Purchasing Insights—Engineering & Technical Services

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Engineering and Technical Services Overview

Engineering & Technical Services (ETS) encompasses a broad set of tasks that are common across federal, state, and local governments. Requirements in this category range from Computer Aided Design (CAD) and engineering modeling, to technical cost performance trade-off analysis, to testing and development of heavy duty vehicles. Services provided in this category are generally mission critical, and therefore, program offices typically retain more control of the requirements. However, there are several savings strategies that can be implemented to help lower total cost of ownership while providing programs the capable suppliers needed to fulfill their requirements.

Service Offering

There is a wide-range of service offerings contained within the ETS category. These include but are not limited to:

- *System Design, Engineering, and Integration* (e.g. Computer Aided Design, Prototype Fabrication)
- *Concept Development and Requirements Analysis* (e.g. Feasibility Analyses, Regulatory Compliance Support)
- *Test and Evaluation* (e.g. Quality Assurance, Physical Testing of a Product or System)
- *Business and Operations Management Services* (e.g. logistics planning and product training, technical management)

These services are procured from a range of industries and vendors and through a multitude of contract types (firm-fixed price, cost plus, to time and materials). The vendors providing these services are usually professional service providers, systems integrators, or specialized technical program management firms.

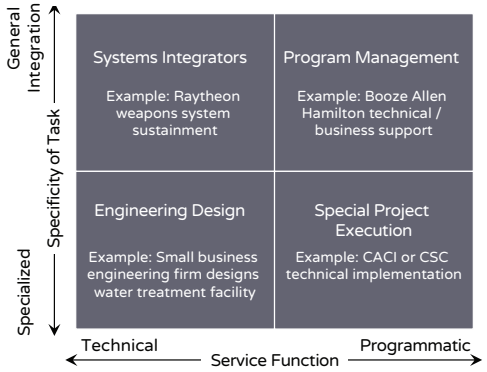
ETS are primarily procured to perform mission critical functions such as weapons system component design within the Department of Defense all the way to the design of water and wastewater treatment facilities for local municipalities. These projects require specialized skillsets that may not be a core competency of the public agency procuring the service. However, any procuring agency should have the requisite expertise to oversee and approve the work of a supplier.

Market Overview and Industry Trends

Engineering and Technical Services in the United States is an industry with revenues of more than $200B in 2015. Industry revenue over the past 5 years has been in a steady, yet slight, decline due in large part to weak public sector spending on infrastructure projects.

The industry can be generally divided by service function being provided (technical to programmatic).

Figure 1 shows specific examples of the ETS market (top right).



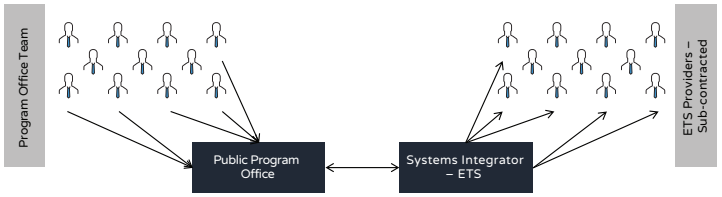
Overall, the market is generally competitive with moderate barriers to entry depending on the service being provided. Barriers for vendors within the public sector are higher. Specific services, such as technical program management, tend to be dominated by a few larger players with a breadth of capabilities.

Public sector procurement of ETS has been trending toward increased adoption of performance based contracts and less risky contract types (such as fixed price when applicable) based on policy guidance and oversight from federal accountability offices.

State of Competition

Engineering and Technical Services is a broad category with many large vendors that can provide a variety of services within the category. In many cases large systems integrators may bid and win an ETS contract but may not be able to perform all of the tasks required. Therefore, partnering and sub-contracting frequently occurs so that these large integrators or program managers can bring in the specific technical skillset required on the contract. Figure 2 depicts the relationship between a large public program, the systems integrator, and the various ETS providers that may perform aspects of the work.

Figure 2. Relationship Between ETS Vendors for Large Projects



Due to the mission criticality of the services being provided, it is often the case that the program offices want to retain the incumbent supplier or award to the largest and most established companies in this space. However, there is often opportunity for small business participation in ETS due to the competitive market and specialized expertise that is often needed.

ETS Procurement Strategies

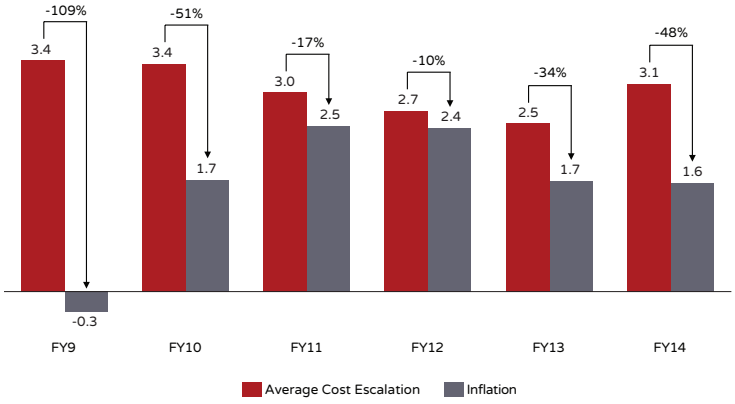
There are four procurement strategies outlined below that will save public organizations time and money when purchasing engineering and technical services:

- Align cost escalation clauses with inflation rate (standardize across contracts), which is typically closely aligned with labor rate escalation
- Manage cost escalation risk by managing contract types (convert T&M contracts to cost plus and incentivize performance based contracts)
- Rationalize G&A and overhead fees / improve processes
- Migrate requirements to lowest cost contracts

Align Cost Escalation Clauses with Inflation

It is consistently observed that cost escalation rates for labor rates and materials outpace inflation. See figure 3 for example.

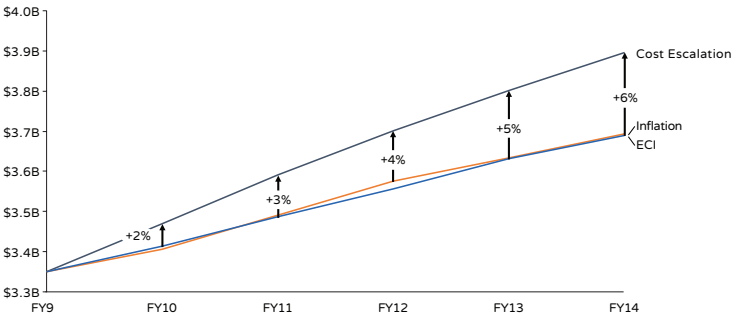
Figure 3. Observed Average Cost Escalation Rate vs. Inflation for a DoD Command



Additionally, escalation rates vary significantly from one ETS contract to another and are rarely considered a cost driver.

However, by standardizing escalation rates and pegging them to an average inflation rate, agencies can save 1%-1.5%, which is significant considering many ETS contracts are large and span multiple years.

Figure 4. Divergence of Cost Escalation Rates vs. Inflation



Reduce High Risk Contracts

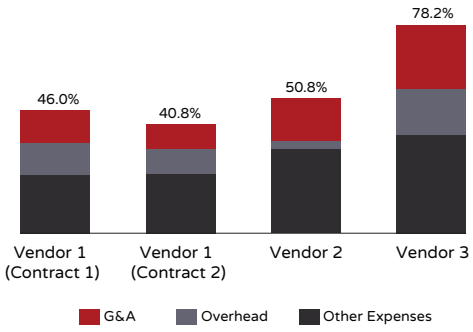
Benchmarking contract types for similar requirements against similar organizations may provide insights into how other organizations and programs manage risk.

Additionally, looking at the maturity of a program can often help identify programs where T&M or cost plus contracts can be shifted to FFP as requirements become mature and more predictable.

Rationalize G&A and Overhead Fees / Improve Processes

Due to lack of transparency, overhead and administrative fees are often an area where significant savings can be found. For example, significant fees are often tacked on for subcontractors with no real value provided to government. Benchmarking vendors against each other can lead to additional opportunities. In Figure 5, for instance, Vendor 3 has significantly higher G&A and overhead fees, which can potentially be lowered through negotiation or process improvement.

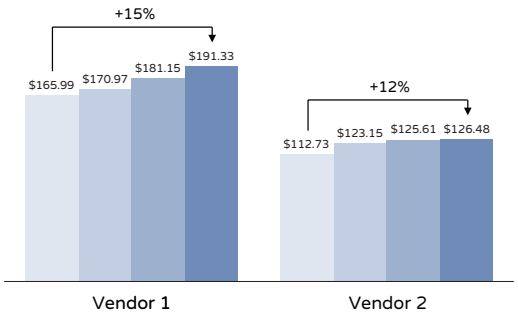
Figure 5. Costs and Fees as a Percentage of Direct Labor



Migrate Requirements to Lowest Cost Contracts

Agencies often have numerous blanket agreements for the exact same requirements and labor categories. These contracts often have varying rates for the exact same labor categories. Comparing rates across labor categories for the same vendor can lead to identification of significant cost savings, merely by switching usage to better priced contracts. The example below highlights one such example where the same labor categories from the same vendor have very different rates.

Figure 6. Price Variance for the Same Labor Categories for the Same Vendor in the Same Fiscal Year



Benchmarking to determine best in class rates, and ensuring all requirements are migrated to the best contract for that labor rate can have saved customers ~3% on ETS per year.

Sources: Censeo expertise; "Professional Engineering Services", US GSA Federal Supply Service.; US Government Accountability Office; "Engineering Services in the US: Market Research Report", IBIS World, Web.