

European Space Imaging and the Copernicus Programme

More than 10 Years of Very High Resolution Satellite Imagery
Contribution – Review and Outlook

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Who We Are



- Founded **2002** in Munich (GER)
- +40 employees from 15 nationalities



- Formation of the “**WorldView Global Alliance**” with DigitalGlobe/Maxar in 2010

MAXAR

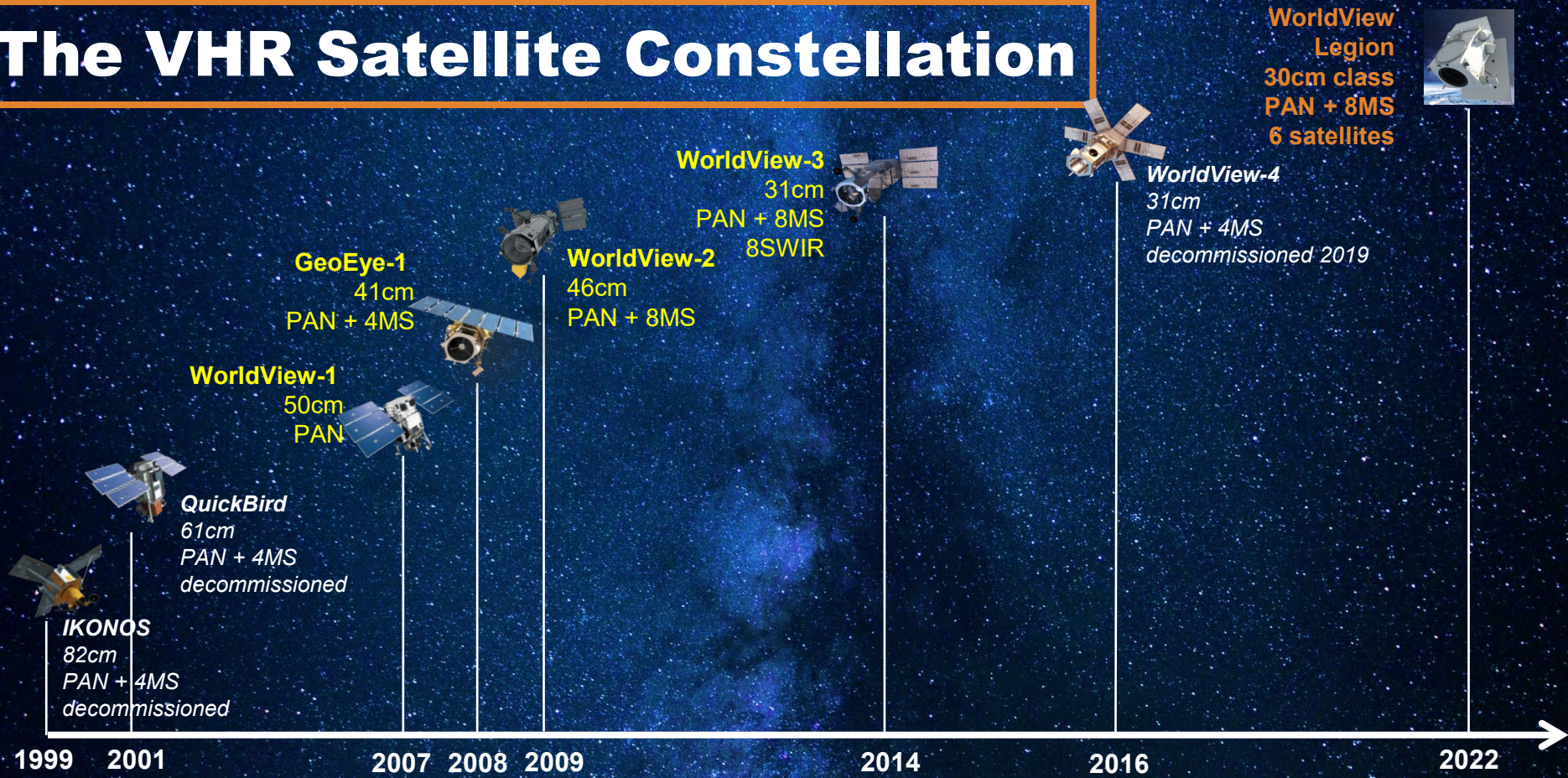


- Operations of a **dedicated ground station** at the German Aerospace Centre (DLR) near Munich
- **Direct tasking of and downlink** from the **WorldView satellite constellation over Europe**
- **Fastest** tasking response and EO data delivery times
- **Maximum cloud-free imagery** collection area yield



- **Leading provider of <0.5m VHR satellite imagery** to customers in Europe
- Major satellite imagery **supply contracts with European institutions:** ESA, JRC, EU SatCen, EMSA, Frontex
- **Expanding network** of +60 key commercial partners & resellers across Europe & North Africa

The VHR Satellite Constellation



Contribution to the GMES/Copernicus Programme

- GCME/CCME since GSCDA Data Warehouse Phase I **2011**
- **Major provider** of optical <0.5m VHR EO data to the **Copernicus Security, Emergency Management and Land Monitoring Services** as well as EU research projects
- Key offerings:
 - **Worldwide*** tasking and global VHR imagery archive dating back as far as 1999
 - **24/7** emergency ordering desk*
 - **Fast response and order turnaround times:** Emergency tasking order placement globally until 4h before pass, delivery on average in ~1.5h
 - Dedicated EO data ordering & delivery interfaces for GMES/Copernicus

** in partnership with Maxar*

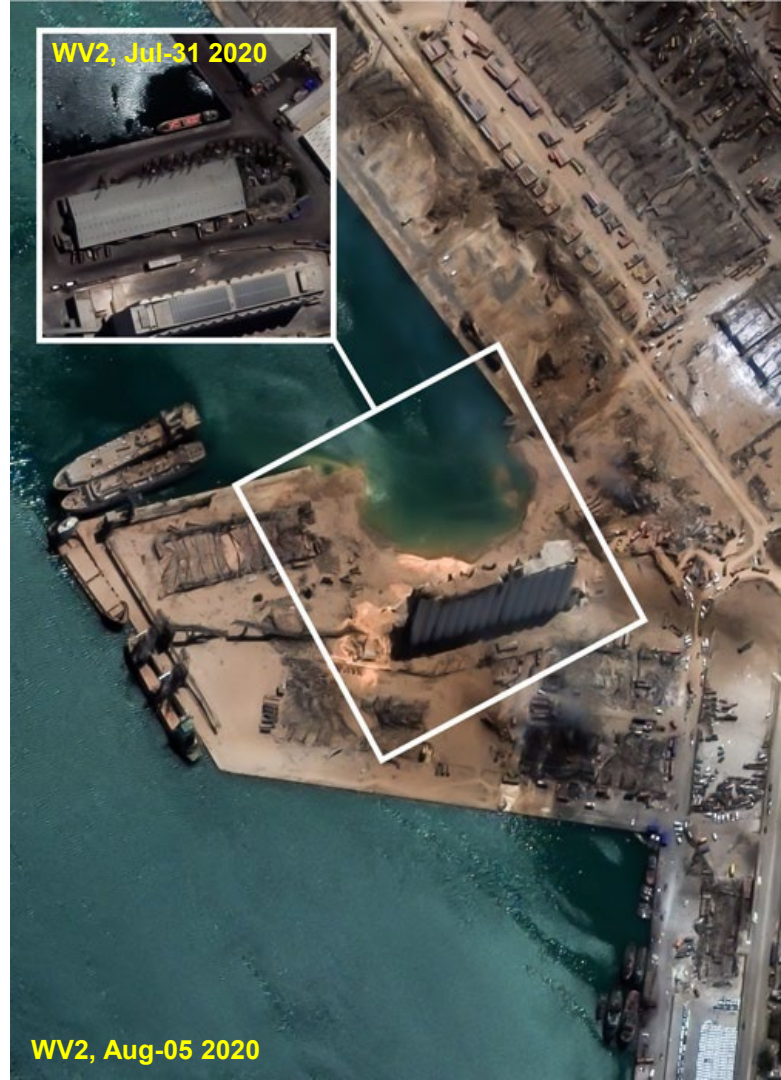
Contribution to the GMES/Copernicus Programme

Key achievements – Emergency on-demand orders (ADDITIONAL datasets):

- More than **700 emergency requests** (archive & tasking) on average per year since 2016 for more than **750,000 sqkm** of VHR data in total
- ~70% of requests per year are located inside the European Space Imaging ground station communication cone
- **Fast order turnaround times** with delivery
 - from archive order placement in 1.25h on average (median 0.2h)
 - from image acquisition in 1.75h on average (median 1.25h)

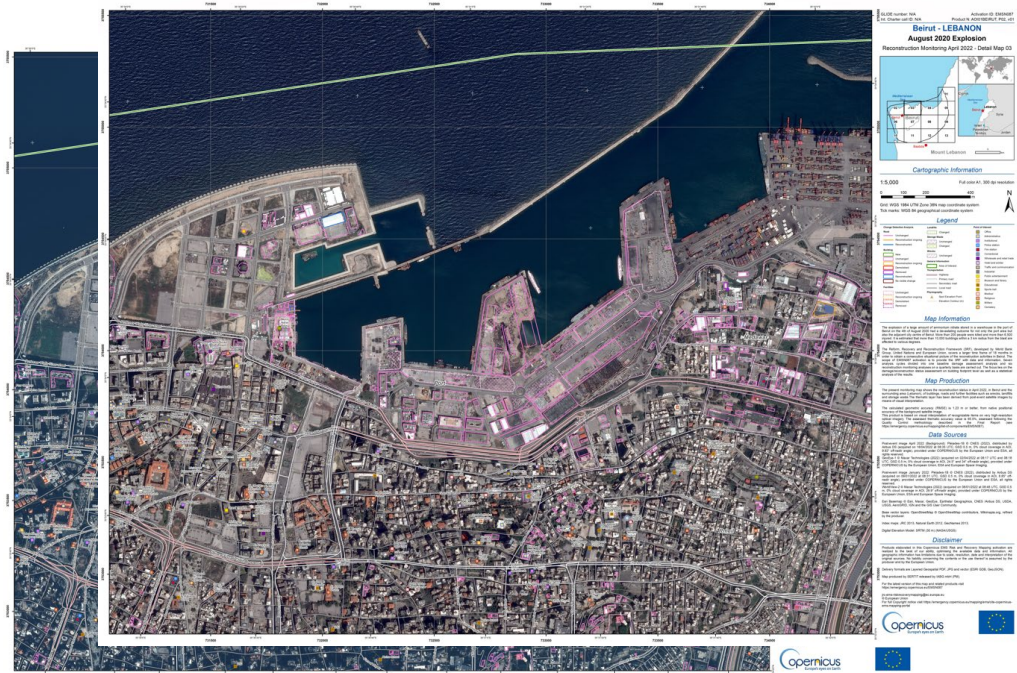
Emergency Management

Explosion in the port of Beirut (LBN), Aug-04 2020



Emergency Management

Explosion in the port of Beirut (LBN), Aug-04 2020 & reconstruction monitoring by Copernicus EMS



Emergency Management & Border Surveillance

Uzhhorod (UKR): Cars & people waiting to enter Slovakia, Feb-28 2022



Situational Awareness

Irpin (UKR): Cars & people waiting at damaged Irpin river bridge, Mar-14 2022



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Contribution to the GMES/Copernicus Programme

Key achievements – Mapping (CORE) datasets:

Almost **3,000,000 sqkm** of VHR data acquired and delivered since 2011

- **VHR1-2 Urban_Atlas_2012**

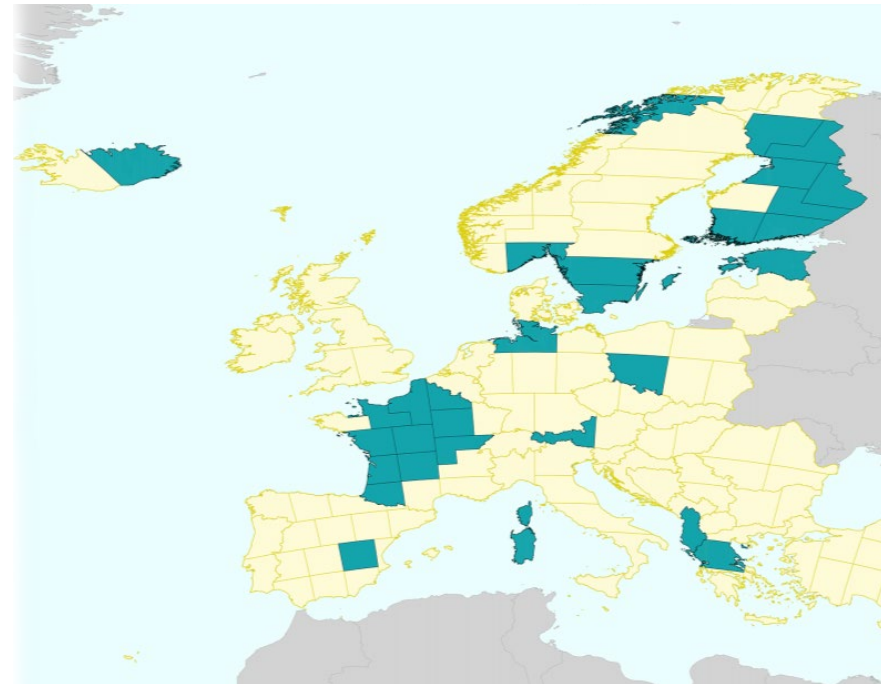
600k sqkm over 310 European larger urban zones

0.4m PAN + 1.6m 8-band MS data

- **VHR_IMAGE_2015**

1.3M sqkm

0.4m PAN + 1.6m 4-band MS data

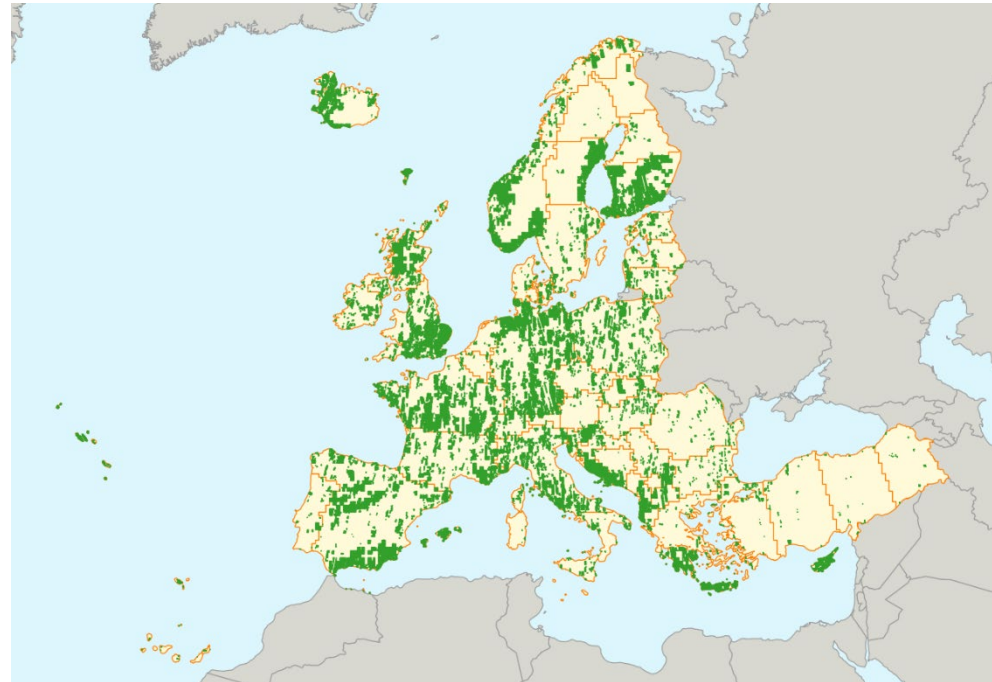


Contribution to the GMES/Copernicus Programme

Key achievements – Mapping (CORE) datasets:

Almost **3,000,000 sqkm** of VHR data acquired and delivered since 2011

- **VHR_IMAGE_2021** (ongoing)
 - 1.03M sqkm from 2020/2021
 - + data from ongoing 2022 gap filling campaign
 - 2m 4-band MS data

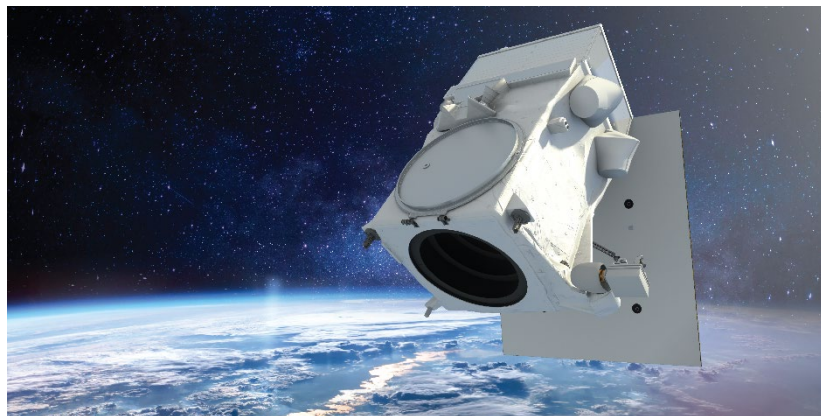


Outlook

MAXAR WorldView Legion

- 6 satellites (2x SSO, 4x MIO)
- PAN + 8MS
- 30cm class resolution
- First launch planned for 2022

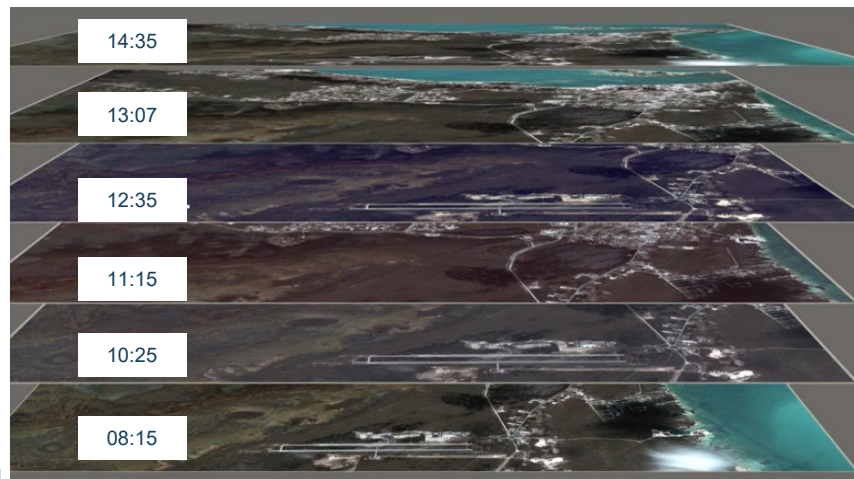
- 3x current 30cm class collection capacity
- Up to 15 daily revisits over mid-latitude areas (incl. WorldView legacy missions)



Afternoon



Morning



Outlook

15cm High Definition (HD) imagery

Proprietary imagery enhancement technology owned by European Space Imaging partner Maxar



VISUAL CLARITY

easier to interpret images, allowing you to find critical features faster



ACCURATE FEATURE IDENTIFICATION

have the level of detail available to accurately identify features

30cm



15cm HD



Outlook

Upgrade of the dedicated Copernicus EO data ordering & delivery interfaces:

- Implemented throughout 2021, currently in testing with ESA, roll-out planned for **Q3 2022**
- Adoption **Sensor Planning Service (SPS)** protocol for further standardization & automation of tasking order placement & management
- Direct archive order placement by Copernicus users via **API**
- Access to ordered EO data via **WMS**
- (limited) delivery of new tasking rush requests in **NRT** (30min from sensing)

Thank you

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