



# Sales ENGINEERS



Technically trained and business oriented, these workers help customers and companies benefit from each other.

by Andrew J. Nelson

**Y**ou have technical expertise, but you're also a "people person." You don't want to choose between the two skills when looking for a job, but you don't want dual careers. What can you do?

For engineers faced with such a dilemma, the solution is simple: combine both interests. Sales engineers meld two very different occupations, using their technical skills and problemsolving ability as well as their enjoyment of working with people. Neither engineering nor sales alone offers the variety of challenges that confront sales engineers.

Sales engineers—who also may be called manufacturers' agents, sales representatives, or technical sales support workers—often work with both the customer and the production or engineering departments of their companies to help design or modify products and services to suit the customer's needs. At the same time, sales engineers try to interest clients in purchasing their products.

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Keep reading to learn more about this occupation. You'll find out what sales engineers do, where they work, what their employment and job outlook are, how much they earn, how they train for and advance in their careers, and where you can get more information.

### **Nature of the work**

Sales engineers may start their workday by checking e-mail and voice-mail messages and by confirming meetings, then calling on existing and potential clients. Or sales engineers might start the morning at a client's office and check their messages remotely. But the work involves more than messages and meetings. "Sales engineers must know the client's needs and their company's products," says John Ahn, a field applications engineer who works as a liaison between engineers and sales engineers in Irvine, California. "They need a good understanding of the market conditions—not only for the company's products but for other products—and of future trends, cost, and availability."

In addition to these duties, sales engineers may participate in product formation and development, assist in pre-sale

technical support, attend trade shows and conferences, and make sales calls, proposals, and post-sales followup visits.

When meeting with clients, sales engineers often use a sales technique different

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**Sales engineers must be available during all phases of product design.**

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from that used by most other salesworkers. “Sales engineers tend to use more of a consultative style,” says Joe Miller, president and chief executive officer of Manufacturers’ Agents National Association. “They start with the customer’s problem or issue and solve it using their product.” This selling style differs from the standard benefits-and-features method, in which a salesworker describes the product but lets customers decide how the product would help them.

Sales engineers offer clients proposals of the specific design and capabilities of their product. The client reviews the proposals and may suggest changes. After receiving those changes, sales engineers must revise their designs accordingly. Sometimes, what may seem like a minor change can have a significant impact on product performance. Thus, sales engineers must be available during all phases of design and implementation to answer clients’ questions and to resolve problems and errors quickly.

Maintaining connections with existing clients and making contact with new ones is an essential part of a sales engineer’s job. “It’s very important to make contacts for future business,” says Ahn. “By performing good work on past projects, we hope clients remember us and call us about future products.”

### **Working conditions**

Many sales engineers work more than 40 hours per week to meet their employer’s sales expectations and their clients’ needs. Selling can be stressful because sales engineers’ income and job security depend directly on their success in sales and customer service.

The Internet and wireless communications continue to revolutionize sales professions. These technologies have made it easier to communicate with existing and potential clients. Technical data, plans, revisions, and orders are all transferred electronically, saving time for sales engineers.

Still, like many salesworkers, sales engineers often must travel a great deal to present their products and meet with clients in person. Some sales engineers work near their home. Others cover large sales regions, which may include several States or foreign countries, and may travel away from home for several days or weeks at a time. International travel is important for securing foreign customers.

Although the hours are long and often





electronic and other electrical equipment, and measuring and controlling devices—and in wholesale trade, including machinery, equipment, and supplies. Services and nondurable goods manufacturing industries employed most of the remaining sales engineers.

Overall, employment of sales engineers is expected to grow through 2008. Expected employment growth stems from the increasing variety and number of goods to be sold. However, this employment growth will be tempered by the increased effectiveness and efficiency of salesworkers. Job prospects should be best in fast-growing industries such as computer and data processing services and engineering and architectural services.

Employment opportunities and earnings may fluctuate from year to year because sales are affected by changing economic conditions, legislative issues, and consumer preferences. Prospects will be best for those with appropriate knowledge and technical expertise as well as personal traits necessary for success in sales.

Although most job openings are expected to be new positions created as companies expand their sales forces, some openings will arise each year from the need to replace salesworkers who transfer to other occupations or leave the labor force. Compared with other occupations, however, the number of these openings should be small.

### **Earnings**

Compensation methods for sales engineers depend on the type of firm they work for and the product they sell. For example, those who work in independent firms may have high but erratic earnings. And sales engineers who sell computer components earn more than do those selling durable goods for a wholesaler.

To pay sales engineers, most employ-

ers use a combination of salary plus commission or salary plus bonus. Commissions usually are based on the amount of sales each engineer generates. Bonuses depend on performance—either from individual sales, by all salesworkers in a

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**Job prospects should be best for sales engineers in fast-growing industries.**

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group or district, or by the company. Earnings from commissions and bonuses may vary greatly from one year to the next, depending on engineers' sales ability, demand for a company's products, and the overall economy.

Median annual earnings of sales engineers, including commission, were \$54,360 in 1999. The middle 50 percent earned between \$41,500 and \$77,370 a year. The lowest 10 percent earned less than \$31,520 a year, and the highest 10 percent earned more than \$96,640.

In addition to their earnings and typical benefits such as health insurance and vacation pay, most sales engineers are reimbursed for business expenses. These include transportation, meals, hotels, and customer entertainment; many sales engineers also enjoy personal use of a company car and earn frequent-flyer mileage. Some companies offer incentives—ranging from small gifts to all-expenses-paid vacations—for outstanding performance.

### **Qualifications, training, and advancement**

Sales engineers must interact with engineers, salesworkers, and clients; an ability to clearly relate complex ideas is critical. Therefore, students interested in becoming

irregular, most sales engineers are free to determine their own schedule. Consequently, they usually can arrange their appointments to give themselves time off when they want it.

### **Employment and outlook**

Sales engineers held about 93,620 jobs in 1999. About two-thirds were in durable goods manufacturing industries—such as industrial machinery and equipment,

sales engineers need excellent interpersonal skills and written and oral communication abilities. High school coursework in English, social studies, and humanities is recommended. Would-be sales engineers also must have a solid background in mathematics—including algebra, geometry, trigonometry, and calculus—and in physical sciences, including chemistry and physics. Completing coursework in computer science also is a plus.

College-level engineering programs vary in content but focus heavily on mathematics and engineering; other helpful disciplines include accounting, economics, communications, and marketing. Some programs emphasize industrial practices to prepare students for a job, while others are more theoretical and prepare students for graduate school.

Most engineering degrees are granted in electrical, mechanical, or civil engineering. Engineering students usually choose an area of specialization, although students trained in one branch of engineering may work in related branches. Some degree programs offer a general engineering curriculum, allowing students to specialize when they enter either graduate school or the job market.

According to the Bureau of Labor Statistics definition of sales engineer, a bachelor's degree in engineering is the minimum educational requirement to enter the occupation. However, some workers who have both previous sales experience and technical experience or training sometimes hold the title of sales engineer even though they do not have a degree. And some employers accept a bachelor of science degree in certain majors other than engineering, such as chemistry or business.

No matter what their degree is in, college graduates may need sales experience and training in engineering before entering into sales. Miller recommends that recent engineering graduates work in a design or production firm to develop the engineering skills they will need later, moving into sales support jobs after a few years. Gaining practical experience in this

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### College graduates may need practical experience and engineering training before entering into sales.

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way will help graduates sharpen and refine their engineering skills and relate better to their customers.

Advancement as a sales engineer may include a higher commission rate, larger sales territory, or greater supervisory responsibilities. Other sales engineers leave their companies to form small, independent firms to sell the product lines of multiple companies. Working in independent firms may offer higher commissions, more freedom, and a greater variety of work—but requires longer hours and yields irregular earnings.

It is important for sales engineers to continue learning throughout their careers because much of their value to an employer depends on keeping up with the latest technology. Sales engineers in high technology areas, such as information technology or advanced electronics, may find that their technical knowledge rapidly becomes obsolete.

### Sources of additional information

To learn more about pursuing a career in sales engineering, visit your local library or career counseling office for guidance on resources.

One resource available in many libraries and counseling offices is the 2000-01 *Occupational Outlook Handbook*, which describes the nature of the work, outlook, earnings, and more for about 250 occupations. Among those covered are occupations requiring the sales ability, product knowledge, and technical and analytical skills that sales engineers must have. They include insurance sales agents, wholesale and manufacturing sales representatives, and purchasing managers, buyers, and purchasing agents.

The *Handbook* is also available online at <http://www.bls.gov/ocohome.htm>.

For more information about becoming a sales engineer, contact:

Manufacturers' Agents National Association

PO Box 3467

Laguna Hills, CA 92654-3467

(949) 859-4040

toll free: 1 (877) MANA-PRO

(626-2776)

<http://www.manaonline.org>

Career and certification information is available from:

Manufacturers Representatives Educational Research Foundation

PO Box 247

Geneva, IL 60134

(630) 208-1466

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