

# Can Exostar transform the aerospace industry?

By Phillip L. Zweig

By streamlining the supply chain, facilitating online product design, and collecting and sharing data, this B2B exchange aims to be a catalyst for significant changes in the way the industry does business.

Few people would accuse Boeing, Lockheed Martin, Raytheon or BAE Systems, four of the world's leading aerospace and defense manufacturers, of being halfhearted competitors. Given the chance to bid against each other for a big commercial or military aircraft contract—such as the one from the US Department of Defense for the Joint Strike Fighter—any one of them would certainly pull out all the stops to beat out the others for the business.

But while they are fierce rivals when they have to be, these companies also happen to be one another's best customers, suppliers and partners. That's why they're able to remove their competitors' hats when they sit around the boardroom table at Exostar, an electronic business-to-business marketplace established last year to streamline the highly sophisticated but notoriously inefficient aerospace and defense industry.

One reason for that inefficiency is the industry's zero tolerance for failure; safety is obviously the paramount concern within the industry. But another major cause is the existence of archaic paper-based procurement systems—sometimes a dozen or more different ones at a single big company.

In March 2000, when these four behemoths announced plans to set up the consortium, their expectations were relatively modest, notwithstanding their size and clout. Taken together, in 2000 these companies generated \$112 billion in revenue, represented about \$71 billion in purchasing power and dealt with some 37,000 suppliers worldwide.

The original idea behind Exostar was to reduce overhead and inefficiency by creating an online market for everything from paper clips to wing assemblies and jet engines. Faced with profit margins that are among the thinnest in

## Company profile: Exostar

Headquarters: Herndon, Virginia  
President & CEO: Andy Plyler  
CFO: Ken Possenriede  
Employees: 65  
Year established: 2000  
Founding partners: BAE Systems  
Avionics; The Boeing Company;  
Lockheed Martin Corporation;  
Raytheon Company

any industry, the four founding partners figured that they could slash the cost of processing a purchase order from as much as \$150 to as little as \$1.50 by automating and standardizing industry procurement procedures.

But a lot of jet fuel has passed through the afterburner since then. Exostar's creators now see the new enterprise as a catalyst for significant changes in the way the entire industry does business.

They figure that by streamlining the industry's supply chain, facilitating online product design and providing the platform for all forms of industry interactions, Exostar will make an entire portfolio of business processes more efficient. Among the potential benefits are expediting the production of new aircraft and related components, cutting flight delays, keeping a lid on airfares and even helping to bolster the operational readiness of the US military's fleet of aircraft, tanks and ships.

Andy Plyler, who joined Exostar as president and CEO in January 2001, says that Exostar now sees itself as the "grid" that will link virtually all the players—buyers and sellers—in the global aerospace and defense industry. "This is the factory of the 21st century," he says. Adds chief strategist

Jim Mandracchia, "We have a much richer business model than we did just a year ago."

If Plyler and his colleagues are right, Exostar has the potential to be a classic business school case study of industry cooperation. It may also represent one of the fastest startups of a large, viable enterprise in recent years.

### Crash program

In early 2000 the founders discovered that they all were working to develop their own in-house e-commerce procurement sites—and that each of them expected to invest millions in the effort. In launching their individual initiatives, the companies were seeking to achieve in-house what Exostar now aims to accomplish for the entire aerospace and defense industry: the elimination of the disparate, paper-based procurement procedures and out-of-date legacy systems that have proliferated as the companies have grown through mergers and acquisitions.

One outcome would be the easier integration of future mergers and acquisitions: The systems and procedures of prospective buyers and targets will become virtually identical and therefore easier to integrate, says Paul Pasquier, Boeing's director of electronic procurement.

While declining to cite specific cost-cutting targets, Chris Bade, vice president of strategic planning and business development at Raytheon, says, "We know that when we remove 50 steps out of 75 there's going to be a benefit in that. Either someone goes away or someone is freed up to be more productive."

Exostar came about because the founders realized that it would be more cost-effective for them to join together to create a global electronic exchange for the entire industry than

for the companies to continue developing their own sites. To begin reaping the expected benefits as soon as possible, the CEOs of the four founding companies gave their staffs what seemed to be an unattainable goal: Get it up and running in 120 days.

After the March 2000 kickoff announcement, the partners selected Accenture, largely because of its strong e-business practice and extensive experience as an aerospace industry consultant, to launch the company. In addition, the partners brought in e-business software firm Commerce One as a technical partner to provide the operating system to power the exchange.

A crash program got under way that May, with about 60 Accenture partners and staff working with operating committees from the four founding partners. Together they wrote the business plan, hired staff, designed products, contracted with suppliers and trading partners, established the corporate legal structure and supported the launch of the newly named company at the Farnborough International 2000 air show.

In fact, Exostar was born in the Accenture Business Launch Centre in Reston, Virginia, which was also the exchange's headquarters until its June 2001 move to nearby Herndon. Until Plyler came aboard, Accenture partners filled the Exostar management roles.

Crucial to Exostar's market acceptance was the early decision by the founders to make the exchange "market neutral," meaning buyers wouldn't use their combined clout to force suppliers to cut prices. They realized, explains Boeing's Pasquier, that suppliers would never participate unless everyone was "on the same level playing field." In addition, this approach has appar-

ently dampened any concerns the US Department of Justice's antitrust division might have had about the consortium.

Exostar also had to deal with a vast array of managerial and technological challenges not faced by other online exchanges, including those established for the auto and retailing industries. For one thing, it was being designed for an enormously complex industry whose top priorities are quality and safety, not streamlining purchasing procedures.

"Security was, and continues to be, a critical challenge," says Accenture program manager Dan Silva, and Exostar's security requirements are infinitely tighter than those for other exchanges. "The Defense Department will never fully use Exostar until it can be totally comfortable that security is unimpeachable," concedes Barry Lerner, Exostar's vice president for government sales. "That may take years," he says.

Exostar is currently examining ways in which so-called "biometrics" technology, including devices for identifying users by their thumbprints, can be incorporated into the system. (For a related article, see page 66.) Whatever the final security solution, Exostar will likely spend "tens of millions" more on security than other exchanges do, officials say.

Exostar was officially launched at the Farnborough International 2000 air show in England on July 25, 2000—119 days after the kickoff announcement—and by the end of September it was open for business. At first Exostar merely enabled buyers to execute transactions for so-called "indirect" items—goods such as office supplies, factory supplies and tooling that are not used in the actual construction of planes, missiles or other hardware.

In simple terms, the system works this way: A buyer logs on to Exostar's online catalogue and selects a product from among a variety of options, including vendor, quantity, price and delivery instructions, and then places the order over the Internet. The supplier instantly receives the order, confirms it with the buyer and arranges for the goods to be shipped. Buyers can even route orders to other purchasing officials at their companies for approval according to their spending authority. Exostar executives expect that by mid-2001 participants will be able to buy and sell "direct" items—goods that are actually used in building commercial aircraft and related products.

By the beginning of April 2001, Exostar was executing more than 2,000 transactions a week on behalf of some 100 customers and had won plaudits from AMR Research as the top aerospace and defense exchange.

#### **Real promise**

But merely executing purchase transactions, says Plyler, is not where Exostar's ultimate potential lies. The real promise of Exostar, he says, will become evident when the procurement systems are fully linked with the aerospace supply chain. When that happens, more costly bottlenecks and snafus can be eliminated. For example, a disruption in a Boeing 777 production line would automatically trigger the rescheduling of a shipment by the supplier of cockpit avionics to the Boeing plant. Currently, the avionics maker would continue working, perhaps frantically, to meet its original deadline, and Boeing would likely end up receiving avionics components that it was not ready to install.

Online collaborations between manufacturers and suppliers in the design of aircraft and components will yield even greater benefits, Plyler predicts, including substantial reductions in the lengthy design and development cycle

for new aircraft. In June 2001, when Exostar made design collaboration services available, the consortium's customers were among the first users to be able to design products interactively on the Internet.

So, for instance, if BAE Systems needs to prepare a bid on a new program quickly, its engineers can work together online with prospective suppliers to prepare the bid package, rather than attend numerous meetings and exchange proposals by overnight mail, fax or e-mail. This tool, says Lerner, could shave at least a year off the 10 or so it now takes to shepherd a new aircraft design from the concept phase to production.

Meanwhile, Exostar is building a database of information gleaned from its customers on all phases of aerospace business operations that customers, in turn, will be able to use to make their own operations more efficient. Traditionally, says Plyler, airlines and manufacturers have been skittish about sharing sensitive proprietary information with competitors. But by gaining access to data that reflects the entire airline industry's repair experience with, for example, auxiliary generators, individual airlines such as American or Southwest will be able to calculate more precisely the number of generators they need to keep on hand for emergencies at their maintenance facilities.

Plyler, Mandracchia and their colleagues believe that the broader strategic vision that has evolved at Exostar since early 2000 assures that it will survive and prosper in a business that has seen a chilling shakeout of online competitors during this period. "We're in this for the long haul," says Mandracchia. ■

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