Significant Points

- A bachelor’s degree in engineering is required; many sales engineers have previous work experience in an engineering specialty.
- Projected employment growth stems from the increasing number and technical nature of products to be sold.
- More job opportunities are expected in independent agencies.
- Earnings are 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, using their engineering skills, help customers determine which products or services provided by the sales engineer’s employer best suit their needs. 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, engineering, or research and development departments of their company, or of independent firms, to determine how products and services could be designed or modified to best suit the customer’s needs. They also may advise the customer on how to best utilize the products or services being provided.

Selling, of course, is an important part of the job. Sales engineers 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.

Most sales engineers have a bachelor’s degree in engineering and some have previous work experience in an engineering specialty. 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 an area related to an engineering specialty. For example, sales engineers selling chemical products may have chemical engineering backgrounds, while those selling electrical products may have degrees in electrical engineering. (Information on engineers and 14 engineering specialties appears elsewhere in the Handbook.)

Many of the job 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 are often 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 as a sales team, each member is able to utilize his or her strengths and knowledge. (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 may 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 product is described and the customer is left to decide how the product 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, and may continue to serve as a liaison between the client and their company. In addition, using their familiarity with client needs, sales engineers may help identify and develop new products.

Sales engineers may work directly for manufacturers or service providers, or in small independent firms. In an independent firm, they may sell complimentary products from several different suppliers and be paid on a commission basis.

Working Conditions

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

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 automobile. International travel, to secure contracts with foreign customers, is becoming more important.
Although the hours may be long and are often irregular, many sales engineers have the freedom to determine their own schedule. Consequently, they often can arrange their appointments so that they can have time off when they want it. However, most independent sales workers do not earn any income while on vacation.

Employment
Sales engineers held about 82,000 jobs in 2002. About 32 percent were employed in the manufacturing industries and another 28 percent were employed in wholesale trade. Unlike workers in many other sales occupations, very few sales engineers are self-employed.

Training, Other Qualifications, and Advancement
A bachelor’s degree in engineering is usually 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), physical sciences (biology, chemistry, and physics), and courses in English, social studies, humanities, and computer science. University programs vary in content. For example, some programs emphasize industrial practices, preparing students for a job in industry, whereas others are more theoretical and prepare students for graduate school. Therefore, students should investigate curriculums and check accreditations carefully before making a selection. 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 in graduate school or on the job. Most engineering degrees are granted in electrical, mechanical, or civil engineering. However, engineers trained in one branch may work in related branches.

Many sales engineers first worked as engineers. For some, the engineering experience was necessary to obtain the technical background needed to effectively sell their employers’ products or services. Others moved into the occupation because it offered better earnings and advancement potential or because they were looking for a new challenge.

New graduates with engineering degrees may need sales experience and training to obtain employment directly as a sales engineer. This may involve teaming with a sales mentor who is familiar with the business practices, customers, and company procedures and culture. After the training period has been completed, the sales engineer may continue to partner with someone who lacks technical skills, yet excels in the art of sales.

Promotion may include a higher commission rate, larger sales territory, or elevation to the position of supervisor or marketing manager. In other cases, sales engineers may leave their companies and form an independent firm that may offer higher commissions and more freedom. Independent firms tend to be small, although relatively few sales engineers are self-employed.

It is important for sales engineers to continue their education throughout their careers because much of their value to their employers depends on their knowledge of the latest technology. Sales engineers in high-technology areas, such as information technology or advanced electronics, may find that technical knowledge can become obsolete rapidly.

Job Outlook
Employment of sales engineers is expected to grow about as fast as the average for all occupations through the year 2012. Projected employment growth stems from the increasing variety and number of goods 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. In addition to new positions created as companies expand their sales force, some openings will arise each year from the need to replace sales workers who transfer to other occupations or leave the labor force.

Manufacturers are expected to continue contracting out more of their sales functions to independent sales agencies in an attempt to control their costs. This should mean more job opportunities for sales engineers in independent agencies and for self-employed independent sales engineers.

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 the appropriate knowledge or technical expertise, as well as the personal traits necessary for successful sales work.

Earnings
Compensation varies significantly by the type of firm and product sold. Most employers use a combination of salary and commission or salary plus bonus. Commissions usually are based on the amount of sales, whereas bonuses may depend on individual performance, on the performance of all sales 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.

Median annual earnings of sales engineers, including commissions, were $63,660 in 2002. The middle 50 percent earned between $48,650 and $84,880 a year. The lowest 10 percent earned less than $37,430, and the highest 10 percent earned more than $108,080 a year. Median annual earnings of sales engineers in the computer systems design and related services industry in 2002 were $77,100; earnings for sales engineers in the professional and commercial equipment and supplies merchant wholesalers industry were $53,170.

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

Related Occupations
Sales engineers must have sales ability and knowledge of the products 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 92654-3467. Internet: http://www.maranet.org
- Manufacturers’ Representatives Educational Research Foundation, P.O. Box 247, Geneva, IL 60134. Internet: http://www.mrerf.org