

PCB Market Trends 2015
Evolving Technologies Change the Supply Chain

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EXECUTIVE SUMMARY

2014 marked the first year of really solid growth for electronic system level (**ESL**) tools, after years of promise as the next big thing in EDA. It seems the tide is finally turning and ESL technologies may now be experiencing their long-awaited user adoption in earnest. For the first time, ESL growth was higher than that of either the downstream CAE market or the EDA market as a whole.

The register transfer level (**RTL**) tools market also had a very good 2014. Much of the strong growth in RTL can be attributed to the addition of semiconductor design intellectual property (IP) as a sub-application within our RTL market segmentation. Continual, steady growth has been evident even for the traditional RTL and gate-level tools over the past five years, confirming that this part of the market is a mainstay for EDA user investment.

ICCAD was another well-performing market in 2014. New silicon technologies, coupled with migrations to ever-smaller semiconductor manufacturing process nodes, necessitate high-performing CAD/CAM tools. In fact, rapid advancement on the manufacturing technology front may force EDA vendors to step up their game and accelerate innovation for IC CAD/CAM design tools.

While **PCB** design tools are not as high-growth a market segment as the others, they do tie directly into the future of system design automation (SDA). PCB is the linkage point between electronics design and mechanical design of end products. Especially factoring in the design challenges of new semiconductor device packages, cable and wire harness design, and new materials introductions, the role of PCB design tools will be significant in the emergence of an SDA methodology. This should afford EDA vendors new opportunities beyond the standard PCB layout and analysis areas.

Moving Toward a System Level Design Future

Now that we are entering the world of System Level Design, we need to look at the market, and therefore the numbers, from other perspectives. System design methodologies and business requirements are often developed within vertical industry markets. There is no single, overarching systems market for all types of end products; fighter jets and cell phone have vastly different design challenges, after all. Therefore, it makes sense to present Market Trends data in an alternate way also, to correspond to this vertical industry approach.

These types of second-cut data reports are usually created on an on-demand basis. With frequent demand, though, a second-cut report may become a standard report. The Analog Market Trends report is a prime example of this. As the system level design methodology begins to take shape, we may extend our reporting into multiple industry reports, depending on demand.

INTRODUCTION

The PCB market includes tools used to implement a design on a PCB or substrate. Revenue for the PCB application of EDA grew 5.3 percent in 2014, to \$853.1 million. The complexity of advanced ICs/SoCs, PCB designs and materials, and electronic systems brings new technical challenges and competition. Legacy technologies continue to capture the bulk of product designs, driving consolidation and intense pricing among competitors at all levels of design. At the same time, EDA vendors and customers will face explosive costs of scaling at 20nm/10nm down to 5nm, increased costs from SEC regulations over "Conflict Materials" and increased competition from IP companies.

OVERVIEW

This report comprises the PCB section of the EDA Market Trends. The PCB market covered in this report is segmented into several main categories: PCB layout, schematic capture, package design, PCB CAM, SPICE, PCB physical analysis, and cable/wire harness. In this report we will discuss market share, trends, and forecasts for the PCB sub-applications that are most significant in the overall EDA landscape. Readers should note that we classify design tools at their highest level of use.

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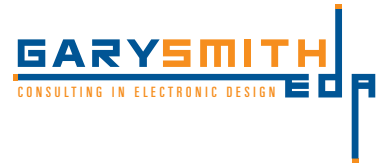


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