



QUARTERLY UPDATE 6/7/2010

SIC CODES: 7389, 8711

NAICS CODES: 54133, 54134, 541712

Industry Overview

The US engineering services industry includes about 60,000 companies with combined annual revenue of about \$260 billion. Major companies include URS, Jacobs Engineering, and the engineering divisions of large construction companies such as Fluor and Bechtel. The industry is **highly fragmented**: the 50 largest firms account for about 35 percent of industry revenue.

COMPETITIVE LANDSCAPE

Demand is driven largely by the construction needs of companies and governments and the desire of industrial customers to improve the efficiency of operations. Profitability depends on the ability to **accurately predict costs** for a project. Small firms, which can effectively compete with larger ones by having **expertise** in a particular field, are often hired as consultants on larger projects if they have special expertise. Large firms are advantaged in designing and managing large projects.

PRODUCTS, OPERATIONS & TECHNOLOGY

Major engineering services include product and industrial process design, construction design and management, systems engineering, and maintenance and operations. Engineering companies may be involved in projects that require skills in analysis, design, project management, operations, or all four. Most firms **specialize** in a particular type of engineering. Most engineering work is per **project**, such as designing and constructing a highway or formulating an environmental plan for a wetlands area.

Engineering firms basically sell the knowledge of their employees. Attracting and retaining qualified engineers is an ongoing concern. Due to the complexity of many jobs, engineering firms often hire **subcontractors** and consultants to perform specialized work. Material inputs are provided by subcontractors.

Computer systems are used extensively for analysis, design, budgeting, project planning and control, accounting, and communications. Nearly all engineering companies have a centralized IT staff. Wide-area networks with engineering software that enable firms to balance workload among locations and ultimately improve productivity, and CAD, which allows instantaneous information sharing between engineers, architects, and planners, have become staples.

SALES & MARKETING

Typical customers include governments, industrial corporations, and real estate developers. Some companies rely on the federal government for the majority of their business.

Many firms depend on large customers for repeat business. Because **referrals** are an important source of new customers, firms cultivate relationships with past customers, other engineering firms, architects, and construction companies. Firms may advertise their expertise in trade magazines. Many engineering contracts are obtained after a **bidding process**. In the private sector, a customer typically invites several firms to bid on a particular project. Public sector bids are usually open to all bidders who meet certain basic technical and financial qualifications. The bidding process usually involves preparing a detailed plan of action for a project and a cost estimate. Firms often **collaborate** to bid on large projects that require a range of expertise.

Contracts are awarded to an engineering firm under a variety of **pricing** schemes that assign the **risk of cost**

overruns. Under a **fixed-cost** (or lump sum) contract, an engineering firm is responsible for any costs incurred in excess of those forecast, but can also make a bigger profit if costs are less. Under a **time and materials** (or cost-reimbursable) contract, the customer pays for all costs, plus a fee that may be a lump sum or a markup on labor costs. Under a **guaranteed maximum price** contract, the customer pays a fee plus all costs up to a maximum amount. Additional terms may be negotiated in any of these contracts to address how costs are handled if the customer changes the project's scope.

FINANCE & REGULATION

Engineering firms typically receive **progress payments** as they work on a project, but may need a fair amount of working capital because costs are often incurred before payments are received. Final payments are often delayed until well after a project is finished ("retainage").

Typical **gross margins** for engineering firms are about 60 percent. Labor is the major cost for most firms, and is divided between direct (project related) and indirect (general overhead, marketing, and personal leave) expenses. **Accounts receivable** are often high and disputes with customers about payments and reimbursable costs are common. Cash flow can be highly uneven, especially for smaller firms that work on only a few (or one) projects at a time. Firms that manage large construction projects may need sophisticated cash management services. Some firms have substantial international business and deal with foreign currencies.

Many firms have a **backlog** of projects, sometimes representing a year or more of work. Costs for liability **insurance** can be high because poor engineering can have catastrophic consequences.

While engineering companies aren't directly regulated, they must comply with numerous federal, state, and local **building codes, safety regulations, hiring practices**, etc. Public projects often entail even more detailed regulations. Companies generally have to maintain detailed records of many activities associated with a project. Certain engineering specialties may require **licensing** to practice in a state.

REGIONAL & INTERNATIONAL ISSUES

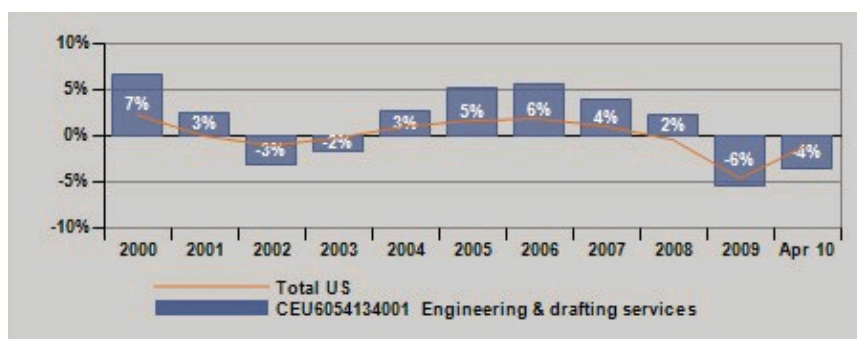
More than 25 percent of US engineering services companies are in [California](#) and [Texas](#). Small US firms close to the Canadian border may partner with Canadian engineering firms to bid on projects.

The engineering services outsourcing market in India is estimated to grow to \$40 billion by 2020 from the current level of \$2.5 to \$3 billion, according to ValueNotes, an Indian research firm. Increased competition from Indian-based engineering service providers has reduced the market share of US companies.

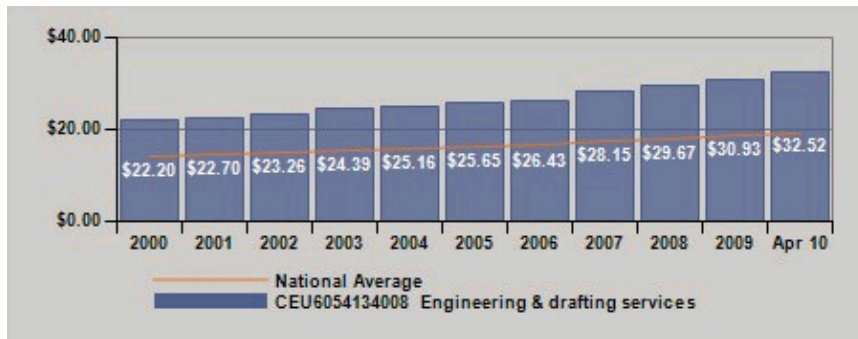
HUMAN RESOURCES

Most employees in engineering services have special technical or engineering skills and are accordingly **well paid**. Average hourly industry wages are significantly higher than the national average. The industry's injury rate is negligible.

Industry Employment Growth Bureau of Labor Statistics



Average Hourly Earnings & Annual Wage Increase Bureau of Labor Statistics



Recent Developments

INDUSTRY INDICATORS

US corporate profits, an indicator of corporate demand for engineering services, jumped 31 percent in the first quarter of 2010 compared to the same period in 2009.

Total US durable goods manufacturers' shipments, an indicator of demand for engineering services used in the manufacturing process, rose 6.2 percent in the first four months of 2010 compared to the same period in 2009.

The value of US nonresidential construction spending, a demand indicator for engineering services used in construction, fell 17.4 percent in the first four months of 2010 compared to the same period in 2009.

MONTHLY NEWS



[IN THE MONEY: Once Besieged, KBR Now Booming](#)

Dow Jones News Service, 28 June, 2010, 656 words

Most of Big Oil is operating under a cloud. KBR Inc. (KBR) appears to be emerging from one. The Houston-based engineering-and-construction firm, which gained notoriety for the no-bid military contracts it won in Iraq, is refocusing on the ...

[N.O. City Council gets in on oil spill; Army Corps called on to issue permits](#)

The Times-Picayune, 18 June, 2010, 374 words

Wading deeply into the BP oil spill controversy for the first time, the New Orleans City Council on Thursday called on the Army Corps of Engineers to issue permits for construction of "each and every sand berm, rock dike and other ...

[Engineering firm under investigation](#)

The News & Observer, 15 June, 2010, 601 words

A criminal investigation is under way concerning a North Carolina engineering and surveying firm headed by a former state senator. The State Board of Elections is looking into the pattern of campaign contributions to top elected officials ...

QUARTERLY INDUSTRY UPDATE

Engineers Eye Florida Rail Project - Central Florida's high-speed rail project has attracted the attention of contractors and engineering services firms since President Obama granted \$1.25 billion for the Orlando-Tampa line. Firms from around the globe are expected to join the bidding, beginning in October 2010, according to *The Orlando Sentinel*. The winning team will be selected by the end of 2011. The rail line should create thousands of jobs in Florida, including many in the engineering services industry.

Job Growth Still Weak - Employment in engineering services fell 4 percent in March 2010 compared to the previous year, the second year of steady job losses for the industry. In contrast, private sector employment dropped 2 percent over the same period, suggesting engineering services has been hit harder than the private sector at large. However, a recent survey by the Silicon Valley Leadership Group indicates that technology hiring will be on the upswing in the months ahead.

Siemens Called to Retrofit Cupertino - The city of Cupertino is partnering with leading engineering firm Siemens to help lower the California city's utility bills, according to *The San Jose Mercury News*. The two signed a \$2 million contract in April 2010 to retrofit Cupertino's street lights and irrigation system. The energy saving features are expected to save \$20,000 per month. Siemens will be contractually bound to guarantee a minimum amount of savings, and if short, will pay the difference. Private-public partnerships are becoming more common as states and municipalities seek expertise from engineering firms to reduce energy use.

Business Challenges

CRITICAL ISSUES

Dependence on Construction, Industrial Production - Demand in major engineering fields such as construction and industrial process design depends heavily on the health of the US economy. During economic slowdowns, engineering firms are disproportionately hurt. For example, during the late 2000s recession, nonresidential construction spending in the US dropped nearly 20 percent.

Vulnerability to Project Cost Overruns - Project cost overruns are a primary cause of financial distress for engineering companies. Some firms have incurred heavy losses from underestimating costs, forcing them to divest business units or file for bankruptcy. In addition to paying for cost overruns, engineering firms can be penalized for not meeting deadlines.

OTHER BUSINESS CHALLENGES

Vulnerability to Litigation - The nature of engineering work leaves firms open to liability lawsuits, both for poor work and inattention to regulations, as poor engineering work can result in injury and death. The increasing complexity of many engineering projects increases the likelihood of errors. Engineering service firms must comply with a large number of regulations, the improper handling of which can result in criminal fines and penalties.

Dependence on Skilled Personnel - Because expertise is their major asset, engineering firms depend heavily on employees' skills. Knowledge, particularly client-specific knowledge, is very difficult to replace. Many small firms say that finding good employees is the most difficult management issue. Technical advances are rapid in many engineering specialties, making finding and training qualified engineers more difficult.

Uneven Workload, Cash Flow - Because work in the industry is on a project basis, work demands can be very uneven, especially for smaller firms. Cash flow is also uneven, even for firms with continuous work, because the bulk of payments are made upon a project's completion. Small firms can't usually afford to cut their workforce when activity is slow because they need to retain the expertise.

Shortage of New Engineers - High-caliber engineering graduates from top schools have been choosing careers in finance over traditional engineering careers. Only 5 percent of US bachelor's degrees are engineering degrees, compared to 10 percent 25 years ago. About 80 percent of new jobs created in the next 10 years will require skills in science, technology, engineering, and mathematics, according to the US Department of Labor. The US has to import engineers, not so much because foreign labor is cheaper, but because the US doesn't produce enough engineers.

Trends & Opportunities

BUSINESS TRENDS

Consolidation - To broaden the types of services they provide and enhance geographic coverage, engineering firms have grown via acquisitions. The largest firms are the most likely to be involved in M&A activity. Consolidation in customer industries, among construction and chemical companies, for example, is encouraging consolidation among the engineering firms that serve them.

Greater Project Complexity - The increasingly technical nature of the US economy has, and will continue to, increase demand for engineering services. More technological equipment, crowded urban areas, government regulation, heightened environmental concerns, and a greater emphasis on product durability, all place more demand on designers. Even small projects often require a high engineering content, and large projects may be so complex that engineering costs surpass actual construction expenses.

Design/Build Contracts Encourage Size - While the design and construction phases of a project, in many cases, are still handled by different companies, more contracts are being awarded to firms that can handle both. To compete for design/build contracts, firms must have both design and construction skills. Under so-called EPC contracts (engineering, procurement, construction), engineering firms must also have a procurement function.

Expanded Engineering Applications - Engineering is a key part of emerging sciences like nanotechnology, biomedicine, and computer technology. The lines between engineers and other scientists and designers are blurring, reshaping the entire engineering industry. These changes are influencing the licensing processes for professional engineers, including the type and format of engineering licensing exams.

Outsourcing to Lower-Cost Countries - Outsourcing grown more popular as a way to reduce costs for some engineering tasks. Annual spending on engineering services outsourcing is estimated to grow from about \$3 billion to about \$40 billion by 2020. A Booz Allen study finds that a third of companies outsource some R&D work, and 15 percent outsource product design functions. India is a leading outsourcing destination, followed by Canada and China.

INDUSTRY OPPORTUNITIES

Increased Security Concerns - Concerns over terrorism affect engineering requirements on numerous projects. Structural safety, security, evacuation, and air circulation systems of buildings are likely to become a critical part of engineering design. More attention will be paid to building upgrades, such as improved structural supports and impact-resistant stairwells.

High Government Spending - US government spending on infrastructure projects, such as highways and bridges, is expected to remain high during the next decade. Construction of new schools, funded at state and local levels, has also increased. From 2002 through 2008, public construction spending increased 43 percent. Analysts expect public construction spending to remain high, despite a federal deficit.

Cross-Marketing Engineering Capabilities - To diversify, firms are focusing on a "one-stop shopping" marketing approach. For example, if a new manufacturing facility is being considered, a single engineering firm may seek to handle background, permitting, land acquisition advice, building design, and machine and assembly line flow.

International Growth - Lesser-developed nations are important markets for engineering and construction firms, although significant political and financial risks exist. Most large firms anticipate working overseas in the next five years. The global construction market is valued at more than \$5 trillion, and will be worth more than \$12 trillion by 2020, according to Global Construction Perspectives. Over the next decade, growth in emerging markets such as Brazil, Russia, India, and China (BRIC) is expected to outpace that in developed countries and account for more than half of the global construction market.

Executive Insight [what is this?](#)

CHIEF EXECUTIVE OFFICER - CEO

Planning for Variable Demand in Local Markets

Because engineering projects are linked to construction and industrial activity, demand can be highly uneven from year to year. In local markets, construction activity can rise or fall 25 percent in a year. To protect against swings in demand, firms may seek long-term projects, expand their areas of expertise, or try to secure long-term maintenance and repair contracts.

Expanding Product Offerings

Many engineering firms specialize in a particular type of work, such as bridges or school buildings, but may shift their focus to diminish the effect of demand cycles in their specialty. Customers in recent years have awarded more contracts to firms that can manage procurement and construction as well as the engineering portion of a project. To offer a greater range of expertise and expand offerings, firms may hire experts, form alliances, or merge with other firms.

CHIEF FINANCIAL OFFICER - CFO

Planning for Uneven Cash Flow

Because most engineering work is done as projects, cash flow can be highly uneven, especially for smaller firms. Firms

try to maintain a reserve in short-term securities to use in periods of low income. On lengthy projects, firms may receive progress payments, which may be inadequate to cover actual costs. Because skilled staff is hard to replace, firms avoid cutting staff during periods of low activity.

Improving Cost Estimating and Control Systems

Many engineering projects are awarded on a fixed-cost basis where the engineering firm is responsible for cost overruns, so project cost estimates must be accurate and actual expenditures tightly controlled. As engineering firms take on responsibility for larger projects, including the construction phase, the risk of cost mistakes increases. Several large firms have been bankrupted by cost overruns on big projects.

CHIEF INFORMATION OFFICER - CIO

Interfacing with Other Contractor Project Management Systems

Sophisticated software systems have been developed to help engineering firms manage projects, from initial design through procurement and construction. As firms manage larger projects, coordinating with partners, contractors, suppliers, inspectors, and others becomes more difficult and more crucial.

Improving Communications Systems

Sharing information among project participants, including documents, pictures, and plans, can be difficult because participants are in separate locations. As an alternative to courier services, collaboration systems allow participants to access, enter, and comment on information over the Internet. Systems like WebEx allow easy distance-conferencing through websites.

HUMAN RESOURCES - HR

Hiring and Training Project Personnel

Because most engineering work is done as projects, firms may hire workers for the duration of a project, which may last years or only months. For particular projects, workers with special expertise or skills may be needed, and may be hard to find. Firms may hire temporary foreign engineers under special visa programs.

Retaining Key Personnel

Many firms depend heavily on the reputation or skills of a few employees to secure business and execute projects. Because most firms are partnerships, rewarding employees with stock or stock options usually isn't possible. Instead, firms may use performance bonuses and deferred compensation plans to reward and retain key workers.

VP SALES/MARKETING - SALES

Forming Alliances with Architects and Construction Companies

Because most engineering firms are small, they can't handle all aspects of larger projects. To participate in big projects, many form project alliances with companies that provide the other capabilities, such as architects, construction companies, and other engineering firms. Many firms work mainly as specialists or consultants for other engineering firms.

Maintaining Contact with Prospective Customers

Because many customers have only occasional need for engineering services, firms must maintain contact with a large number of potential customers to have steady work. Many projects are won through bidding and only a few firms are invited to submit bids. Some firms use customer relationship management (CRM) software to ensure that potential customers are contacted periodically.

Call Preparation Questions

EXECUTIVE INSIGHT [what is this?](#)

CEO: What is the company's strategy for dealing with swings in demand?

Firms may seek long-term projects, expand their areas of expertise, or try to secure long-term maintenance and repair

contracts.

CEO: How can the company expand the range of services it offers?

To offer a greater range of expertise and expand offerings, firms may hire experts, form alliances, or merge with other firms.

CFO: How does the firm manage cash flow to avoid layoffs during periods of weak demand?

Because skilled staff is hard to replace, firms avoid cutting staff during periods of low activity.

CFO: How is the company reducing the risk of cost overruns on projects?

Many engineering projects are awarded on a fixed-cost basis where the engineering firm is responsible for cost overruns.

CIO: How important is the ability to exchange project management information electronically with other contractors and suppliers?

As firms manage larger projects, coordinating with partners, contractors, suppliers, inspectors, and others becomes more difficult and more crucial.

CIO: How can the company use technology to improve communication among project participants at multiple locations?

Collaboration systems and web-conferencing systems help improve communications.

HR: What challenges does the company face meeting special staffing needs of new projects?

For particular projects, workers with special expertise or skills may be needed, and may be hard to find.

HR: How dependent is the firm on key employees?

Many firms depend heavily on the reputation or skills of a few employees to secure business and execute projects.

Sales: How critical are alliances with other firms?

Because most engineering firms are small, they can't handle all aspects of larger projects.

Sales: How does the company build and maintain relationships with prospective customers?

Firms must maintain contact with a large number of potential customers to have steady work.

CONVERSATION STARTERS

How does the firm adapt to cyclical demand?

Demand in major engineering fields such as construction and industrial process design depends heavily on the health of the US economy.

How accurately does the firm estimate costs?

Project cost overruns are a primary cause of financial distress for engineering companies.

How does the firm protect itself from litigation?

The nature of engineering work leaves firms open to liability lawsuits, both for poor work and inattention to regulations, as poor engineering work can result in injury and death.

What engineering design opportunities or challenges does the company expect from new security concerns?

Concerns over terrorism affect engineering requirements on numerous projects.

How much work does the company receive from the federal government?

US government spending on infrastructure projects, such as highways and bridges, is expected to remain high during the next decade.

What additional complementary services does the firm offer for "one-stop shopping"?

To diversify, firms are focusing on a "one-stop shopping" marketing approach.

QUARTERLY INDUSTRY UPDATE

How could the company partner with local governments to increase energy efficiency?

States and municipalities are increasingly seeking the expertise of private engineering firms to help reduce energy costs and overcome budget shortfalls.

OPERATIONS, PRODUCTS, AND FACILITIES

In what fields of engineering does the company specialize?

Broad fields include mechanical, electrical, industrial, civil, environmental, and chemical.

Does the company specialize in analysis, design, or project management work?

Large firms have a competitive advantage in design and management of large projects.

Is the company typically a leader, subcontractor, or consultant on projects?

Due to the complexity of many jobs, engineering firms often hire subcontractors to perform specialized work.

How many offices does the company have?

Most have a single office.

Does the company work mainly on local, regional, national, or international projects?

Less developed nations are important markets for engineering and construction firms.

What internal security measures has the company instituted in light of terrorism concerns?

The engineering community is now more sensitive about employees who work on infrastructure projects.

CUSTOMERS, MARKETING, PRICING, COMPETITION

Does the company specialize in work for a particular industry?

Typical customers include governments, industrial corporations, and real estate developers.

Does the company receive most of its work by bidding on contracts?

Consultants and subcontractors are often hired on reputation alone.

How much work does the company receive from repeat customers?

Many firms depend on large customers, such as the federal government, for repeat business.

What percentage of revenue does the firm get from fixed-price and time and materials contracts?

The type of contract determines who bears the risk of cost overruns.

What types of marketing does the firm do?

Many firms advertise in trade magazines. Because referrals are an important source of new customers, firms cultivate relationships with past customers, other engineering firms, architects, and construction companies.

Has the firm had to deal with industry consolidation in its customer base?

M&As in customer industries, like construction and chemicals, have reduced the number of large customers.

REGULATIONS, R&D, IMPORTS AND EXPORTS

Does the company do international work?

More customers of US engineering firms have been outsourcing work to Indian-based engineering service providers.

How much of the firm's business is in developing nations?

The global construction market is valued at more than \$5 trillion and is expected to be worth more than \$12 trillion by 2020.

If a government contractor, has the firm ever had trouble with government regulations?

Government contractors have to adhere to strict regulations.

ORGANIZATION AND MANAGEMENT

How does the company hire, retain, and train new engineers?

Having knowledgeable employees is crucial for engineering firms.

How many total employees does the company have? How many engineers?

About 1,000 engineering firms have more than 100 employees.

What is the average size and length of project contracts?

Projects can last for several years.

Who is responsible for preparing contract bids?

Engineering companies typically have teams that bid contracts for work, with strong senior management involvement.

FINANCIAL ANALYSIS

Does the company receive progress payments on its contracts?

Some contracts have only thin payouts in the early phases, requiring firms to finance the costs themselves.

Is revenue uneven throughout the year?

This is common for firms in the construction field.

What percentage of receivables has been written off in the past?

Billing disputes with customers are common.

What is the company's backlog in dollars? How does backlog compare to one year ago?

Many firms have a backlog of projects.

How much liability insurance does the firm carry?

Liability insurance is important for engineering firms because poor engineering can be detrimental.

BUSINESS AND TECHNOLOGY STRATEGIES

Does the firm collaborate with other firms to bid on large contracts?

Firms collaborate to assemble the right mix of expertise to handle large projects.

What role do mergers or acquisitions play in the company's growth strategy?

In the past decade, many firms expanded through acquisitions to provide a broader array of services.

Does the firm expect to do more work for state and local government?

Government work is often less profitable but also less risky.

What is the company's budget for computer systems over the next 12 months?

Engineering firms spend heavily on information and computer technology for design work, project management, and communications.

What is the company's international strategy?

Lesser-developed nations are important markets for engineering and construction firms, although significant political, financial, climatic, and design risks exist.

Financial Information

COMPANY BENCHMARK INFORMATION

Engineering Services - (NAICS: 54133)

12 Month Rolling Data Period	Last Update March 2010	
Small Company Data	Sales < \$1,564,720	
Table Data Format	Median Values	

	US Private Company Data	
	Aggregate	Small Company
Company Count in Analysis	2827	707

Income Statement		
Net Sales	100%	100%
Gross Profit	60.2%	60.2%
Operating Income	5.3%	5.2%

Net Profit After Tax	3.5%	3.5%
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Balance Sheet

Cash	7.1%	12.3%
Accounts Receivable	47.2%	27.5%
Inventory	0%	0%
Total Current Assets	58.0%	41.3%
Total Fixed Assets	9.9%	15.4%
Other Non-Current Assets	32.1%	43.3%
Total Assets	100.0%	100.0%
Accounts Payable	4.9%	2.7%
Total Current Liabilities	35.9%	37.1%
Total Long-Term Liabilities	2.2%	0%
Net Worth	61.9%	62.9%

Financial Ratios

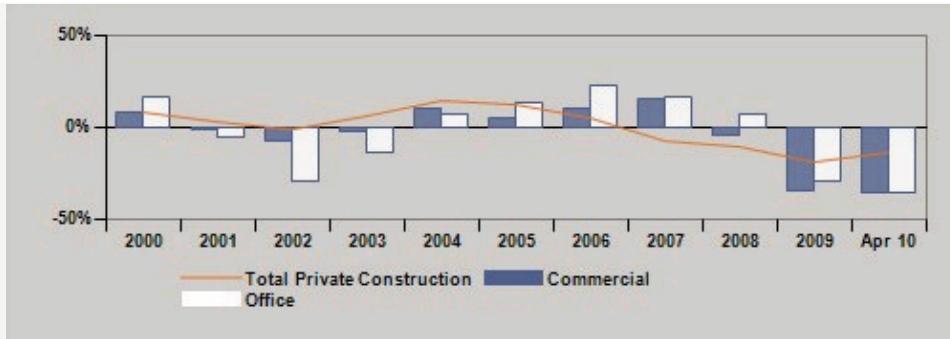
(Click on any ratio for comprehensive definitions)

Quick Ratio	1.52	1.5
Current Ratio	1.93	1.94
Current Liabilities to Net Worth	56.0%	25.0%
Current Liabilities to Inventory	398.0%	456.0%
Total Liabilities to Net Worth	75.0%	41.0%
Fixed Assets to Net Worth	17%	13%
Collection Period	59.4	34.4
Inventory Turnover	NA	NA
Assets to Sales	36.0%	31.0%
Sales to Working Capital	6.2	4.6
Accounts Payable to Sales	2.0%	1.0%
Return on Sales	3.0%	3.0%
Return on Assets	9.0%	10.0%
Return on Investment	28.0%	46.0%
Interest Coverage	11.8	5.4

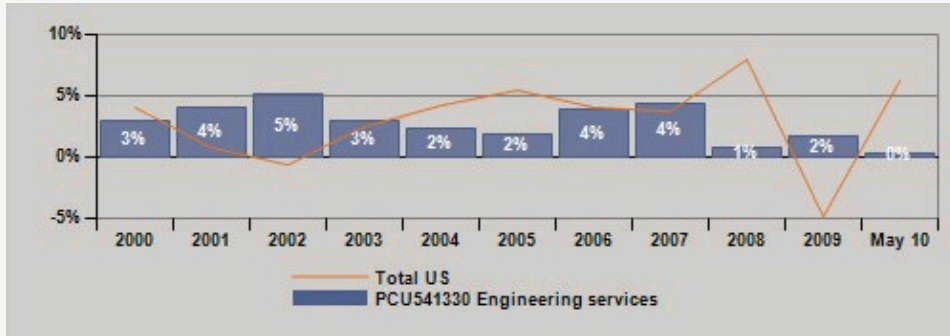
Financial industry data provided by Fintel -- offering leading benchmarking with a database of over 900 industries. Utilize financial analysis through profitability, liquidity, sustainable growth rate, business valuation, custom research, and other tools. Visit us on the web at www.fintel.us/firstresearch to find out how we can help you.

ECONOMIC STATISTICS AND INFORMATION

Annual Construction Put into Place - Census Bureau



Change in Producer Prices - Bureau of Labor Statistics



VALUATION MULTIPLES

Engineering Services

Acquisition multiples below are calculated using at least 15 private, middle-market (valued at less than \$1 billion) industry transactions completed between 9/1999 and 8/2009. Data updated every six months. Last updated: March 2010.

Valuation Multiple	MVIC/Net Sales	MVIC/Gross Profit	MVIC/EBIT	MVIC/EBITDA
Median Value	0.6	1.4	7.7	6.3

MVIC (Market Value of Invested Capital) = Also known as the selling price, the MVIC is the total consideration paid to the seller and includes any cash, notes and/or securities that were used as a form of payment plus any interest-bearing liabilities assumed by the buyer.

Net Sales = Annual Gross Sales, net of returns and discounts allowed, if any.

Gross Profit = Net Sales - Cost of Goods Sold

EBIT = Operating Profit

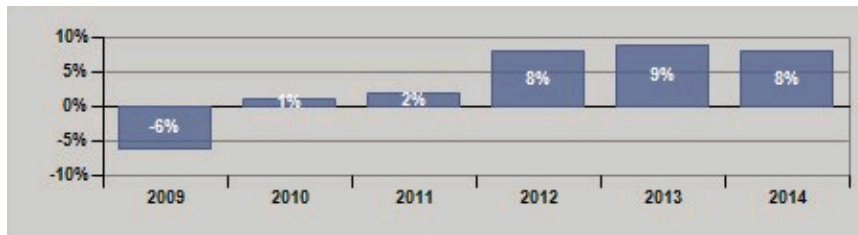
EBITDA = Operating Profit + Noncash Charges

SOURCE: Pratt's Stats™ (Portland, OR: Business Valuation Resources, LLC) To purchase more detailed information, please either visit www.BVMarketData.com or call 888-287-8258.

Industry Forecast

The output of US engineering services, research & development is forecast to grow at an annual compounded rate of 6 percent between 2009 and 2014. Data Published: October 2009

Engineering Growth Strengthens After Recession



First Research forecasts are based on INFORUM forecasts that are licensed from the Interindustry Economic Research Fund, Inc. (IERF) in College Park, MD. INFORUM's "interindustry-macro" approach to modeling the economy captures the links between industries and the aggregate economy.

First Research Industry Growth Rating

The First Research Industry Growth Rating reflects the expected industry growth relative to other industries, based on INFORUM's forecasted average annual growth for the combined years of 2010 and 2011. INFORUM forecasts were prepared by the Interindustry Economic Research Fund, Inc.



- ▶ Demand: Depends on construction activity
- ▶ Need efficient use of expensive labor
- ▶ Risk: Housing slump lasts years

First Research Industry Drivers

Changes in the economic environment that may positively or negatively affect industry growth. Data provided by First Research analysts and reviewed annually.



Construction Spending: Change in the overall level of commercial and residential construction spending

Technology Innovation: Advances in science and technology, including information technology

Web Links & Acronyms

INDUSTRY WEBSITES

[American Association of Engineering Societies](#)

Information on public policy, links, and communications.

[American Council of Engineering Companies](#)

Publications, news bulletins, and training information.

[American Institute of Chemical Engineers](#)

Conference, publication, education, training, government and industry information.

[American Society of Civil Engineers](#)

Up-to-date information on civil engineering.

[American Society of Mechanical Engineers](#)

News, links, and more.

[Association of Consulting Engineering Companies - Canada](#)

News and publications.

[CENews.com](#)

News about civil engineering.

[Chemical Engineering](#)

Engineering articles, news, product roundups, seminars and conferences, links, job advice, and more.

[Engineering News-Record](#)

News by specialized areas.

[Engineers Canada](#)

Regulation, licensing, media, events, and education.

[Institute of Transportation Engineers \(ITE\)](#)

Legislative and regulatory information, employment opportunities, transportation news and events.

[McGraw-Hill Construction Dodge](#)

Construction forecast.

[Mechanical Engineering Magazine](#)

News updated three times a week, product trends and literature information.

[National Academy of Engineering](#)

Publications, news, events, directories, and research reports.

[Society of Manufacturing Engineers](#)

News, education, trade shows. Salary surveys.

[The Institute of Electrical and Electronics Engineers \(IEEE\)](#)

Publications, product and services information, news and conferences.

GLOSSARY OF ACRONYMS

ASCE - American Society of Civil Engineers

BRIC - Brazil, Russia, India, China

CRM - Customer Relationship Management

ENR - *Engineering News-Record*

EPC - engineering, procurement, construction

CAD - computer-aided design

“The purpose of the Profiles is for sales call preparation and general business and industry analysis. Profiles provide general background information only and are not intended to furnish detailed information about the creditworthiness of any individual borrower or purchaser or to be used for making any loans, leases or extension of credit to any individual borrower or purchaser. First Research, Inc. is not an investment advisor, nor is it in the business of advising others as to the value of securities or the advisability of investing in securities, and the Profiles are not intended to be relied upon or used for investment purposes.”

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