



IC CAD Market Trends 2014

Interoperability: Taking Collaboration To the Next Step

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EXECUTIVE SUMMARY

2013 was a slow year for **ESL**. It has been the methodology of the future since 1996 and saw the first large-scale adoption in 2011 along with the realization that the commercial tool flow was not complete. A completed flow then followed in 2013. This was followed by a slow take-off. Let's see what 2014 will look like.

That was good news for **RTL** as in general its growth was strong. Although you need to be careful as some of the RTL sub-apps will experience the slow growth we have been expecting for this methodology.

IC CAD continues to grow well as we are entering the era of new silicon technology. With the introduction of FinFETs we may be entering a node by node major technology introduction. If true, that means the EDA vendors just had its innovation cycle cut in half.

PCB design, the methodology of the past, has become the entry point to the wonderful new world of System Design Automation (SDA). PCB itself is being teamed-up with MCM design; 2D, 2 & 1/2D design, and 3D design; MEMS Design and Mechanical Design. This is giving Mentor and Cadence a door to the future.

A New Focus

Now that we are entering the world of System Level Design we need to look at the market, and therefore the numbers, in a different way. Systems Design methodology, and business requirements, are developed in the vertical, industry markets. There is no one systems market. This presentation of the basic Market Trends numbers in a different way is called second-cut reports. They are usually done as an on-demand report but some have been repeated on a more regular basis. The Analog Market Trends report is the prime example of a second-cut report. Our next attempt will be a System Level report. As we get further into this design methodology we may extend the report into multiple Industry reports, depending on demand.

INTRODUCTION

In the last decade, several EDA, semiconductor and systems companies teamed up to develop operations and open system standards that allowed the exchange of data across multiple platforms, multiple software-based design tools, and system design flows. These companies (Agilent EEsof, now Keysight Technologies, Altium, Atoptech, Dassault – 3D SolidWorks, Desktop

EDA, Autodesk, Intel, Mentor, MicroMagic, Tanner, Texas Instruments, Cadence and Siemens) have proven that multiple organizations can work cooperatively to create multiple data models to improve cost, ease of integration, and of growing importance, security.

Today, revenue opportunities abound for all IC CAD vendors. Today's advanced CAD interoperability models are being driven by the convergence of 3D models for advanced IC foundry wafer manufacturers, semiconductor and system OEMs, 3D Package and PCB vendors. This convergence will create a bridge of interoperability across IC CAD, ECAD and MCAD design flows.

Future critical electronic markets driving IC CAD sub-applications revenues through 2018 are smartphones, ultramobile tablets and devices, desktop/notebook PCs, Solid State Drives (SSDs), and 3D design that use 85 percent of total semiconductor device production. The top three semiconductor capital investors in the device markets for these applications are Samsung, Intel and the TSMC Group. A steady growth in medical and industrial application sectors, and a strong demand for electronic content in the automotive sector will continue to drive future R&D budgets for IC CAD vendors and users. As noted by Surinder Singh of Texas Instruments' Automotive Design Tool sector, "CAD tools are a must for any design task". Up and coming EDA companies like Atoptech, MicroMagic and Tanner are leaders in next-generation design solutions being used by Broadcom, Cypress, Samsung and Qualcomm. Their tools allow users to significantly reduce design area and power, while increasing performance in Military, Automotive, Industrial and ultra mobile devices. Automotive systems are a complex sophisticated network of electronics. Automotive electronic systems need to be designed to exacting standards of safety, operate in harsh environments, and perform at enhanced levels of reliability.

OVERVIEW

The IC CAD Market Trends report includes market share, market forecast and analysis by subapplications for the IC CAD sub-applications.

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