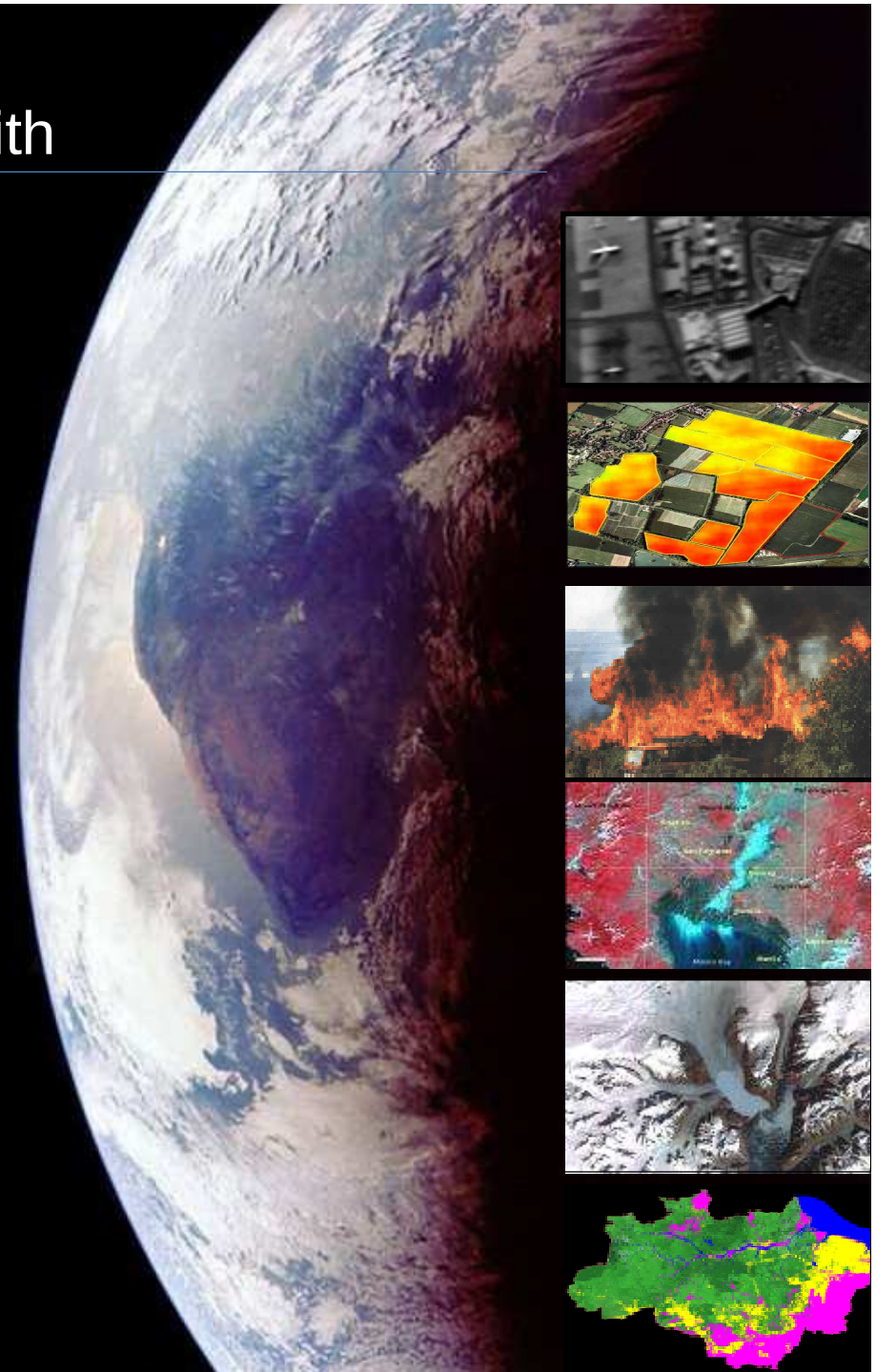


Constellation Imaging for GMES with Bulgarian Example Products

Owen Hawkins

Business Manager

DMC International Imaging Ltd



Full Spectrum Satellite Solutions



Design



Manufacture



Assembly, Integration & Test



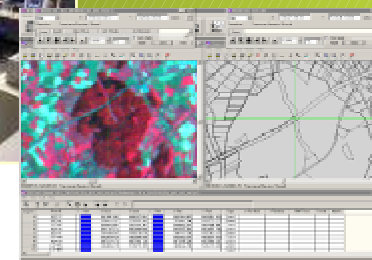
Launch Services



Ground Segment & Operations



Processing & Supply



SURREY
SATELLITE TECHNOLOGY LTD

dmc
International Imaging

The DMC Concept

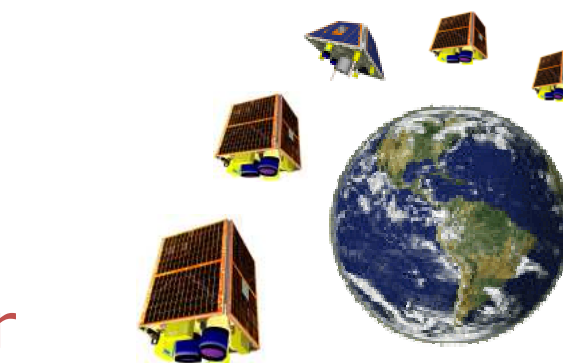
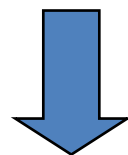
A Unique International Partnership Combining National Objectives, Humanitarian Aid and Commerce...



The Consortium



The Coordinator



The Constellation



Applications;
Commercial, Government and Humanitarian

Constellation Status

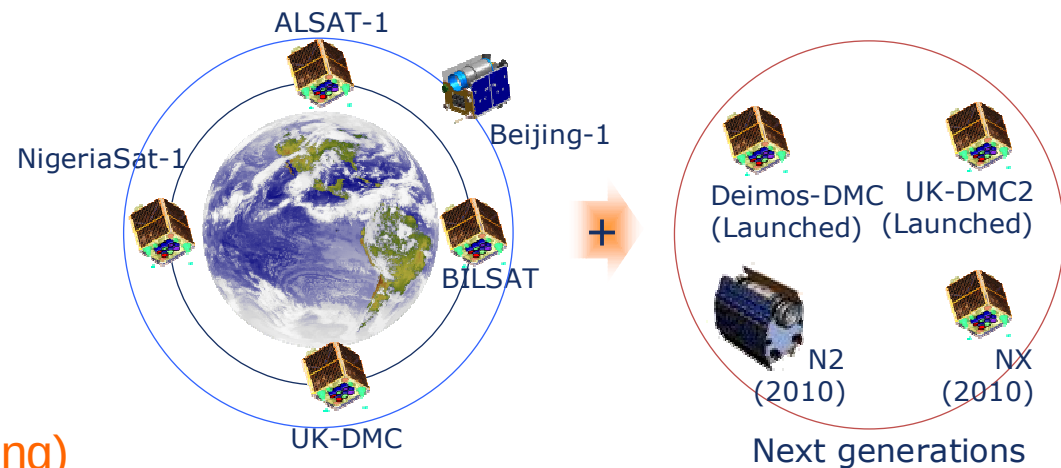
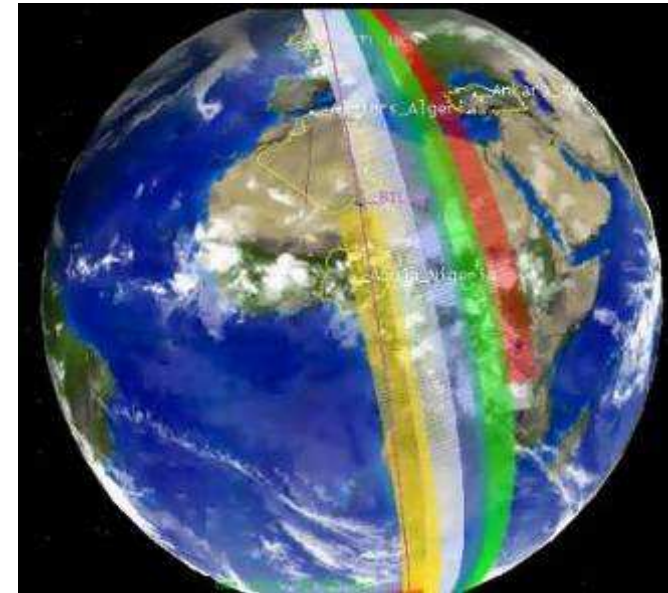
- Five spacecraft in first generation with 32m GSD
- Second generation available NOW with 22m GSD
- Third Generation available 2010 with 2.5m GSD

- Governments owners

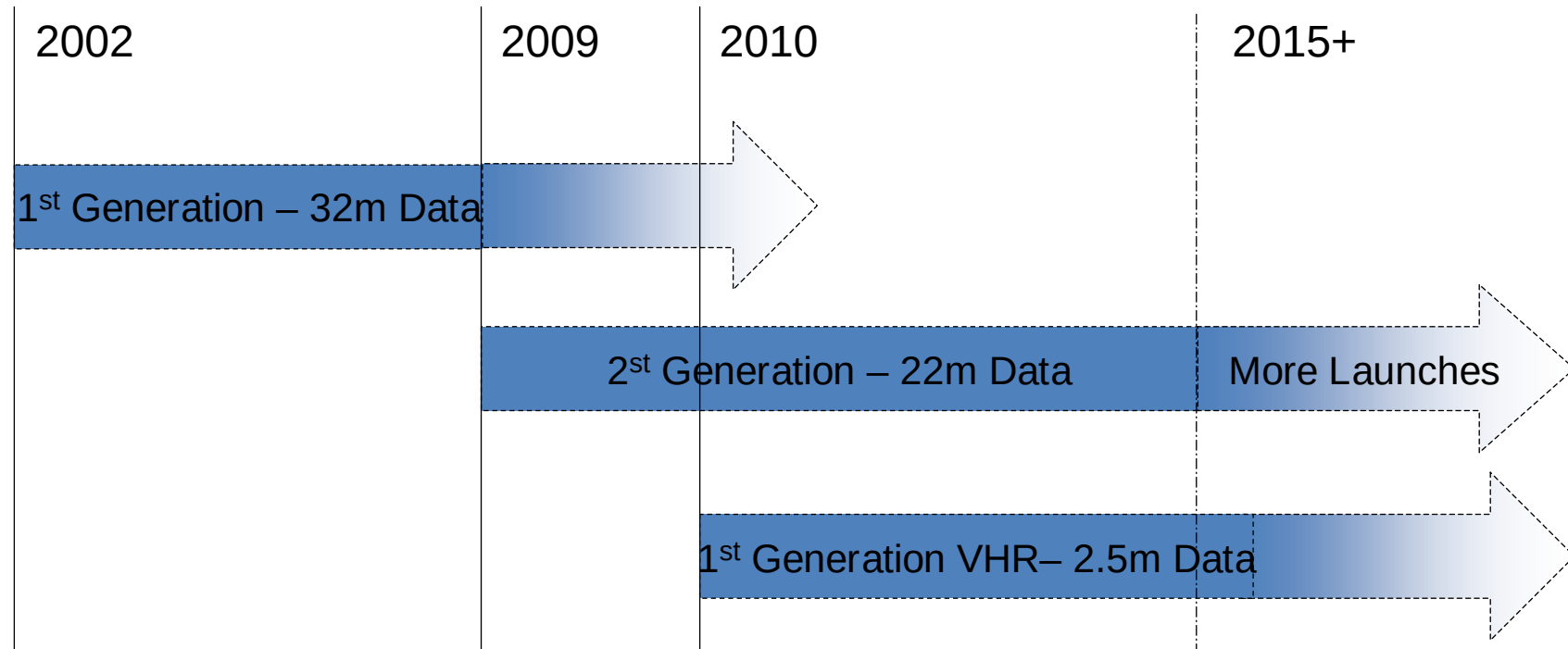
- ALSAT-1 (Algeria)
- NigeriaSat-1 (Nigeria)
- NigeriaSat-2
- NigeriaSat-X
- BILSAT-1 (Turkey)

- Private Owners

- Beijing-1 (BLMIT corp.)
- UK-DMC (DMCii)
- UK-DMC-2 (DMCii)
- Deimos-1 (Deimos Imaging)



Satellite Constellation Sustainability Principles

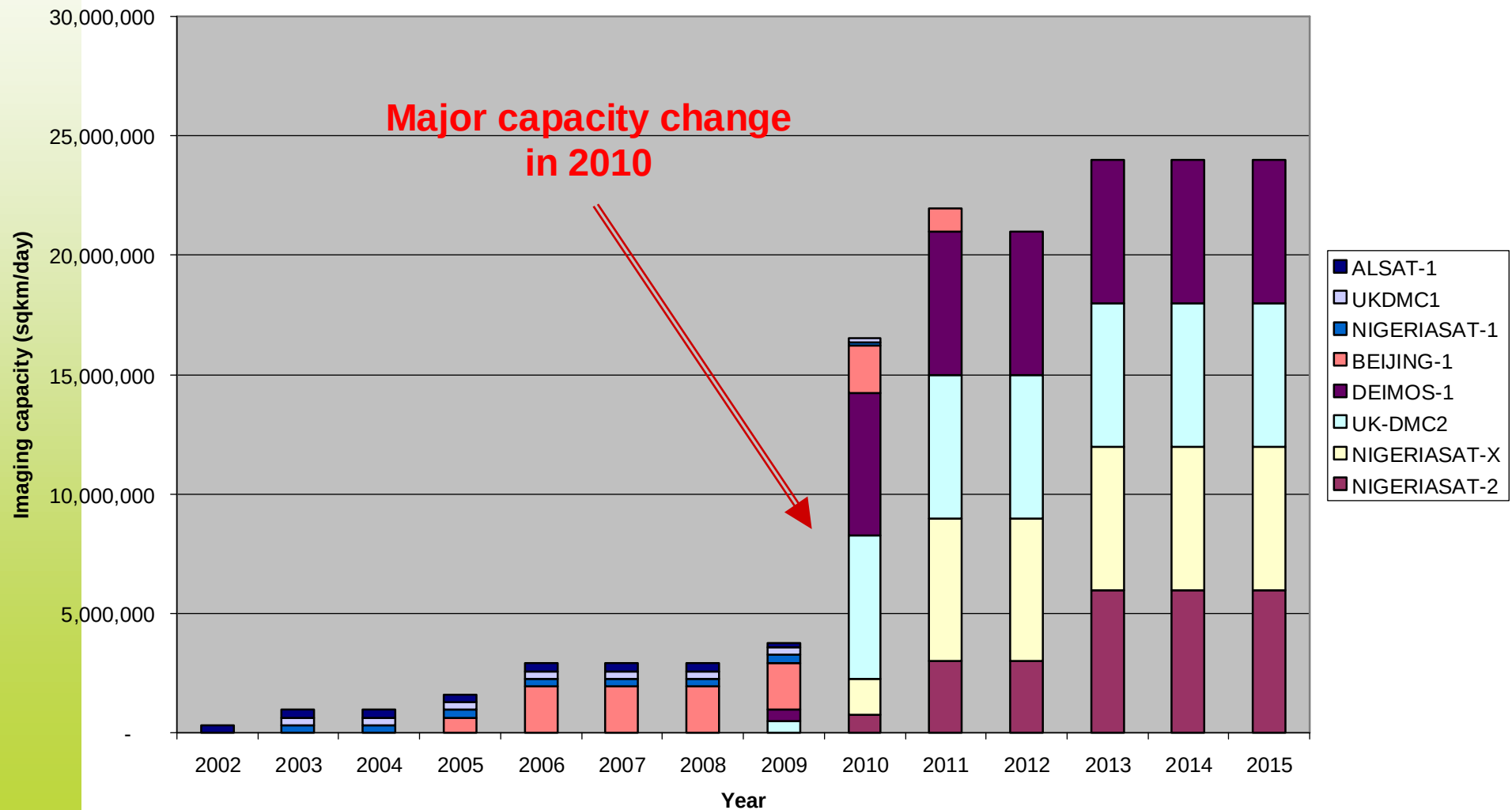


Continued Interest in SSTL satellites, and self-sustaining funding principles of commercial organisations offers data continuity

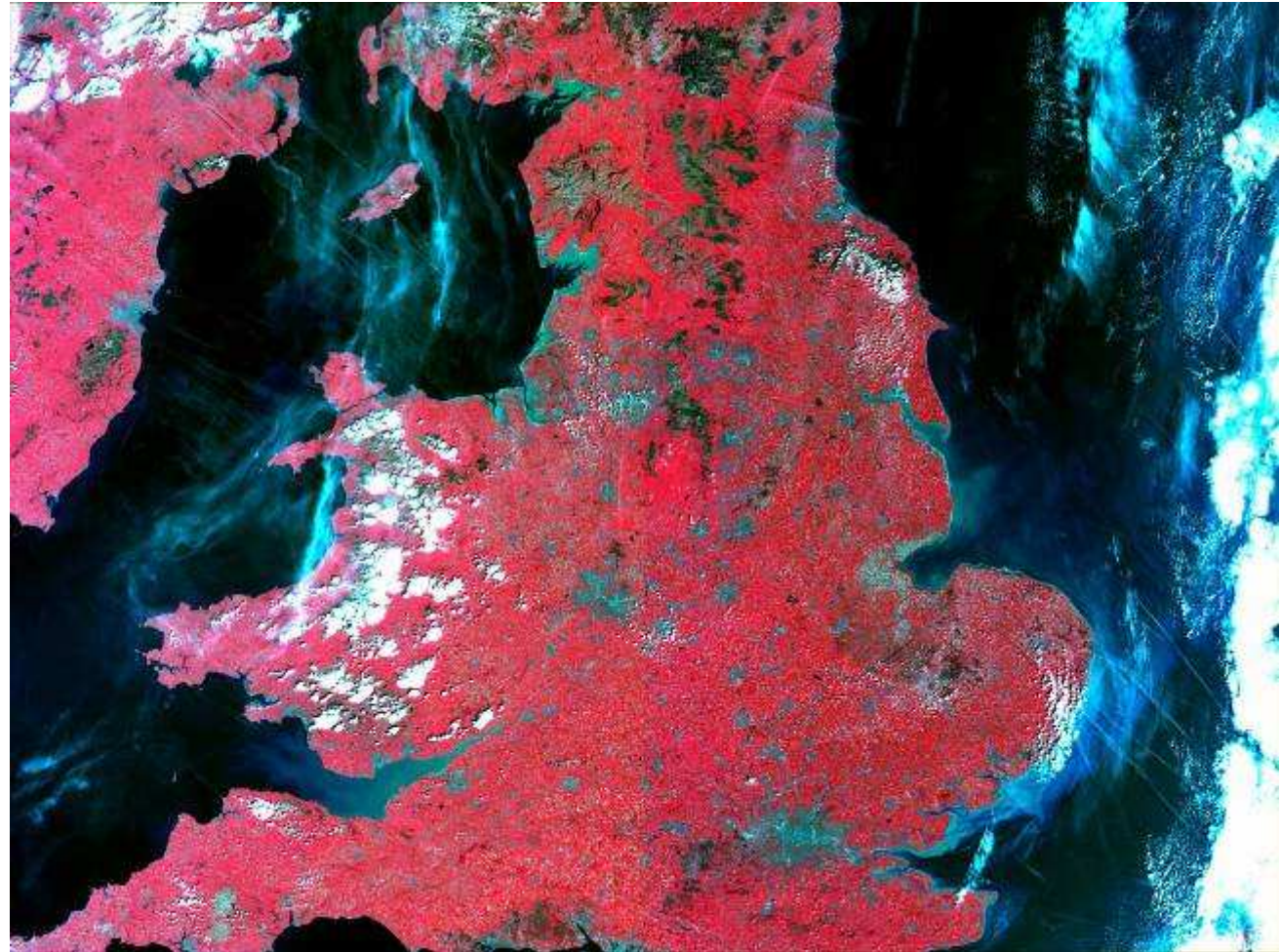
Consistent design principles offers imagery consistency

Growth in Imaging Capacity

DMC daily imaging capacity



Rapid Regional Coverage



LANDSAT 185 x 185 km Images)

DMC Beijing-1 600 x 560 km Image

Early Results from New Satellites

Launch 29th July – UK-DMC-2 and Deimos-1

1st Images 1 week after launch



UK-DMC-2 Image Detail, Dallas Fort Worth Airport © DMCii

Application of pre-launch calibration coefficients gives good results

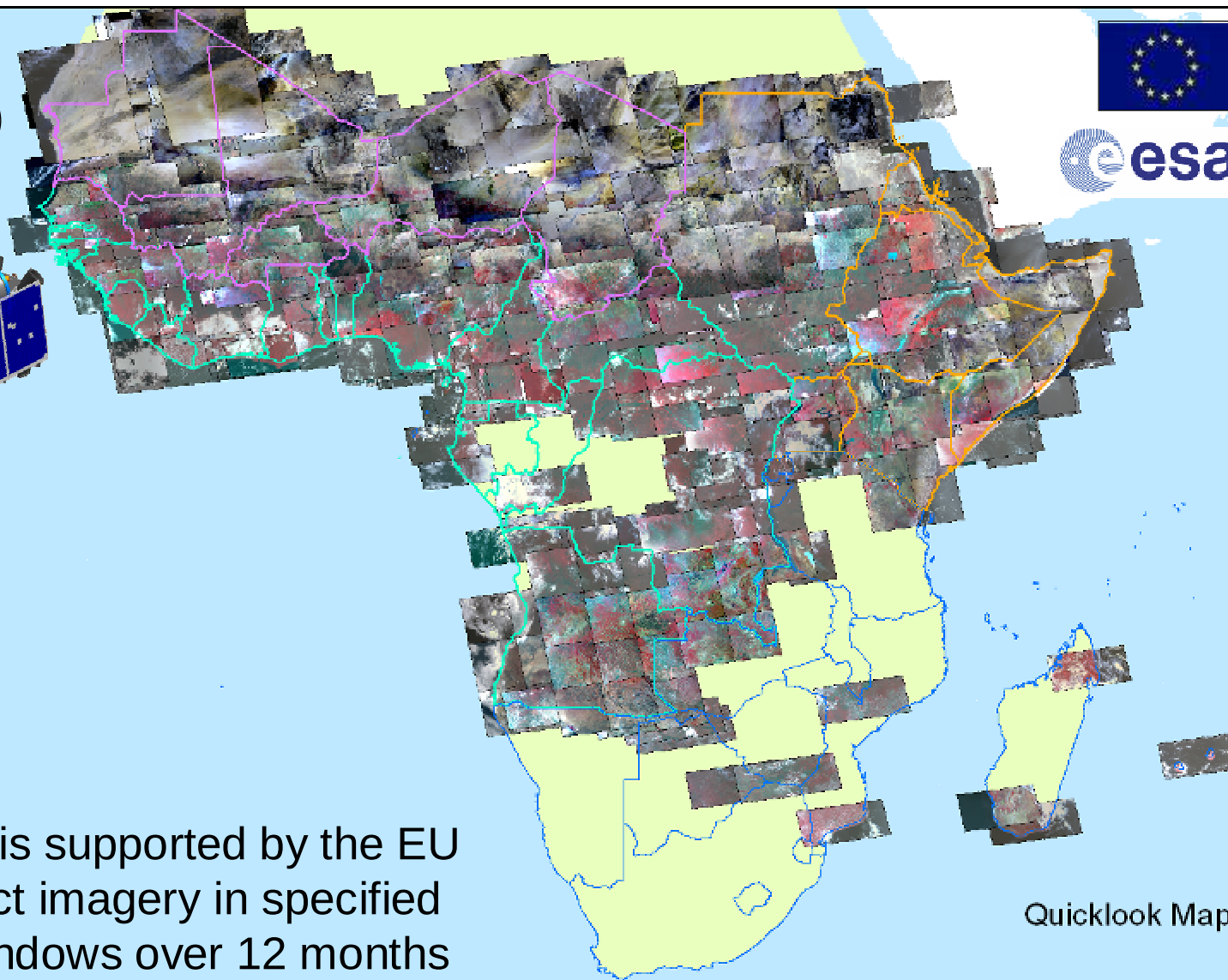
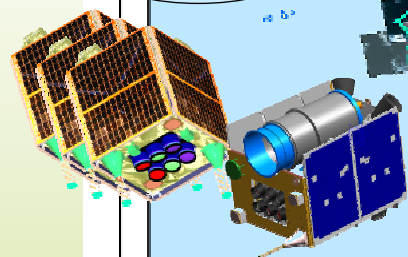
Sensor outgassing and stabilisation will modify response over next 6 months

Intensive relative flat field calibration during critical stage

Monthly relative and bi-annual absolute calibration thereafter

Rapid Continental Coverage

32 & 22 m



- DMCii is supported by the EU to collect imagery in specified date windows over 12 months

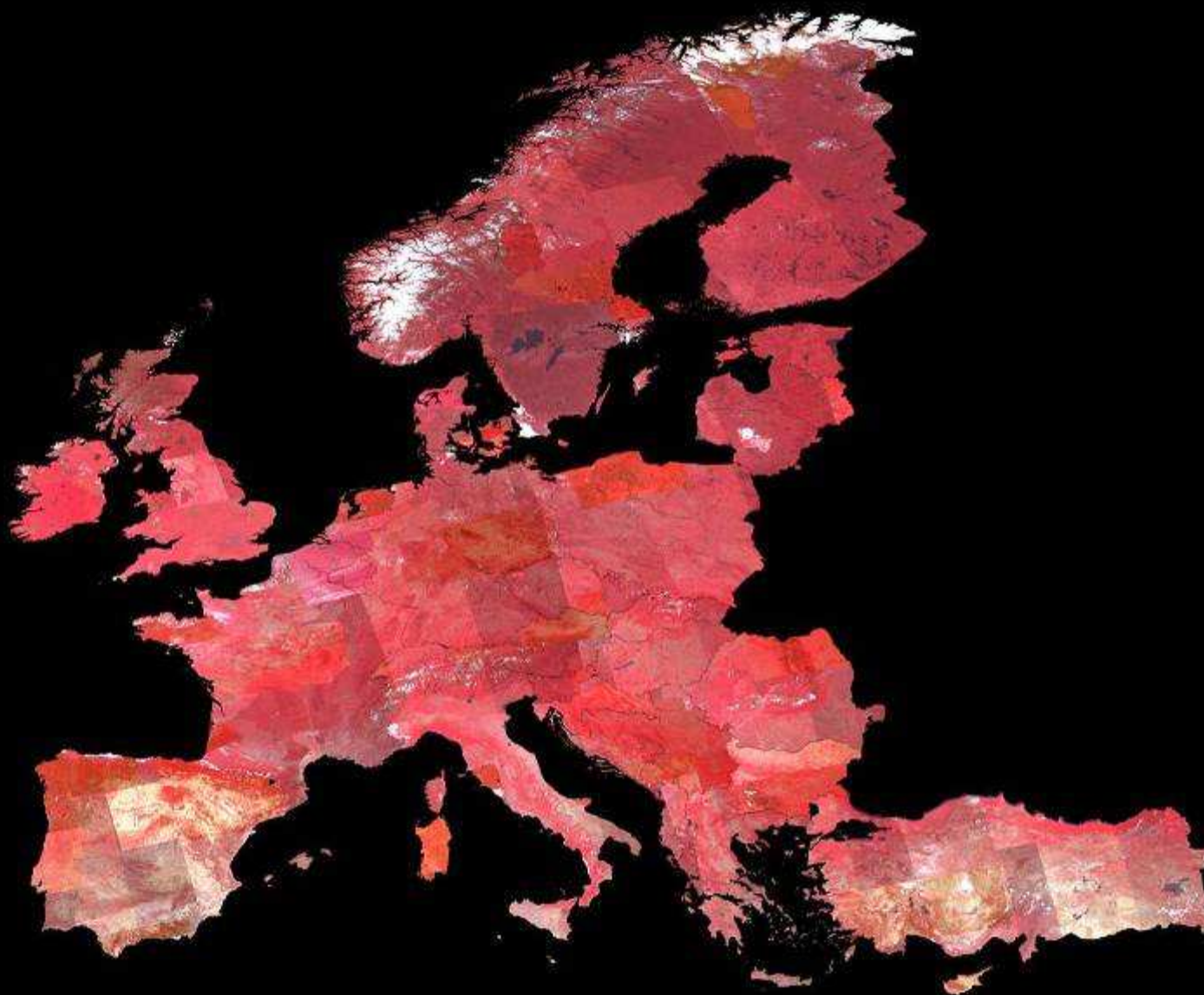


Monitoring Europe; A Constellation Success

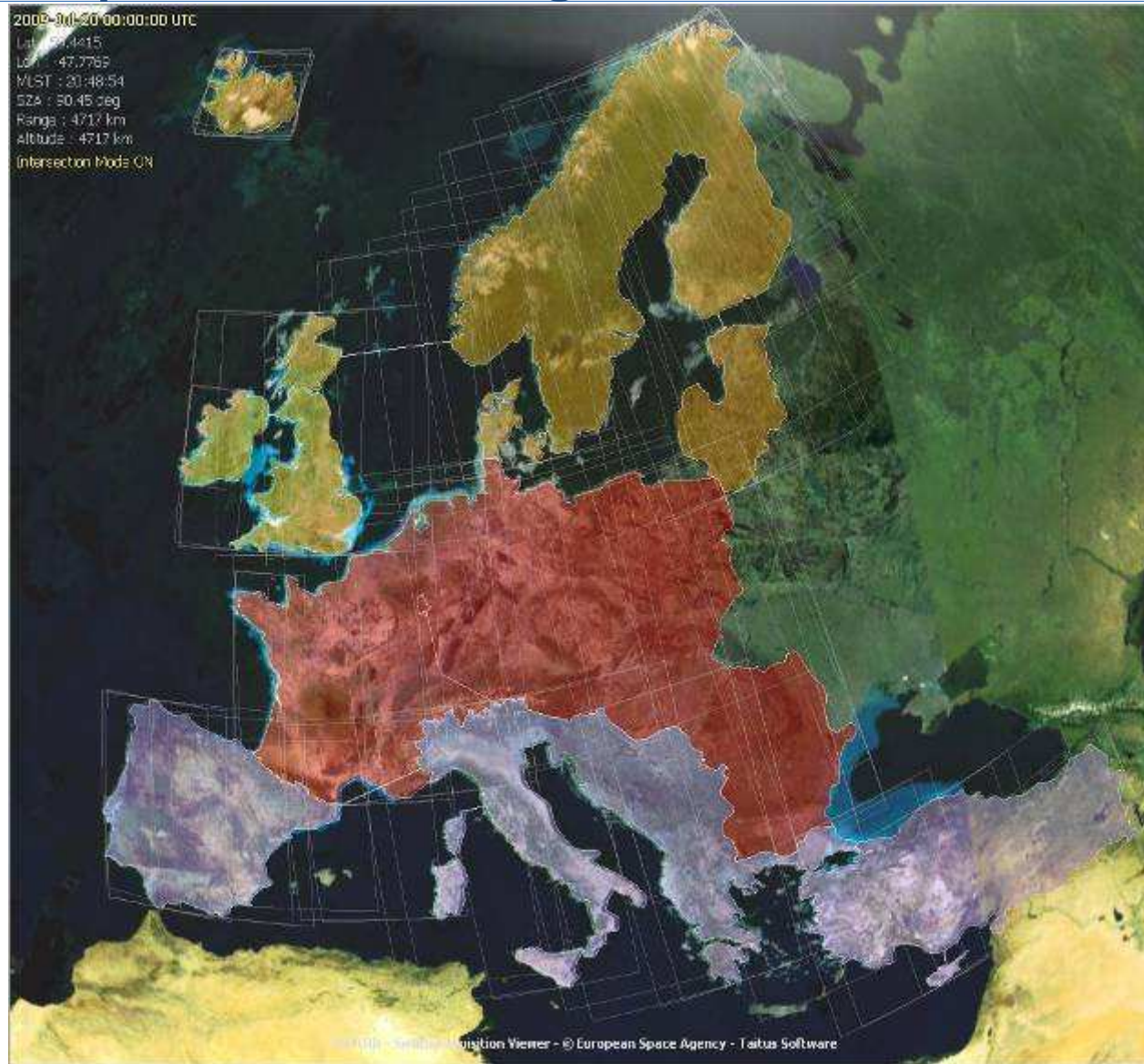
Complete coverage in three months - 2007

Delivered

- 38 countries
- 5.8 million km²
- Individual acquisition windows
- Individual projections
- <5% cloud
- 32 metre gsd



European Coverage – 2 Satellites Only



DAY
0

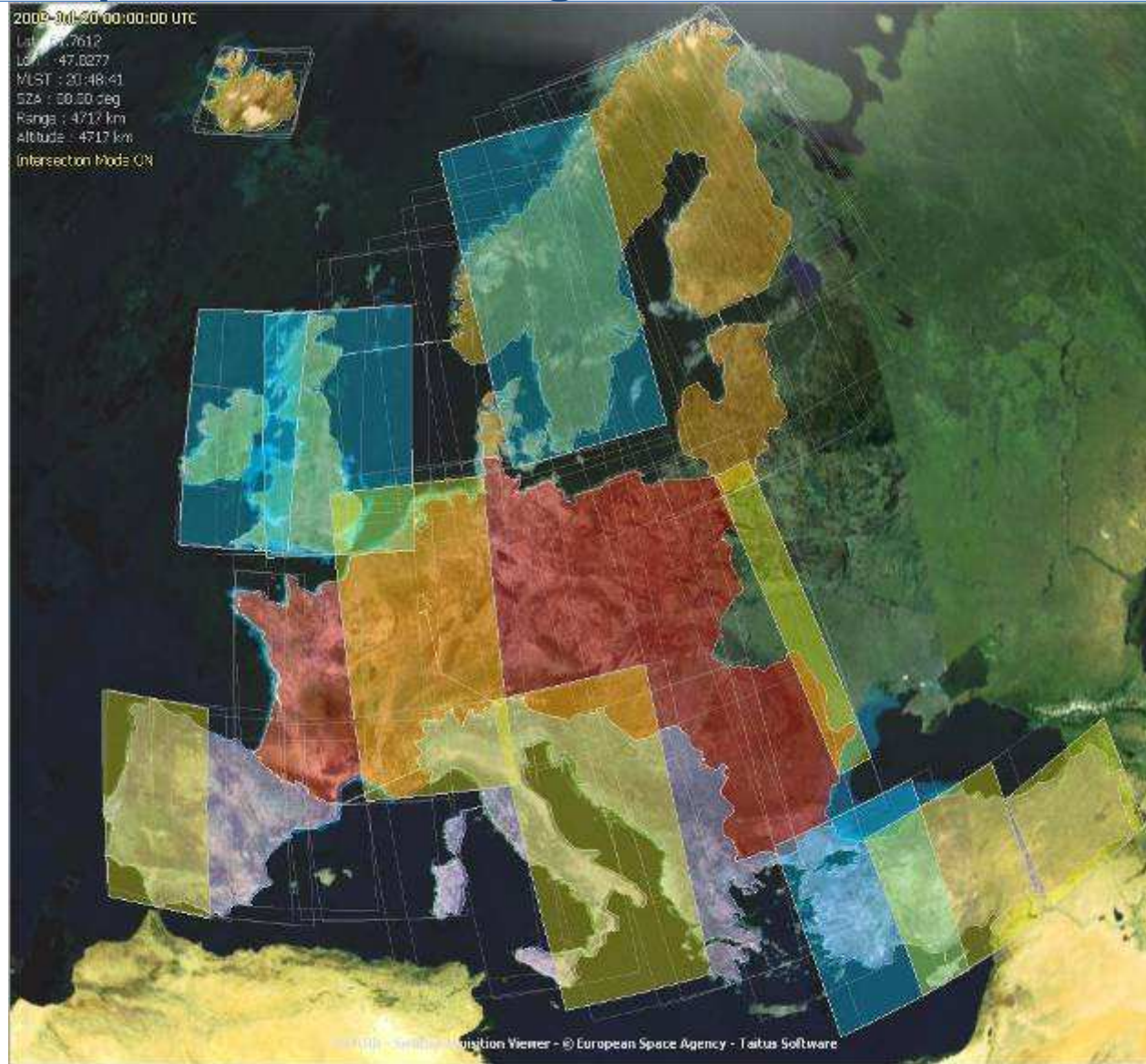
European Coverage – 2 Satellites Only



DAY

1

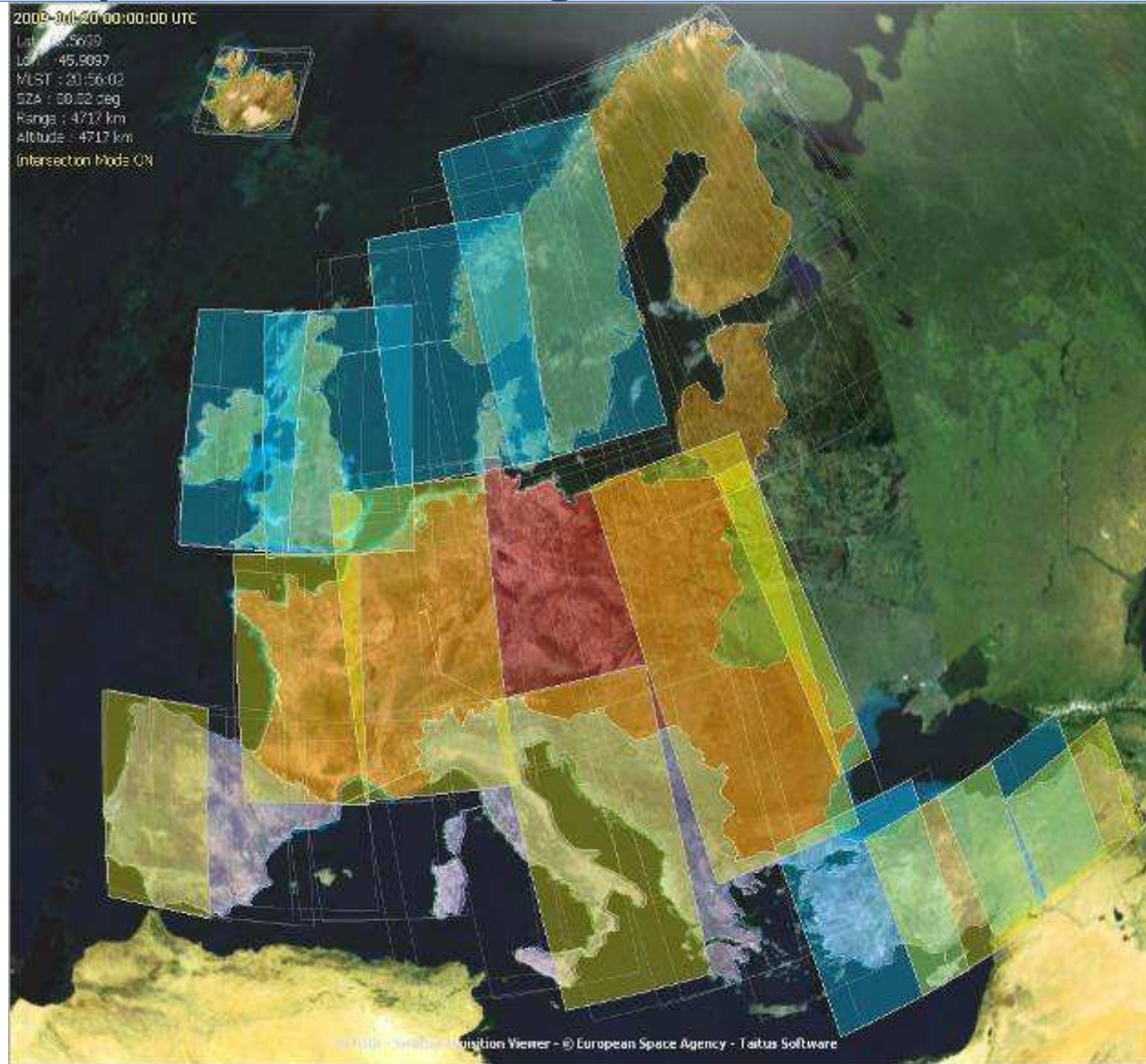
European Coverage – 2 Satellites Only



DAY

2

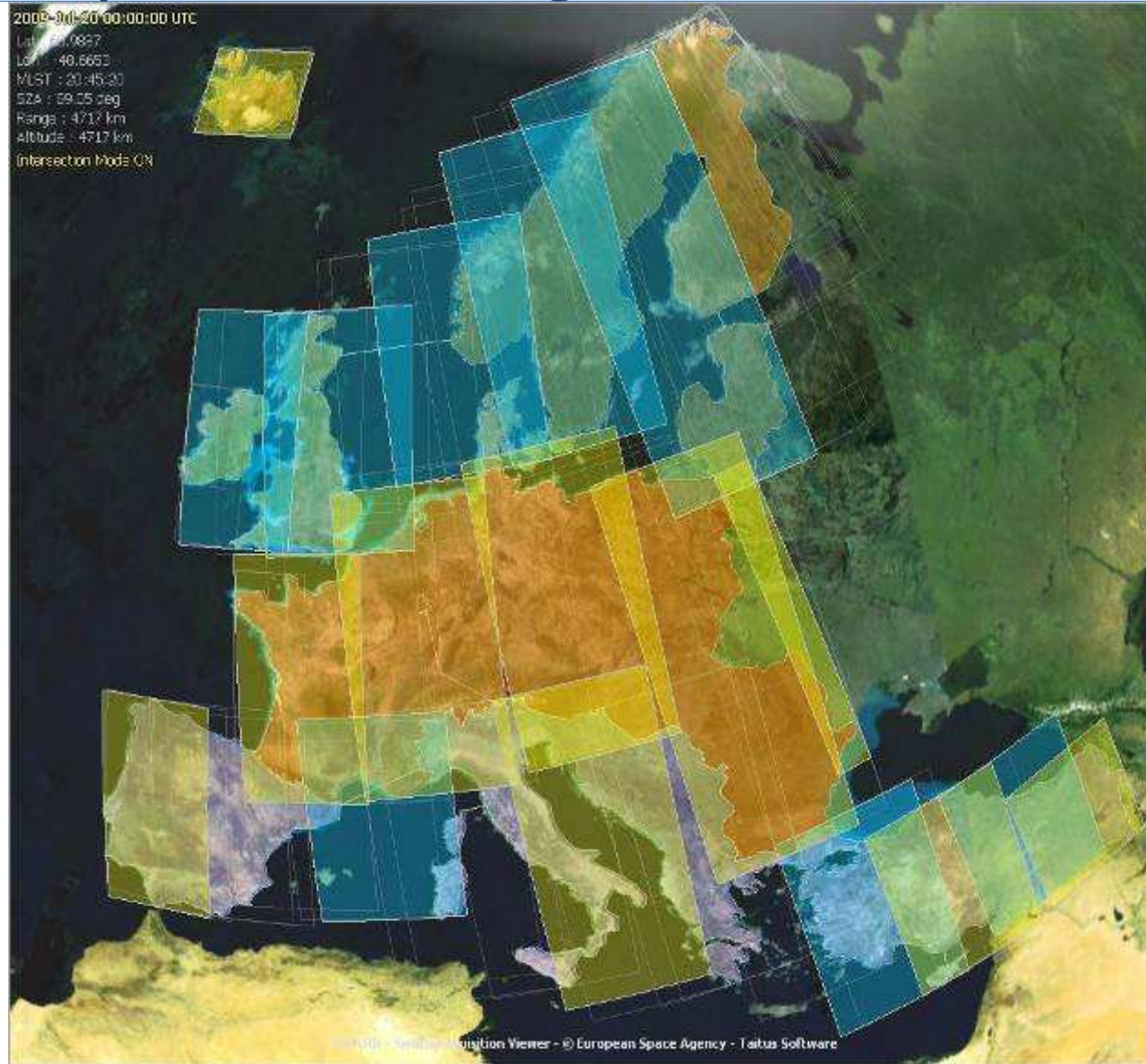
European Coverage – 2 Satellites Only



DAY

3

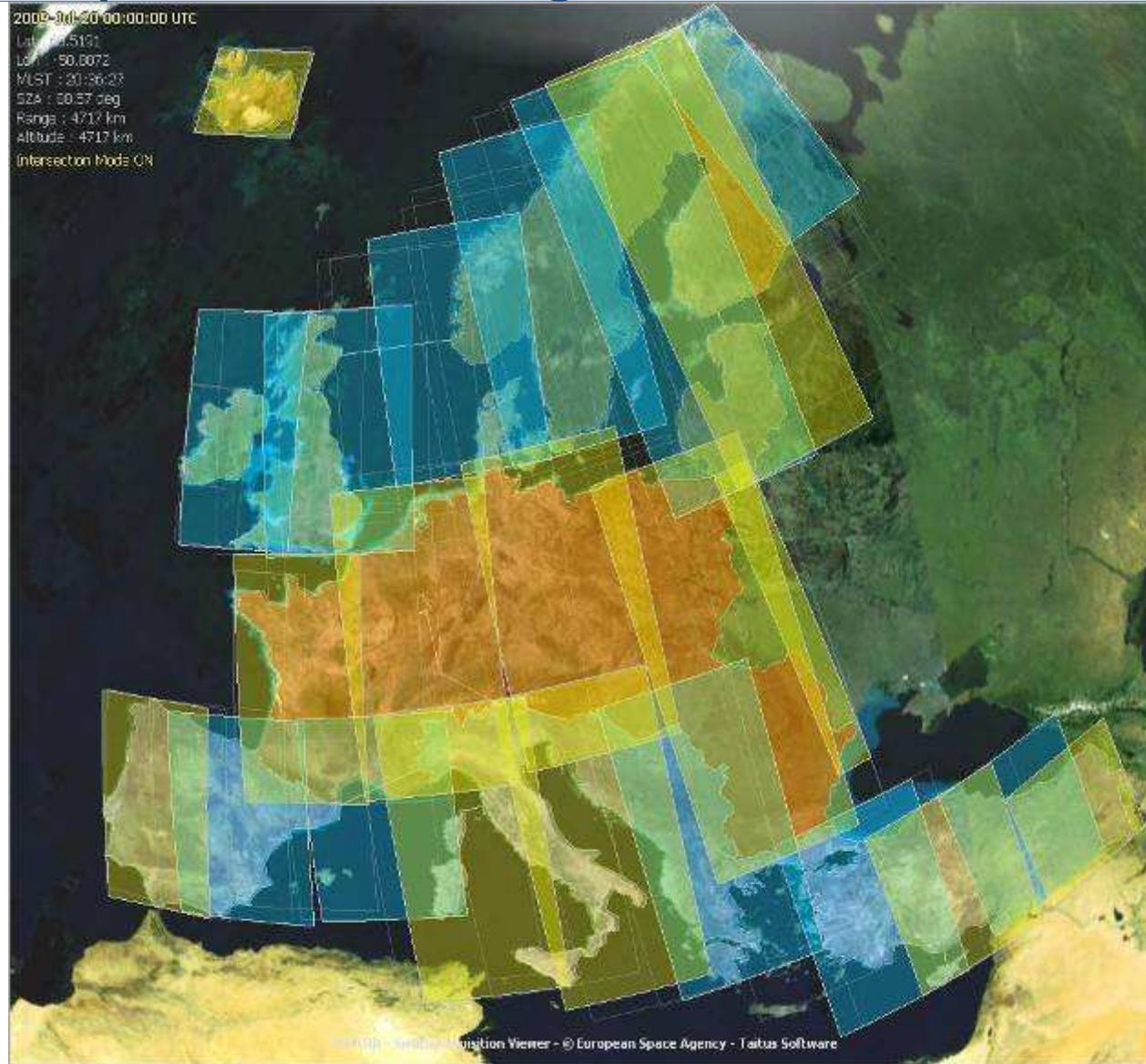
European Coverage – 2 Satellites Only



DAY

4

European Coverage – 2 Satellites Only



DAY

5

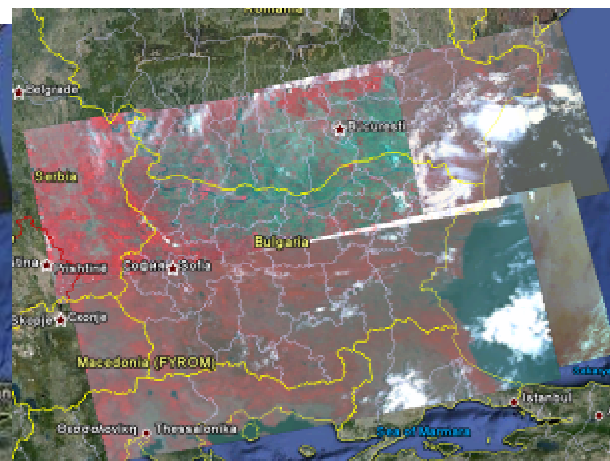
Bulgarian Historical Acquisitions 2007



April



May



June



July



August

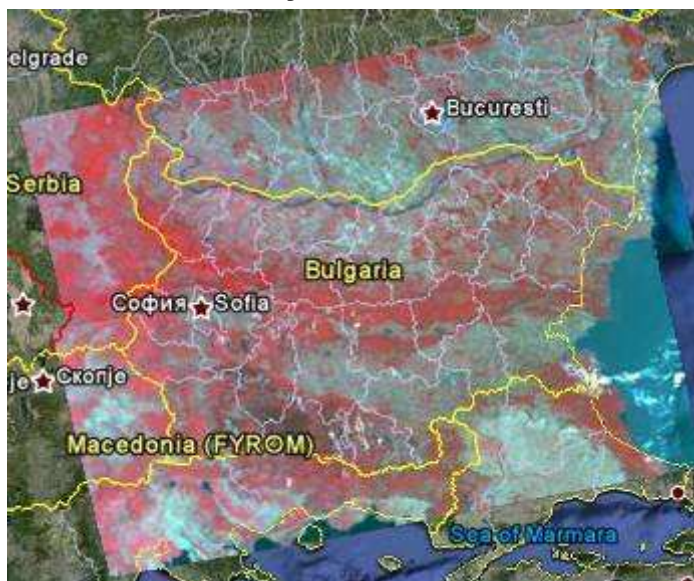
Bulgarian Historical Acquisitions 2008



May



June



July

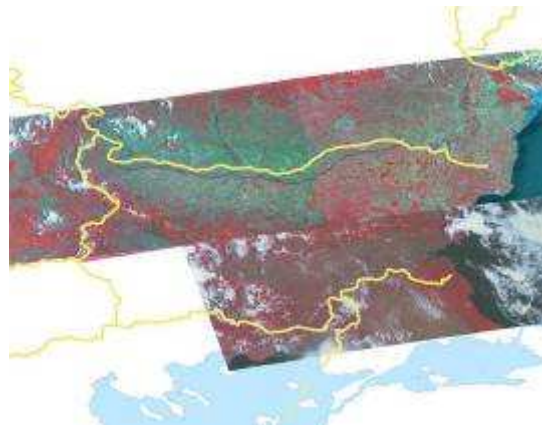


August

Bulgarian Historical Acquisitions 2009



May



June



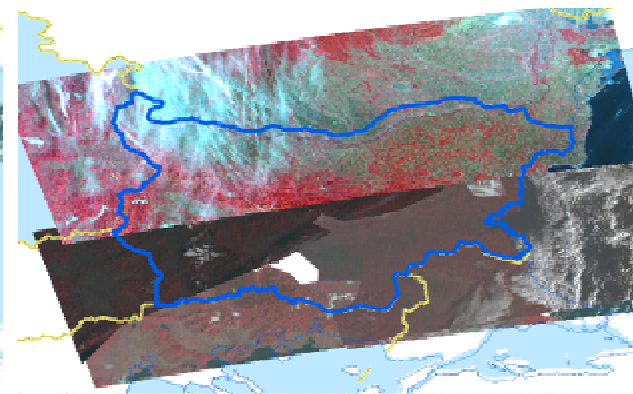
June



July



August



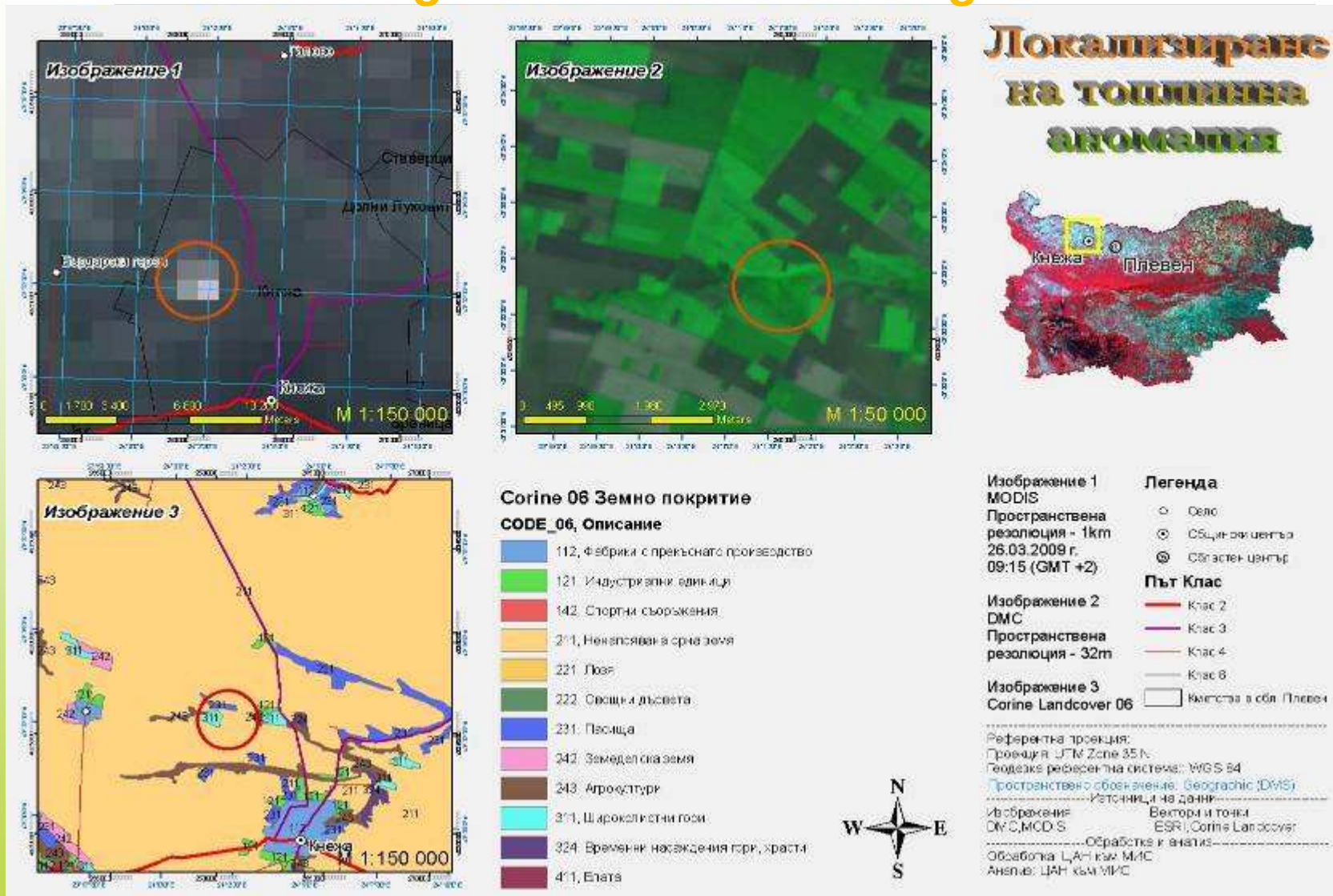
September

Examples from Bulgarian Aero-Cosmic Monitoring Centre

**Courtesy of Antoanetta
Frantzova**

Thermal anomaly localization

NOAA image **DMC image**



Corine Land Cover

Damage assessment of forest fires

Before during after



Преди пожара
20.06.2007



По време на пожара
27.07.2007



След пожара
10.08.2007

Оценка на последници от пожари



Легенда

- Село
 Общински център
 Клас 1
 Клас 2
 Клас 3
 Клас 4
 Клас 5
 Клас 6

Големи реки и Водни площи

TYPE

- Речи
■ Язовири
■ Езера
■ Блата, мочуришта и др.
■ Урбанизација

Референтна проценка
Примена: UTM Zone 35 N
Кодово референтног система: WGS 84

Розробники	Відомий на дані
Розробники	Відомі, точні показники

LMC ESM: Current
OCCUPATIONAL INJURY

Министерство экономического развития
и торговли Российской Федерации



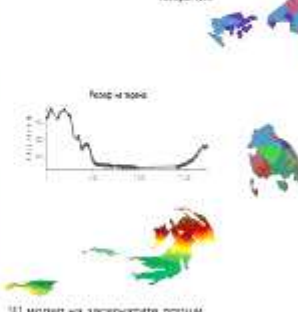
A horizontal scale bar with tick marks at 0, 2, 4, 8, 12, and 16 km. The bar is divided into segments of varying lengths, with the final segment from 12 to 16 km being the longest.

Легенда Corine

CODE 06.

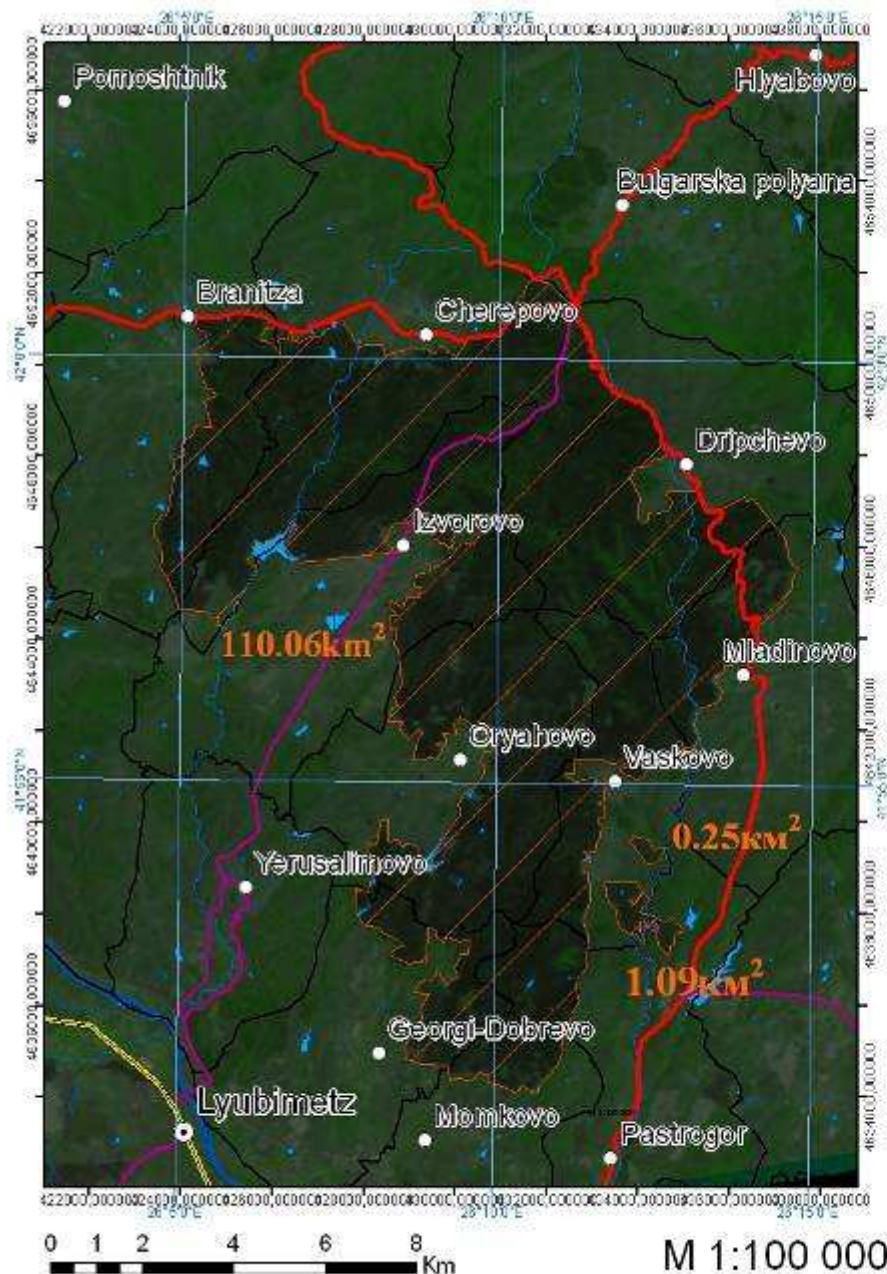
- | | |
|-----|--|
| 112 | Жилищни комплекси |
| 211 | Нечалована орна земя |
| 221 | Лозя |
| 231 | Пасища |
| 243 | Земделски земи с естествена растителност |
| 311 | Широколистни гори |
| 312 | Иглолистни гори |
| 313 | Смесени гори |
| 321 | Естествени зелени площи |
| 324 | Времени насаждения гори, храсти |
| 512 | Водни тела |

360THREE THOUSAND
100 TEN HUNDRED
TWO TWO

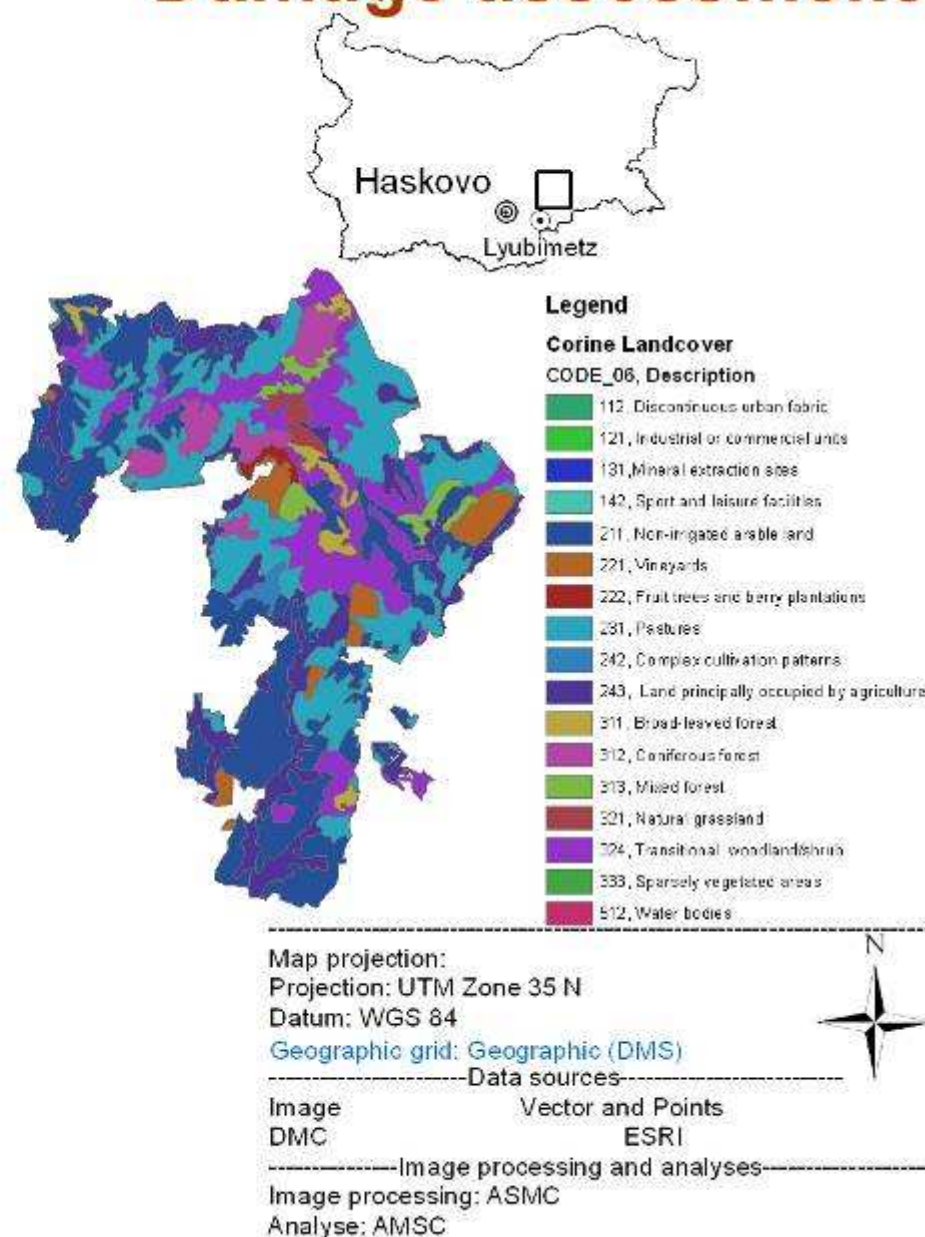


331 Mollart wa aangepaste nistun

M 1:100 000

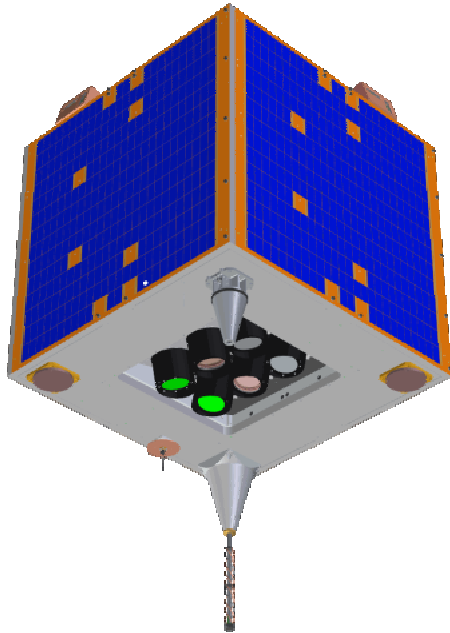


Damage assessment



New Satellites

New Sensors – NigeriaSat-X

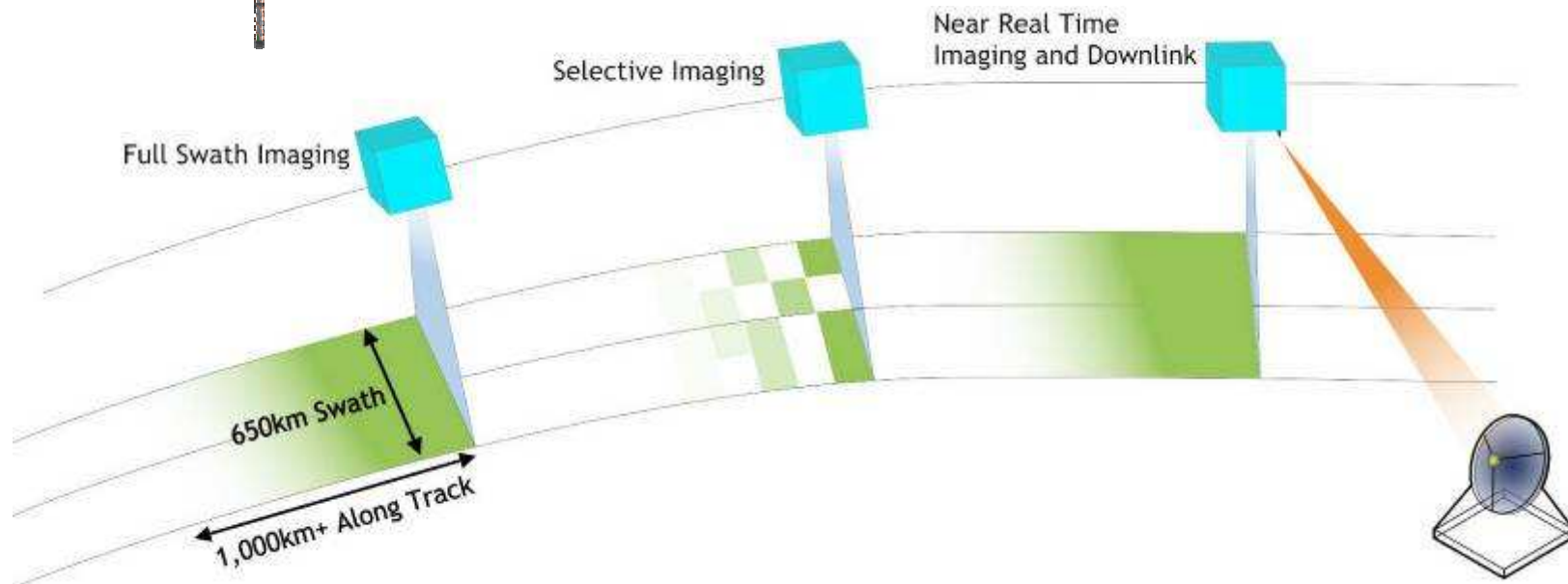


Built by Nigerian engineers in Surrey

Similar design to Deimos-1

22m GSD Very Large Area Imager

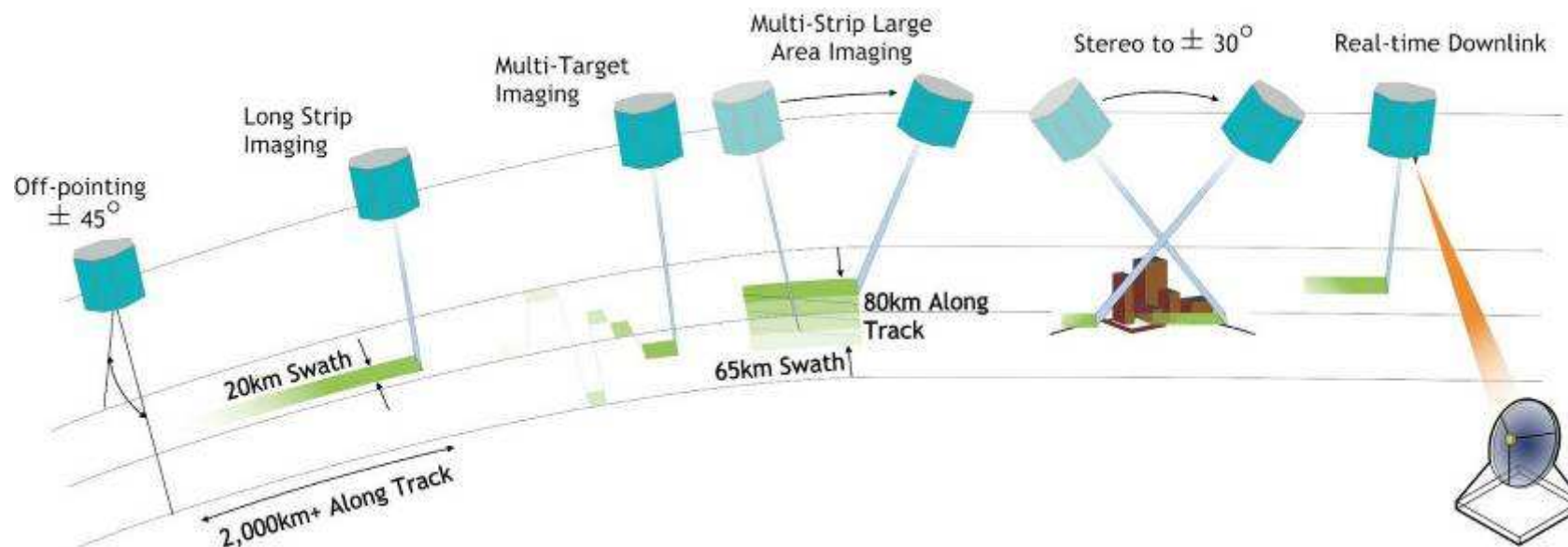
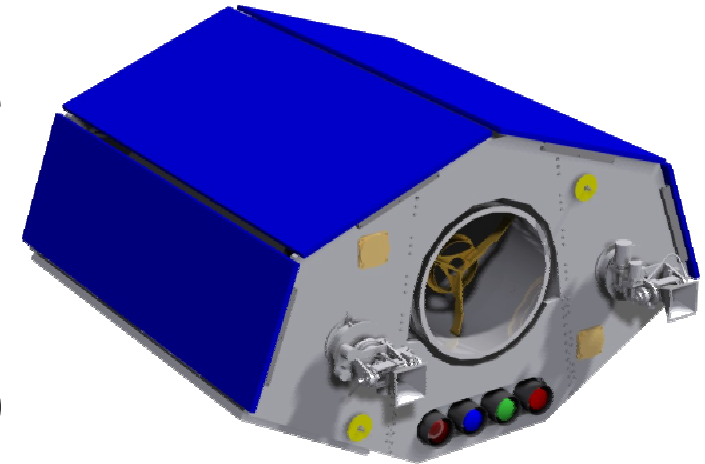
To Launch Q3 2010



New Sensors – NigeriaSat-2

Carries 2.5m Pan and 5m
Multispectral Imagers, with a Wide
Swath Imager also on Board

Very Agile Platform
To Launch Q3 2010



Thank You

