor company,” noted Mr. Williams. “We were known for standard components—MOSFETs, diodes, rectifiers and low-end analog components such as voltage regulators and op amps. The technologies we used to produce those components were very old analog processes yielding components with feature sizes above one micron. Today, we are developing products in the 130 nanometer range.”

The AMIS acquisition brought mixed-signal capability to ON, which combines analog circuits and digital circuits in the same IC. “The capabilities of AMIS’ technologies are much, much higher than what we had in our portfolio. We were oriented toward power management where the feature sizes are a lot larger.

AMIS was doing a lot of signal processing and intelligence in the digital domain,” said Mr. Williams.

The AMIS acquisition brought ON’s served available market to $119 per vehicle, up from $74 per vehicle, a 61% increase. Automotive semiconductor content in the North American, European, Japanese and Korean markets is estimated between $325 and $350 per vehicle; in emerging markets, semiconductor content is about one third of that.

The acquisition also expanded ON’s customer base to include more European customers. Europe now accounts for more than half of ON’s automotive sales, compared with just 19% a decade ago.

**Auto Business Will Rebound**

Despite the recession, the Automotive and Power Group delivered a 32% gross margin in 2009. In a more normal economy gross automotive margins can be in the mid-40% range, according to Mr. Williams. And while his automotive sales were down 21% in 2009, Mr. Williams expects business to bounce back smartly in 2010: “In 2009 the RFQ and new business pipelines were pretty dry. That has turned around dramatically. Not only are RFQs up quite a bit, but some new production programs that seemed sidetracked by the recession have now woken up, and we are being pushed to deliver to our original schedule. So we are very busy.”

Indeed, the total dollar value of all of ON’s outstanding opportunities, what the company calls its design pipeline, is up 24% over this time last year.

The company’s main automotive products include sensor interface circuits, high-voltage interface circuits, power management circuits, network transceivers and mixed-signal ASICs. The company makes ignition IGBTs but not high-voltage IGBTs large enough to be used in inverters that drive traction motors in hybrid and electric vehicles. The company does not produce microcontrollers or microprocessors but has the capability to offer system level integration for on-chip processing by integrating state machines, microcontrollers and nonvolatile memory. According to ON, power efficiency and exceptionally low power drain modes have now become critical automotive issues as more and more electronic features become standard in all types of vehicles.

**Key Automotive Applications**

- **Fuel Efficiency and CO2 Reduction** – All of ON Semiconductor’s customers are aggressively pursuing measures that improve mileage and reduce CO2 output. Given its background in power management and the role played by its sensor interface devices, the company continued on following page
ON Semiconductor believes it is riding a rising tide of new applications that make vehicles more efficient. ON's products are used in mass airflow sensors, transmission sensors, throttle and valve control systems and transmission control systems. ON provides power devices to control starter alternators that enable the start-stop feature.

**Steering** – ON Semiconductor has a special strong portfolio of ASICs and other devices designed for LED, HID (high intensity discharge) and halogen bulb lighting, as well as motor drive circuits for adaptive front lighting systems.

**Park Assist** – ON produces a device that accurately and quickly processes the analog output of ultrasonic distance sensors to provide a warning of an obstacle and provide an indication of distance to the operator. ON Park Assist systems, including some that self-park, are becoming increasingly popular.

**Network ICs** – The company produces numerous LIN and CAN transceivers. Increasingly, ON is responding to customers who want electrostatic discharge protection built into their transceivers and is shipping devices that can handle as much as 12,000 volts. While ON is developing a FlexRay transceiver for one of its customers, adoption of the safety critical network is moving more slowly than first anticipated.

**Door Modules** – CAN and LIN transceivers, motor drivers, relays and lamp drivers are widely applied in door modules in automatic door locks, window lift controls, mirror fold and positioning controls, LEDs, puddle lamps and interior lamps.

**Power Management** – A legacy of the power product line that was spun off from Motorola Semiconductor to establish ON Semiconductor, the company's power management ICs and discrete components are finding many new automotive applications, especially in high-end infotainment systems, where as many as 12 different regulated voltages are required. “In a number of cases we have been able to apply to the auto industry what we’ve done in the consumer electronics and computer industries,” noted Mr. Williams. According to the company, its fast-switching power supplies that run at two megahertz or faster enable solutions that cut power dissipation in half while minimizing electromagnetic interference. Power management customers include Visteon, Delphi, Sanyo and Blaupunkt. ON has over $2 of content in every Ford Sync module, which is produced by Continental.

**Device Packaging**

Given the space-constrained nature of auto applications, the use of chip scale component packages continues to grow. According to the company it is seeing more and more DFN and QFN leadless packages. Multichip modules, which combine MOSFETs and drivers in a single device, are also growing in popularity.

**New Product: Medium-Voltage MOSFETs**

Until recently, almost all the MOSFETs produced by ON were low-voltage devices. But because the auto industry requires MOSFETs with higher breakdown voltages, the company has developed a portfolio of 40- to 100-volt MOSFETs. Once the automotive qualification process is completed, ON will have access to the medium-voltage automotive MOSFET market worth more than $1 billion, according to the company.

ON’s new portfolio of medium-voltage MOSFETs employs trench technology and Micro8 surface-mount packaging. Promising applications include transmission control, regenerative braking systems and alternators used in start-stop applications.

**Strengths**

We asked ON Semiconductor how it distinguishes itself from its automotive semiconductor competitors, most of whom are considerably larger and have greater financial and engineering resources. Investing in new products and technologies is critical to remaining competitive in the semiconductor industry, the company noted, and ON is committed to continue appropriately funding R&D. In the last two years corporate R&D expenses were just over 11% of sales. ON introduced 241 new product families in 2008 and 247 new product families in 2009. Automotive R&D was 13.1% of automotive sales in 2009.

Technical performance, service, price and quality are of course also key to winning and keeping contracts in the industry. ON shipped a total of 28.8 billion units in 2009 with a defect ratio of less than 120 parts per billion.

Two of the company’s strengths especially influence why customers buy from ON, according to Mr. Williams: First is its broad product line, which covers more than 30% of the automotive semiconductor market. And second, its engineering teams work hard to develop intimate relationships with customers in order to come up with economical solutions to problems. “We focus on solutions,” pointed out Mr. Williams. “That means we are not just interested in one piece of silicon in a module. We want to act on everything we can feasibly go after in the module—and that is what we are doing.”

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<thead>
<tr>
<th>Standard Components</th>
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<td>Smart FETs</td>
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<td>Standard analog</td>
<td>SMPS (switching-mode power supplies)</td>
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2009 European Auto Electronics Roundup

Double-Digit Sales Declines

Bosch will be included in the next installment of Roundup, after its annual report is released.

Continental
2009 Sales: €20,095.7 million
Change from 2008: down 17.1%
2009 Net Income (Loss): (€1,649.2 million)

Outlook for 2010: Growth of at least 5% for the corporation, assuming global vehicle production increases by 7%. Automotive EBIT is expected to double.

Continental Automotive Group

Continental’s Automotive Group, which includes the Chassis & Safety, Powertrain, and Interior divisions, accounted for 60% of Continental Corporation’s sales in 2009.

2009 Automotive Group Sales: €12,042 million
Change from 2008: down 19.2%
2009 EBIT: (€1,561.6) compared vs. (€1,205.8) the prior year

2009 Automotive Group Sales and EBIT by Division

Chassis & Safety Sales: €4,349 million
Chassis & Safety EBIT: (€102.5 million)
Powertrain Sales: €3,339 million
Powertrain EBIT: (€943.2 million)
Interior Sales: €4,353 million
Interior EBIT: (€516.0 million)

Sales fell in each of the three Automotive divisions, most dramatically in Interiors, where sales dropped 25.5%. Chassis & Safety was down 15% and Powertrain sales fell 16%. Interiors and Chassis & Safety each accounted for 36% of total automotive sales; Powertrain accounted for 28%.

Continental was acquired by Schaeffler KG late in 2008. The new owners initiated widespread restructuring programs that continued through 2009. A new chairman of the Executive Board, Elmar Degenhart, replaced Karl-Thomas Neumann in August, and Wolfgang Reitzle, formerly of BMW and Ford, was named chairman of the Supervisory Board in October. Schaeffler has since reduced its ownership share in Continental from 90.2% to 49.9%.

Schaeffler’s plan is to eventually combine the two companies into a single publicly listed entity, a move Schaeffler hopes will reduce debt at both partners and get an investment-grade rating for the new company. The two have begun cooperating in turbochargers, fuel injectors, transmission electronics and purchasing. No specific plans have been finalized yet, and they will require approval from both companies’ lenders.

During 2009 Continental reduced its (net) debt by approximately €1.6 billion to just under €9 billion. A capital increase of approximately €1 billion raised in early 2010 was used to further reduce Continental’s debt, now roughly €7.8 billion.

The company cut 4,721 jobs in 2009 and has been working to optimize its global research and manufacturing operations and shed excess production capacity. Among the facilities to be closed is the plant in Huntsville, Alabama, formerly owned by Daimler-Chrysler and acquired as part of Continental’s €11 billion purchase of Siemens VDO in 2007. Noting it had the highest manufacturing costs of any of its North American auto electronics plants, Continental said it will close Huntsville at the end of 2010.

In 2009 Continental divested its remaining share in Hyundai Autonet, which had been a Siemens VDO joint venture.

The company is launching some new products with significant growth potential. Continental’s first gasoline engine turbocharger goes into production in 2011 for a European OEM. The Powertrain division has a production order for a complete electric drive train, including the control systems for an electric vehicle “slated to be available in large numbers in the European market at the beginning of 2011.”

Continental announced its Google Android-based AutoLinQ infotainment and connectivity platform in June 2009.

Leoni
2009 Sales: €2,160.1 million
Change from 2008: down 25.8%
2009 Net Income (Loss): (€138.1 million) compared with €5.2 million net income in 2008

Outlook for 2010: Sales growth of about 10% and a return to profitability

Sales by Division
2009 Wiring Systems Sales: €1,224.6 million, 57% of total sales
Change from 2008: down 18.9%; sales decline in all regions except China
2009 Wire & Cable Solutions Sales: €935.5 million
Change from 2008: down 33.3%
2009 Wire & Cable Solutions EBIT: (€34.2 million)

Outlook for 2010: Wire and Cable sales are forecast to grow in the range of 7%.

Approximately 70% of wiring supplier Leoni’s total sales are automotive. With 9% of the global market, Leoni’s Wiring Systems division is the world’s fourth largest automotive wiring supplier. The company is one of eight wiring harness and electrical component suppliers being investigated for possibly violating antitrust rules.

Leoni says that future growth in the Wiring Systems division will be both organic and in the mid-term driven by selective acquisitions. Leoni acquired Valeo’s wiring harness business in January 2008.

In 2009 Leoni began supplying cables to Japanese carmakers in the U.S. It also received its first volume production order from Japan, for ABS cables.

Magneti Marelli
2009 Sales: €4,528 million
Change from 2008: down 16.9%
2009 Trading Profit: €25 million, compared with €174 million in 2008

Revenues fell in 2009 largely due to lower vehicle production volumes in Europe, where the Fiat subsidiary does most of its business. The lighting and suspension businesses were especially hard hit, with lighting sales declining 19% and suspension products down 23% compared with 2008. Strong sales of

Turn to Roundup, page 8
Continued from page 7

Roundup...
diesel control units in India helped keep the decline in engine control products sales to 9%.

Magneti Marelli’s Electronic Systems business, which accounted for just 11% of total sales, saw revenue drop 12% in 2009, although sales remained strong in China and Brazil. Instrument cluster sales grew 10% and included some new business with Volkswagen. Magneti Marelli supplies 75% of Audi’s instrument clusters. In February 2009 the company began shipping reconfigurable TFT displays for the Renault Scenic.

A cooperation agreement with Samsung Mobile Display was announced in November through which the partners will develop automotive applications based on several technologies including OLED, bendable and free-shape displays, capacitive touch panels and larger reconfigurable TFT displays.

Telematics sales were down by 52%, according to the company, because of a shift in market demand toward less content-rich infotainment products. Magneti Marelli continues to add features to its Microsoft-based Blue&Me hands-free connectivity platform. It is also active in the Genivi consortium developing an open source Linux-based infotainment platform and sees open infotainment systems with connectivity to portable devices as one of its most promising product lines.

Through a memorandum of understanding signed in December 2009, Telit Communications will supply GSM and GPRS modules for Magneti Marelli’s telematics/tracking devices for the European and Brazilian markets. Beginning in 2010, vehicles in Brazil are required to have tracking devices installed as an anti-theft measure.

STMicroelectronics and Magneti Marelli have agreed to cooperate in producing power electronics and inverters in high volume for hybrid and electric vehicles.

Valeo
2009 Net Sales: €7,499 million
Change from 2008: down 13.6%
2009 Net Income (Loss): (€146 million) compared with a loss of €199 million in 2008
Outlook: 7.5% growth in sales per year through 2013
2009 Sales by Segment:
Comfort and Driving Assistance Systems: €1,315 million
Powertrain Systems: €1,999 million
Thermal Systems: €2,243 million
Visibility Systems: €1,922 million
Other: €20 million

Thierry Morin, who served as Valeo’s CEO for the past eight years, was replaced in March 2009 by Jacques Aschenbroich. Under his leadership, Valeo plans to divest non-core businesses and focus its investments in the two areas it believes will be the major growth drivers in the automotive industry: reduction of CO2 emissions and emerging markets. The company expects to double its sales in emissions-reducing products and technologies—to one billion euros—by 2013. Some of that growth could come through acquisitions; Valeo will look for easily integrated companies with CO2-reducing technologies. Its largest selling product group historically has been engine cooling and climate control systems.

In the next four years, 60% of Valeo’s investments will be in China, India, Brazil, Thailand, Turkey and Russia. But the most sales growth is expected to come from North America—13% CAGR from 2009 to 2013 compared with 12% CAGR in Asia in that period.◆

Anticompetitive...
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According to reports, these other companies have also been investigated: Sumitomo Electric Industries, Furukawa Electric Company and Tokai Rika. Neither Denso (22.5% owned by Toyota) nor Tokai Rika (31% owned by Toyota) is a wiring harness supplier. Denso is a full line supplier of automotive parts and systems and Tokai Rika supplies switches.

While nobody will go on record to say what exactly is being alleged or by whom, sources at Delphi tell me that the investigation probably involves price fixing of connectors. They also said that Delphi is not a target of the investigation. Lindsey Williams, director of corporate communications at Delphi, would only say that his company “was contacted in Europe and asked to provide information.” Delphi Packard makes wiring harnesses and connectors.

Delphi Packard was recently awarded a program to supply a portion of the wiring harness for the Toyota RAV4, an unexpected windfall that may be associated with the investigations. The RAV4 is built in Tahara, Aichi, Japan and in Woodstock, Ontario, Canada.

Based on his experience, the U.S. antitrust attorney speculated, “It sounds very much like there is a company or individual, currently or formerly employed by one of the suppliers, who has some good evidence of price fixing and/or evidence of allocating customers, essentially dividing customers up among suppliers.”

The companies that have been investigated are publicly saying as little as possible. “If you are a whistle blower, you are immune from any prosecution in Europe,” said Yves Botteman, an antitrust attorney with Steptoe & Johnson in Brussels. “The company that is blowing the whistle is under duty not to disclose the fact that it blew the whistle. And the companies that are subject to investigations are also very quiet.”

According to Mr. Botteman, the details of the investigations and outcome may not be known for years. “Fact-finding leading to a prosecutorial document could take as long as two years. After the document is produced, the subjects of the investigation can take two months to reply with a written defense. That is followed by oral arguments in Brussels before the Commission, which can take an additional 18 months before it renders a decision.”◆