Airbus hírek távérzékelőknek

Fény-Tér-Kép 2016

Domokos György
06 Október 2016

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Tartalom

- PerúSAT-1
- KazeoSAT 1-2
- PF Neo (Street Factory)
- WorldDEM
- SpotMaps 1.5
- One Tasking
- One Atlas
- Conflict Atlas
- 2020

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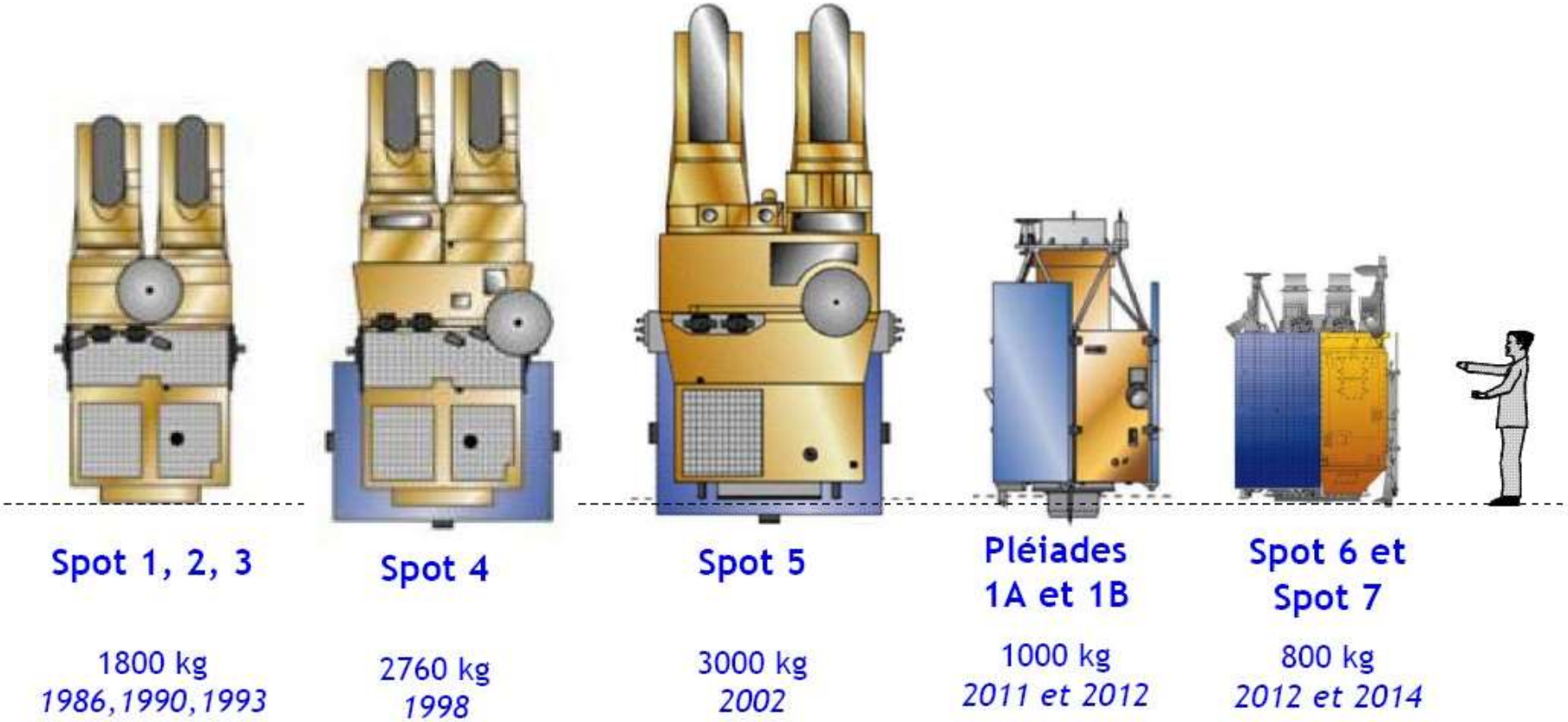
SPOT
30 Years
Imagery

Földmegfigyelő (optikai) műholdak fejlődése



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Chernobyl, May 1986 – SPOT 1

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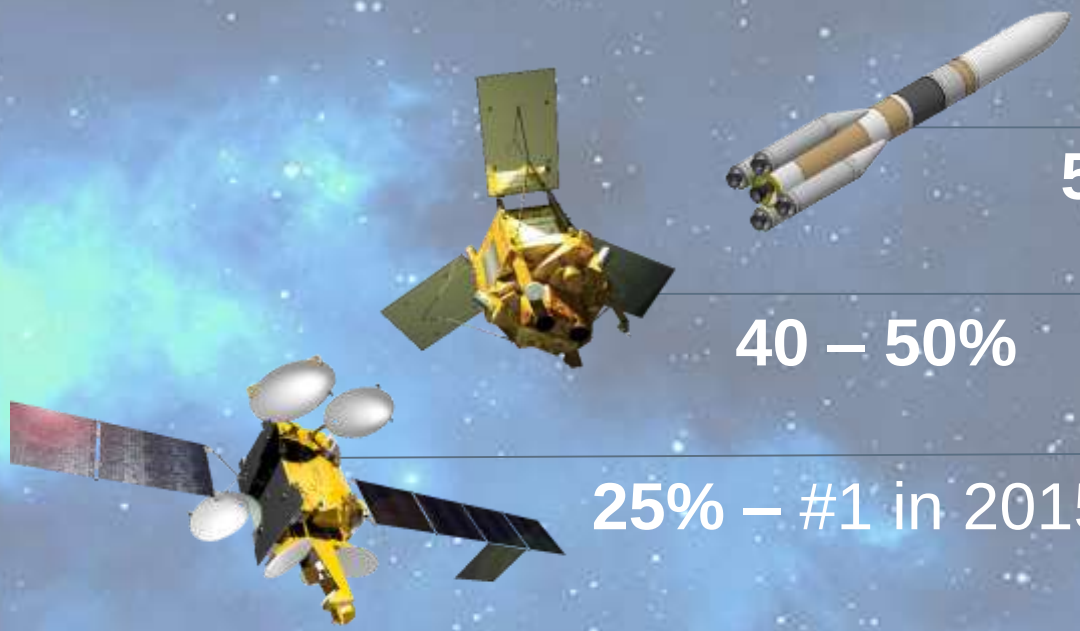
We successfully aim for the stars.



50%

40 – 50%

25% – #1 in 2015!

Airbus DS Market Share*:

Commercial satellite launches: 50% of the market with Ariane

Earth observation satellites: 40-50% of the international market.
#1 Exporter of Earth observation satellites

Telecommunication satellites: 25% of the market.
Only supplier to deliver to all seven major telecom operators

* Source: Internal analysis, average sales volume over several years

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PerúSAT-1

2014 tavasz, a Peru űrügynöksége (CONIDA) az Airbus Defence and Space-t választotta, mint fővállakozót a PerúSAT-1 földmegfigyelő műhold programra (Franciaország és Peru kormányai közötti megállapodás alapján).
50 mérnök kiképzése az üzemeltetésre.
Vevőállomás, feldolgozó központ, technológia transzfer.
AstroBus-S. Legújabb generációs föld-megfigyelő műhold az igen nagy felbontású (VHR) felvételekre, a kis tömegű rendszer előnyeit egy nagyobb platform erős teljesítményével kombinálja.
Tömeg: 430kg.
Magasság: 695km.
Szenzor: NAOMI (pan és 4 multispektr.)
Felbontás: 70 cm.
Swath: 20km
Költség: €150millió.
Élettartam: 10 év.
Felbocsátás: 2016 szept. 16.

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Peru's first national satellite, PerúSAT-1, has returned its maiden image of the country.

It features the vast Cuajone copper mine in the Andes, where some 170,000 tonnes of metal are taken from the ground each year.

www.bbc.com/news/science-environment-37562519

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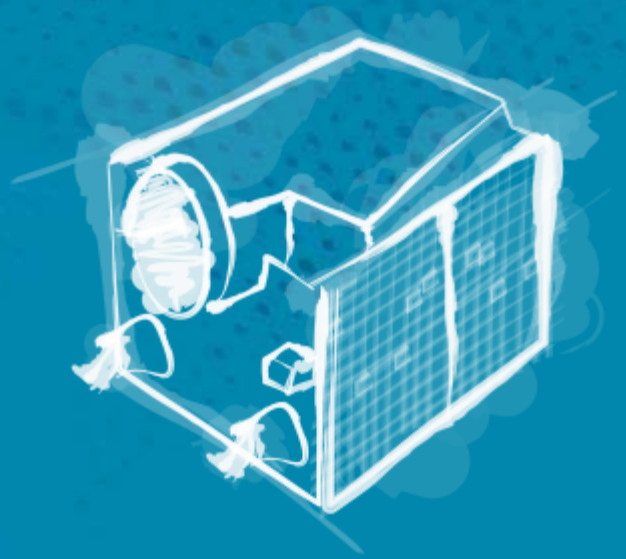

KazEOSat-1
KazEOSat-2

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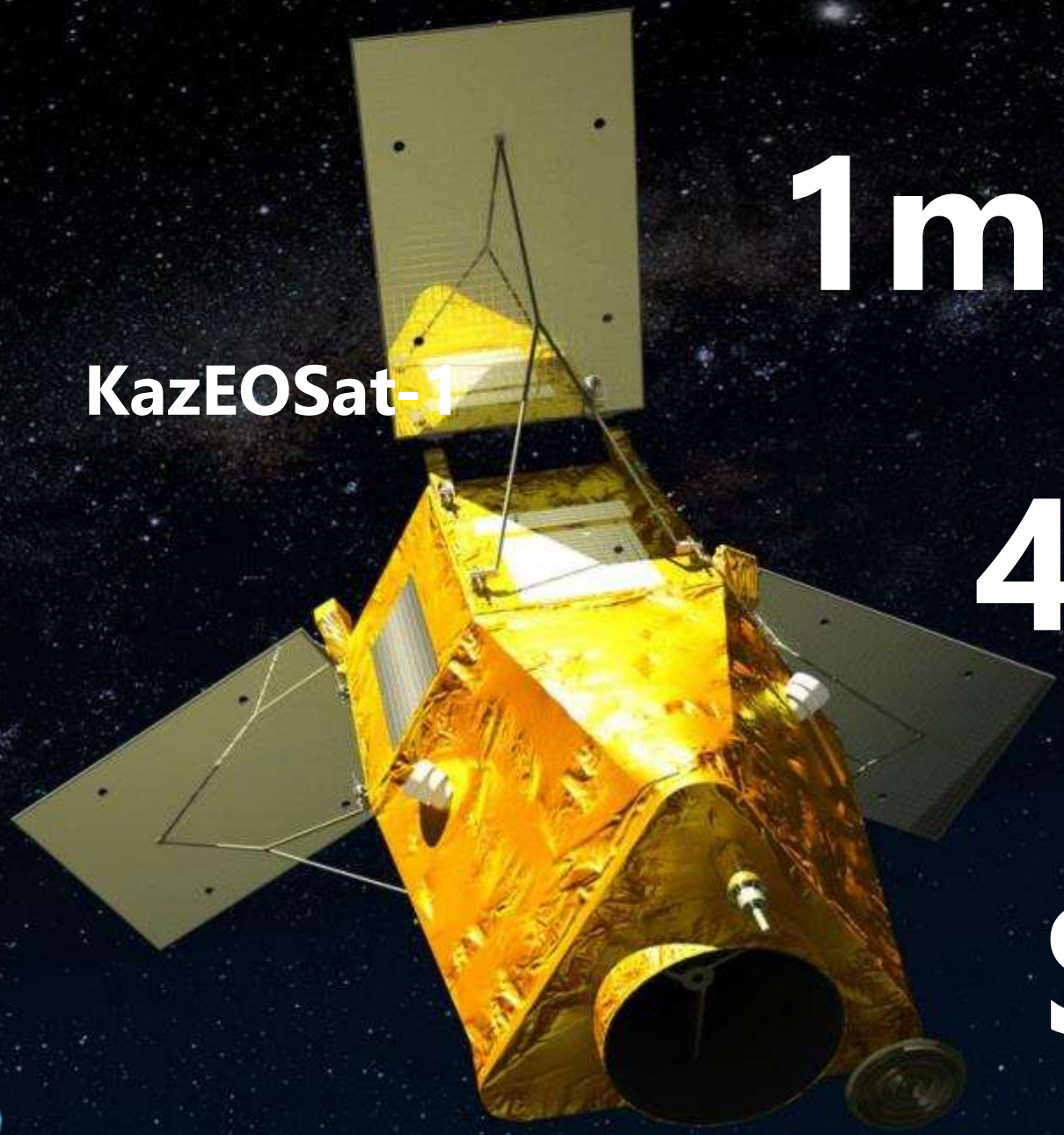

KazEOSat-1

1m res.

4 MS ba

Stereo

Madrid, Spain

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© KazEOSat-1 2015 – KGS – Distribution Airbus DS

Main applications

- Defence and Security
- Mapping and Urban Planning
- Agro-environment

USPs

Availability and accuracy

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KazEOSat-2

6.5m res.

5 MS ban

incl. Red-Ed

Main applications

- Agriculture
- Forestry
- Environment

USP

Red-edge band available

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Imagery Product options

Archive or New acquisition

Mono or Stereo

Standard processing levels: 1A or 2A (+ RPC)

Tailored Ortho as an option

Pan-sharpened or Bundle

KazEOSat-1: Pan + 4 MS bands (R, G, B, NIR)

Multisprectral

KazEOSat-2: 5 MS bands (R, G, B, RE, NIR)

12-bit depth

GeoTIFF

DIMAP product format incl. GeoTIFF image

Delivery time generally observed: 24h after acquisition

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Street Factory™ +Pixel Factory=**Pixel Factory Neo**

Photogrammetric Solution for 3D Mapping

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StreetFactory™

- Complete solution for 3D photogrammetric mapping
  - Software / Hardware
  - Parallel license for 8/16/24 GPUs
  - Support of multiple cameras
  - Open source solution SDK
- Professional services
  - Training and production assistance
  - 3 years maintenance
  - Optional processing service in Europe
- Fast manufacturing of 3DMosaic™
  - Along with additional products
  - 3h / km^2 (8GPU, 60% overlap, 8cm)
- Proven solution already in use in governmental mapping institute

Import / Export

Oblique Airborne Camera

GPS / IMU Management

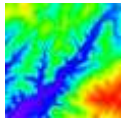
Multi-view Geometry

3D Digital City

3D Viewer

Color Management

Automation Workflow


3D Measurements

Interfacing

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Baoding City (China)

35.000 SWDC Images

GSD 8cm / 11cm

Courtesy Hebei Mapping Institute

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Marseille (France)

Up to 6600 images for 28km^2

GSD 10cm / 15cm

TrackAir Midas system

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Yokohama (Japan)

Up to 10.000 images

GSD 8cm / 14cm

Courtesy Pasco

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Professional Applications

- Mapping / Asset Management
  - High accurate database
  - Direct 3D measurement
  - Realistic free point of view
  - Consistent with any mapping data (cadaster, mosaic…)
- CAD / GIS / DPW ready
- Usable in any kind of applications
  - Security
  - Entertainment
  - Simulation…
- Soon to be standardized

3D Geospatial Platform

City/Urban Management

Security

Simulation

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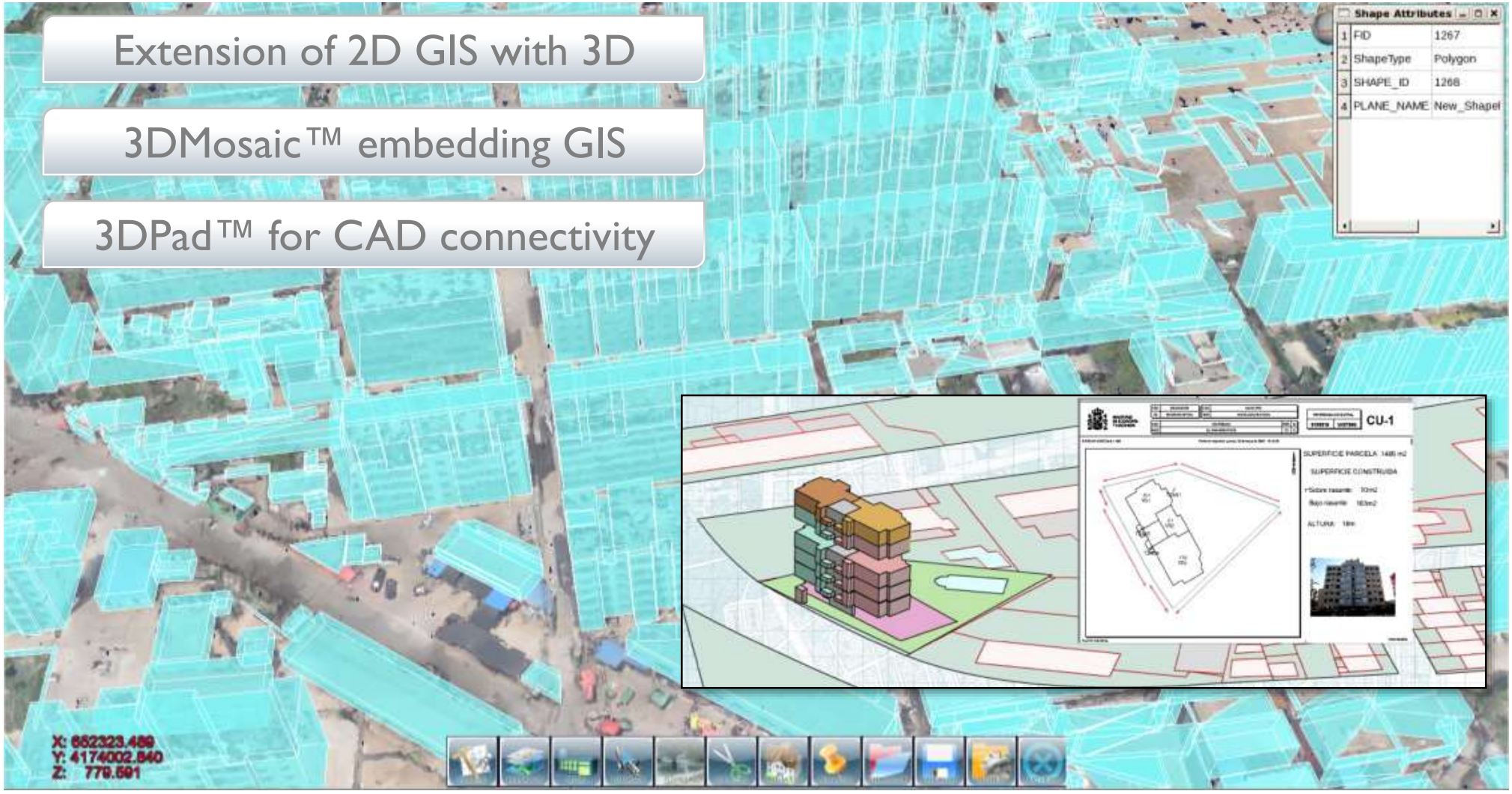
3DMosaic™ / GIS – CAD Integration



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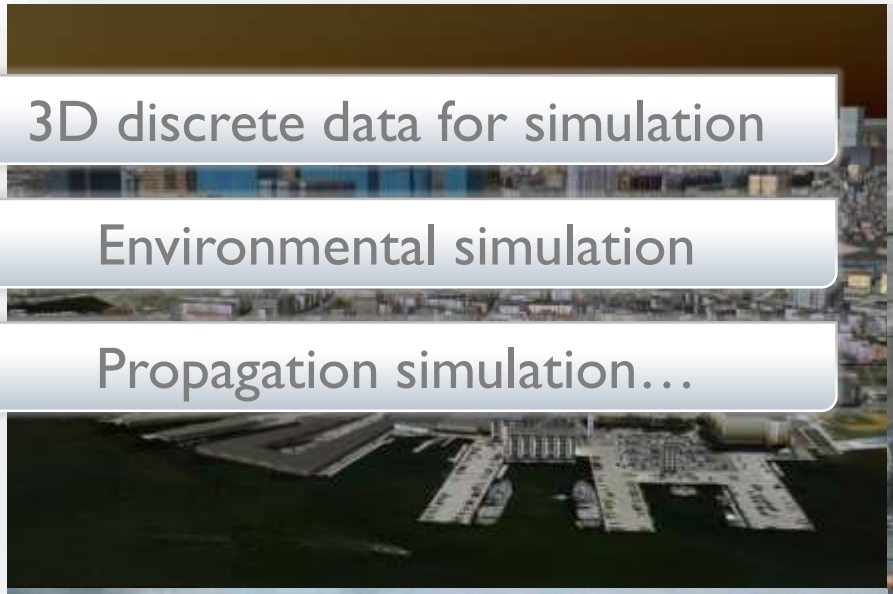
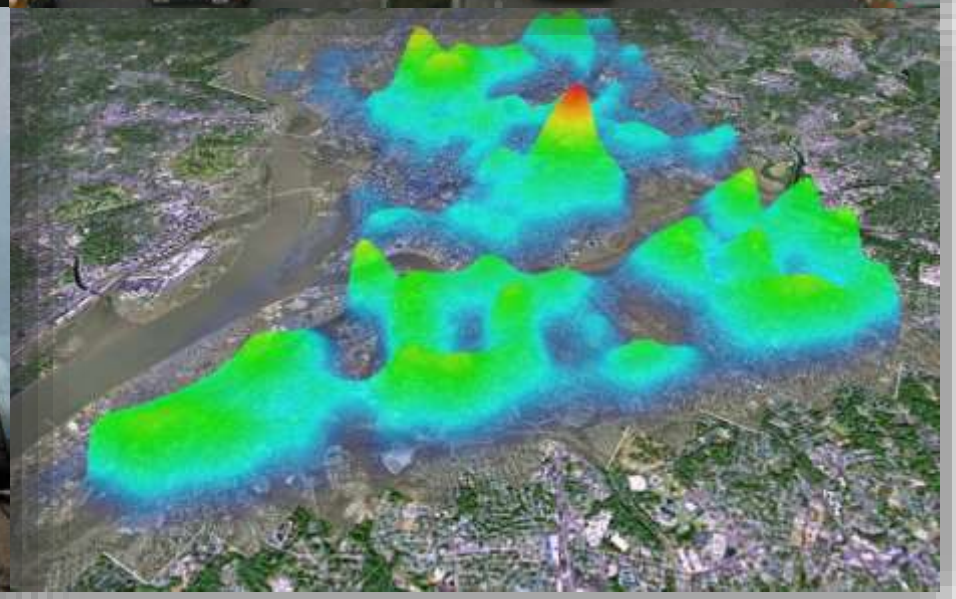
Scientific simulation



3D discrete data for simulation

Environmental simulation

Propagation simulation…



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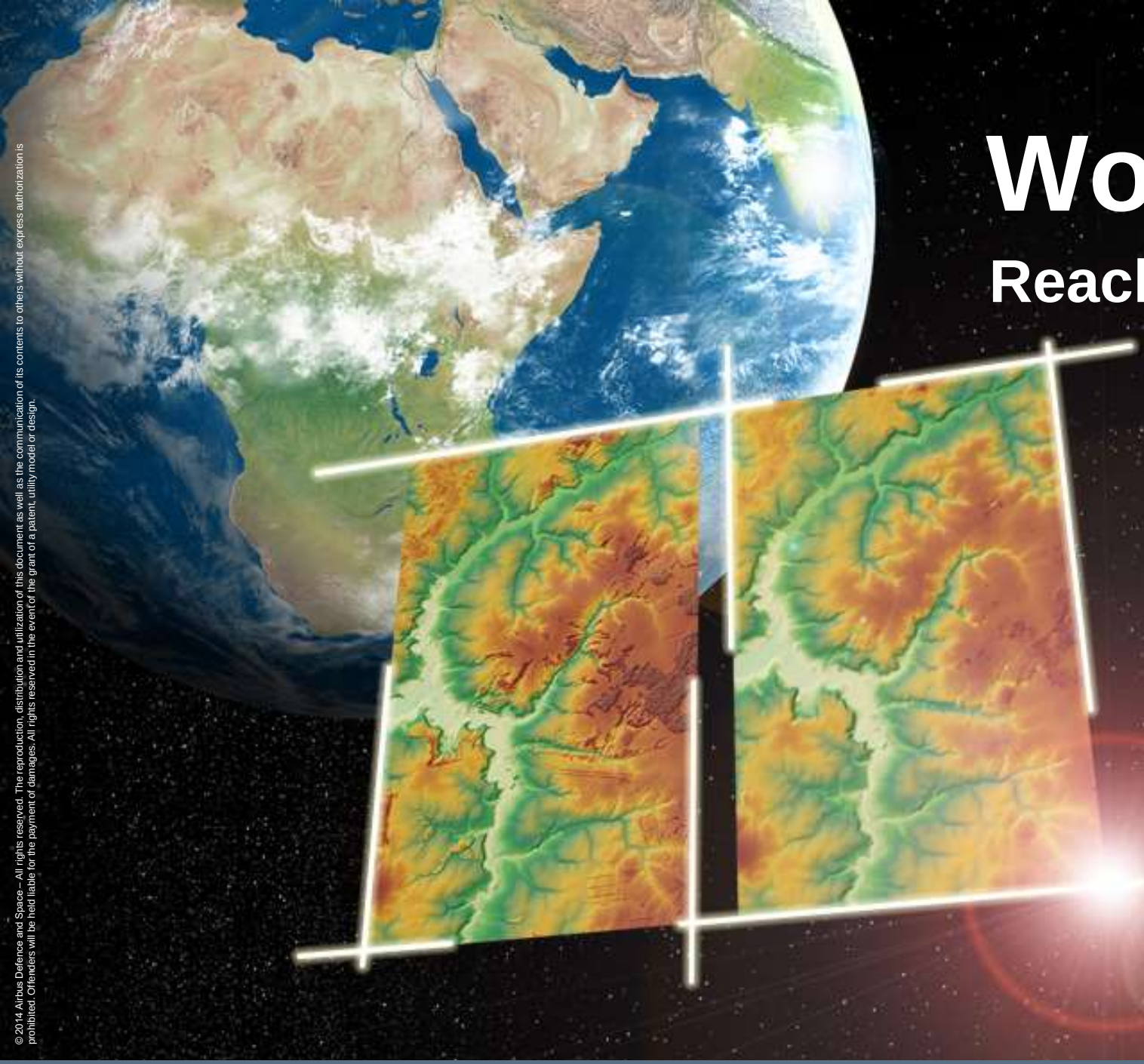
WorldDEM™

Reaching New Heights



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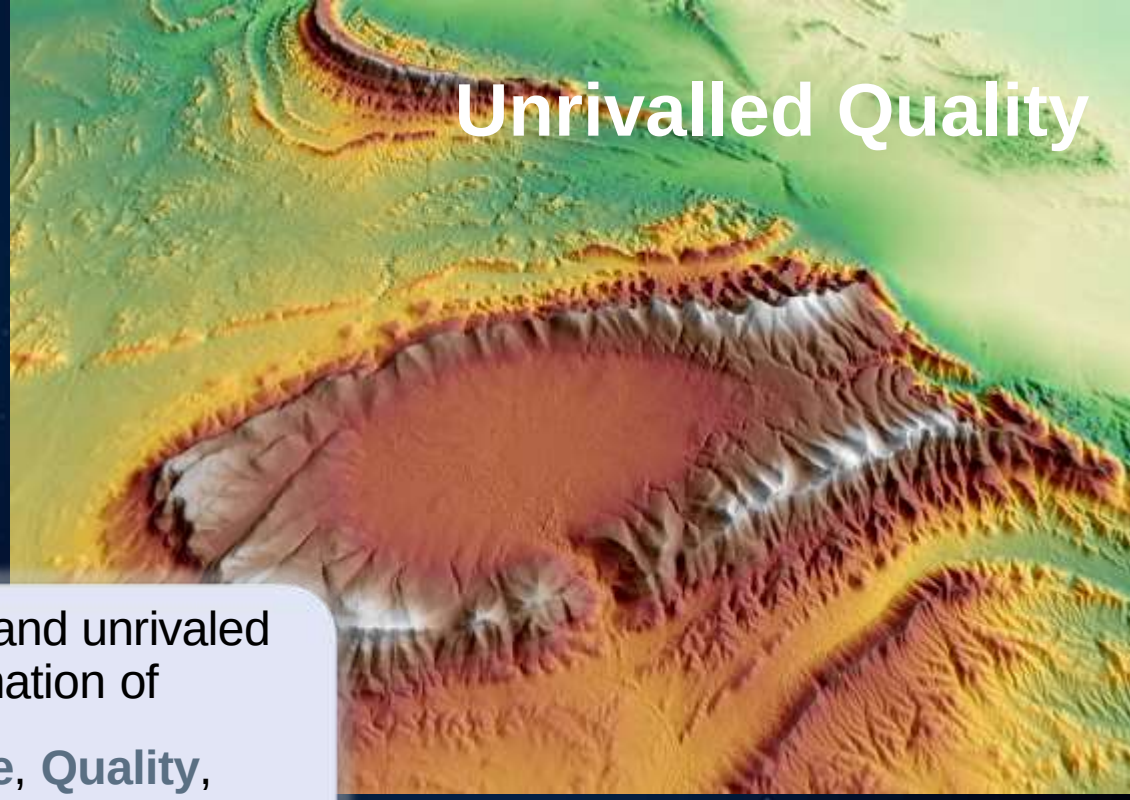
Standardised Surface and Terrain Models Globally

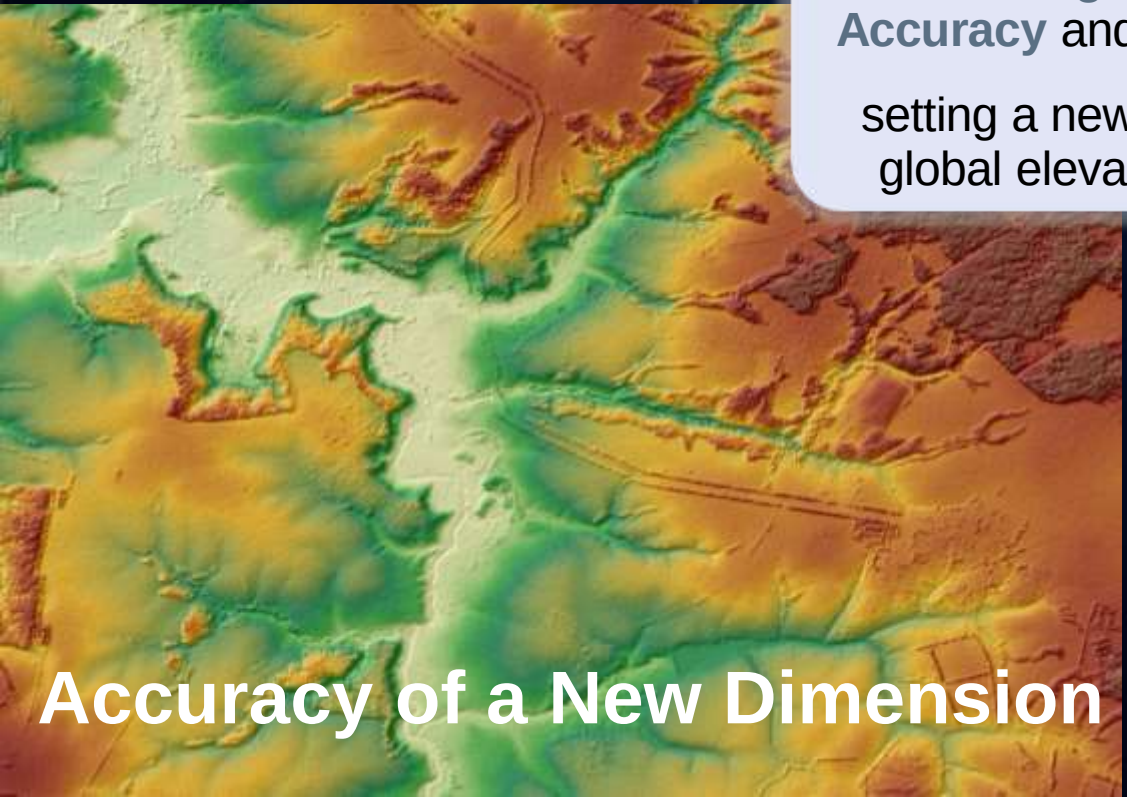
Unrivalled Quality



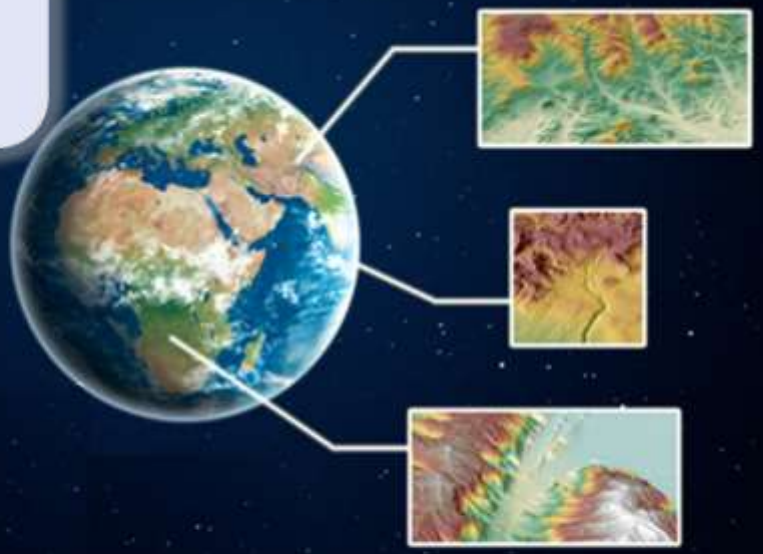
The unique and unrivaled combination of

Coverage, **Quality**, **Accuracy** and **Availability**,

setting a new standard of global elevation models



Accuracy of a New Dimension



Easy & Instant Access

What is in it for the Customer?

	Product Features	Customer Benefits
Coverage	Worldwide, **pole-to-pole**, covering the Earth's entire land mass (150 Mio km²)	**Standardised** DEM for any spot on Earth at the same **quality**
Quality	**Homogeneous, seamless, consistent** derived from single data source	**Closes gaps and extends to areas missing** so far with **high accuracy**
Accuracy	**High accuracy** at a pixel size of 12m Rel. **vertical** accuracy < 2m/< 4m Abs. **horizontal** accuracy of < 6m	Improves the **performance** of today's globally operating **systems & applications**
Availability	**No acquisition risk** (future) **off-the-shelf** availability	Automatic order process, **easy & instant access** to any spot on Earth in the future
Suits Market Needs	**Surface (DSM)** and **Terrain (DTM) elevation** information is offered	**No matter what elevation information** is needed for projects and applications **WorldDEM™ is ideally suited to assist**

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WorldDEM™ Product Line

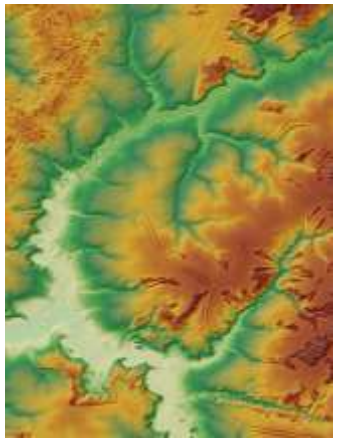
Digital Surface Model representing the surface of Earth including heights of buildings and other man-made objects, trees, forests and other vegetation

WorldDEM$_{core}$ - unedited DSM (incl. spikes, wells, voids)

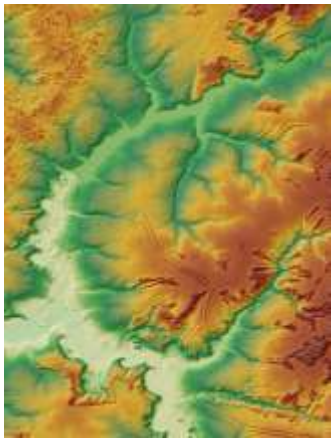
WorldDEM™ - edited DSM incl. editing of terrain features & water bodies

Digital Terrain Model representing the elevation of the bare Earth, man-made objects and vegetation are removed

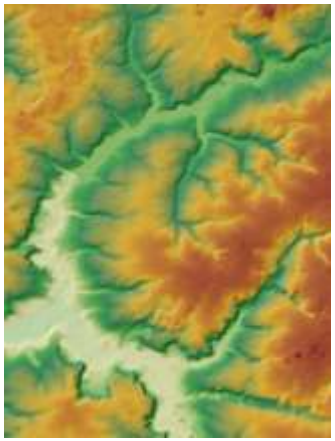
WorldDEM DTM - bare Earth, man-made objects and vegetation are removed



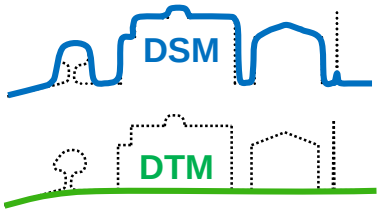
WorldDEM$_{core}$



WorldDEM™



WorldDEM DTM



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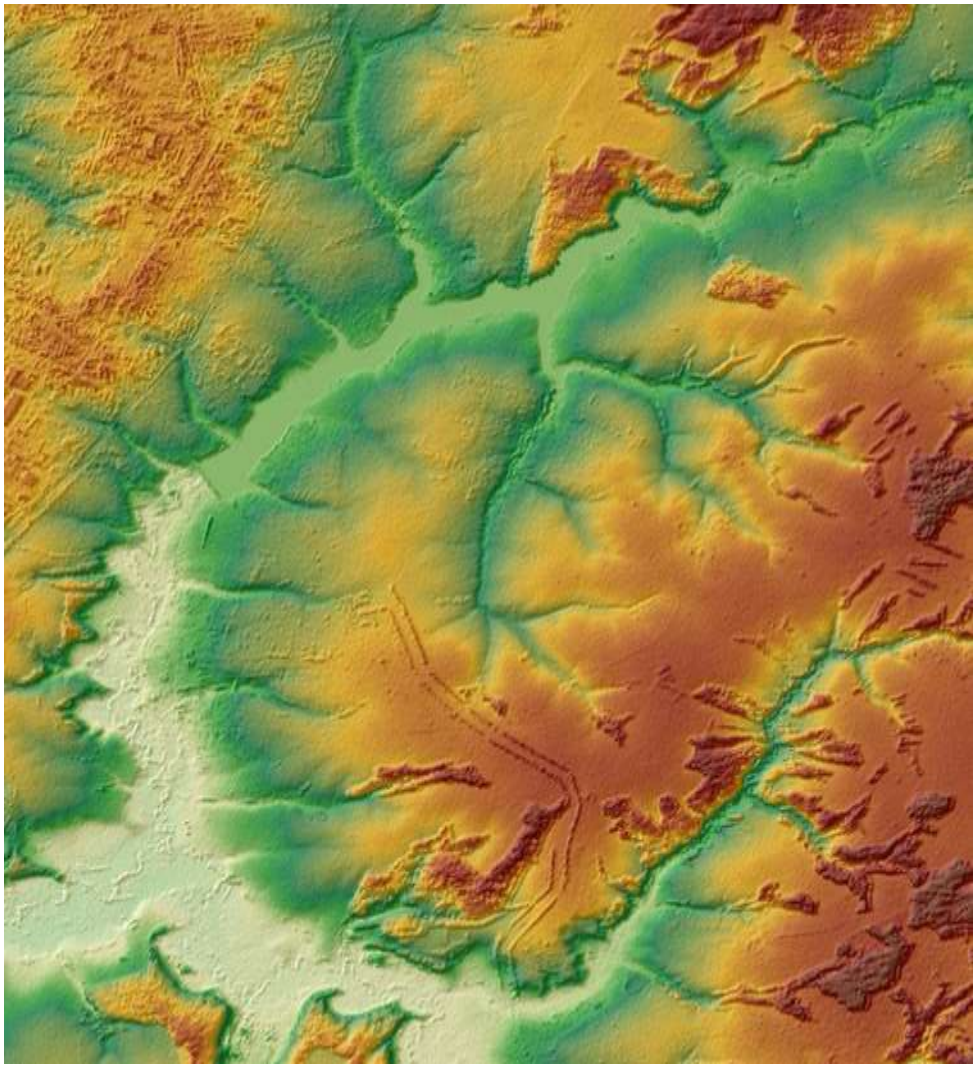
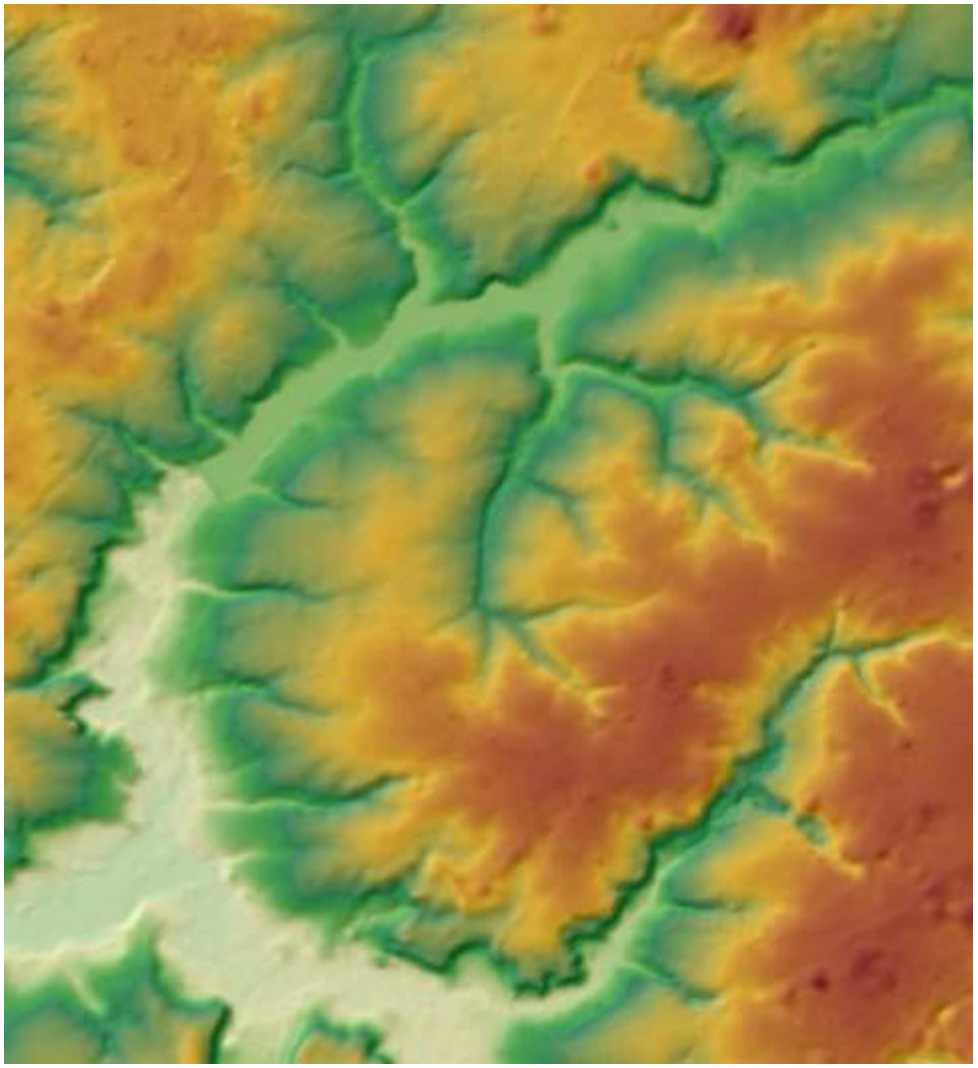
WorldDEM™ - Level of Detail

WorldDEM™



WorldDEM DTM



Vladimir, Russia (N56E040)

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SPOTMaps

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SPOTMaps

1 SPOTMaps 2.5, the historical product

- **SPOTMaps 2.5:** almost 100M sq km of emerged land

2 SPOTMaps 1.5, the new product

- **SPOT 6/7** capacities allow more

3 A top notch mosaicked product

- **Enhanced specifications**

4 How to order

- **On a support or in streaming**

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2 SPOTMaps 1.5, the latest product

SPOTMaps 1.5

The latest SPOTMaps generation

SPOTMaps now benefit from SPOT 6/7

- Data at 1.5m natural colour vs SPOT 5 SPOTMaps at 2.5

SPOT 6/7 is a constellation fully designed and configured to cover broad areas

Weather forecast updated 6 times a day

- Optimizes the use of the resource
- Increases the ratio of successful attempts

Improvement of SPOTMaps 2.5 well known advantages

Automatic orthoproduction at 6 to 10m CE90 where Ref3D is available

Ideal for mapping projects up to 1/25.000.

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SPOTMaps 1.5

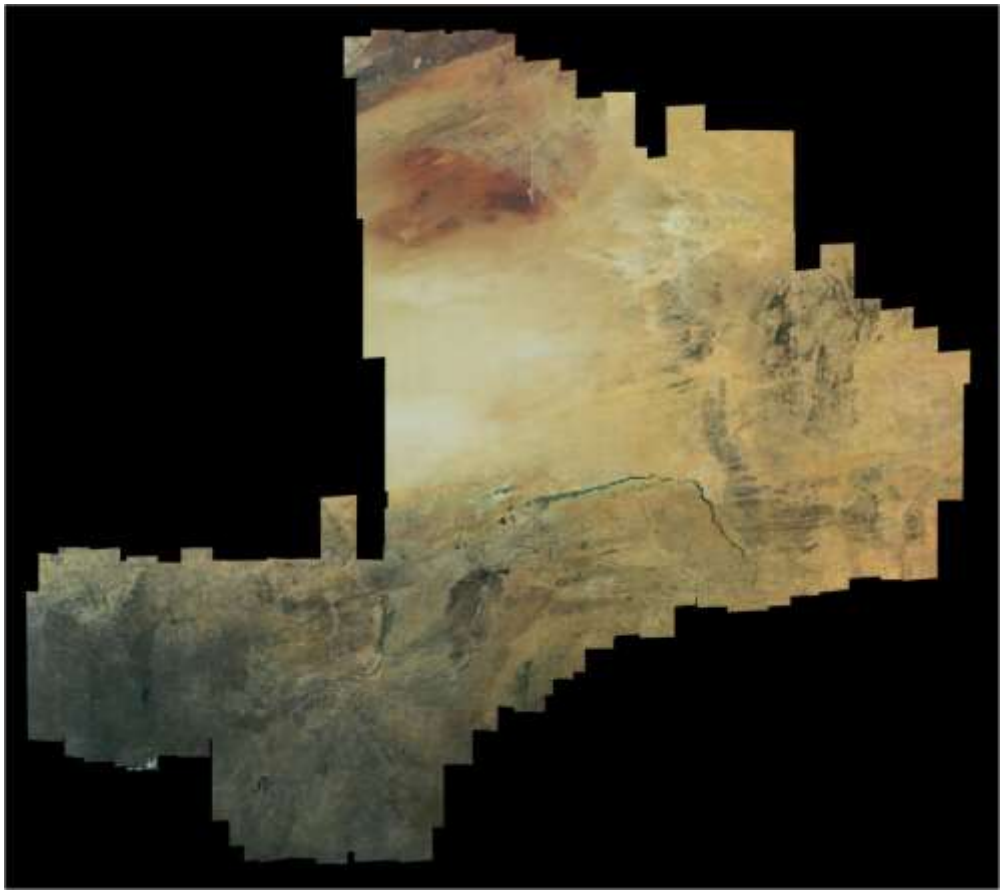
Refresh mosaic coverage in a timely manner is now a reality

With SPOTMaps 2.5 any refresh mosaic took a year between updates (acquisition and production time)

Thanks to the revisit rate of SPOT 6 and 7, we can now rapidly increase the acquisition pace

- Source Data Collection Rates using only **SPOT6**
  - **Mali – 5 Months**
  - **Iraq – 3 Months**
  - **North Korea – 1 Month**
- Rates cut approximately in half with the addition of **SPOT7**

This allows us to start programs with frequent revisit of large areas



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National coverage

Example of North Korea, 2014

Sensor	Surface	Cutting	Tiles	Yr 2012	Yr 2013
SPOT6	139 904	15x15	277	5,18%	94,82%

Mosaic quick-look

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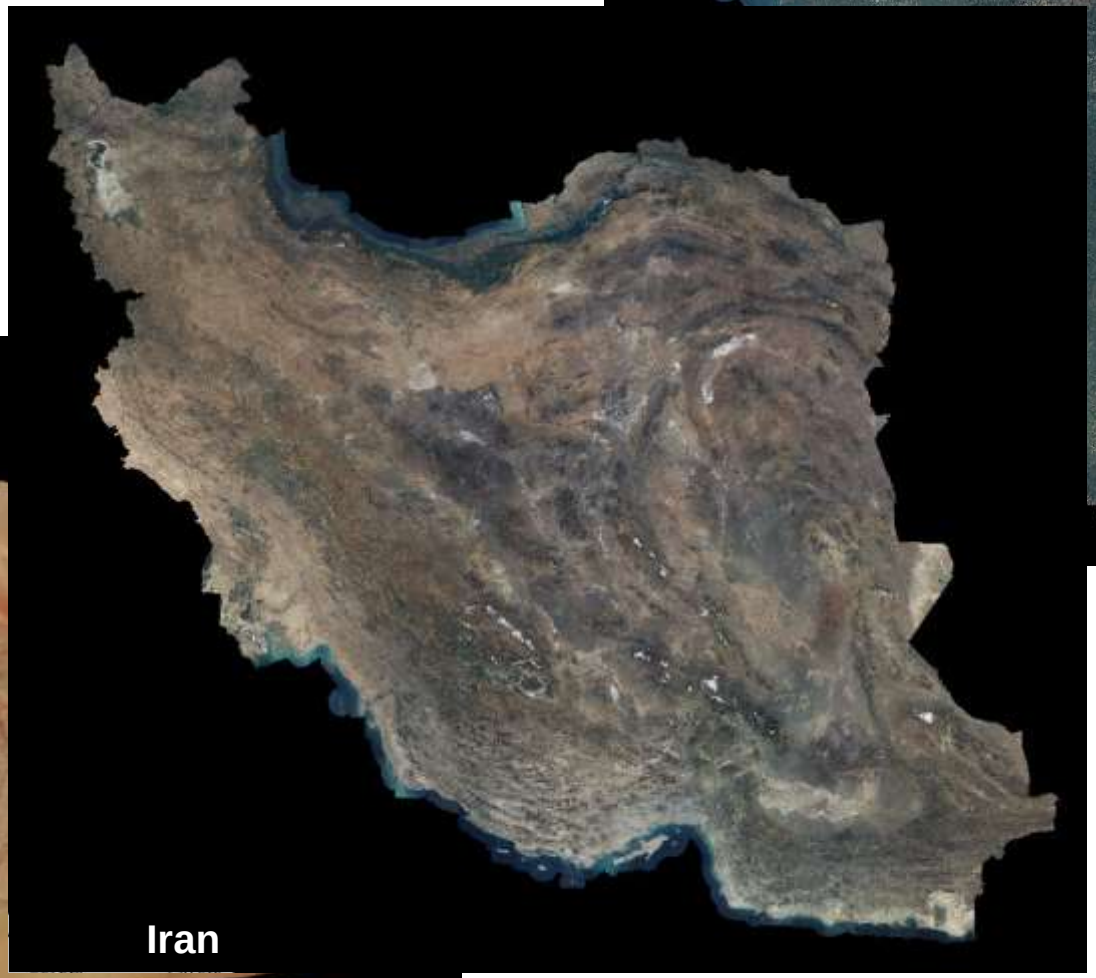
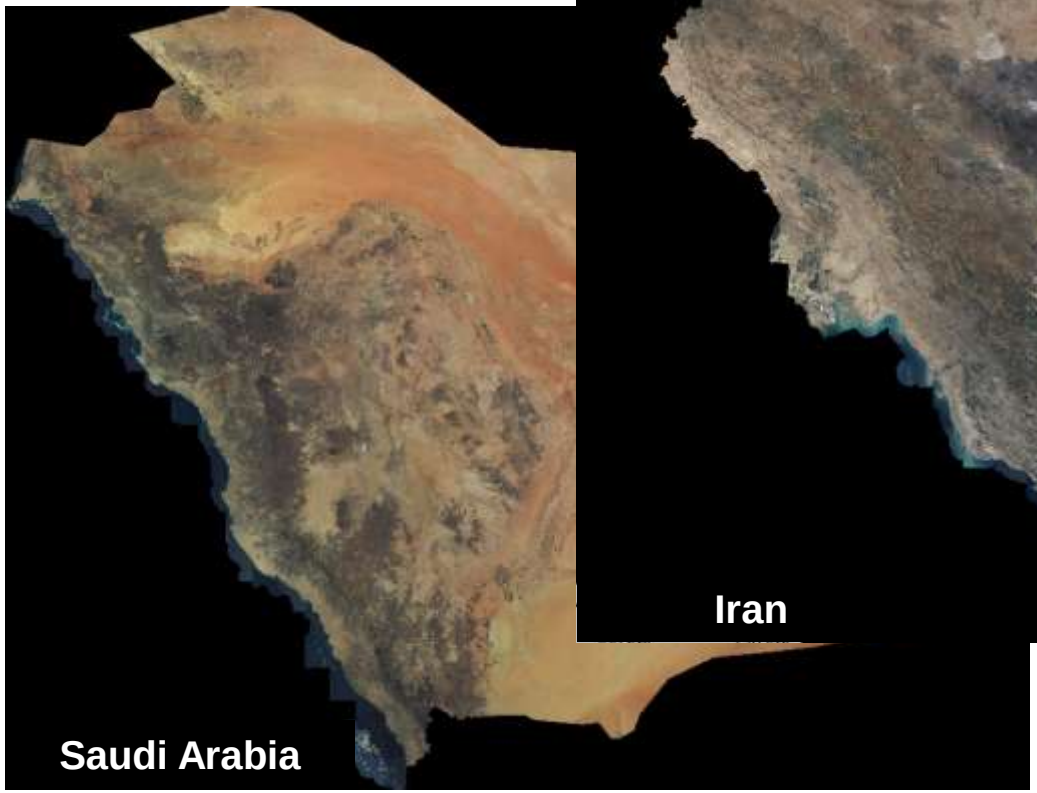
National coverage

Examples made in 2015





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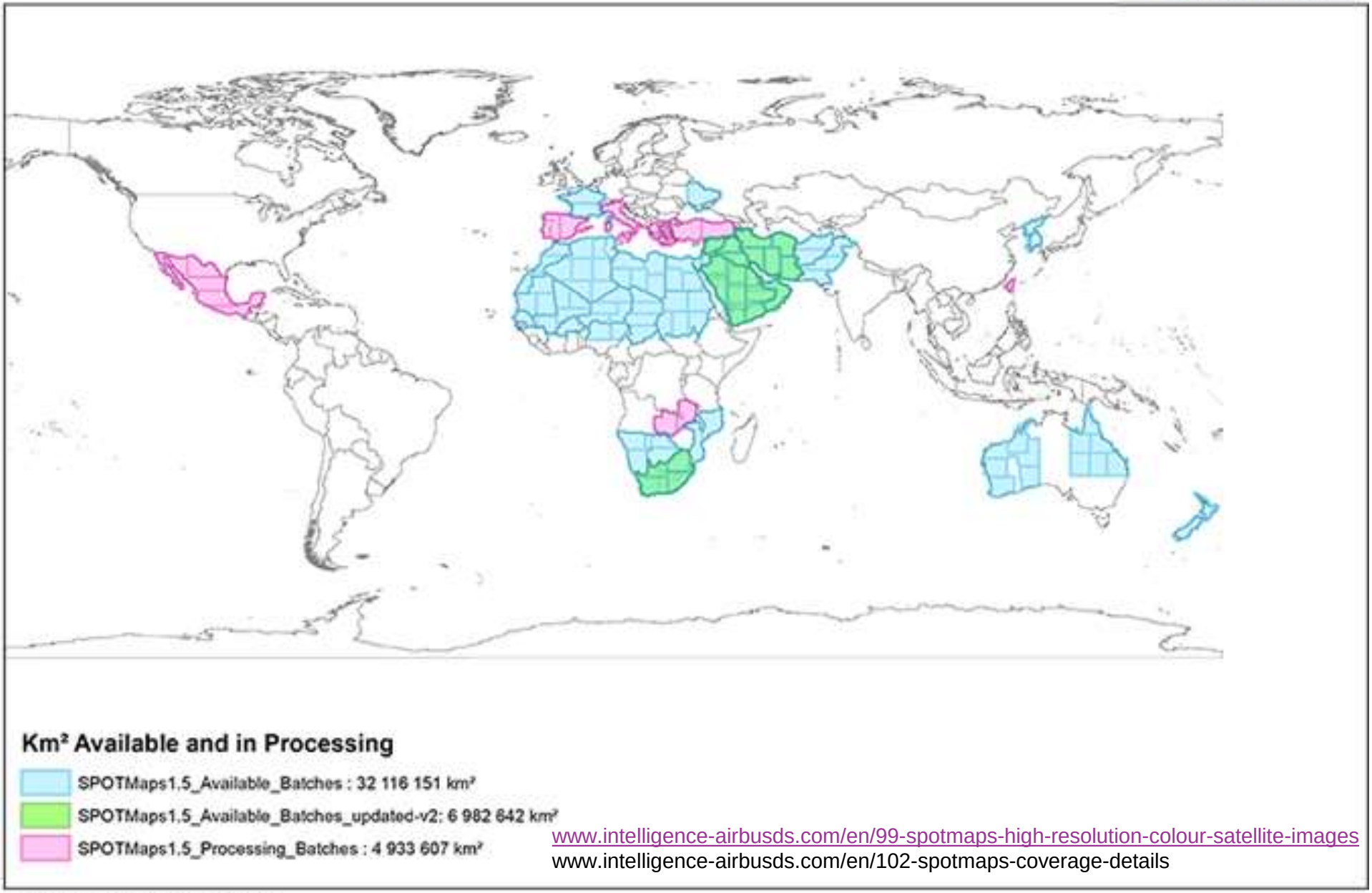
SPOTMaps 1.5 fedettség 2016 július



www.intelligence-airbusds.com/en/99-spotmaps-high-resolution-colour-satellite-images
www.intelligence-airbusds.com/en/102-spotmaps-coverage-details

SPOTMaps 1.5 status dated 2016/07/04

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3 A top notch mosaicked product

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SPOTMaps 1.5 vs SPOTMaps 2.5

What's new!

	SPOTMaps 2.5	SPOTMaps 1.5
Source data	SPOT 5 satellite imagery	SPOT 6/7 satellite imagery
Resolution	**2.5 metres**	**1.5 metres**
Spectral mode	**Colour (3 bands)**	**Natural Colour (3 Bands, RGB)**
Location accuracy	**15 à 23 metres CE90 (absolute)**	**6 to 10 metres CE90 (absolute)**
Preprocessing level	Ortho	Ortho
Projection	UTM WGS 84	UTM WGS 84
Format	GeoTIFF	GeoTIFF
Product framing	Per km², to match your area of interest	Per km², to match your area of interest

+ Better natural color rendering thanks to the blue band
+ Better accuracy

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SPOTMaps 2.5 vs SPOTMaps 1.5

What you can do now

Applications	Advantages gained
Defense	• Better **geolocation** accuracy • Faster **refresh** possible, useful to detect strategic areas at national scale and optimise VHR acquisitions
Mapping	• 1:25,000 achievable over all landscapes, and up to 1:15,000 in specific areas (SPOT 5: resp. 1:50,000 and 1:25,000)
O&G	• Detailed design of engineering process at **scale up to 1:15,000** • Detailed structural and fracture analysis • Bedding dip and strike calculations • **Geophysical survey planning and processing** • Engineering survey (**pipeline and facilities**) planning • Detection and analysis of environmental impact of the exploitation activity
Forest Management	• Mapping tracks **below 4m width** • Understanding wood storage areas, operational facilities and camps configuration • Detecting isolated trees, **small scale forest degradation**, anomalies in the forest texture necessary to identify illegal cut activity • Mapping & measuring green corridors and hedges with sharp delineation of natural areas • Allowing detection and analysis of **environmental impact** of the exploitation activity • Measuring green corridors and hedges with higher precision and detect isolated trees
Agriculture	• **Intra-parcel information available** (0,05ha vs. 0,2ha with S5)

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One Tasking

4 options designed around your needs

ONE DAY	ONE NOW	ONE PLAN	ONE SERIES
Choose your acquisition day	Access useful information in an instant	Obtain qualified coverage within an agreed timeframe	Get coverage on a regular basis

- Best choice for maximising the success of your collection campaign
- Financial compensation, if (ever) we do not make it on time
- Flexible sensors, superior availability for ultra-fast delivery
- Streamlined offer, to lighten the ordering process for all channels (through the Customer Care or GeoStore) or satellites (SPOT, Pléiades, very soon Terrasar-X)
- 24/7 access

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	ONE DAY	ONE NOW	ONE PLAN	ONE SERIES
Timeframe	One day	The smallest period needed to secure three acquisitions – additional acquisitions are proposed until cloud cover rate reaches ≤10%	Customer selected	Customer selected, including frequency
Cloud Cover	≤100%	≤10%. All acquisitions are delivered. A validated acquisition ends the tasking	≤10% or ≤ 5% with uplift 100% for OneSeries Critical – images are invoiced when at least 40% cloud free	
Service Level	Premium[1]	Premium[1]	Regular[2]	Regular[2] Premium[1]
Acquisition Failure Terms	Order cancelled (no charge) + 25% voucher	If an acquisition is missing amongst the three firsts in the agreed window, the other acquisitions are delivered at no charge	10% voucher	OneSeries Routine: 10% voucher OneSeries Critical: 25% voucher

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IS SPACE

Intelligence

OneAtlas

The satellite image library

Sept. 2016

ONE VIEW ONE LIVE

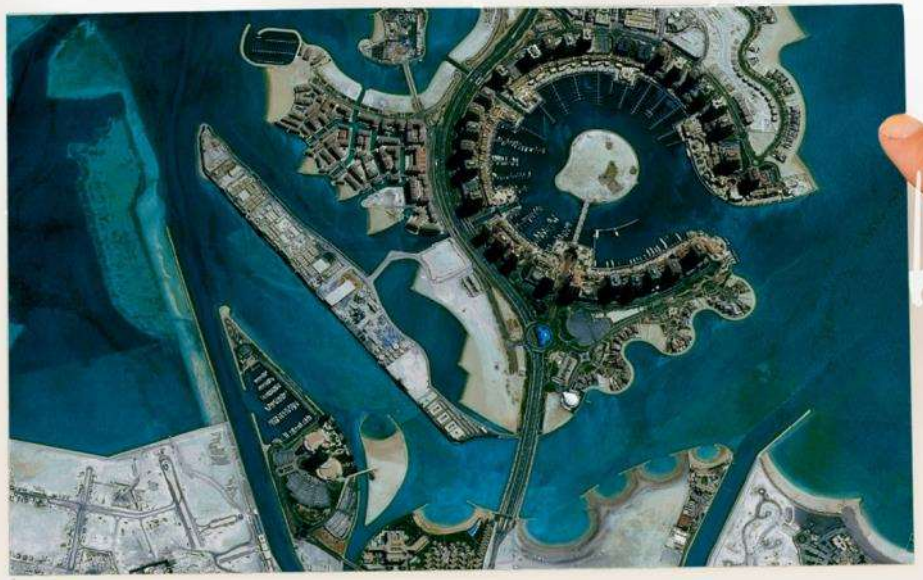
AIRBUS DEFENCE & SPACE

Our Highlights for You

WE PROMISE YOU THE WORLD
and We Deliver.

One Atlas

Easy-to-use, subscription-based web access portal with geospatial imagery constantly updated and fully refreshed every year.



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>100 bn km²

SPOT Archive, since 1986

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DEFENCE & SPACE

The World

Every Year at 1.5m

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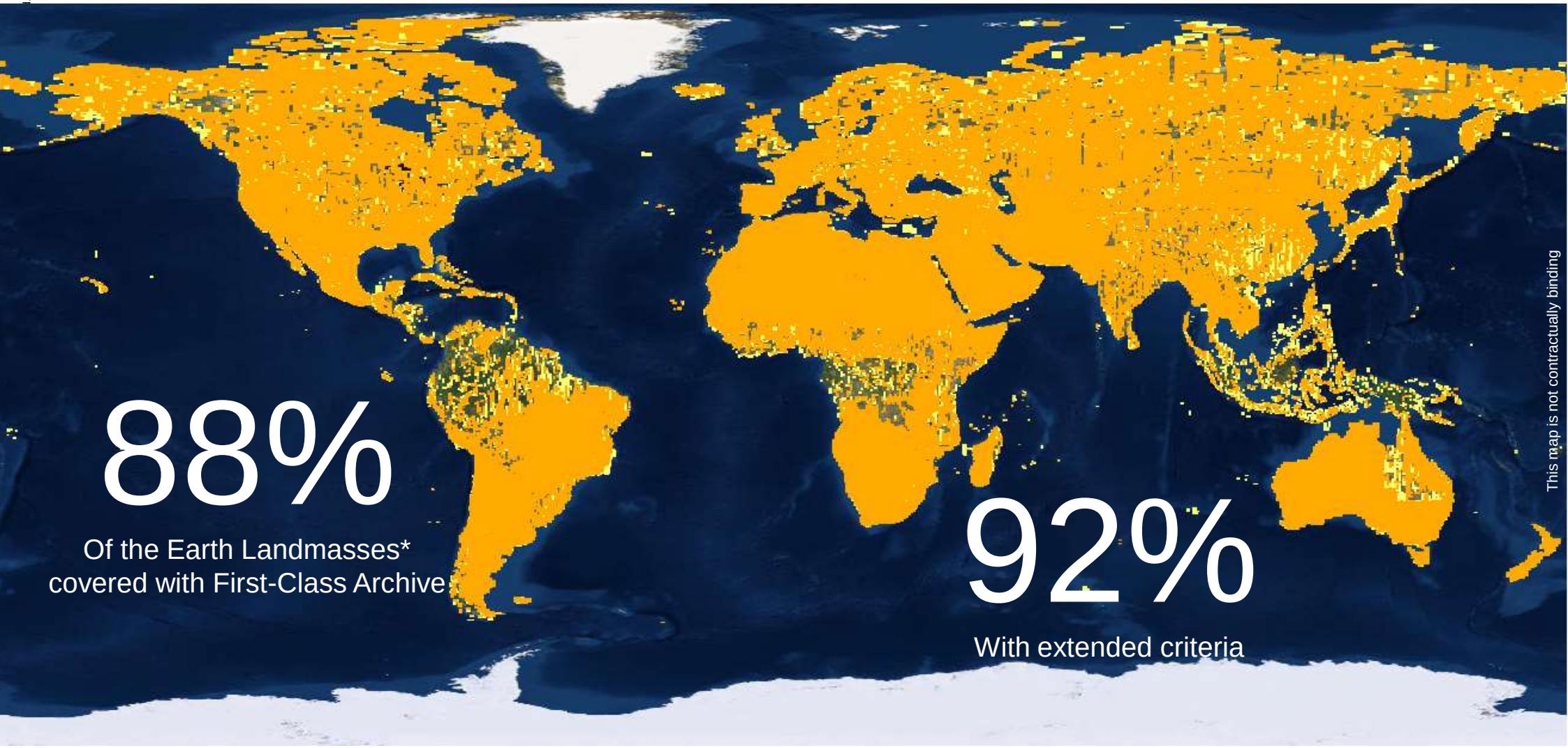
Fresher-Than-A-Year Archive

Status: 2016, Sept. 29



SPOT Archive: 20° angle, 5% cc

SPOT Archive: 30° angle, 15% cc

* Polar areas excluded

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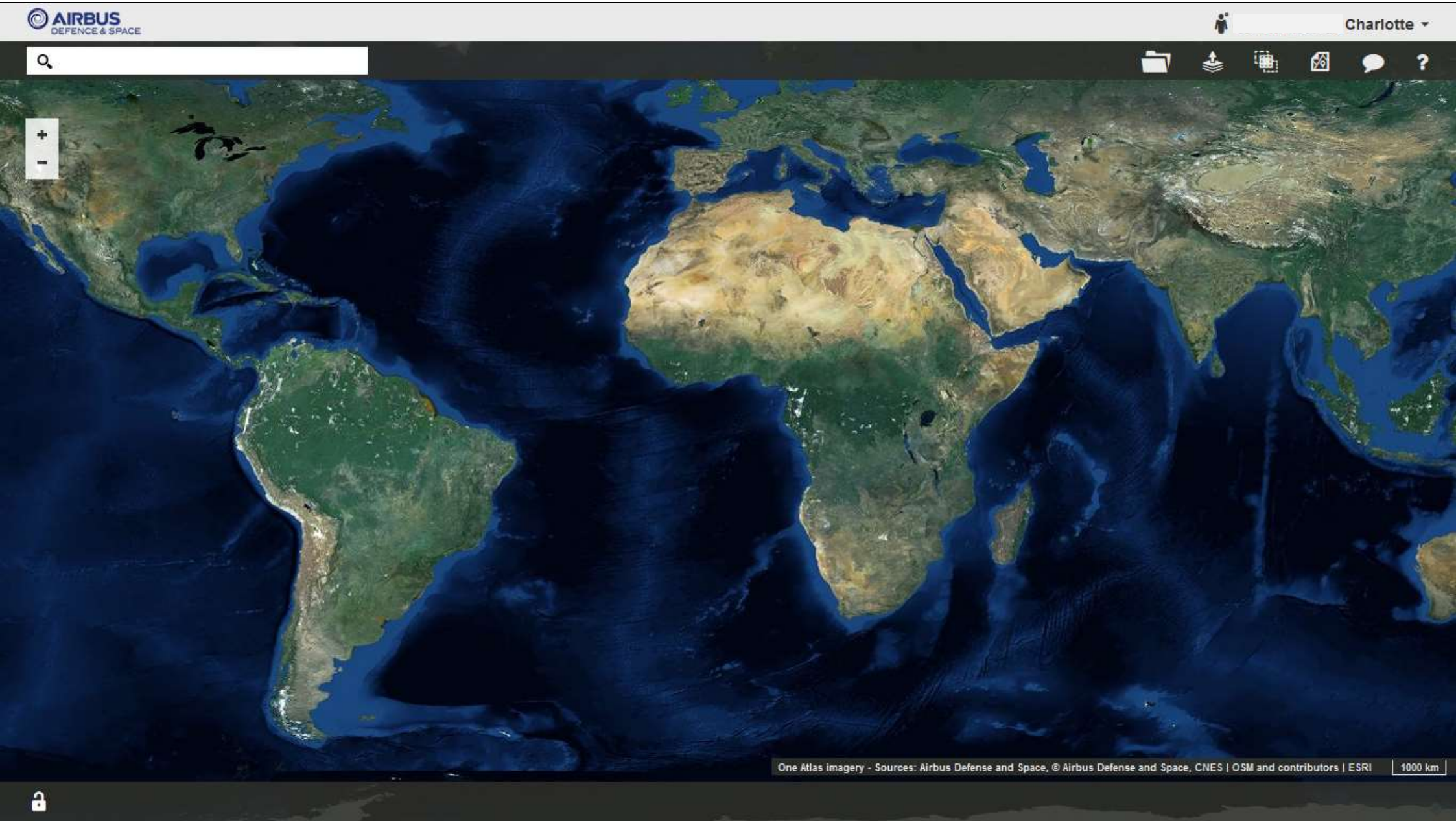
Access!

AIRBUS
DEFENCE & SPACE



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Easy &
Immediate

Up-to-date &
Consistent

Affordable &
cost-effective

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Already Live in One Atlas

Status: 2016, Sept. 29

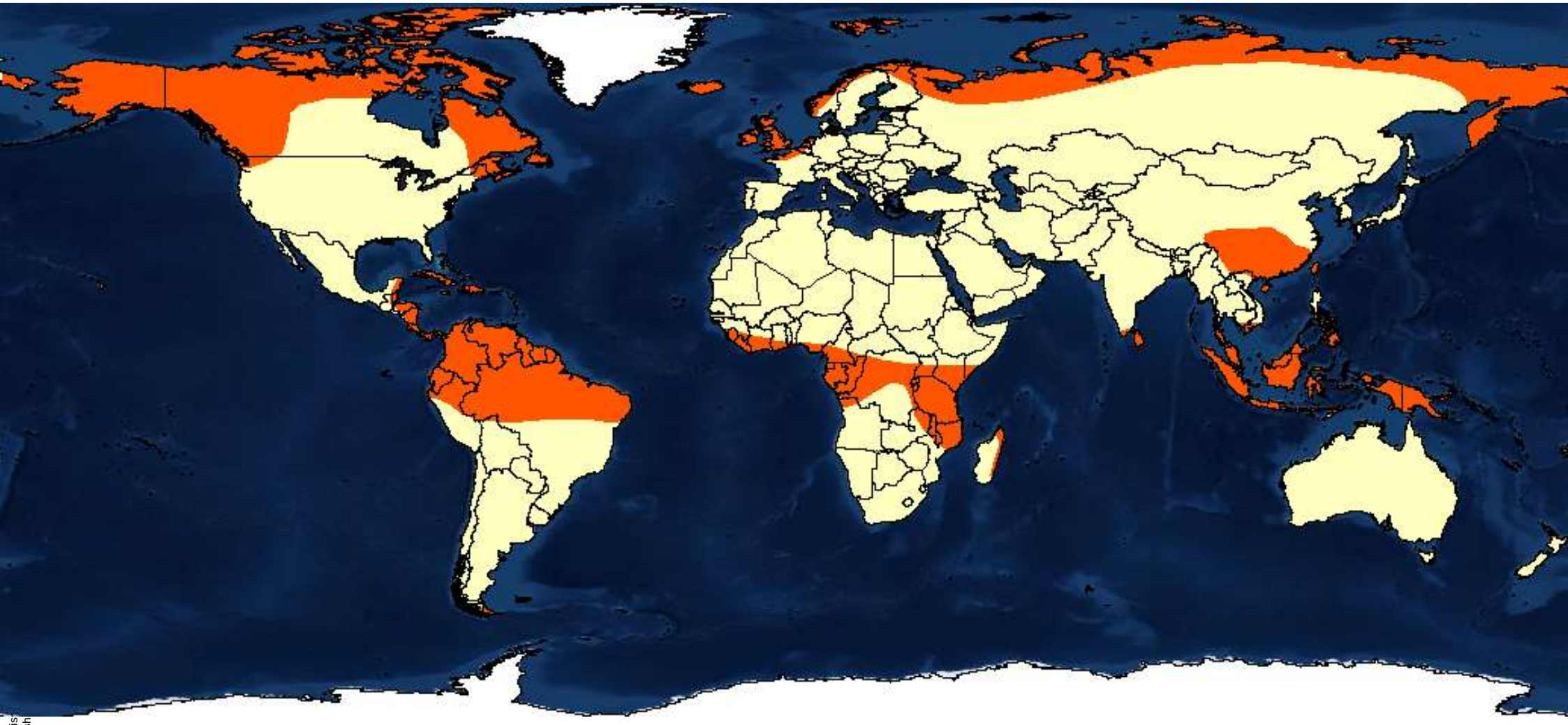
One Atlas: 0.5m Imagery

One Atlas: 1.5m First Layer

* Polar areas excluded

AIRBUS DEFENCE & SPACE

One Atlas Commitment



Up to 20° angle - 5% clouds - Less than a year @ 90% confidence

Up to 30° angle and/or up to 25% clouds and/or older than a year @ 75% confidence

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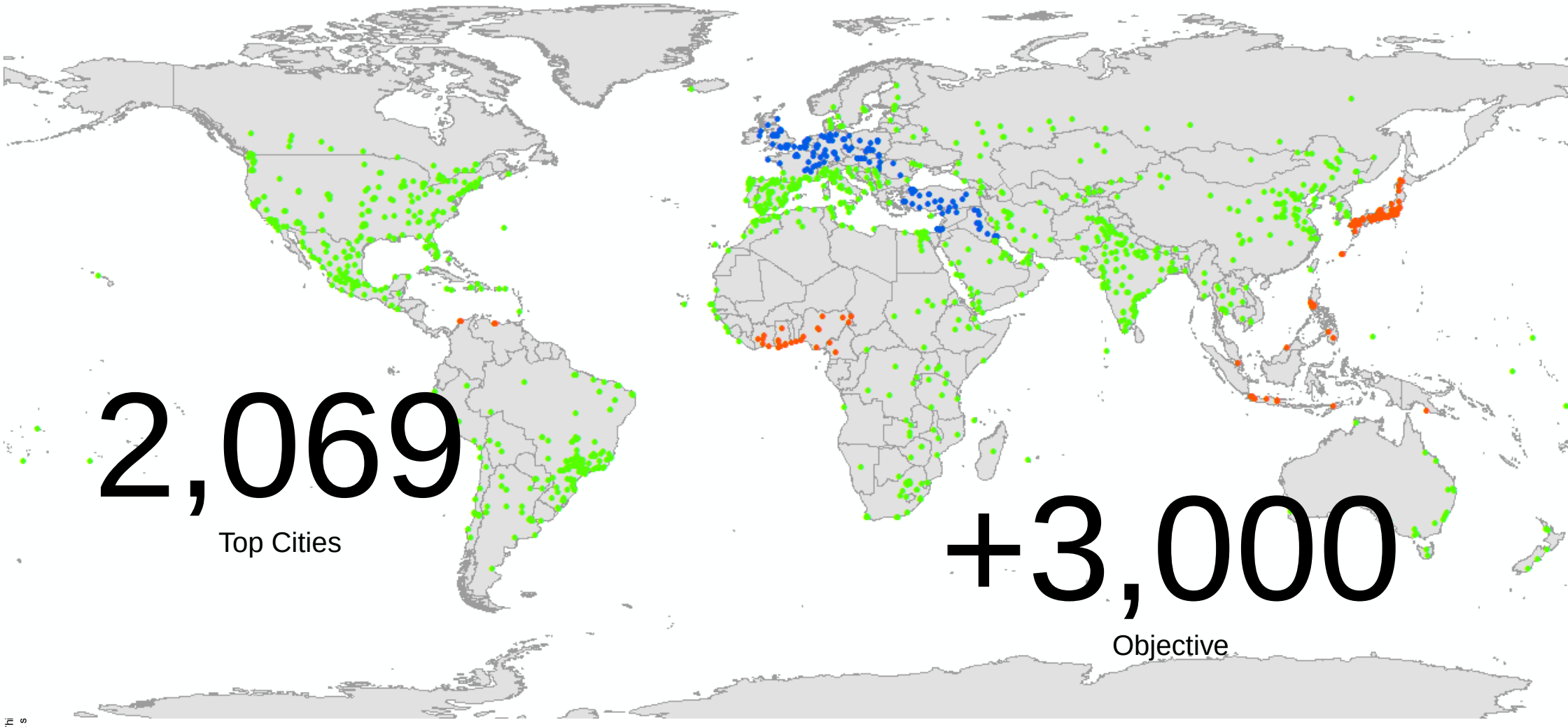
One Atlas Cities Commitment



0.5m Imagery – refresh every year

0.5m Imagery – refresh every year (best effort)

0.5m Imagery – refresh every two years

Typical Uses Cases

Defense and Security

- Plan missions and operations
- Map, report and update positions, movements, risk areas
- Select transportation routes and access points

Civil Engineering

- Perform preparatory studies for infrastructure planning
- Define and adjust early routing
- Visualize, share and communicate infrastructure impacts

Forest, Environment

- Assess forest and non-forest area extent
- Identify tree cover change or de/reforestation
- Organize tree count or replanting

Oil, Gas and Mining

- Prepare ground scouting / exploration in the field
- Plan / implement a new facility
- Check environmental site restoration after exploitation

Agriculture

- Delineate parcel boundaries
- Map agricultural lands and crop species
- Track and trace tractors and irrigation assets

Location Based Services

- Widen and refresh imagery database
- Detect quickly where map updates are required
- Locate mobile assets, track and trace them

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2 Options

ONE VIEW

Cost-effective and
consistent snapshot

ONE LIVE

Top quality,
never ageing basemap

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Core Product Options

	ONE VIEW	ONE LIVE
Image selection	Handpicked images, driven by cloud minimization and seasonality consistency	
Content refresh	None	Dynamic, as per refresh commitment. Faster refresh option* upon feasibility

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*Submitted to uplift

AIRBUS DEFENCE & SPACE

Core Product Options

	ONE VIEW	ONE LIVE
Image selection	Handpicked images, driven by cloud minimization and seasonality consistency	
Content refresh	None	Dynamic, as per refresh commitment. Faster refresh option* upon feasibility
Editor[1]	Disabled	Enabled

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(1) Tool enabling to change the order in which the images are displayed - - *Submitted to uplift

Core Product Options

	ONE VIEW	ONE LIVE
Image selection	Handpicked images, driven by cloud minimization and seasonality consistency	
Content refresh	None	Dynamic, as per refresh commitment. Faster refresh option* upon feasibility
Editor[1]	Disabled	Enabled
Vintage option[2*]	Yes, previous OneView layers	Yes, OneLive imagery with a starting date defined by the user

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(1) Tool enabling to change the order in which the images are displayed - - (2) Coming soon - - *submitted to uplift

3 Licenses

Internal	External Non Commercial	External Commercial
For those who want imagery to perform their own daily operations	For organizations needing to share the data with others to perform their mission	For the ones that target to generate / secure revenues thanks to the dataset

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Examples

Internal	External Non Commercial	External Commercial
A big O&G company A Ministry of Defense	A Ministry of Agriculture wishing that farmers digitalize theirs parcels on an online basemap	LBS actors for map update SMEs selling information they extract from the data

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3 Delivery Options

Streaming	Digital Copy Tiles	Digital Copy Segments
WMS, WMTS, WFS <1s for one TMS tile (256x256 px.)	Global Ortho Layer Tiles (256 x 256 px, mixed PNG and JPEG)	Individual Orthoimages JPEG 2000 Optimized

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Delivery Options

	Streaming	Digital Copy[1]	
		Tiles	Imagery Segments
Spectral bands	RGB	RGB	RGB & NIR

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(1) The digital copy option must be selected ab initio, in the initial order form.

Delivery Options

	Streaming	Digital Copy[1]	
		Tiles	Imagery Segments
Spectral bands	RGB	RGB	RGB & NIR
Pixel depth	8 bits	8 bits	8 bits

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(1) The digital copy option must be selected ab initio, in the initial order form.

Delivery Options

	Streaming	Digital Copy[1]	
		Tiles	Imagery Segments
Spectral bands	RGB	RGB	RGB & NIR
Pixel depth	8 bits	8 bits	8 bits
Geometric processing	Global ortho layer Geographic (WGS 84) Web Mercator	Global ortho layer tiles Geographic (WGS 84) or Web Mercator	Individual orthoimages Geographic (WGS 84)

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(1) The digital copy option must be selected ab initio, in the initial order form.

Delivery Options

	Streaming	Digital Copy[1]	
		Tiles	Imagery Segments
Spectral bands	RGB	RGB	RGB & NIR
Pixel depth	8 bits	8 bits	8 bits
Geometric processing	Global ortho layer Geographic (WGS 84) Web Mercator	Global ortho layer tiles Geographic (WGS 84) or Web Mercator	Individual orthoimages Geographic (WGS 84)
Delivery	• Imagery: WMS, WMTS <1s for one TMS tile (256x256 px) • Metadata: WFS, WMS	Tiles (256 x 256 px, mixed PNG and JPEG) Batch delivery through our cloud platform[2]	JPEG 2000 Optimized Batch delivery through our cloud platform[2]

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(1) The digital copy option must be selected ab initio, in the initial order form. - - (2) Frequency to be agreed upon feasibility.

CONFLICT ATLAS

Map complex conflicts and crisis

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1

Offer Pitch

Airbus Defence and Space *and* ***IHS Jane's*** *have partnered to create a unique offering combining accurate satellite imagery with daily insight and analysis to deliver a powerful geographical intelligence tool focused on countries of conflict and high risk.*

Together, this unique, powerful tool will help intelligence professional share and verify important content, reduce the demands on big data and quickly help identify areas that require immediate focus.

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AIRBUS DEFENCE & SPACE

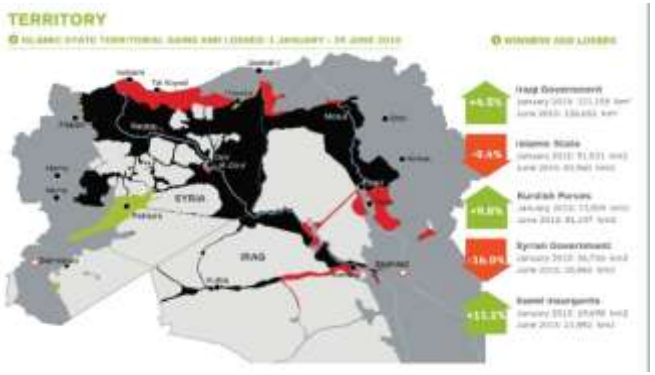
1

Parternship

"Airbus Defence & Space and IHS Aerospace, Defence and Security (IHS Jane's) are partnering to deliver a market leading GEOINTEL base maps focused on countries and regions of conflict."

Airbus Defence and Space will deliver the smartest constellation combining radar and optical satellites, wide coverage 1.5m resolution satellite imagery across whole countries with 50cm resolution focused on areas of interest such as bases, conflict zones and populated areas.

IHS Jane's will deliver geospatial layers identifying military bases, military capability data, news, image analysis, terrorism and counter-terrorism events. The solution will also utilise IHS' equipment specifications data to help with the identification of platforms on the ground.



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1

What it does

"Intelligence community is moving away from the imagery based products to Multi-Source information"

Geospatial content

Strategic Information

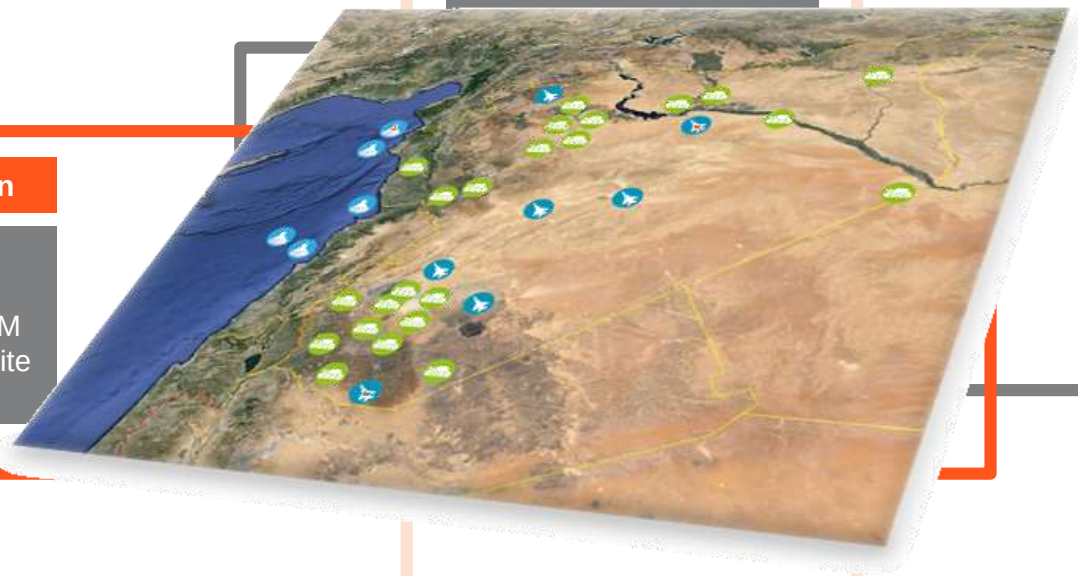
Country overview
Military Installations
Open street maps
Equipment specifications

Operational Information

Terrorist events
Conflict monitor
Country Risk Indicators
Security news
Imagery report (Jane's – Go Monitor)

Geographic Foundation

Consistent mosaic
Full coverage 1,5M
Conflict interest area 0,5M
Recent and uniform satellite imagery



On demand

Reactive Satellite Tasking
Monitoring
Imagery Report
Intelligence Report

In house layers

Classified database
Others

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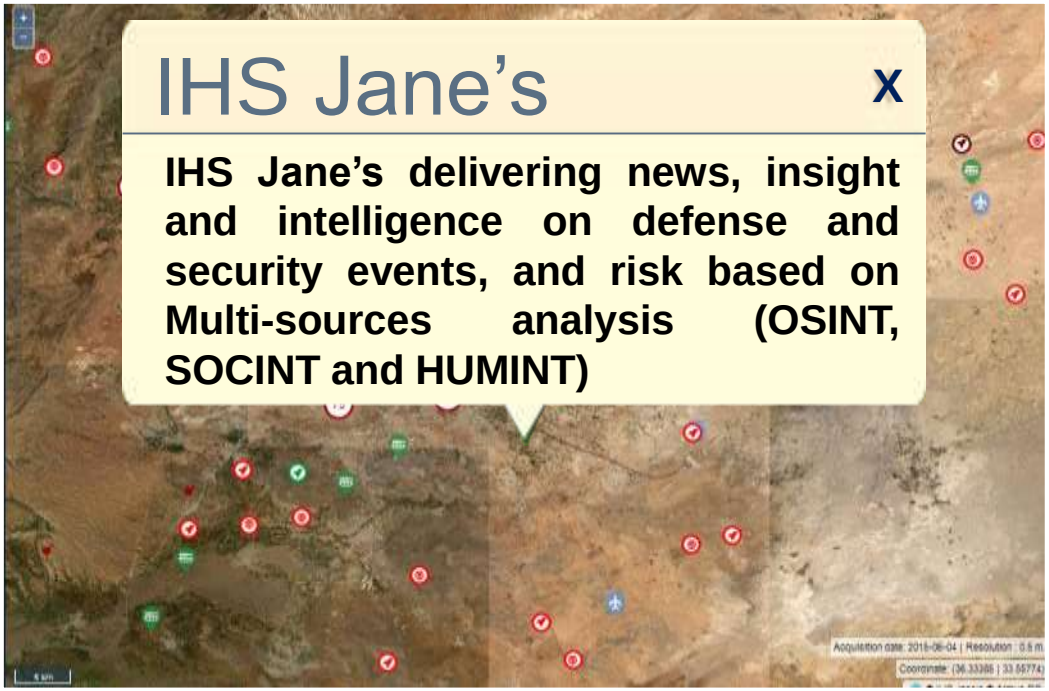
2

How it works

"Conflict Atlas is a foundation over which other sources of intelligence and products can be overlaid, the geographical reference for intelligence sources combination."



IHS Jane's

x

IHS Jane's delivering news, insight and intelligence on defense and security events, and risk based on Multi-sources analysis (OSINT, SOCINT and HUMINT)

Airbus DS

x

Satellite constellation
One year one World
One image everywhere in less than 24H

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3

Conflict Atlas: Demonstration interface

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4

Where

"Working towards delivering Airbus Defence and Space's satellite imagery with IHS Jane's geospatial layers of data and insight across the following countries and conflict zone. "

CRISIS

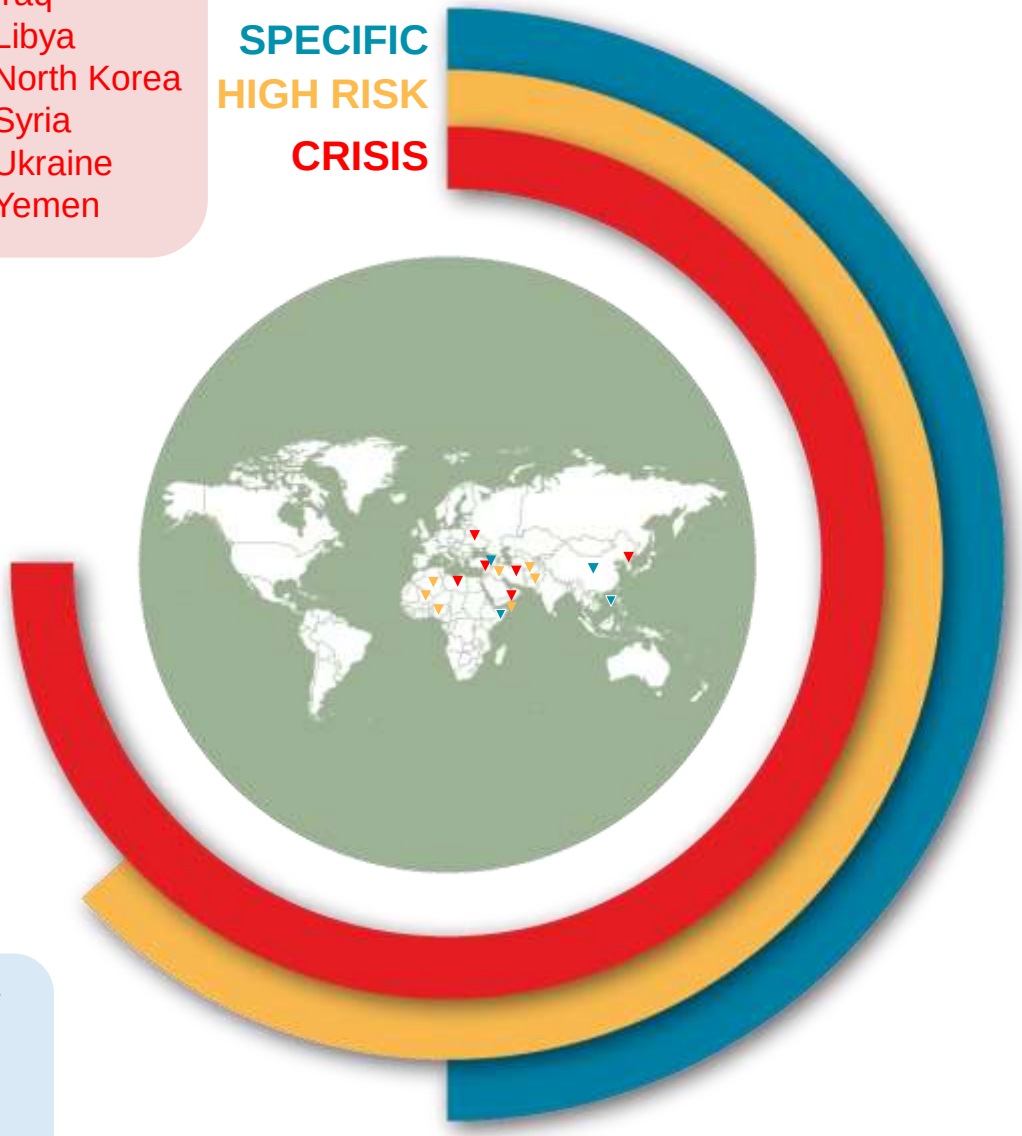
Afghanistan
Iraq
Libya
North Korea
Syria
Ukraine
Yemen

HIGH RISK

Algeria
Iran
Nigeria
Pakistan
Somalia

SPECIFIC AREAS
Online only Q3/4

Border Syria/Turkey
Kenya/Somalia
South China Sea
…



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2020 ->??????????

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DEFENCE & SPACE

2020 ->

https://airbusdefenceandspace.com/newsroom/news-and-features/airbus-defence-and-space-invests-in-very-high-resolution-satellite-imagery-from-2020-onwards/

- Four very high-resolution (VHR) optical Earth observation satellites to be launched in 2020 and 2021 will ensure continuity of Pléiades mission
- Highly responsive dual VHR constellation will offer state-of-the art service to the Airbus Defence and Space imagery user's community for the next decade
- Recognised operational Pléiades system features will be improved to match the market requirements expected to be the norm at the time of launch, and will deliver new applications such as business intelligence and analytics

As announced at World Satellite Business Week by Nicolas Chamussy, Head of the Business Line Space Systems within Airbus Defence and Space.

…

Offering intraday revisit capacity of any point on Earth, improved reactivity in satellite tasking, and the ability to capture millions of km² per day, this constellation, entirely funded, owned and operated by Airbus Defence and Space, will respect the continuity of Pléiades and all French laws and regulations.

…

Red Edge, SWIR ??????? !!!!!!!

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Köszönöm a figyelmet !

www.intelligence-airbusds.com/

AIRBUS DEFENCE & SPACE

Airbus Defence and Space
Communications, Intelligence & Security

PIONEERING THE FUTURE TOGETHER

AIRBUS
DEFENCE & SPACE

Serving Customers in Versatile Markets

Intelligence supports decision makers worldwide to increase security, boost performance, optimise mission planning and operations and improve management of natural resources.

Defence & Security

Oil, Gas & Mining

Avionics

Maritime Surveillance

National Planning

Forestry & Environment

Public Security

Location-Based Services

Agriculture

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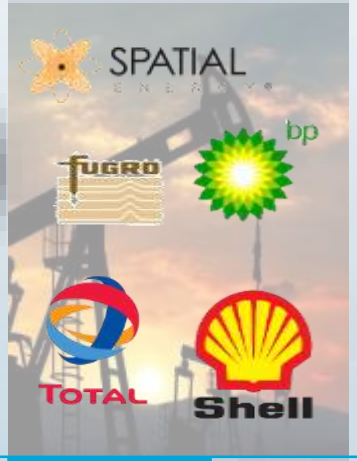
Serving Customers in Versatile Markets

Intelligence supports decision makers worldwide to increase security, boost performance, optimise mission planning and operations and improve management of natural resources.

Defence & Security



Oil, Gas & Mining

Avionics

Maritime Surveillance

National Planning

Forestry & Environment

Public Security

Location-Based Services

Agriculture

AIRBUS DEFENCE & SPACE

Intelligence: Our **Products & Services**

SATELLITE IMAGERY

Access and provision via a complete constellation: Pléiades, SPOT 6/7, TerraSAR-X, TanDEM-X, DMC Constellation, FORMOSAT-2,

IMAGERY SOLUTIONS & SERVICES

Data access and management, monitoring and analysis of assets and Areas of Interest, reference layers, software

INTELLIGENCE, SURVEILLANCE, RECONNAISSANCE

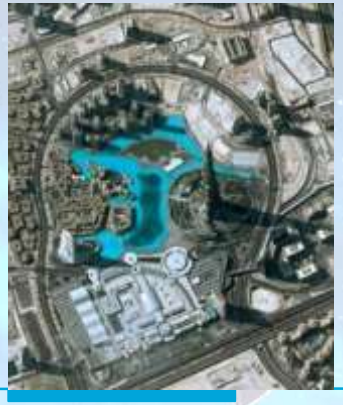
Tools and systems to enable the direction, collection, planning, tasking and dissemination of intelligence data from multiple sources

COMMAND & CONTROL

Joint and Tactical Land and Headquarter Command and Control Systems, Ground based air defence C2 systems, Military Air Traffic Control Systems

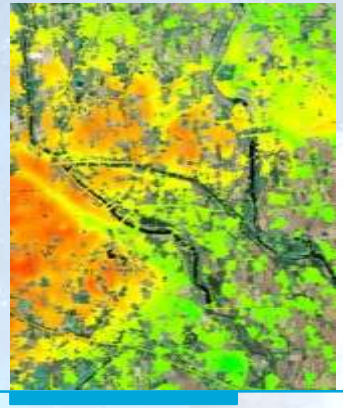
AIRBUS DEFENCE & SPACE

Pioneering Earth Observation Data and Services



SATELLITE IMAGERY

- Pléiades
- SPOT 6/7
- TerraSAR-X
- TanDEM-X
- DMC Constellation
- FORMOSAT-2



MONITORING SERVICES

- GO Monitor
- GO Monitor Forest
- Global Seeps
- Geological Studies
- Surface Movement Monitoring
- Change Detection

REFERENCE LAYERS

- WorldDEM™
- GEO Elevation
- SPOTMaps
- GEO GCPs
- Foundation Layers

PLATFORMS & SOFTWARE

- Pixel & Street Factory™
- SAFEcommand™

DATA ACCESS & MANAGEMENT

- GeoStore
- Direct Reception Services
- Data Management Solutions

AIRBUS DEFENCE & SPACE

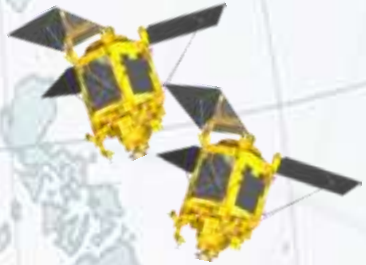
Our Constellation - The Imagery that Suits You

Pléiades

- Very high resolution twin satellites [50cm]
- Daily revisit capacity and highly reactive tasking

SPOT 6/7

- High resolution twin satellites [1.5m]
- 60km swath for large-area coverage
- Daily revisit capacity

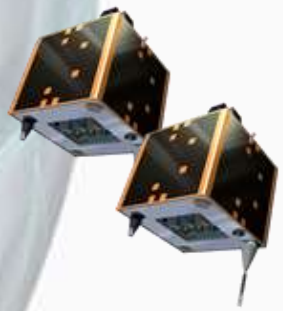


TerraSAR-X TanDEM-X

- Radar satellite formation
- Various resolutions [0.25m to 40m] and scene sizes

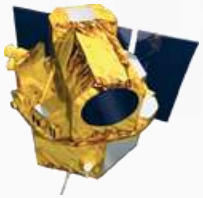
DMC Constellation

- Vast daily collection capacity
- 600km swath for rapid coverage and revisit



FORMOSAT-2

- Reactive 2m-res satellite
- Daily revisit capacity with the same viewing conditions



AIRBUS DEFENCE & SPACE

Defence Market and Customers

JOINT

Planning and operation support for tri-service Joint Headquarters

LAND

Delivery of strategic and tactical systems in support of land-based Armed Forces missions

AIR FORCE

Delivery of surveillance, data fusion and information solutions for Ground Based Air Defence Command & Control and Air Traffic Control

NAVY

Provision of information and monitoring services for Maritime Surveillance

INTELLIGENCE

Supply technologies to support collection, analysis, exploitation and dissemination of data and information

AIRBUS DEFENCE & SPACE

Our Highlights for You

THE IMAGERY **that Suits You**

Our Radar & Optical Satellite Constellation

Access to the most most comprehensive and expanding constellation of Earth observation satellites commercially available today - 6 optical and 2 radar

AIRBUS DEFENCE & SPACE

WorldDEM™

The new standard of global elevation models delivers accuracy of a new dimension anywhere on Earth.

Our Highlights for You

WE ENHANCE YOUR MISSIONS
with the 3rd Dimension

AIRBUS DEFENCE & SPACE