
Sales Engineers

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Significant Points

- A bachelor's degree in engineering usually is required; many sales engineers have previous work experience in an engineering specialty.
- Projected employment growth will stem from the increasing numbers of technical products and services for sale.
- More job opportunities are expected in independent sales agencies.
- Earnings are typically based on a combination of salary and commission.

Nature of the Work

Many products and services, especially those purchased by large companies and institutions, are highly complex. Sales engineers—who also may be called *manufacturers' agents*, *sales representatives*, or *technical sales support workers*—work with the production, engineering, or research and development departments of their companies, or with independent sales firms, to determine how products and services could be designed or modified to suit customers' needs. They also may advise customers on how best to use the products or services provided.

Sales engineers sell and consult on technologically and scientifically advanced products. They should possess extensive knowledge of these products, including their components and processes. Sales engineers then use their technical skills to demonstrate to potential customers how and why the products or services they are selling would suit the customer better than competitors' products. Often, there may not be a directly competitive product. In these cases, the job of the sales engineer is to demonstrate to the customer the usefulness of the product or service—for example, how much money new production machinery would save.

Engineers apply the theories and principles of science and mathematics to technical problems. Their work is the link between scientific discoveries and commercial applications. Many sales engineers specialize in products that are related to their engineering specialty. For example, sales engineers selling chemical products may have chemical engineering backgrounds, while those selling business software or information systems may have degrees in computer engineering. (Information on engineers, including 17 engineering specialties, appears elsewhere in the *Handbook*.)

Many of the duties of sales engineers are similar to those of other salespersons. They must interest the client in purchasing their products, many of which are durable manufactured products such as turbines. Sales engineers often are teamed with other salespersons who concentrate on the marketing and sales, enabling the sales engineer to concentrate on the technical aspects of the job. By working on a sales team, each member is able to focus on his or her strengths and expertise. (Information on other sales occupations, including sales representatives,

wholesale and manufacturing, appears elsewhere in the *Handbook*.)

Sales engineers tend to employ selling techniques that are different from those used by most other sales workers. They generally use a “consultative” style; that is, they focus on the client's problem and show how it could be solved or mitigated with their product or service. This selling style differs from the “benefits and features” method, whereby the salesperson describes the product and leaves the customer to decide how it would be useful.

In addition to maintaining current clients and attracting new ones, sales engineers help clients solve any problems that arise when the product is installed. Afterward, they may continue to serve as a liaison between the client and their company. Increasingly, sales engineers are asked to undertake tasks related to sales, such as market research, because of their familiarity with clients' purchasing needs. Drawing on this same familiarity, sales engineers may help identify and develop new products.

Work environment. Sales engineers may work directly for manufacturers or service providers, or they may work in small independent sales firms. In an independent firm, they may sell complementary products from several different suppliers.

Workers in this occupation can encounter pressure and stress because their income and job security often depend directly on their success in sales and customer service. Many sales engineers work more than 40 hours per week to meet sales goals and client needs. Although the hours may be long and often irregular, many sales engineers have the freedom to determine their own schedules. Consequently, they often can arrange their appointments so that they can have time off when they want it.

Some sales engineers have large territories and travel extensively. Because sales regions may cover several States, sales engineers may be away from home for several days or even weeks at a time. Others work near their home base and travel mostly by car. International travel to secure contracts with foreign clients is becoming more common.

Training, Other Qualifications, and Advancement

Most sales engineers have a bachelor's degree in engineering, and many have previous work experience in an engineering specialty. New sales engineers may need some on-the-job training in sales or may work closely with a sales mentor familiar with company policies and practices before they can work on their own.



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Education and training. A bachelor's degree in engineering usually is required to become a sales engineer. However, some workers with previous experience in sales combined with technical experience or training sometimes hold the title of sales engineer. Also, workers who have a degree in a science, such as chemistry, or even a degree in business with little or no previous sales experience, may be termed sales engineers.

Admissions requirements for undergraduate engineering schools include a solid background in mathematics (algebra, geometry, trigonometry, and calculus) and the physical sciences (biology, chemistry, and physics), as well as basic courses in English, social studies, humanities, and computer science. University programs vary in content, though all require the development of computer skills. Once a university has been selected, a student must choose an area of engineering in which to specialize. Some programs offer a general engineering curriculum; students then specialize on the job or in graduate school. Most engineering degrees are granted in electrical, mechanical, or civil engineering. However, engineers trained in one branch may work in related branches.

New graduates with engineering degrees may need sales experience and training before they can work independently as sales engineers. Training may involve teaming with a sales mentor who is familiar with the employer's business practices, customers, procedures, and company culture. After the training period has been completed, sales engineers may continue to partner with someone who lacks technical skills, yet excels in the art of sales.

It is important for sales engineers to continue their engineering and sales education throughout their careers. Much of their value to their employers depends on their knowledge of and ability to sell the latest technologies. Sales engineers in high-technology fields, such as information technology or advanced electronics, may find that technical knowledge rapidly becomes obsolete.

Other qualifications. Many sales engineers first work as engineers. For some, engineering experience is necessary to obtain the technical background needed to sell their employers' products or services effectively. Others move into the occupation because it offers better earnings and advancement potential than engineering or because they are looking for a new challenge.

Advancement. Promotion may include a higher commission rate, larger sales territory, or elevation to the position of supervisor or marketing manager. Alternatively, sales engineers may leave their companies and form independent firms. Independent firms tend to be small, and relatively few sales engineers are self-employed.

Employment

Sales engineers held about 76,000 jobs in 2006. About 37 percent were employed in wholesale trade and another 26 percent were employed in the manufacturing industries. Smaller numbers of sales engineers worked in information industries, such as software publishing and telecommunications; professional, scientific, and technical services, such as computer systems design and related services; architectural, engineering, and related services; and other industries. Unlike workers in many other sales occupations, very few sales engineers are self-employed.

Job Outlook

Job growth for sales engineers is projected to be about average through 2016, and opportunities will be good in independent sales agencies because of the increase in outsourcing of sales departments by manufacturers.

Employment change. Employment of sales engineers is expected to grow by 9 percent between 2006 and 2016, which is about as fast as the average for all occupations. Projected employment growth stems from the increasing variety and technical nature of goods and services to be sold. Competitive pressures and advancing technology will force companies to improve and update product designs more frequently and to optimize their manufacturing and sales processes, and thus require the services of a sales engineer.

In wholesale trade, both outsourcing to independent sales agencies and the use of information technology are expected to create some job growth for sales engineers. Although outsourcing should lead to more jobs in independent agencies, employment growth for sales engineers in wholesale trade likely will be dampened by the increasing ability of businesses to find, order, and track shipments directly from wholesalers through the Internet, without assistance from sales engineers. However, since direct purchases from wholesalers are more likely to be non-scientific or non-technical products, their impact on sales engineers should remain somewhat limited.

Job prospects. Manufacturers, especially foreign manufacturers that sell their products in the United States, are expected to continue outsourcing more of their sales functions to independent sales agencies in an attempt to control costs. Additionally, since independent agencies can carry multiple lines of products, a single sales engineer can handle more products than the single product line they would have handled under a manufacturer. This should result in more job opportunities for sales engineers in independent agencies.

Employment opportunities 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 the appropriate knowledge or technical expertise, as well as the personal traits necessary for successful

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016		Change, 2006-16	
			Number	Percent	Number	Percent
Sales engineers.....	41-9031	76,000	82,000	6,500	9	

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

sales work. In addition to new positions created as companies expand their sales forces, some openings will arise each year from the need to replace sales engineers who transfer to other occupations or leave the labor force.

Earnings

Median annual earnings, including commissions, of wage and salary sales engineers were \$77,720 in May 2006. The middle 50 percent earned between \$59,490 and \$100,280 a year. The lowest 10 percent earned less than \$47,010, and the highest 10 percent earned more than \$127,680 a year. Median annual earnings of those employed by firms in the computer systems design and related services industry were \$90,950.

Compensation varies significantly by the type of firm and the product sold. Most employers offer a combination of salary and commission payments or a salary plus a bonus. Those working in independent sales companies may solely earn commissions. Commissions usually are based on the amount of sales, whereas bonuses may depend on individual performance, on the performance of all workers in the group or district, or on the company's performance. Earnings from commissions and bonuses may vary greatly from year to year, depending on sales ability, the demand for the company's products or services, and the overall economy.

In addition to their earnings, sales engineers who work for manufacturers usually are reimbursed for expenses such as transportation, meals, hotels, and customer entertainment. In addition to typical benefits, sales engineers may get personal

use of a company car and frequent-flyer mileage. Some companies offer incentives such as free vacation trips or gifts for outstanding performance. Sales engineers who work in independent firms may have higher but less stable earnings and, often, relatively few benefits. Most independent sales engineers do not earn any income while on vacation.

Related Occupations

Sales engineers must have sales ability and knowledge of the products and services they sell, as well as technical and analytical skills. Other occupations that require similar skills include advertising, marketing, promotions, public relations, and sales managers; engineers; insurance sales agents; purchasing managers, buyers and purchasing agents; real estate brokers and sales agents; sales representatives, wholesale and manufacturing; and securities, commodities, and financial services sales agents.

Sources of Additional Information

Information on careers for manufacturers' representatives and agents is available from:

► Manufacturers' Agents National Association, P.O. Box 3467, Laguna Hills, CA 92654.

Internet: <http://www.manaonline.org>

► Manufacturers' Representatives Educational Research Foundation, 8329 Cole St., Arvada, CO 80005.

Internet: <http://www.mreref.org>