

On March 21, 2014, Mentor Graphics Corp. announced that it acquired Berkeley Design Automation. This acquisition is not about “industry consolidation”. Mentor’s management recognized that BDA’s technology and strong engineering expertise in nanometer analog, mixed-signal, and RF circuit verification would expand Mentor’s ability to outmaneuver its competition. The acquisition also provides Mentor with innovative design engineering strategies and solutions needed to support the future revenue to be made from very high volumes of very sophisticated ICs, systems and board/package interconnects in various stages of development.

As noted in their [press release](#), Mentor correctly acknowledges BDA’s skills in addressing nanometer circuit design challenges via its Analog FastSPICE™ unified verification platform and exceptional vertical-application expertise. BDA’s growth can be attributed to the aggressive and well-timed management style of Ravi Subramanian, the president and CEO of Berkeley Design Automation, and its top-notch skilled engineering team.

As Mentor noted, The BDA Analog Fast SPICE (AFS) Platform combined with Mentor’s proven AMS verification tools, Eldo® Classic, Eldo Premier, ADit™ and Mentor’s AMS verification platform, Questa® ADMS, creates the industry’s most powerful portfolio of solutions for addressing nanometer circuit verification challenges.

In Gary Smith EDA’s 2013 Analog Market Trends report, the total worldwide market revenue for these EDA segments (Analog/Mixed-signal/RF/Custom) reached \$776.6 billion in 2012, a 12 percent growth in revenue over 2011. The largest segments in terms of revenue were Custom Layout and RF Design. The long-range CAGR outlook for Analog/MS/RF and Custom tool revenue through 2017 is 4.7 percent growth.

DESIGN ESSENTIALS

In his speech at IEEE SSCS 2013, Professor Jan M. Rabaey of U.C. Berkeley summarized that future products and systems would require innovative strategies to further lower (power) energy/operation. Designs have become probabilistic engines and the return of analog and low power designs were essential. (See his book Low Power Design Essentials). As David Pogue, NY Times, stated about the C.E.S. Consumer Electronics Show, there were many different approaches (tablets, thin/curved TV screens, superthin laptops, smartphones, pad-sized phones, autos, robots) driving the Internet of Things (IoTs) future growth in the electronics industry. The majority of these new system developments will require low power (analog/mixed-signal, custom and RF) design strategies, as well advanced embedded packages. These product designs require the solutions offered by Mentor/BDA and teams of foundry, board/package/assembly and materials suppliers. There are different approaches being put forward by many EDA companies, as no one design company exists that can offer the massive resources needed to supply the various (SOC – System On Chip or SiP – System in Package) platforms at the heart of all IoT products.

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