



# Defense mechanisms

*Getting government work is never easy, but a quarter-trillion market is the savvy machine shop's oyster – all you need is some willpower and a little expert advice*

By Timothy Erdman

In today's topsy-turvy economy, defense-related work might be the closest thing to a recession-proof industry. There's stability in machining parts for the military. Part of the U.S. Army's mission, for example, is to maintain and upgrade equipment used in the Iraq and Afghanistan wars. It depends on small businesses to do the job.

## **Backtrack to 2004**

"Small manufacturers — those that employ fewer than 500 people — represent 90 percent of firms contracted in leading defense sectors," wrote Steven Zylstra and Dennis Thompson in National Defense Magazine's August 2004 issue. "Such companies, historically the backbone of defense procurement, receive 21 percent of prime contracts and 41 percent of all subcontracts the Pentagon awards to businesses."

Even though the report was written 5 years ago, the role of small business in manufacturing parts for the military hasn't decreased during the 6-year Iraq conflict and 8 years in Afghanistan.

Now fast-forward 3 years later and check out these big numbers: in fiscal year 2007, Robert Brodsky wrote about a study by

the Rand Corporation reporting that the Department of Defense spent nearly \$270 billion on federal contracts.

"Roughly \$55 billion, or more than 20 percent, went to small businesses," Brodsky wrote.

The piece of pie is sizable, but why shouldn't shops be getting more? You've been cutting waste, going "lean," adding value and improving processes in general, despite watching a lot of business move out of the country to off-shore producers. Perhaps you've been reluctant to go after government work and deal with, as Zylstra and Thompson noted, "its customary months of idle time awaiting qualification, contract reviews and initial payments."

## **Lean on consultants ...**

But that was then, and this is now. If any resurgence can be detected in the defense market for small- to medium-size shops, it might be due to consulting firms acting as intermediaries through each state's manufacturing extension partnership (MEP), paving the way for procuring DoD contracts. With the Obama administration in office, the MEP could become the VIP in helping manufacturers, including machine shops, compete globally and effectively.

But even with such facilitators, the task is never easy.



*Tech Sgt. Seth Hillman, 8th Airlift Squadron loadmaster, instructs a soldier on the safest method to drive a Stryker out of the C-17 Globemaster III. Photos by Abner Guzman, contributed by Fort Lewis Public Affairs Office, Fort Lewis, Wash.*

“There needs to be a method to identify where the suitable requirements are within DoD,” said Rojc, whose company has been in the role of “enabler” for the past 15 years. Once the entry requirements are understood, the next step is to look closely at technical criteria.

Factor in all the contractual complexities associated with dealing with DoD, and you can begin to fathom the challenges that small- and medium-size manufacturers face.

“But they are not insurmountable,” Rojc insisted. In every state, organizations called Procurement Technical Assistance Centers provide firms with basic guidance. For a company wanting to find federal contracting opportunities, PTAC’s are good starting points for setting up a basic interface structure, Rojc said.

### **... to make sense of it all**

Consulting firms like Rojc’s come into the picture at the next level.

Once your shop is set up to do work with the federal government, you can fully quote on a job and respond accordingly to solicitations that match your shop’s capabilities. The opportunities “can happen fairly quickly,” said Rojc, whose firm matches the supplier’s capabilities to the solicitation.

“There are Web-based systems used to advertise these solicitations,” Rojc said. The issue is one of choices: there are many specific parts and opportunities, some with technical data packages and some without.

Ferretting through the myriad of opportunities to find something the shop is interested in pursuing is a time-consuming and resource-intensive task. Also, the technical data might present a challenge.

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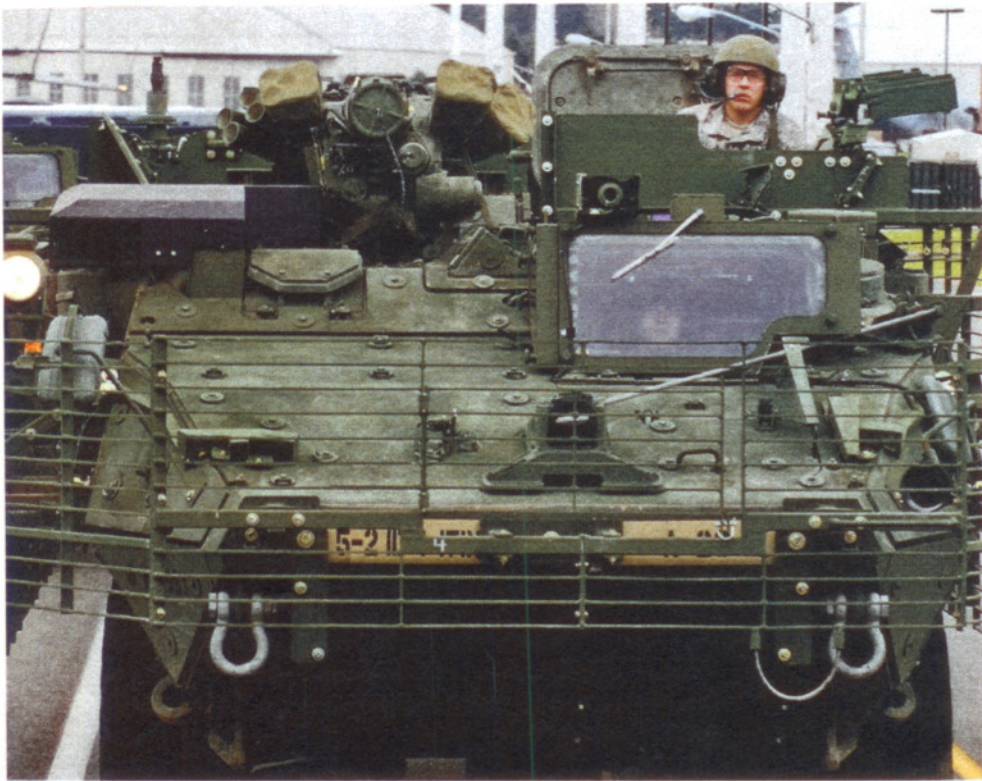
“The technical data presented is in many instances difficult to review and read,” Rojc said. For example, the format called “C4” is a raster (bitmap) image format developed by the DoD for military use – not your typical “easy read” for most companies. CMTC researches the data and converts it into a format that the supplier can understand. This helps minimize the time that would normally eat up a shop’s attention span in assessing the solicitation.

By developing, filtering and refining data, and mapping the manufacturer’s own capabilities into the CMTC’s system, the shop can react to a group of tailored solicitations in timely fashion, instead of wasting days or weeks. ISO 9000 and other certifications can be obtained in parallel with entry into the bidding process.

“There are several hoops to go through in order to address DoD requirements,” said Karl Rojc, director of the defense services group for California Manufacturing Technology Consulting, a Torrance, Calif., firm. Don’t let the regional part of the title be misleading: the CMTC group’s mission includes supporting the requirements for DoD’s defense legacy weapons support in defense systems, so in that respect, it works with manufacturers on a nationwide basis.

Still, it is noteworthy that, as of last November, small- and medium-size companies in Southern California alone increased new sales of DoD military systems by approximately \$600,000. These represent manufacturing and parts-assembly opportunities, initiated through a federally funded program known as the California Enhanced Manufacturing Supply Chain, and managed by CMTC. According to CMTC, the same companies are now willing to face competition and embrace new production and management strategies designed to meet DoD’s stringent quality control and production requirements.

Consultants like CMTC are facilitators. They have to be, because 9 times out of 10, a small manufacturer is not equipped to understand the complexities associated with providing parts and assemblies to defense sectors.



Soldiers position Strykers on the flightline prior to loading on board a C-17 during a training exercise at McChord Air Force Base.

## sideTALK

### Check with your consultant

Consultants like CMTC can be a valuable source for a manufacturer wanting to increase their shop's share of military business. It counseled a Huntingdon Beach, Calif., engineering firm that resolved to improve on-time delivery and quality of its products, pieces that require high-precision machining of steel, aluminum and titanium parts for the aerospace and defense industries.

At CMTC's prompting, the firm, which realized sales of \$10 million in 2007, implemented a "lean" manufacturing program. This alone is expected to save the firm a half-million dollars on the way to expanding capacity for an additional \$4 million in sales during the next 3 years.

Meanwhile, a 30-employee valve manufacturer was asked by another major defense contractor to participate in its "lean supply chain management" program with CMTC. Through training and a comprehensive program involving everything from setup time reductions to the utilization of Kanban techniques, the company saw a sales increase, plus a cost savings due largely to a 40 percent increase in productivity.

Not to mention that the major defense contractor was very satisfied with the project's results.

by approval of a third party is not a prerequisite to engaging in certain manufacturing opportunities," Rojc said.

### Breaking in is hard to do

None of this is meant to imply that getting in on a share of today's military-industrial complex is an easy-street guarantee.

Writing for the Democrat Chronicle last March, Matthew Daneman reported that in April in Rochester, New York, the county's Procurement Technical Assistance Center did a survey of 550 clients and found that small businesses in the area were interested in selling to the U.S. DoD. It staged a series of workshops geared toward those manufacturers, but Kalman Zsamboky, president of Advance Circuit Technology, said even the extra help didn't make breaking into the market any easier.

"It's taken us about 3 years of continuously working with purchasing, engineers and project managers to

do the prototypes and qualify as a supplier" for defense contractor BAE Systems PLC, Zsamboky said in the article.

In Ashland, Ore., Varney Manufacturing recently completed a costly ISO 9001 certification for general machinery, and AS 9100 for aerospace. The certifications will allow Varney to supply components for other firms that make the parts for jet fighters and commercial jets, according to an article in the Medford Mail Tribune.

"Boeing or Lockheed Martin won't buy from draw shops that aren't AS 9100," the firm's owner, Gary Varney, said in the article. "We're hoping to get more aerospace business, because we paid a lot of money and spent a lot of time to get the certificate.

"The sad part is that the industry has slowed down since we started all of this."

A healthy sense of skepticism is all well and good, but don't sell short the possibilities. Remember, last year's military contracts totaled more than \$307 trillion.

If your shop placed somewhere in the last 5 or 6 digits of that number ... well now, going after a little military business might not be such a bad thing after all. ⚙️

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