Re-engineered Globally

As outsourcing moves up several notches from writing code and answering calls, companies such as Boeing, Rolls Royce, Smiths Aerospace and General Motors are betting on getting their engineering components designed abroad

Amrita Singh

After tweaking code, testing software, answering calls and processing documents, it's time for global service providers to look at offshoring of engineering services. This comprises a gamut of services, be it designing an airplane's wings or an automobile's high-tech diagnostic system using 2D drafting, 3D modeling, conceptual design, design validation, quality consulting and other engineering solutions. Global corporations such as General Motors, Intel, Texas Instruments, GE, Daimler Chrysler, Bosch, Boeing, Airbus, DuPont, ABB, Bechtel and Caterpillar are keen on buying such services from a host of providers in destinations like Russia, China, Mexico, Israel and India.

The excitement is not without good reasons. Engineering services, a $750 billion a year global industry promises to be the next big frontier for offshore firms to tap. While only $10 billion to $15 billion of the $750 billion is at present offshored, the potential is huge — about $150 billion to $225 billion is expected by 2020, according to consulting firm Booz Allen Hamilton. In the same time span, the global spending on engineering services is projected to increase to over $1 trillion. Already global companies in telecom, automotive, aerospace, utilities, construction and industrial machinery domains are looking at global engineering service providers to cut costs and provide innovative solutions for next-gen products.

Offshoring Drivers

Though cost saving is the key driver for engineering work being offshored to global providers, there are other benefits as well. Across managements, the benefits are threefold. First, at the CEO and board level, engineering outsourcing helps companies cut costs by outsourcing expensive R&D and engineering support. Second, at CTO level, engineering outsourcing helps augment capability — outsourcing helps engineering teams reduce their product-development cycle and improve time to market, and helps in innovation by drawing in ideas and talents from different geographies and cultures. Third, at the program-manager level, outsourcing helps add to capacity through ramp up and multiple shifts at an outsourced location.

Such benefits make providers like Russia's Auriga very attractive for buyers of engineering services. Auriga is one of the oldest companies in Russia

providing services from development centers in Moscow, Kazan and Nizhny. The company is headquartered in the U.S., has a European sales office in France, and is planning to increase its presence further in Europe.

"We have a special focus on delivering high-end IT outsourcing services for high-tech product companies, ISVs, OEMs, especially for software, telecom, health care and medical devices industries," says Alexis Sukharev, Founder and President, Auriga. "The services include complete product engineering (from the product concept to support and deployment) and all sub services included in it — software development and maintenance, software testing and quality assurance, re-engineering and porting, localization, consulting, professional services."

Some of its clients include Queplix, BroadVision, NMS Communications and Drager Medical. For Drager medical, a Germany-based manufacturer of medical equipment, Auriga is developing a remote view subsystem for patient monitoring and a new version of its critical care workstation. While for NMS Communications, a U.S.-based provider of telecom applications, Auriga is developing new signaling, support and voice-processing services. Like Auriga, there are other Russian companies that are actively providing engineering services to customer companies globally. Another Russian engineering services provider DataArt offers engineering services in financial, telecom, media and life sciences domains. "We do new application development, and software R&D in our chosen verticals. We serve both end users (e.g. investment banks) and third-party software manufacturers (ISVs), primarily in the mid-size sector," says Alexei Miller, EVP, DataArt.

Global Providers

Russia is one offshore destination that is very attractive for such work as almost 50 percent of the student population in the country majors in technology, science or engineering, which is far more than in China, India, Japan or the U.S. Moreover, Russian science graduates spend

Alexis Sukharev,
Founder and President, Auriga

"We see the possibility that large Indian outsourcing companies might come to Russia looking for experience in specific [engineering] technology fields"

between five and six years at university before entering the workforce, ensuring a more thorough training, according to Russoft, the Russian IT association.

Currently, more than 1.3 million degreed professionals are circulating in the economy, with an estimated 2.35 million more in the university system. If the numbers and studies seem too academic, the actions of global technology leaders speak of the strength of the Russian talent pool. Across the region, independent research and development centers are owned by Sun Microsystems, Intel, Alcatel, IBM, HP, and many others have been springing up.

"The advantage [of engineering services offshoring] is in the combination of cost and value, which make certain types of high-end, analytical work very relevant to Russia," says Miller. "While cost is comparable to destinations

like India, the quality of easily available R&D talent [in Russia] is higher. Russia has the resources to offer for advanced mathematical research, quantitative analytics, etc."

But providers across the globe are not too far behind in cashing in on the opportunity. As per a spokesperson of an Indian-based engineering service provider, "Russia has a tradition of excellent engineering. China, Mexico, Eastern European, India and other low-cost countries will all be viable destinations for customers looking to outsource engineering [services]. India's advantages are talent, scale, program-management skills and experience, intellectual-property protection regimes and cultural compatibility to increase the engineering work that will be offshored."