Second Compass Satellite

ON APRIL 15, China launched a second Beidou/Compass global navigation satellite, destined for geostationary orbit along the equator at an altitude of about 22,300 miles.

The Compass-G2 satellite has been characterized as of a "second generation," representing a transition from a regional satellite navigation system, for which four test satellites were previously launched, to a global concept. China launched the first second-generation Compass satellite into medium-Earth orbit in April 2007. Compass G2 is the first geostationary satellite of the group.

China claims it may add as many as 10 more spacecraft to the global constellation by the end of 2010, with a goal of filling out a fleet of 30, in both geostationary and medium-Earth orbits, by 2015. Officials say the system will provide global coverage, "supplanting the U.S. GPS in Chinese cars, cell phones, and other commercial applications." Among such, they cite transportation, meteorology, petroleum prospecting, forest-fire monitoring, disaster response, telecommunications, and public security.

China plans its space infrastructure "independent from foreign technology," to provide critical navigation and positioning services, and bring social and economic benefits. The system will also offer "safer" positioning, velocity, and timing communications for authorized users, among which the Chinese military is sure to be paramount.

Conflicts. Interoperability of Compass with other GNSS remains an open question, although negotiations proceed along several levels. Particularly sticky is an impasse with Europe's Galileo over use of a specified spectrum band. In March, Yin Jun, the director of European affairs in China's Ministry of Space and Technology, stated that "we have made no concrete progress" in resolving differences, but held out "hope for results at our next meeting in June."

New Space Center. China earlier announced founding of Shenzhen Aerospace Spacesat Co. Ltd., which may design and build some or all of the future Compass satellites. Located just outside Hong Kong, it is expected to develop six to eight types of satellites and produce four to five satellites every year for global navigation, telecommunications, remote sensing, and space exploration.