

Semiconductor Market Forecasts



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Industrial/Medical Semiconductor Service

2008 Edition | Market Analysis and Forecasts to 2013 | 117 pages

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Semicast Research Ltd.
18 Blake House, Gunwharf Quays
Portsmouth, PO1 3TH, UK
Tel: +44 23-9273-3012
Fax (UK): +44 207-806-0707
Fax (US): (408) 351-9400
info@semicast.net
www.semicast.net

Abstract

The industrial sector remains undoubtedly the most complicated market for semiconductor manufacturers to serve. Applications cover a very diverse range and the supply chain is complicated. Owing to this complexity, the sector has historically been overlooked by many semiconductor vendors, who have elected instead to focus their marketing efforts on higher value and less complicated industries. However while industrial does not benefit from the hype and glamour of the consumer or wireless sectors, neither does it exhibit the “boom-and-bust” cycle so typical of the semiconductor industry as a whole. In the current economic environment, with the global credit crunch affecting consumer confidence in many regions of the world, semiconductor vendors can look to the industrial sector as a safe bet for steady and dependable revenues during uncertain times.

Semicast published its previous analysis of the industrial/medical sector in November 2006. This second edition of the research has been produced in response to many requests from the industry for updated data and analyzes the market in 2007, with forecasts to 2013.

Key Point Conclusions

- The market for semiconductors in industrial/medical applications is forecast to grow from \$20.0 billion in 2007 to \$33.3 billion in 2013, a CAGR of 8.8%.
- Compared to a semiconductor market of around \$255 billion, the industrial/medical sector represented between 7-8% of the total available market in 2007.
- Analog ICs and discrettes were the largest product categories in 2007, accounting for around 25% and 20% of the market respectively.
- Highest revenue growth is forecast for analog ICs, followed by MCU/MPU/DSP.
- Just 25 industrial/medical equipment types are forecast to account for two-thirds of revenue growth and half of cumulative semiconductor revenues over the period to 2013.
- Infineon Technologies is estimated to have been the largest semiconductor supplier to industrial/medical applications in 2007, marginally ahead of STMicroelectronics.

Industrial/Medical Semiconductor Service - Overview

Key features of the service include:

- Complete service provides analysis of 140 industrial/medical equipment types.
- Estimate and forecast for worldwide production volumes of each equipment type (2007-13).
- Estimate and forecast for semiconductor value in each equipment type (2007-13).
- Estimate and forecast for semiconductor TAM for each equipment type (2007-13).
- Identification and ranking of top 25 highest revenue applications.
- Analysis of supplier market shares for industrial/medical semiconductors in 2007.
- Highly quantitative analysis, with discussion summarized in short, easy to read bullet points.
- PDF and Excel delivery options available.

Semiconductor Market Segmentation

The study provides analysis of the market for industrial/medical semiconductors into 16 product types:

- 4/8-bit MCU
- 32/64-bit MCU/MPU
- 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/MPU category is also provided by architecture as follows:

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

Industrial/Medical Equipment Coverage

The equipment types analyzed by the service are as follows:

Factory Automation: Control & Compute [Industrial Ethernet Infrastructure, Computer Numerical Control, Motion & Position Controllers, 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] ; **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, LCR Meters, 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, Farm Vehicles & Machinery, Materials Handling Vehicles, Heavy Trucks & Busses, Refrigerated Trailers, Electric Motorized Vehicles, Trains/Trams/Subway Carriages.

Sample Tables

Units (000s)	2007	2008	2009	2010	2011	2012	2013	CAGR (07/13)	DIFF (07/13)	SUM (07/13)
Medical Imaging	0	0	0	0	0	0	0	0.0%	0	0
CT	0	0	0	0	0	0	0	0.0%	0	0
Ultrasound	0	0	0	0	0	0	0	0.0%	0	0
MRI	0	0	0	0	0	0	0	0.0%	0	0
PET	0	0	0	0	0	0	0	0.0%	0	0
Analog X-Ray	0	0	0	0	0	0	0	0.0%	0	0
Digital X-Ray	0	0	0	0	0	0	0	0.0%	0	0
Picture Archiving & Communications (PACS)	0	0	0	0	0	0	0	0.0%	0	0
Diagnostic & Therapy	0	0	0	0	0	0	0	0.0%	0	0
ECG	0	0	0	0	0	0	0	0.0%	0	0
Dialysis Machines	0	0	0	0	0	0	0	0.0%	0	0
Medical Ventilators	0	0	0	0	0	0	0	0.0%	0	0
Professional Care Diagnostics Equipment	0	0	0	0	0	0	0	0.0%	0	0
Multiparameter Vital Signs Monitors	0	0	0	0	0	0	0	0.0%	0	0
Medical Lasers	0	0	0	0	0	0	0	0.0%	0	0
Medical Endoscopes	0	0	0	0	0	0	0	0.0%	0	0
Infusion Pumps	0	0	0	0	0	0	0	0.0%	0	0
Pacemakers	0	0	0	0	0	0	0	0.0%	0	0
Implantable Cardioverter Defibrillators (ICDs)	0	0	0	0	0	0	0	0.0%	0	0
Cardiac Resynchronization Therapy (CRT)	0	0	0	0	0	0	0	0.0%	0	0
External Defibrillators	0	0	0	0	0	0	0	0.0%	0	0
Analog Hearing Aids	0	0	0	0	0	0	0	0.0%	0	0
Digital Hearing Aids	0	0	0	0	0	0	0	0.0%	0	0
Fitness Machines	0	0	0	0	0	0	0	0.0%	0	0
Electronic Beds	0	0	0	0	0	0	0	0.0%	0	0
Electronic Wheelchairs	0	0	0	0	0	0	0	0.0%	0	0
Powered Scooters	0	0	0	0	0	0	0	0.0%	0	0
Sector Total	0	0	0	0	0	0	0	0.0%	0	0

Source: Semicast estimates

Table Revised: Jan-08

Revenues (US\$ Millions)	2007	2008	2009	2010	2011	2012	2013	CAGR (07/13)	DIFF (07/13)	SUM (07/13)
Actuators & Sensors	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Analog ICs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Application Specific Analog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Standard Linear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Discretes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Power Discretes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Other Discretes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Logic ICs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Gate Arrays & Standard Cells	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
PLD/FPGA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Other Logic	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
MCU/MPU/DSP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
4/8-bit MCU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
16-bit MCU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
32/64-bit MCU/MPU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-ARM sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-MIPS sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-PowerPC sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-68K/Coldfire sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-SuperH sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-x86 sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
-Other 32/64-bit sub-total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Digital Signal Processor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Memory ICs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Optoelectronics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
LEDs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Other Optoelectronics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
LCDs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0
Sector Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0

Source: Semicast Estimates

Table Revised: Jan-08

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Analyst Biography

Colin Barnden - Principal Analyst



Colin joined Semicast Research in June 2006 and is principal analyst for semiconductor research and vice president of business development. Prior to joining Semicast, he worked for 12 years at IMS Research, rising to the position of Senior Research Director of its Semiconductor Research Group and responsible for analyst coverage on the analog/mixed signal, optoelectronic and embedded processing industries. Colin also set-up and established IMS Research's Automotive Electronics Group. During his tenure, Colin authored dozens of reports and became a well respected industry analyst. He holds a B.S. in Electronic Engineering from Aston University, England.

About Semicast

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It specializes in coverage of new and emerging applications including industrial semiconductors, wireless semiconductors, automotive electronics, telematics/infotainment, digital consumer convergence and embedded processing.

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