

Global View

Lockheed, Spectrum Team on Reborn GPS III



In the wake of renewed Department of Defense (DoD) interest in the GPS III modernization initiative, former competitors Lockheed Martin and Spectrum Astro have announced plans to combine their efforts to win future contracts for the program. That will probably leave The Boeing Company as their sole competition for GPS III.

GPS III will add advanced anti-jam capabilities, improved system security and accuracy, and reliability to GPS.

In budget proposals submitted to Congress earlier this year, the Bush administration — at the suggestion of the U.S. Air Force — eliminated funding for the program in Fiscal Year 2005 (FY05) and cut funds deeply through FY07. As a result, GPS III program funds for the current fiscal year were also frozen. However, a request for information (RFI) issued by the GPS Joint Program Office (JPO) late in April indicated a reversal in that position and an interest in possibly accelerating the program to move the launch of the first spacecraft up from 2012 to 2010.

Decision Points. Company sources indicated that a request for proposals for so-called Phase A contracts could come as early as late June. If GPS III proceeds along that timeline, the Air Force might award two contracts — each valued at between \$20 and \$25 million, according to the RFI — in September, designed to take the program through a system requirements review. Full competition for a single GPS III development contract with the GPS JPO could then come in FY05.

In light of the new situation, the two companies decided that cooperation might pay off better than continued competition.

"Spectrum Astro has a reputation for building very good spacecraft in a short amount of

time at a low cost," John Sundquist, Lockheed Martin's vice-president of navigation systems told *GPS World*. "We wanted to add those capabilities to the innovations we already have in place."

Lockheed has a long history with the GPS program, including provision of the Block IIR and IIR-M satellites now being launched as well as responsibilities for the control segment. Spectrum, on the other, has not worked in the GPS field, but assembled a diverse team of corporate partners to compete for GPS III while building up its in-house talent.

"There's a good fit between the Lockheed legacy with GPS and the new ideas that Spectrum offers up," says Ron Graves, director of defense systems for Spectrum Astro.

Lockheed will bear the overall system engineering responsibility and continue to apply its expertise in the control segment. Spectrum will focus on the spacecraft bus and contribute improvements to satellite design, lifecycle costs, and overall system performance.

Rebuilding Teams. The companies expect to draw on outside resources as they prepare new bids for the GPS III contracts. "We've examined the partners that Spectrum brought together as well as our team," Sundquist says. "We expect to make announcements in the near future about which of those partnerships will be brought forward and added to the team."

The uncertainty surrounding GPS III has complicated all the prospective contractors' ability to allocate technical expertise and stay focused. For Lockheed, that's been a little more manageable, says Sundquist, because of the Navigation Systems' activities involving Europe's Galileo, Japan's quasi-zenith system (see article begin-

ning on page 24), and "several internal pursuits."

With GPS III representing its only activity in the field, Spectrum faced a little more challenging situation. However, Graves says that Spectrum Astro has also kept its GPS team together, in part by continuing to finance GPS III-related efforts on its own.

"GPS III has been ready to move forward into development for the last 18 months," says Graves. "We feel we can move forward in the 2010 timeframe, given the money. We hope that the priorities in the Air Force come together behind GPS."

Sundquist agrees. "All the options are achievable. We expect to have a signal by the end of June as to which road to go down."

ESA Moves To OK Galileo

The European Space Agency (ESA) has resolved objections from Spain to proposed allocation of shares for work on the Galileo global navigation satellite system (GNSS) and reached an agreement that will allow the project to move ahead.

According to ESA officials, the May 26 agreement by ESA Council delegates clears the way for the official launch of the legal entity — the Galileo Joint Undertaking (JU) — that will coordinate development of the system and selection of a concessionaire to operate it.

Meanwhile, on May 16 the European Union (EU) — ESA's partner on Galileo — began negotiations in Brussels with the People's Republic of China on the latter nation's participation in the project. In opening remarks to the delegates, François Lamoureux, the European

Commission's director-general for transportation and energy, said that all subjects were on the table except for the encrypted public-regulated service for security-related applications and "critical technologies for which no licenses exist to be made accessible to China, at this stage." Lamoureux welcomed participation in Galileo by Chinese scientists and manufacturers, as well as the prospect of financial investments and JU membership. He added that he expected a draft agreement by the end of the year.

The continuing ESA delays had squeezed the project's sponsors against a 2005 deadline to begin transmitting a Galileo signal at the frequencies approved by the last World Radio Conference (WRC).

ITT Contract Boosts IIF AJ

Reflecting a growing concern about protecting the Global Positioning System from adversaries' efforts to interrupt its use, the GPS follow-on (Block IIF) generation of satellites will be modified to raise power levels and increase their resistance to jamming.

Under a contract signed recently with the IIF's prime contractor Boeing Integrated Defense Systems, of St. Louis Missouri ITT Industries, Inc., will modify the satellite design to provide two new transmitters and associated power amplifiers, modulators, and converters. The satellites will broadcast a new military signals (M-code) as well as two new civil signals (L2C and L5).

During the recent war, Iraqi military forces attempted unsuccessfully to interfere with GPS signals by using low-grade jammers.

The IIF upgrade, scheduled for completion by 2008, is designed to provide an interim solution until the proposed GPS III constellation of satellites is in place. ☼