

## Woman-owned firm develops products for JPL

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In August 2000, Santa Barbara-based DKB resources began work on a \$1 million contract with NASA and Jet Propulsion Laboratory to manage the design and manufacturing of multiple circuit boards used on the Mars rovers.

The three-person company was only eight months old.

Partnerships with companies across the country, including Santa Barbara-based NBS Corp., provided the engineers and manufacturing capabilities to complete the project. Frank Daniels, process controls specialist for NASA, said founder and owner Darya Bronston has the attention to detail that NASA prefers to work with, and her company's success reveals what other businesses can do to get on NASA's radar for future contracts.

As a self-described general contractor of circuit boards, Bronston has since secured contracts for the 2007 Mars program, which will attempt to identify life forms on the red planet. DKB names Raytheon Co., Boeing, Motorola, TRW and Northrop Grumman among its clients.

Bronston said her firm's size is an advantage. "We're able to be much more flexible, much more cost-effective and much more creative than some of the behemoths," she said.

Although it was with some reluctance, Bronston shared her tips for securing a NASA contract, which I've simplified with easy-to-remember clichés:

- It's not what you know, it's who you know. "A lot of it is knowing people and getting introduced," Bronston said. "It's a small industry; you can't afford to make enemies." Small companies can look for ways to team up with other companies that already have contracts to get a foot in the door.
- Keep up with the Joneses. Companies need to stay current with the technology in their field.
- Dot your "i"s and cross your "t"s. Documentation is critical when working with the government. Keep good records, document everything, double check and be consistent.
- Play well with others. "Have structures or communication models in your company that help communication work more smoothly," Bronston said. She attributes a lot of her success not to science skills—she said she "sucks" at math and had to retake chemistry—but to people skills.

Once a company proves itself to NASA, it's likely to see more business come its way. NASA and JPL contracts account for about 50 percent of DKB's business. But for Bronston, it's not just about the money.

"We're involved in making history," she said. And she said she has sat in rooms with people who are in history books.

### NASA'S NEW GROOVE

Daniels honored DKB's team during an October luncheon in Santa Barbara featuring the company's work on the Mars rovers.

The visit was part of a new NASA outreach program designed to interact with suppliers and remind them of the importance of process control to prevent costly mistakes.

How much can 24 bolts cost? \$125 million.

That was the cost when workers on another NASA project decided to borrow 24 bolts from a \$238 million satellite. The satellite fell over and became seriously damaged before it was ever launched.

"Failure is not an option for NASA," Daniels said. Yet he recounted how small errors added up to \$10 billion in mistakes in a six-year period.

He passed out "My Role in Process Control," a 52-page, full-color, comic-book-style booklet with superhero-like characters and a lot of exclamation points sharing "amazing facts" such as "Deviation from the approved planning is a blueprint for disaster!" Apparently this is the way to communicate to engineers.

"We need to make sure that they're using their brains the best that they can," Daniels said.

His message was that companies that work with NASA should be control freaks. "Don't change your processes one iota," he said.

But NASA, which was created in 1958, is ready for change.

"They have a lot of old management styles," Daniels said.

Historically, NASA centers have operated independently. But an effort is underway to create an agencywide system with data about NASA's suppliers. For example, JPL would be able to access information about companies working with other NASA

sites such as the Kennedy Space Center or the Dryden Flight Research Center.

Daniels said NASA will implement a supplier rating system—based on factors such as cost, quality and scheduling—which various centers can tap into for their projects.

It opens additional opportunities for companies with established track records like DKB.

DKB helped create circuit boards used in the cruise and lander stages of the Mars rovers. The firm designed the layout of the camera board, which took photos when the rovers were on Mars.

DKB is working on multiple projects for the next Mars mission, including the mobility avionics program. The program is designed to take multiple boards used in the current rovers and capitalize on their similarities so that a basic design could be reused by simply adding plug-ins for specific functions. Bronston said the company had revenue of \$1 million in 2002 and \$500,000 in 2003 due to an industrywide fallout. She expects to end 2004 with revenue near the \$1 million mark.

Kien Nguyen, JPL's supplier outreach and process control coordinator, said companies that contract with NASA should recognize the significance of their jobs. "What they do every day matters," she said.

She and Daniels drove the point home with a panoramic poster of the surface of Mars, which they awarded to Bronston at the end of their presentation. Employees also walked away with "We're on Mars and I helped" buttons.

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