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# THE MERCHANT EMBEDDED COMPUTING MARKET 2012 EDITION

**A Strategic Report on the Latest  
Embedded Computing Technologies  
Plus Forecasts of Key Markets**

## Report Highlights

- **Technical Trends**
  - ◆ PCI Slot
  - ◆ AdvancedTCA
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- **Company Profiles**

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**New Venture Research Corp.**

337 Clay St., Suite 101  
Nevada City, CA 95959  
Tel: (408) 244-1100

*A Technology Market Research Company*

kwilliams@newventureresearch.com  
www.newventureresearch.com  
Fax: (408) 864-2138

# The Merchant Embedded Computing Market - 2012 Edition

## Synopsis

**The Merchant Embedded Computing Market - 2012 Edition** report analyzes the performance of the industry from 2003 - 2016. Although there are several hundred companies, most are fairly small in revenue and highly specialized, focusing on specific application segments with unique product requirements. The report tracks and analyzes five application markets, nine bus architectures and four form factors. Specific trends and issues of the forecast by application, bus architecture and form function are covered in detail in the report.

Whereas the overall MEC market is slowly recovering from the trauma of 2009's economic meltdown, the performance of various market segments, bus architectures, and companies are recovering at different rates. Total revenue was just under \$5 billion in 2010, a 4 percent increase from 2009 revenue which had a 12-14 percent decrease over 2008. With the worldwide economy stabilizing, the MEC industry recovered at about 6 percent in 2011 to ~\$5.3 billion.

The MEC report targets five specific application markets: Communications, Industrial, Medical, Military/Aerospace and an Other category that includes transportation, security, surveillance, point-of-sale/kiosk applications, etc. The Communication wireless segment is being driven by the exploding smart phone and tablet traffic and the four billion devices connected to the internet. 3G/4G services are where the money is for carriers going forward and the wireline and optical networks are gearing up for upgrades to support the ever increasing traffic. The Industrial market particularly suffered from the financial crisis but investment in capital equipment infrastructure as well as test & measurement has returned. The automotive sector has seen renewed growth.

The Medical segment was hit hard by the healthcare cutbacks which made purchasing MEC-based, large equipment much more difficult. The usually healthy Military/Aerospace segment is now facing a rapidly declining defense department budget in the USA. Counter to this, the military is trying to use more and more electronics for the Internet enabled soldier and robotic weapons.

Each architecture has a different rate of adoption depending on the needs of individual application segments. Overall key trends are "Power is up and down; Green is the new color; and small is big." New 28- and 32-nm silicon for microprocessors, graphics, DSPs and high integration I/O chips pack a lot of processing power while greatly reducing power consumption. These incredibly powerful devices are changing the landscape of the embedded board market. High integration silicon and serial buses enable more small form factors (SFF) than in the past and are making many older, parallel bus structures, such as PCI, look like the bus architecture equivalent of a "clunker." Bus structures continue to proliferate around the major and long established busses but the number of variances is past 100.

The MEC industry can be segmented into four form functions defined as: single-board computers (SBC), digital signal processor (DSP) boards, I/O boards and an 'All Other' category that incorporates a huge number of diverse and specific functions. In some applications I/O boards are proliferating and are customized to the wide spectrum of I/O functions that different applications use. In other applications, single-board computers are becoming the trend as they incorporate more and more functionality with advanced silicon and draw in DSP, graphics and many advanced I/O functions.

## About New Venture Research

NVR is a provider of worldwide business market intelligence, growth management and advisory services to companies in electronics high-technology markets with special focus on semiconductors, component packaging and electronics assembly. NVR has been covering the merchant embedded computing market since 1993 from a technology, manufacturing, and market growth opportunity perspective and improves its database and coverage with each year.

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Published May, 2012 ~400 Pages

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#### **New Venture Research Corp.**

337 Clay St., Suite 101

Nevada City, CA 95959

Tel: (408) 244-1100 Fax: (408) 864-2138

www.newventureresearch.com; kwilliams@newventureresearch.com