2016 BROCHURE

SATELLITE-BASED EARTH OBSERVATION

Market Prospects to 2025

9th Edition | A Euroconsult Research Report

The only source for comprehensive industry analysis & forecasts in the growing EO sector

Strategic issues & forecasts – detailed value-chain analysis – EO data demand – Breakdown of application sectors within each region – consolidated forecasts per application sector & per region

- ✓ **Comprehensive digital files**
- ✓ **Over 1,000 data points**
- ✓ **Priced at 6,000 euros**

163 satellites (>50kg) were launched for civil and commercial Earth observation (excluding meteorology) over 2006-2015. These were launched for entities in 35 countries and generated $18.4 billion in manufacturing market revenues. Most of these satellites were launched by government operators to support policy objectives spanning climate change, sustainable development and industrial support. In addition, EO remains the primary application for emerging space programs; growing funding into these programs is a key driver for overall investment growth. In 2015 civil government investment topped $10 billion for the first time.

The EO industry is going through a significant supply increase. Over the next decade, 419 satellites are expected to be launched generating $35.5 billion in manufacturing revenues. Significant growth in the number of commercial satellites launched in constellation is expected. When the number of satellites <50kg (such as the Planet and Spire constellations) are added, the number of supply solutions expands even further. As supply will increase faster than the demand for commercial data and services, some price pressure is expected to result. As well, operators, will need to better differentiate themselves in the marketplace as to the capabilities of their respective systems.

The commercial data market totaled $1.7 billion in 2015 and is anticipated to total $3 billion in 2025. Ongoing economic unrest in key Latin American countries and Russia, as well as lower oil and gas prices, are having an impact, as do anticipated price reductions for $/km^2 of EO data. Nevertheless, the industry continues to develop positively. In the short term, growth is expected to continue to be driven by defense, with ongoing regional unrest and the limited ability of countries to operator capable image intelligence systems being the main driving factors. Further applications such as in the maritime, infrastructure and resources monitoring sectors are expected to support growth in the longer term.

The value-added services market reached $3.2 billion in 2015, and is growing at a rate faster than the data market alone (11% 5-year CAGR). Key markets for value-adding services do not mirror those for commercial data sales. Defense, while representing 61% of the commercial data market, represents only 15% of the VAS market; conversely, infrastructure projects are only 10% of the commercial data market but 33% of the value-added market. The reasoning for this is relatively straightforward; defense end-users purchase data with much value-added analytics performed in-house. On the other hand, lower-cost, coarser resolution and geolocation accuracy data can be leveraged with value-adding to form higher value products and services. This approach is expected in emerging location-based applications – the focus of upcoming satellite constellations. While the data may be lower-cost, it will be able to build applications based on high frequency change detection with the focus on the product or service delivery over purely data sales.

ABOUT SATELLITE-BASED EARTH OBSERVATION

ABOUT

Now in its 9th edition, ***Satellite-Based Earth Observation, Market Prospects to 2025*** is the only report providing industry forecasts, assessment of business opportunities and analysis of the entire civil & commercial value chain for this growing segment of the satellite industry. It includes a detailed breakdown of application sectors within each region along with consolidated forecasts per application sector and per region.

ELEMENTS OF THE REPORT INCLUDE:

- ✓ PDF & Excel & files
- ✓ Over 1,000 data points
- ✓ Executive summary

NEW IN THIS EDITION:

- ✓ Introducing new valuation & forecast of the value-added services market

STRATEGIC ISSUES & FORECASTS

- Current and forecast market situation to 2025, full assessment of challenges, risks and growth drivers
- Assessment of commercial opportunities including commercial data demand by data typology & sector
- Assessment of commercial opportunities by satellite manufacturing

EO DATA DEMAND

- Broadened analysis of data demand and requirements; drivers and risks for growth
- Opportunities for data & services growth across regions

DETAILED VALUE-CHAIN ANALYSIS

- Assessment of opportunities and challenges across the industry
- Analysis of government investment, operators, distributors and service providers

SATELLITES LAUNCHED & FORECAST

- Launches from 2006-2015
- Expected launches through 2025
- Satellite imaging characteristics
- Operator typology
- Prime manufacturer/launch service provider / uncontracted satellite missions

WHO WILL BENEFIT FROM THIS REPORT?

- Space agencies & other government entities
- Satellite operators
- Satellite equipment manufacturers
- Launch services
- Satellite service providers
- Banks & investors

APPLICATION \ REGIONAL ANALYSIS

- Detailed breakdown of application sectors within each region
- Consolidated forecasts per application sector and per region

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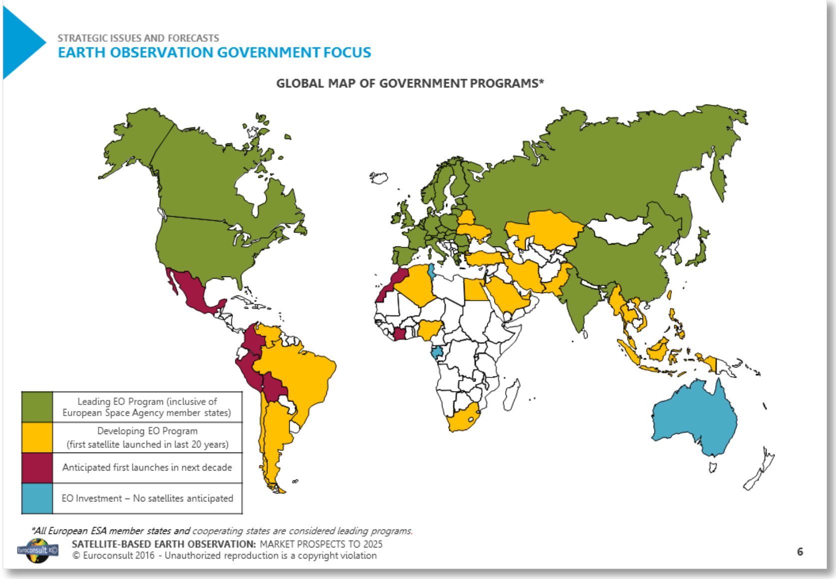

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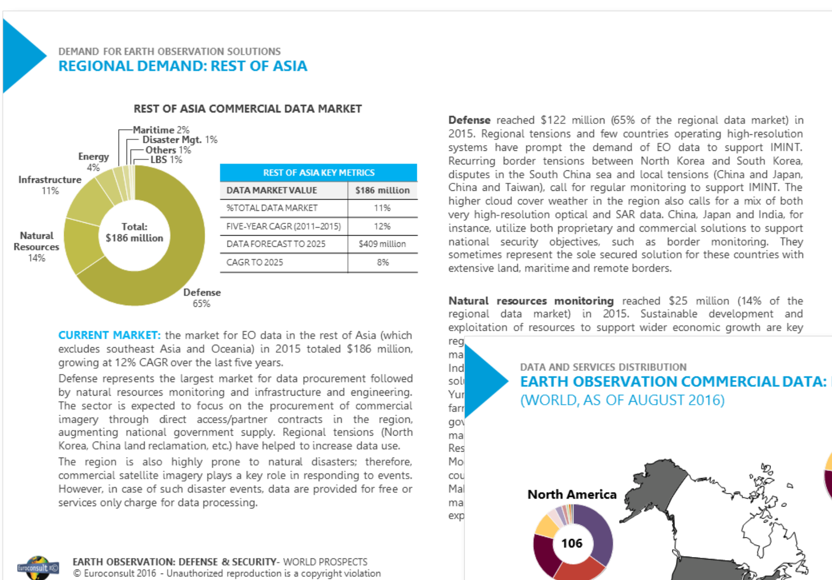

DEMAND FOR EARTH OBSERVATION SOLUTIONS

REGIONAL DEMAND: REST OF ASIA

REST OF ASIA COMMERCIAL DATA MARKET

REST OF ASIA KEY METRICS	
DATA MARKET VALUE	$186 million
%TOTAL DATA MARKET	11%
FIVE-YEAR CAGR (2011–2015)	12%
DATA FORECAST TO 2025	$409 million
CAGR TO 2025	8%

CURRENT MARKET: the market for EO data in the rest of Asia (which excludes southeast Asia and Oceania) in 2015 totaled $186 million, growing at 12% CAGR over the last five years.

Defense represents the largest market for data procurement followed by natural resources monitoring and infrastructure and engineering. The sector is expected to focus on the procurement of commercial imagery through direct access/partner contracts in the region, augmenting national government supply. Regional tensions (North Korea, China land reclamation, etc.) have helped to increase data use.

The region is also highly prone to natural disasters; therefore, commercial satellite imagery plays a key role in responding to events. However, in case of such disaster events, data are provided for free or services only charge for data processing.

Defense reached $122 million (65% of the regional data market) in 2015. Regional tensions and few countries operating high-resolution systems have prompt the demand of EO data to support IMINT. Recurring border tensions between North Korea and South Korea, disputes in the South China sea and local tensions (China and Japan, China and Taiwan), call for regular monitoring to support IMINT. The higher cloud cover weather in the region also calls for a mix of both very high-resolution optical and SAR data. China, Japan and India, for instance, utilize both proprietary and commercial solutions to support national security objectives, such as border monitoring. They sometimes represent the sole secured solution for these countries with extensive land, maritime and remote borders.

Natural resources monitoring reached $25 million (14% of the regional data market) in 2015. Sustainable development and exploitation of resources to support wider economic growth are key

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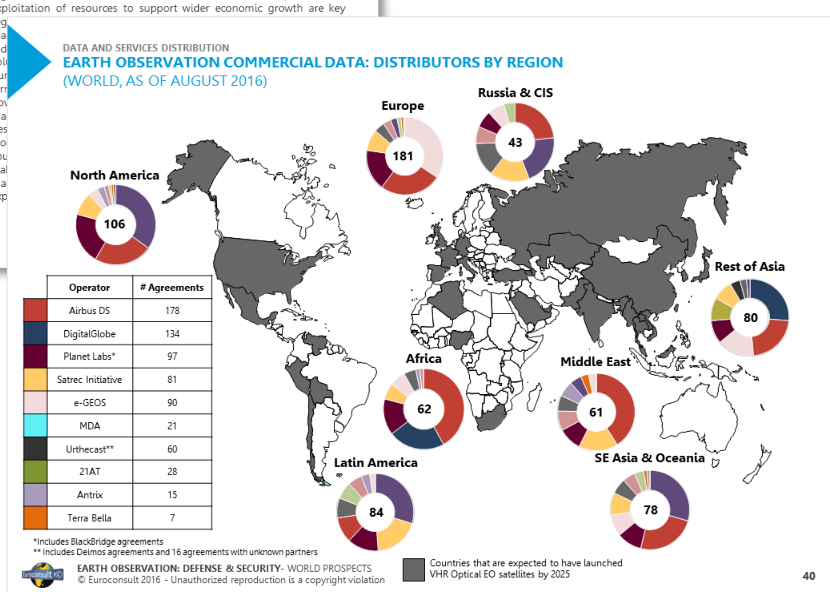

DATA AND SERVICES DISTRIBUTION

EARTH OBSERVATION COMMERCIAL DATA: DISTRIBUTORS BY REGION

(WORLD, AS OF AUGUST 2016)

Operator	# Agreements
Airbus DS	178
DigitalGlobe	134
Planet Labs*	97
Satrec Initiative	81
e-GEOS	90
MDA	21
Urthecast**	60
21AT	28
Antrix	15
Terra Bella	7

*Includes BlackBridge agreements
** Includes Deimos agreements and 16 agreements with unknown partners

Countries that are expected to have launched VHR Optical EO satellites by 2025

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