electronic design

The Authority on Emerging Technologies for Design Solutions

05.10.07
www.electronicdesign.com

Top 100 EMPLOYERS in Electronic Design

Tune in to ENGINEERINGTV.COM

$8.00 A Penton Publication
Periodicals Postage paid
USPS/100 Approved Poly

MARK DAVID | Editor-In-Chief
LOU SOSA | Research Coordinator

Top 100 EMPLOYERS in electronic design

Which U.S. companies create the most engineering opportunities? Our Top 100 lead the way based on design influence, hiring patterns, rich patent and IP portfolios, and substantial R&D budgets.

Lists are wildly popular throughout the publishing world. Take the Fortune 500, which is highly influential in business. Others have a real impact on our daily lives—*Money*'s Best Places to Live, *U.S. News*' Best Colleges list, and *Consumer Reports*' Best Cars list.

But what kind of list would hold import in engineering? How about the Top 100 Employers of Electronic Designers? After collecting reams of relevant data, we weighed various factors to determine the companies that have the most influence on today's engineering careers *(see the table)*.

Of course, we're well aware that many of you work for startups and independent design houses that may be the source of the next big thing. We're also aware that the current state of design requires partnering, outsourcing, and boutique intellectual property.

Nonetheless, the Top 100 Employers continue to lead the way based on their established brands and sales channels, patent and IP portfolios, and substantial R&D budgets. Our research began with the Lexis-Nexis

service and the Hoover's and Standard & Poor's databases. But unfortunately, these sources couldn't provide the latest information about smaller companies.

Also, finding reliable data about the few, large private companies in the industry proved challenging. Companies not based in the U.S., public agencies and research facilities, and subidiaries and divisions of non-U.S. companies presented some obstacles. And, subsidiaries of U.S. public companies often don't offer numbers separately from their parent corporations.

In the interest of data integrity, we narrowed the list down to U.S. public companies, where data would be available through 10-K SEC filings for both 2005 and 2006. We then chose specific data categories after evaluating what we could consistently compare within this public-company universe.

Design-influence dollars came from information generated by iSuppli, an applied market intelligence research firm that covers the entire supply chain for the electronics industry. These dollars reflect the level of semiconductor purchasing driven by electronic equipment design activities at a company. This is a key measure for two reasons. First, it shows the sheer number of designs made by a company. And more importantly, it reveals the level of success those designs achieved in terms of how much semiconductor purchasing they drove.

In addition, we incorporated employee feedback on certain questions from our 2006 ED Reader Profile Survey. This original, comprehensive survey included questions related to employee job satisfaction, including years at the company, number of promotions, and advancement potential *(see electronicdesign.com/eesurvey)*.

LINE SCORE METHODOLOGY • Our methodology let us compare disparate company sizes and results for a quick, top-line view of how companies fared in the chosen data categories. Each category divided companies into segments, which allowed for a ranking between 1 and 10. These categories included:

- **Employee growth percentage** *(2006 versus 2005)*
- **Sales growth percentage** *(2006 versus 2005)*
- **Operating profit growth percentage** *(2006 versus 2005)*
- **Operating profit margin improvement** *(2006 versus 2005)*
- **Long-term debt to stockholders equity ratio improvement** *(2006 versus 2005)*
- **2006 total number of patents issued**
- **2006 stock price closing as a percentage of 2006 stock price high**
- **R&D expense change percentage** *(2006 versus 2005)*
- **Design influence on semiconductor spending** *(dollars)*
- **Design influence on semiconductor spending percentage increase**

These categories provided a good balance of financials, human resources, technology, stock market perception, and engineering. We then awarded a maximum 10-point bonus based on employee responses to questions on our 2006 Reader Profile Survey.

The total company line score is a sum of all category points plus any bonus points assigned. The maximum would be 110. Final company rank was based on total company line score. This approach focuses on company strengths while highlighting areas where companies can improve.

Company Profiles

Electronic Design's staff compiled individual profiles of the top companies on the list, as well as other key names in the industry. To see these profiles, go to *www.electronicdesign.com* and enter the appropriate Drill Deeper numbers:

- **Analog Devices**..... **Drill Deeper 15436**
- **Applied Materials** ..... **Drill Deeper 15437**
- **Hewlett-Packard** ..... **Drill Deeper 15438**
- **IBM** ..... **Drill Deeper 15439**
- **National Instruments** ..... **Drill Deeper 15440**
- **Seagate Technology** ..... **Drill Deeper 15441**

WHAT MAKES A TOP COMPANY? • Though these results involved a lot of number crunching, some surprises emerged from the spreadsheets. Consider the diversity of our top three—Apple, Seagate Technology, and Applied Materials Inc. Reading between the columns, however, reveals five key trends.

First, at some point in the product-development and/or sales cycle, our top companies are involved in an area of high consumer demand. It could be semiconductors in general, flat-panel displays, laptops, iPods, portable hard drives, or even desktop hard drives. Consumers want more storage capacity, portability, and mobility in their audio, video, data, and computing.

Second, product design and development and improvement are essential. This is reflected by patent applications for new technology and processes, R&D spending increases, and the influence of their electronic equipment design activities in boosting their semiconductor purchasing year over year.

Third, companies at the top of the list manage their gross margins well through improved product mix and pricing where possible. They keep an eye on their operating expenses to keep them in line with their sales increases, so they don't flush their hard-earned sales increases away with out-of-control expenses.

Fourth, they manage their balance sheets well. They don't have excessive debt, and they do have strong equity positions. They also make good strategic decisions in terms of acquisitions and how they finance them. If they think their stock is undervalued, they buy some back to try and push the value up. If their stock has had a nice run, much like Seagate's, they issue more to finance an acquisition such as Maxtor, rather than going to the banks and increasing their debt.

Finally, they add human resources when supported by sales growth. They're aware of their stock prices, but they don't run their businesses with the sole purpose of increasing their stock's price in the short term. Instead, they think long term.

WORKING FOR THE BEST • So, all of this shrewd management and financial health may make for a long and lucra-

tive career. But will it be satisfying? We took a closer look at employees from the top 25 companies on the list and compared them to the average *Electronic Design* reader, as surmised by our 2006 survey results.

These companies offer more room for career growth, as their employees see an average of two to three times more promotions than the average *Electronic Design* reader. Yet pressure is mounting for engineers at these companies, as they more frequently deal with shrinking product cycles than our typical reader.

Also, these engineers are somewhat more concerned with losing their jobs to outsourcing than our readers. Still, they remain more positive about their organizations and say they are more focused on employee retention, compared to a couple of years ago.

And, finally, engineers in the top group feel better about being adequately compensated for the work they do, with 67% feeling they are fairly compensated versus 60% of the overall *Electronic Design* readership.

Top 100 Employers Of Electronic Designers

	Company	Total line score
1.	Apple Inc.	86
2.	Seagate Technology	83
3.	Applied Materials Inc.	81
4.	Network Appliance Inc.	77
5.	AT&T Inc.	77
6.	Micron Technology Inc.	75
7.	Honeywell International Inc.	73
8.	Rockwell Collins Inc.	73
9.	Emerson Electric Co.	73
10.	RF Micro Devices	72
11.	Western Digital Corp.	72
12.	Hewlett-Packard Co.	71
13.	L-3 Communications Holdings Inc.	71
14.	Sun Microsystems Inc.	71
15.	Palm Inc.	69
16.	Lockheed Martin Corp.	67
17.	Novellus Systems Inc.	67
18.	General Dynamics Corp.	66
19.	Rockwell Automation Inc.	66
20.	Danaher Corp.	66
21.	Moog Inc.	66
22.	Raytheon	65
23.	Cypress Semiconductor Corp.	65
24.	Fairchild Semiconductor International Inc.	65
25.	International Game Technology Inc.	65
26.	Cisco Systems Inc.	65
27.	Microsoft Corp.	65
28.	IBM Corp.	64
29.	EMC Corp.	64
30.	Mentor Graphics Corp.	64
31.	Medtronic Inc.	63
32.	Teradyne Inc.	63
33.	Synopsys Inc.	63
34.	Cadence Design Systems	62
35.	SPX	62
36.	Harris Corp.	60
37.	Boeing Co.	60
38.	Harman International Industries Inc.	60
39.	Whirlpool Corp.	60
40.	Texas Instruments	59
41.	General Electric Co.	59
42.	Eaton Corp.	59
43.	Parker Hannifin Corp.	59
44.	Motorola Inc.	58
45.	Molex Inc.	58
46.	Sandisk Corp.	58
47.	National Semiconductor Corp.	57
48.	Intersil Corp.	57
49.	Microchip Technology Inc.	57
50.	United Technologies Corp.	57
51.	ITT Corp.	56
52.	TRW Automotive Holdings Corp.	56
53.	3M Co.	56
54.	Altera Corp.	55
55.	Caterpillar Inc.	55
56.	Dell Inc.	55
57.	Tyco International Ltd.	54
58.	Thermo Fisher Scientific Inc.	54
59.	St. Jude Medical Inc.	54
60.	Broadcom Corp.	54
61.	Agilent Technologies Inc.	53
62.	Diebold Inc.	53
63.	Boston Scientific Corp.	52
64.	Tellabs Inc.	52
65.	Juniper Networks	52
66.	National Instruments Corp.	52
67.	Qualcomm Inc.	52
68.	Xerox Corp.	51
69.	Thomson Group	51
70.	Ingersoll-Rand Co. Ltd.	51
71.	Goodrich Corp.	50
72.	Johnson Controls Inc.	50
73.	Xilinx	49
74.	Verizon Communications Inc.	49
75.	Comcast Corp.	49
76.	Northrop Grumman Systems Corp.	48
77.	Tektronix Inc.	48
78.	Analog Devices Inc.	48
79.	LSI Logic Corp.	48
80.	Textron Inc.	48
81.	Lexmark International Inc.	47
82.	Lattice Semiconductor Corp.	46
83.	Avaya Inc.	45
84.	NCR Corp.	45
85.	Linear Technology Corp.	43
86.	SAIC Inc.	43
87.	KLA-Tencor Corp.	42
88.	Pitney Bowes Inc.	41
89.	Intel Corp.	40
90.	Agere Systems Inc.	40
91.	Conexant Systems Inc.	40
92.	Gateway Inc.	40
93.	General Motors Corp.	40
94.	Eastman Kodak Co.	38
95.	Federal-Mogul Corp.	38
96.	Lear Corp.	37
97.	Visteon Corp.	37
98.	Advanced Micro Devices	36
99.	Atmel Corp.	36
100.	Analogic Corp.	28