SPACENEWS

China's Satellite Imagery Capabilities Coming into Sharper Focus

By Peter B. de Selding | Sep. 16, 2013

PARIS — The Chinese government, which over the past 20 years has been one of the world's biggest markets for commercial Earth observation satellite imagery, has achieved autonomy in medium-resolution imagery and expects to reach that goal in submetric imagery within three to five years, according to China's Center for Resource Satellite Data and Applications (CRESDA).

The good news for China's domestic industry is not as good for the half-dozen or more commercial satellite imagery companies, mainly in North America and Europe, that have counted on China as a big growth opportunity for the foreseeable future.

China's increasing self-sufficiency has already cost several satellite image providers, including RapidEye of Germany and Astrium Geo-Information of France, revenue in the past couple of years as China's domestic satellite builders have proved capable of building satellites with ground resolutions of between 2 and 5 meters.

The scheduled December launch of the DF-2 satellite in December is the opening salvo in China's attempt to reclaim the high-resolution side of its domestic market as well.

DF-2 is capable of producing images with a ground sampling distance of 80 centimeters in black and white, and 3.2 meters in color. Its images have a swath width of 48 kilometers, and the satellite is capable of swiveling on its axis 35 degrees to either side, according to Zhou Zi Kuan, director of international business development at CRESDA, a unit of the China Aerospace Science and Technology Corp.

Discussing China's Earth observation market here Sept. 13 during the World Satellite Business Week conference organized by Euroconsult, Zhou said China has dramatically reduced its use of medium-resolution data from non-Chinese providers such as RapidEye AG, which operates a five-satellite constellation.

He said the current Chinese optical imaging satellites have a performance equal to the French Spot 5, India's IRS-P5 and Japan's ALOS.

"Five or 10 years ago a lot of people said our satellites were no good," Zhou said. "Even giving the data away for free they did not attract many users. But the government has changed its previous focus from manned space to applications."

Assuming DF-2's performance matches its design, it will be followed by other DF-2-model satellites. Under this scenario, Zhou said, the days likely are numbered for non-Chinese image providers operating in the Chinese market.

"The DF-2 performance will need to be validated, but I think the trend is clear," Zhou said. "In three to five years, we will no longer need foreign satellites to provide sub-metric imagery. For now the focus [of the Chinese high-resolution satellites] is on the Chinese market, but we are preparing for entry into the global market."

Aki Yamaura, general manager of Beijing Eastdawn Information Technology Co. Ltd., a major provider of geographic information systems to the Chinese government, said he is adopting a wait-and-see position with respect to China's upcoming satellites.

But Yamaura, who also addressed the conference here Sept. 13, said the total revenue generated by sales of satellite images in China, which has grown sharply in the past decade, is likely to plateau because China's domestic satellites sell images at half the price, on a pixel basis, of their non-Chinese counterparts.

Yamaura said imagery sales in China were $5 million in 2005, $15 million in 2008 and likely will reach $40 million this year before peaking at around $50 million in 2015.

If China's optical imaging satellite plans are carried out, he said, Chinese satellites starting in 2014 will account for nearly half of the high-resolution sales in China, compared with about zero now.

Yamaura said these forecasts could change substantially if one or more Chinese government agencies that are currently only small buyers of imagery decided to increase their purchases.