

FAVORABLE JOB OUTLOOK

# OPPORTUNITIES ABOUND

BY WAYNE EPPERSON

**T**he respect a profession commands and the pay that goes with it are factors in something of a fuzzy relational equation: As one goes up, so does the other.

That's certainly the case for engineers. Consider this: The median salary for all engineering disciplines in the U.S. rose to \$81,316 in 2007, a 10 percent increase from 2006, and a whopping 19 percent above the 2005 level, according to the Engineering Income & Salary Survey, conducted by the National Society of Professional Engineers (NSPE). For certain disciplines, where education, licensure and location are integral factors, salary levels rose significantly. Petroleum engineers had a median

income of \$119,500 last year, the highest for all disciplines. The mining, forensic and nuclear engineering fields also had median incomes in the six-figure range.

For engineering graduates entering the job market — there were 75,000 new bachelor's degrees awarded in 2005-06 — the 2007 median salary was \$49,250, an increase of 9 percent over the previous year.

"The respect for the job and the pay for really good engineers is going up very, very quickly," says Lawrence Jacobson, executive director of NSPE.

Chemical and electrical engineers coming out of top-rate schools are starting at six-figure incomes, he says. Really good engineers often get licensed, obtain security clearances, see a problem and come up with a creative solution.

"In the future, engineers are going to become the new doctors," Mr. Jacobson says.

The national engineering job market varies according to the skills needed. For



chemical- and pharmaceutical-related fields, New Jersey, New York and Massachusetts are hot spots. A great deal of computer-related engineering takes place in Texas, California and

New Jersey.

"National and regional changes in skill sets for industrial engineers are changing from traditional manufacturing engineering

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skills to efficiency improvements for service-based operations,” according to Delbert Horton, Ph.D. and professor of industrial engineering at Texas A&M-Commerce.

Quantifying passenger traffic during check-in at Dallas Love Field, a project sponsored by the Transportation Security Administration, has been one of the many industrial-system design projects conducted by A&M-Commerce engineering seniors.

“Most engineering education programs now force students into real world projects needing solutions,” says Ben Cranor, Ph.D., interim industrial engineering department head at A&M-Commerce.

As a region, the Southwest remains strong for engineers, as does California, but the cost of living is having an impact on markets in that state, according to John H. L. Hansen, Ph.D., department chair and professor of electrical engineering in the Erik Jonsson School of Engineering and Computer Science at UT-Dallas.

“Jobs in electrical engineering are in good shape ... Analog/mixed-signal design, RFID [radio frequency identification], low-power mobile solutions and signal processing are areas where there is growth. Nanotechnology also is a big growth area,” he says.

Dr. Hansen recently returned from Italy, where he attended a five-nation

conference that explored, in part, the economic possibilities of future collaboration among engineering disciplines.

For instance, India will experience major impacts on its demand for energy and greenhouse gas emissions when Tata, a new car company in Mumbai, begins selling its \$2,500 cars. And similar situations will occur in China as carmakers begin production there.

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“The ability for electrical engineers to work with mechanical engineers for next-generation smart vehicles that are more efficient will have a major impact on the U.S. economy,” Dr. Hansen says.

“Engineers are also finding opportunities in industrial specialty areas such as, quality improvement, project management, supply-chain management, logistics, queuing and flow of product and people,” Dr. Horton says.

Those are a few of the real-world examples of opportunities in the engineering profession, and they suggest that future will be limited only by the imagination and reach of engineers. ■