

## Semiconductor Market Forecasts



Abstract

Key Point Conclusions

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Tactical Analysis Report  
Overview & Features

Industrial/Medical  
Semiconductor Report  
Overview & Features

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## Industrial/Medical Electronics & Semiconductor Service

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2010 Edition | Market Analysis and Forecasts to 2015 | 269 Pages

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## Abstract

The industrial/medical sector has risen in importance at many semiconductor vendors over the last few years as suppliers have come to identify the market as dependable throughout the entire economic cycle. Accordingly, many semiconductor vendors have been actively advancing their understanding of this diverse sector, to benefit from the opportunities offered as growth in other sectors slows. Unlike other markets, the application base making up the industrial and medical sector covers an extremely broad range, from Factory Automation to Test & Measurement to Consumer Medical. The supply chain is exceptionally fragmented, with few OEMs covering the broad market and most focused on just one or two areas. This makes a comprehensive analysis of leading manufacturers a complicated and time consuming process for semiconductor vendors to undertake comprehensively.

Semicast's Industrial/Medical Electronics & Semiconductor Service has been developed specifically for semiconductor & component suppliers to understand detailed trends for industrial and medical electronics equipment revenues, equipment manufacturer market shares and semiconductor trends. The service comprises of three modules which combine to provide comprehensive analysis of tactical and strategic trends for suppliers looking to gain further understanding of the industrial and medical sector. Last published in July 2008, the 2010 edition of the research builds on the work of the previous report, in particular to understand changes to the market outlook and supply chain following the economic downturn of 2008/9.

## Deliverable Service Modules

- Tactical Analysis of the World Industrial/Medical Electronics Market & Supply Chain—published April 2010. (See pages 4-7 for report details).
- Industrial/Medical Semiconductor Service—published July 2010.(See pages 8-12 for report details).
- Inclusive telephone-based analyst support to answer questions and uncertainties related to market trends and forecasts.

## Key Point Conclusions

- Revenues for industrial/medical electronics fell to \$506 billion in 2009, from \$555 billion in 2008. Revenues are forecast to grow steadily to \$850 billion in 2015. Highest revenue growth is forecast for the Industrial Transport sector. This is followed by Power & Energy, Factory Automation & Control and Lighting, Building Automation, HVAC&R.
- Caterpillar, Deere & Co., GE, Siemens and United Technologies are estimated to have been the five largest OEMs supplying electronic products to the industrial/medical sector in 2009.
- The industrial/medical market for semiconductors is forecast to grow from \$20.6 billion in 2009 to over \$35 billion in 2015. Analog ICs and discrettes were the largest semiconductor product categories in the industrial/medical sector in 2009, together accounting for around half of all semiconductor sales.
- Renesas Electronics is estimated to have been the leading supplier of semiconductors to the industrial/medical sector in 2009, ahead of Infineon Technologies and STMicroelectronics.

## Industrial/Medical Equipment Coverage

Both reports in the service use identical equipment definitions. The equipment types analyzed are as follows:

**Factory Automation & Control: Control & Compute** [Industrial Ethernet Infrastructure, Computer Numerical Control, Ruggedized/Industrial PCs, Single Board Computers, HMIs & Operator Panels, Machine Vision Inspection Systems, PLCs & PACs, Distributed & Remote I/O Modules] ; **Process Measurement & Field Instruments** [Process Analytical Instruments, Flow Measurement, Level Measurement, Pressure Measurement, Temperature Measurement, Process Variable Transmitters, Telemetry / RTUs, Process/Temperature Controllers, Position Sensing] ; **Switchgear** [Circuit Breakers, Contactors, Protection Relays, Solid State Relays] ; **Miscellaneous Automation** [Pumps, Robotics, Semiconductor Manufacturing & Test Equipment, Welding].

**Motor Drives:** AC Variable Speed Drives, DC Drives, Servo Drives, Stepper Drives, Soft Starters/Brakes.

**Lighting, Building Automation, HVAC&R: Lighting** [Electronic Lighting Ballasts, Exit & Emergency Exit Lighting, Lighting Controls, Street/Traffic Lighting & Control] ; **Building Automation** [Fire Detection, Fire Alarm Control Panels & Annunciators, Fire Alarm Notification, Intruder Alarm Control Panels, Intruder Detection & Notification, CCTV/Video Surveillance Cameras, CCTV/Video Surveillance Equipment, Electronic Access Control, Time & Attendance Equipment, Elevators & Escalators] ; **HVAC & Refrigeration**[Boilers & Warm Air Furnaces, Circulator Pumps, Compressors, Electronic Room Thermostats & Controls, Humidifiers/Dehumidifiers, Unitary Air Conditioners, Commercial Refrigeration] ; **Environment** [Electronic Utility Metering, Electronic Sanitation Control, Actuator Driven Blinds, Doors & Windows].

**EPOS, EFT & ID:** ATM (Automated Teller Machines), Handheld EFT Transaction Terminals, POS Authentication Pads, EPOS/ECR/Cash Drawer, Handheld Data Terminals, Fuel Dispensers, Vending/Payment/Change Machines, Card Readers, Coin Acceptors & Currency Validators, Printers, Scanners, Smart Cards.

**Test & Measurement: Application Specific T&M** [Automotive Test Equipment, DSL Test Equipment, Fiber Optic Test Equipment, LAN/MAN/WAN Test Equipment, SONET/SDH Test Equipment, Wireless Comms Test Equipment, Other Test Equipment] ; **General Purpose T&M** [Counters & Timers, Logic Analyzers, Digital Multimeters, Network Analyzers, Digital Oscilloscopes, PC-based Test Equipment, RF Power Meters, PXI/VXI-based Test Equipment, Resistance Meters, Signal/Function Generators, Spectrum Analyzers, Other General Purpose T&M] ; **Instrumentation** [Calibration Instruments, pH/ORP Instruments, Chart Recorders & Data Acquisition, Laboratory Instrumentation, Scales & Weighing, X-Ray Instrumentation].

**Consumer Medical:** Blood Glucose Meters, Blood Pressure Monitors, Electronic Cholesterol Monitors, Heart Monitors & Pedometers, Electronic Thermometers, Pregnancy Testers/Fertility Monitors

**Medical Imaging & Diagnostics: Medical Imaging** [CT, Ultrasound, MRI, PET/PET-CT, Analog X-Ray, Digital X-Ray, Picture Archiving & Communications (PACS)] ; **Diagnostics, Therapy & Monitoring** [ECG, Dialysis Machines, Medical Ventilators, Professional Care Diagnostics Equipment, Multiparameter Patient Monitors, Medical Lasers, Medical Endoscopes, Infusion Pumps, Pacemakers, Implantable Cardioverter Defibrillators (ICDs), Cardiac Resynchronization Therapy (CRT), Pain Management Devices, External Defibrillators, Analog Hearing Aids, Digital Hearing Aids, Fitness Machines, Electronic Beds, Wheelchairs, Powered Scooters].

**Power & Energy:** AC/DC Power Supplies, DC/DC Converters, DC/AC Power Inverters, Industrial Battery Chargers, UPS, Generators, Renewable Energy (Hydro/Solar/Wind).

**Industrial Transport:** Construction & Lifting Machinery, Agricultural Equipment & Machinery, Materials Handling Vehicles, Refrigerated Trailers, Electric Motorized Vehicles, Trains/Trams/Subway Carriages.

## Tactical Analysis of the World Industrial/Medical Electronics Market & Supply Chain Report | Published April 2010 | 130 pages

The report provides analysis of equipment production volumes, manufacturer selling prices and manufacturer revenues for each equipment type shown on Page 3. In addition, market share estimates for leading manufacturers in each market segment and sub-segment in 2009 are also presented.

### Industrial/Medical Market Segments & Sub-segments

The study segments the market for industrial/medical systems into 9 segments and further sub-segments (as listed).

#### Segment

- Factory Automation & Control
- Motor Drives
- Lighting/Building Automation / HVAC&R
- EPOS, EFT & ID
- Test & Measurement
- Consumer Medical
- Medical Imaging & Diagnostics
- Power & Energy
- Industrial Transport

#### Additional sub-segmentation

- Control & Compute, Process Measurement & Field Instruments, Switchgear, Misc. Automation
- Lighting, Building Automation, HVAC & Refrigeration, Environment
- Application Specific Test & Measurement, General Purpose Test & Measurement, Instrumentation
- Medical Imaging, Diagnostics/Therapy & Monitoring

### Individual Report Purchase

The Tactical Analysis report can either be purchased as part of the Industrial/Medical Electronics & Semiconductor Service or as a one-off study. One-off pricing is shown below. Please [click here](#) to download a copy of the study brochure for full details.

- **PDF by e-mail (1-4 users): \$7,500/EU6,000/£5,000**
- **PDF by e-mail (intranet license) + excel tables: \$9,375/EU7,500/£6,250**

## Tactical Analysis Report—Sample Tables

Table 3.5  
System Revenues in the Factory Automation & Control Sector by Equipment Type

Revenues (US\$ Millions)	2008	2009	2010	2011	2012	2013	2014	2015	CAGR (09/15)	DIFF (09-15)	SUM (09>15)
<b>Control &amp; Compute</b>											
Industrial Ethernet Infrastructure											
Computer Numerical Control (CNC)											
Ruggedized/Industrial PCs											
Single Board Computers											
HMI's & Operator Panels											
Machine Vision Inspection Systems											
PLCs & PACs											
Distributed & Remote I/O Modules											
<b>Process Measurement &amp; Field Instruments</b>											
Process Analytical Instruments											
Flow Measurement											
Level Measurement											
Pressure Measurement											
Temperature Measurement											
Process Variable Transmitters											
Telemetry / RTUs											
Process/Temperature Controllers											
Position Sensing											
<b>Switchgear</b>											
Circuit Breakers											
Contactors											
Protection Relays											
Solid State Relays											
<b>Miscellaneous Automation</b>											
Pumps											
Robotics											
Semiconductor Manufacturing & Test Equipment											
Welding											
<b>Sector Total</b>											
<b>Annual Growth Rate</b>											
Source: Semicast Research											

Table Revised: March 2010

Table 3.8  
Market Share Estimates for Suppliers of  
Factory Automation & Control Electronics in 2009  
(Process Measurement & Field Instruments)

Supplier	Market Share
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
Others	100.0%
<b>2009 Market Size:</b>	<b>100.0%</b>

Source: Semicast Research

Table Revised: March 2010

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## Industrial/Medical Semiconductor Service | Published July 2010 | 139 pages

The report provides analysis of the market for semiconductors in the industrial and medical sector in each segment, with analysis presented for 16 semiconductor product types:

- 4/8-bit MCU
- 32/64-bit MCU/eMPU
- Memory
- PLD/FPGA
- Standard Linear
- Power Discretes
- Actuators & Sensors
- LCDs
- 16-bit MCU
- Digital Signal Processor (DSP)
- Gate Arrays & Standard Cells
- Other Logic
- Application Specific Analog
- Other Discretes
- LEDs
- Other Optoelectronics

Further segmentation of the 32/64-bit MCU/eMPU category is also provided by architecture as follows:

- ARM
- x86
- 68K/Coldfire
- Other
- MIPS
- Power Architecture
- SuperH

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- **PDF by e-mail (intranet license) + excel tables: \$9,375/EU7,500/£6,250**

## Industrial/Medical Semiconductor Service—Sample Tables

Global Equipment Production Estimates and Forecasts in the Medical Imaging & Diagnostics Sector

Units (000s)	2008	2009	2010	2011	2012	2013	2014	2015	CAGR (09/15)	DIFF (09-15)	SUM (09>15)
<b>Medical Imaging</b>									-	0	0
CT									-	0	0
Ultrasound									-	0	0
MRI									-	0	0
PET/PET-CT									-	0	0
Analog X-Ray									-	0	0
Digital X-Ray									-	0	0
Picture Archiving & Communications (PACS)									-	0	0
<b>Diagnostics, Therapy &amp; Monitoring</b>									-	0	0
ECG									-	0	0
Dialysis Machines									-	0	0
Medical Ventilators									-	0	0
Professional Care Diagnostics Equipment									-	0	0
Multiparameter Patient Monitors									-	0	0
Medical Lasers									-	0	0
Medical Endoscopes									-	0	0
Infusion Pumps									-	0	0
Pacemakers									-	0	0
Implantable Cardioverter Defibrillators (ICDs)									-	0	0
Cardiac Resynchronization Therapy (CRT)									-	0	0
Pain Management Devices									-	0	0
External Defibrillators									-	0	0
Analog Hearing Aids									-	0	0
Digital Hearing Aids									-	0	0
Fitness Machines									-	0	0
Electronic Beds									-	0	0
Electronic Wheelchairs									-	0	0
Powered Scooters									-	0	0
<b>Sector Total</b>	0	0	0	0	0	0	0	0	-	0	0
<b>Annual Growth Rate</b>		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

Source: Semicast Research

Table Revised: March 2010

Global Market for Semiconductors & LCDs in the Medical Imaging & Diagnostics Sector by Product

Revenues (US\$ Millions)	2008	2009	2010	2011	2012	2013	2014	2015	CAGR (09/15)	DIFF (09-15)	SUM (09>15)
<b>Actuators &amp; Sensors</b>									-	0.0	0.0
<b>Analog ICs</b>									-	0.0	0.0
Application Specific Analog									-	0.0	0.0
Standard Linear									-	0.0	0.0
<b>Discretes</b>									-	0.0	0.0
Power Discretes									-	0.0	0.0
Other Discretes									-	0.0	0.0
<b>Logic ICs</b>									-	0.0	0.0
Gate Arrays & Standard Cells									-	0.0	0.0
PLD/FPGA									-	0.0	0.0
Other Logic									-	0.0	0.0
<b>MCU/eMPU/DSP</b>									-	0.0	0.0
4/8-bit MCU									-	0.0	0.0
16-bit MCU									-	0.0	0.0
32/64-bit MCU/eMPU									-	0.0	0.0
-ARM sub-total									-	0.0	0.0
-MIPS sub-total									-	0.0	0.0
-Power Architecture sub-total									-	0.0	0.0
-68K/Coldfire sub-total									-	0.0	0.0
-x86 sub-total									-	0.0	0.0
-SuperH/RX sub-total									-	0.0	0.0
-Other 32/64-bit sub-total									-	0.0	0.0
Digital Signal Processor									-	0.0	0.0
<b>Memory ICs</b>									-	0.0	0.0
<b>Optoelectronics</b>									-	0.0	0.0
LEDs									-	0.0	0.0
Other Optoelectronics									-	0.0	0.0
LCDs									-	0.0	0.0
<b>Total</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
<b>Total (excluding LCDs)</b>	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
<b>Annual Growth Rate</b>		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

Source: Semicast Research

Table Revised: June 2010

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