



MAXAR

Mosaic Products

Vivid, Metro, Dynamic



The smartest, most comprehensive geospatial ecosystem on the planet.

Our ecosystem, 25 years in the making, is supported by the industry's most sophisticated satellite imaging constellation, providing:

- Highest commercially available resolution
- Complete global coverage
- Advanced technical capabilities

Maxar's superior ground infrastructure and cloud-based platform, along with the combined internal expertise of our scientists, developers and external partners, make information and insight about our changing planet available instantaneously.





Vivid 2.0



COVERAGE WHEN AND WHERE YOU NEED IT



Annual Updates
New Imagery Collections



#1 Aesthetics
Most Beautiful Visuals



Ready to go
Available Off-the-Shelf



Complete
Global Coverage



GLOBAL COVERAGE FOR GLOBAL CHALLENGES

Imagery of our changing planet is foundational to turning business challenges into business solutions.

From creating and displaying navigation and consumer maps, to using imagery to see conditions on the ground, to running analytics at a country to global scale, Maxar's Vivid mosaic is a current, high-resolution image layer that can be the difference between making a decision and making the right decision.

Especially when you need

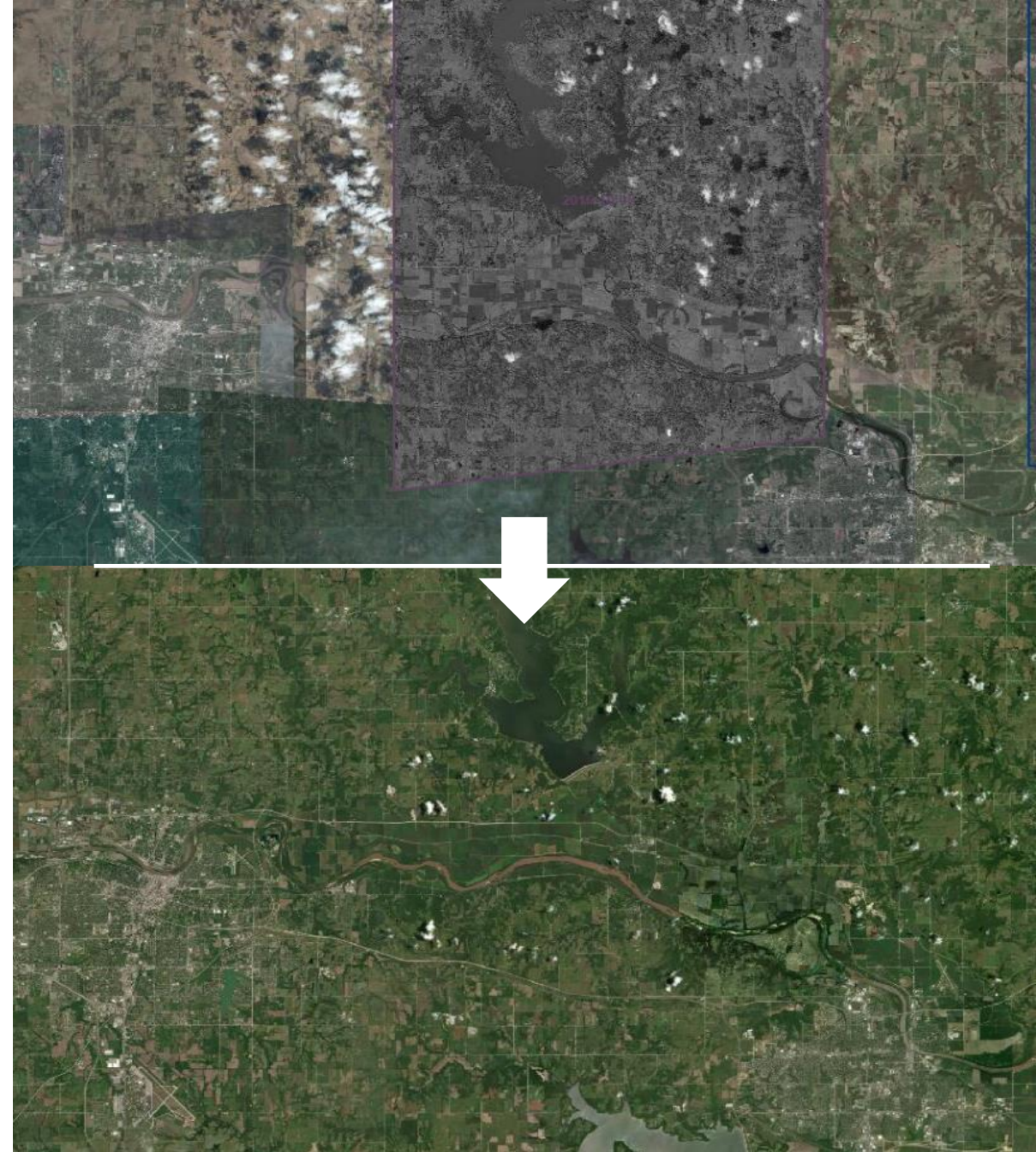
Accurate high resolution imagery

Immediate, timely solutions

Ongoing global updates

ADVANCED GLOBAL MOSAIC

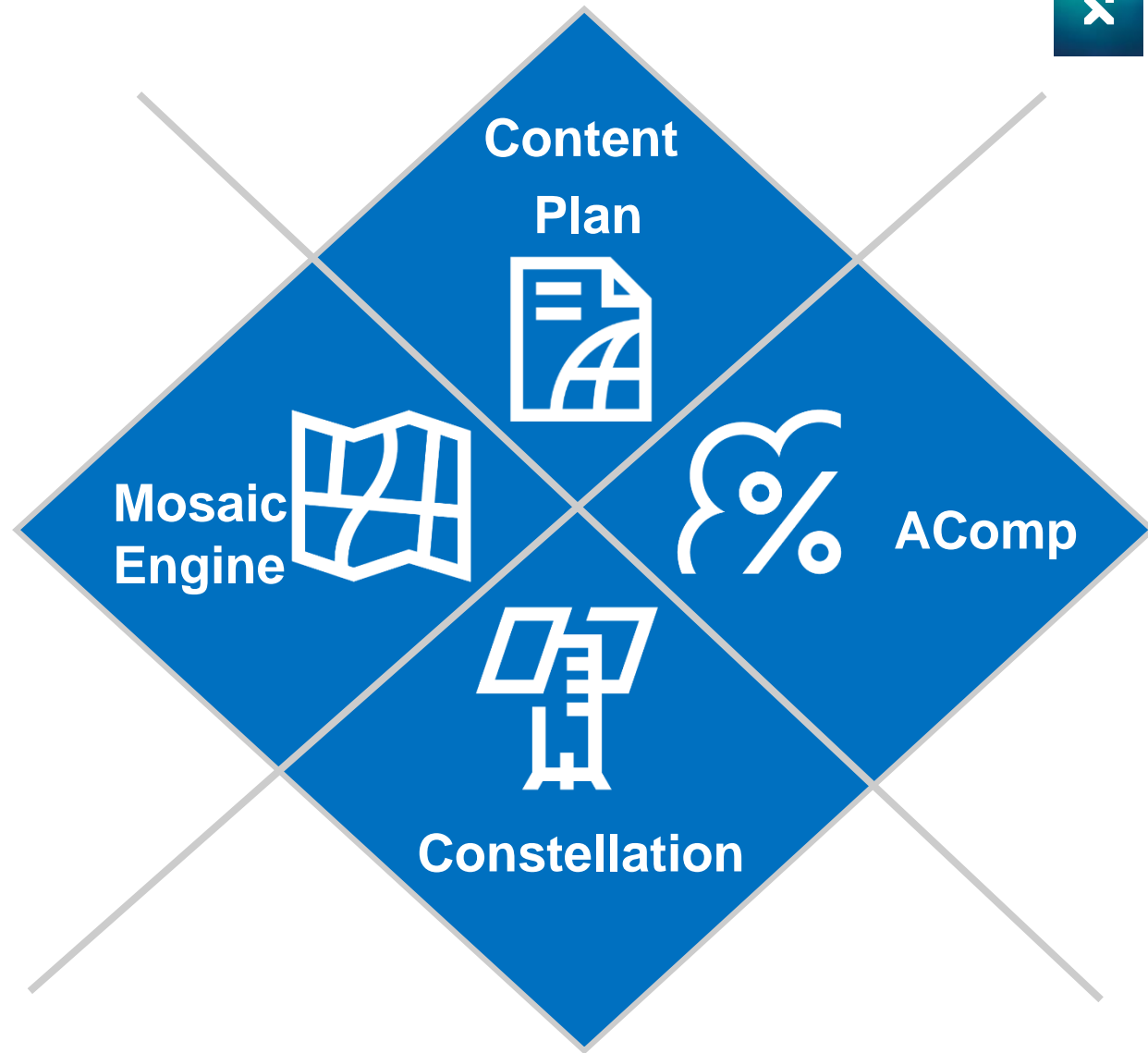
- High resolution coverage globally for precision mapping at scale
- High accuracy for reliable location intelligence
- Curated and color-balanced for optimal aesthetics across geographies
- Advanced mosaicking processes for a near seamless image layer
- Updated annually to maintain currency
- Global coverage ready off-the-shelf for immediate availability
- Access options for simplified integration





Powering Vivid

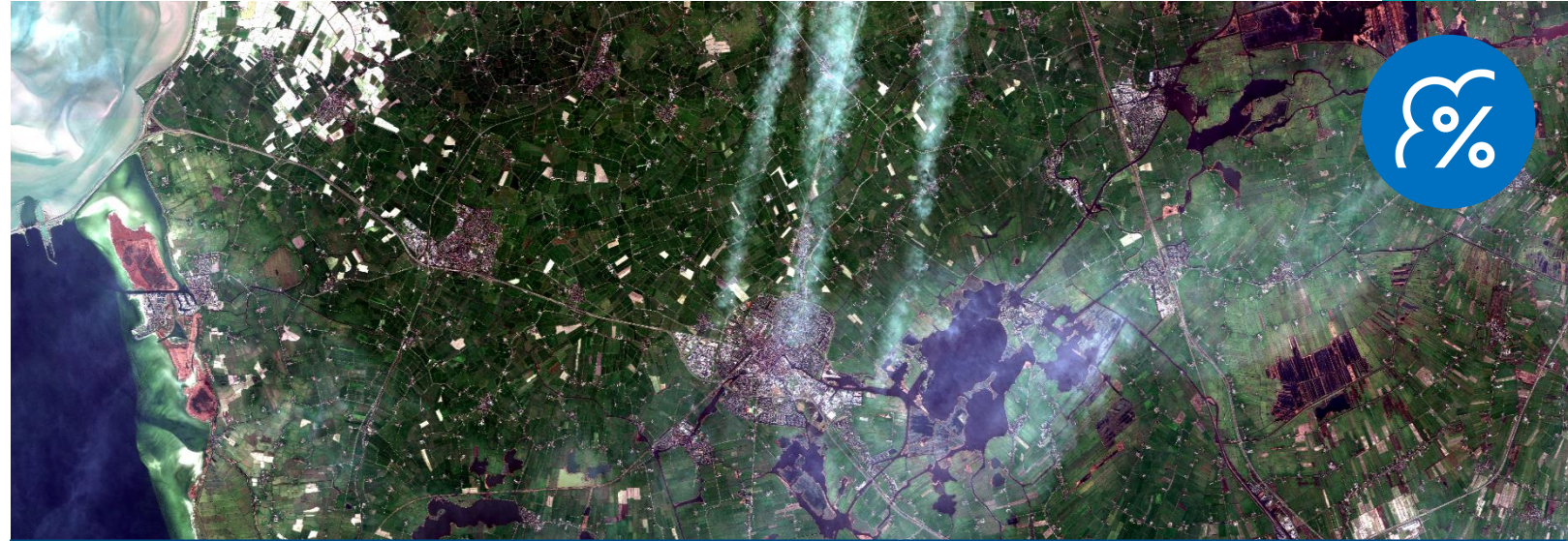
- Unmatched quality and clarity due to patented algorithms
- 25 years of climatology data analyzed to optimize constellation for “best time to collect” schedule
- Improved completeness and near seamless contextual layer
- Largest and most advanced constellation in market
- Leading technology unrivaled in accuracy and resolution combined



AComp

Maxar's Atmospheric Compensation (AComp) tool **improves image clarity and significantly increases the collection viability.**

AComp is a rigorously tested proprietary algorithm that removes the effects of haze and atmospheric scattering on satellite imagery.



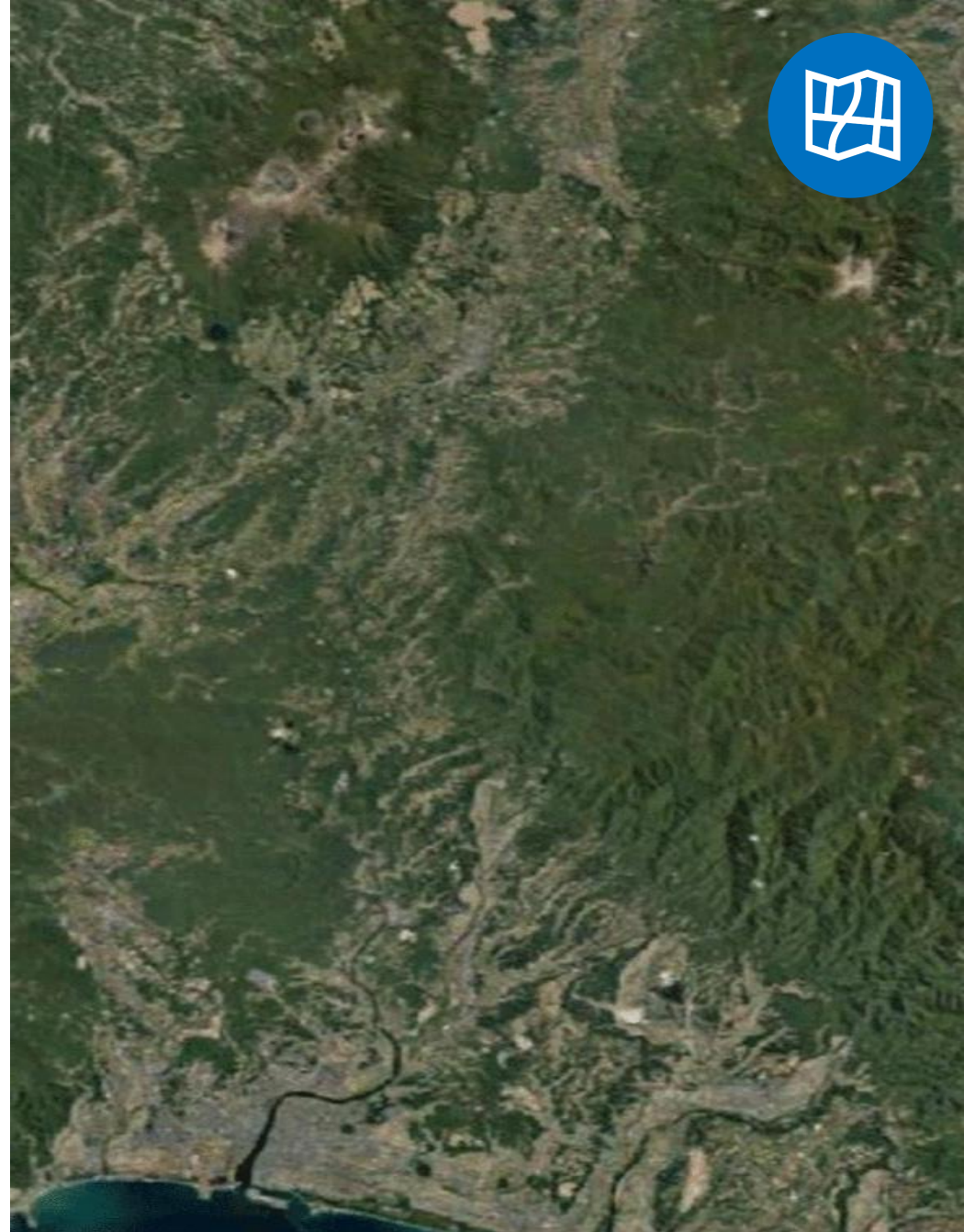
Before AComp



After AComp

Mosaic Engine

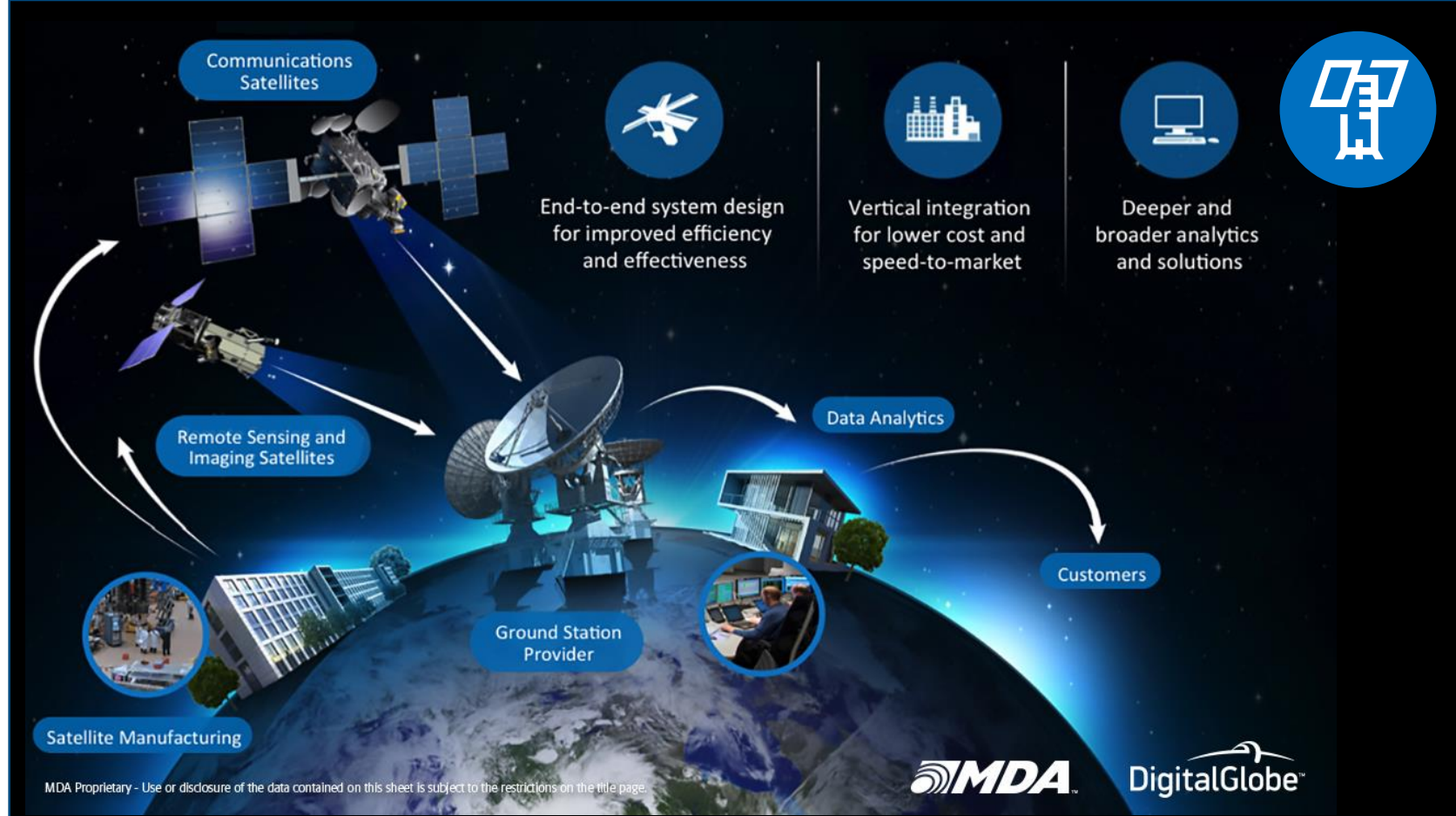
- Automated material selection prioritizes aesthetics and currency
- Processing in AWS for **speed and scalability**
- Access to the entire DG Image Library
- Ability to reference existing image layers
- **Advanced radiometry and patented seamline placement algorithms**
- Flexibility to tailor the image selection throughout the mosaic




Constellation

- Largest and most advanced high-resolution constellation, allowing for accuracy up to **2m CE90***
- The most agile and only constellation in market capable of collecting **native 50cm** or better at scale
- 20+ years Image Library, **100+ petabytes**
- Unmatched in industry, **global cloud based infrastructure**

*global guaranteed pointing accuracy 5m CE90



						
IKONOS 82 cm resolution 9.0 m CE90 6.0 m RMSE	QuickBird 65 cm resolution 23 m CE90 10.8 m RMSE	WorldView-1 50 cm resolution 4.5 m CE90 3.0 m RMSE	GeoEye-1 41 cm resolution 4.0 m CE90 2.7 m RMSE	WorldView-2 46 cm resolution 5.0 m CE90 3.0 m RMSE	WorldView-3 31 cm resolution 3.7 m CE90 2.5 m RMSE	WorldView-4 31 cm resolution 5.0 m CE90 3.7 m RMSE

Content Plan

- **Predictability:** Plan for future projects
- **Timing:** Prepare data according to when your collection will be available
- **Repeat Collections:** Implement change detection
- **Quality: Highest resolution, best accuracy, most spectral bands**
- **Budgeting:** Secure resources to optimize operations
- **Service Level Agreement: Commitment to collect at specified times**

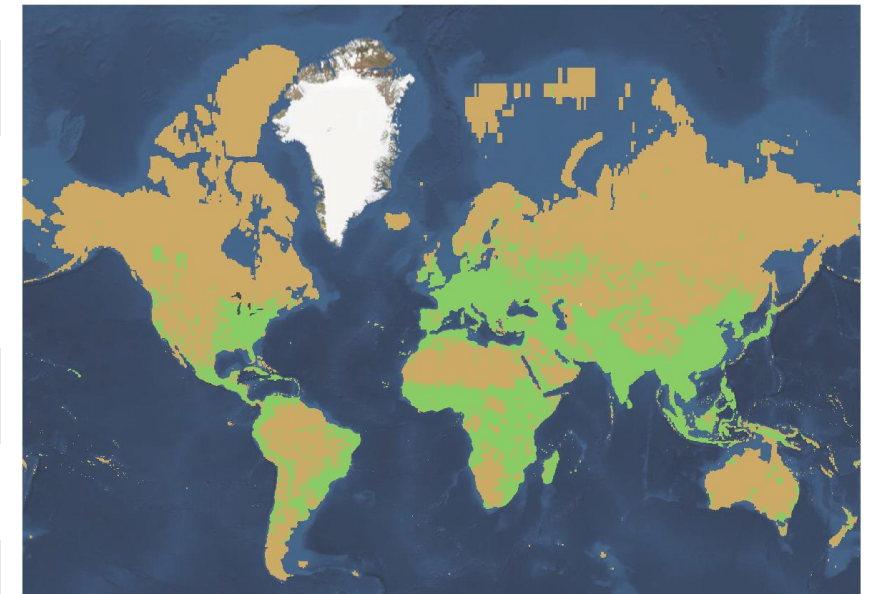


PREDICTABLE COVERAGE



Resolution	50cm
Coverage Area	Global (excludes Greenland and Antarctica)
Accuracy	<8.5m CE90*
Cloud Cover %	<5% globally
Completeness %	>99% globally
Image Age	Target <24 months average per country; <20 months average globally
Update Frequency	Every year
Annual Refresh	>50% globally
Aesthetics	Balance aesthetics and currency

Areas refreshed in each annual update based on content plan
(**annual**, **multiple years**)



*Mosaic measured to 6.7m CE90



Metro 2.1

METRO OFFERS PREMIUM QUALITY IMAGERY FOR METROS ACROSS THE GLOBE

Current Imagery	<ul style="list-style-type: none">• Annual refresh maintains currency• Image layer updates within months of collection
Predictable Updates	<ul style="list-style-type: none">• Committed annual update schedule• 1,000 metros maintained year-to-year with 30cm coverage
Visual Clarity	<ul style="list-style-type: none">• >3,000 metros with 30cm coverage• Refresh at “best time to collect” ensures quality
Ideal Coverage	<ul style="list-style-type: none">• 6,000 high-population, high-interest metro areas globally• >20% of the world’s population





METRO PRODUCT SPECS INCLUDE COMMITTED IMAGE COVERAGE, CURRENCY AND CLARITY

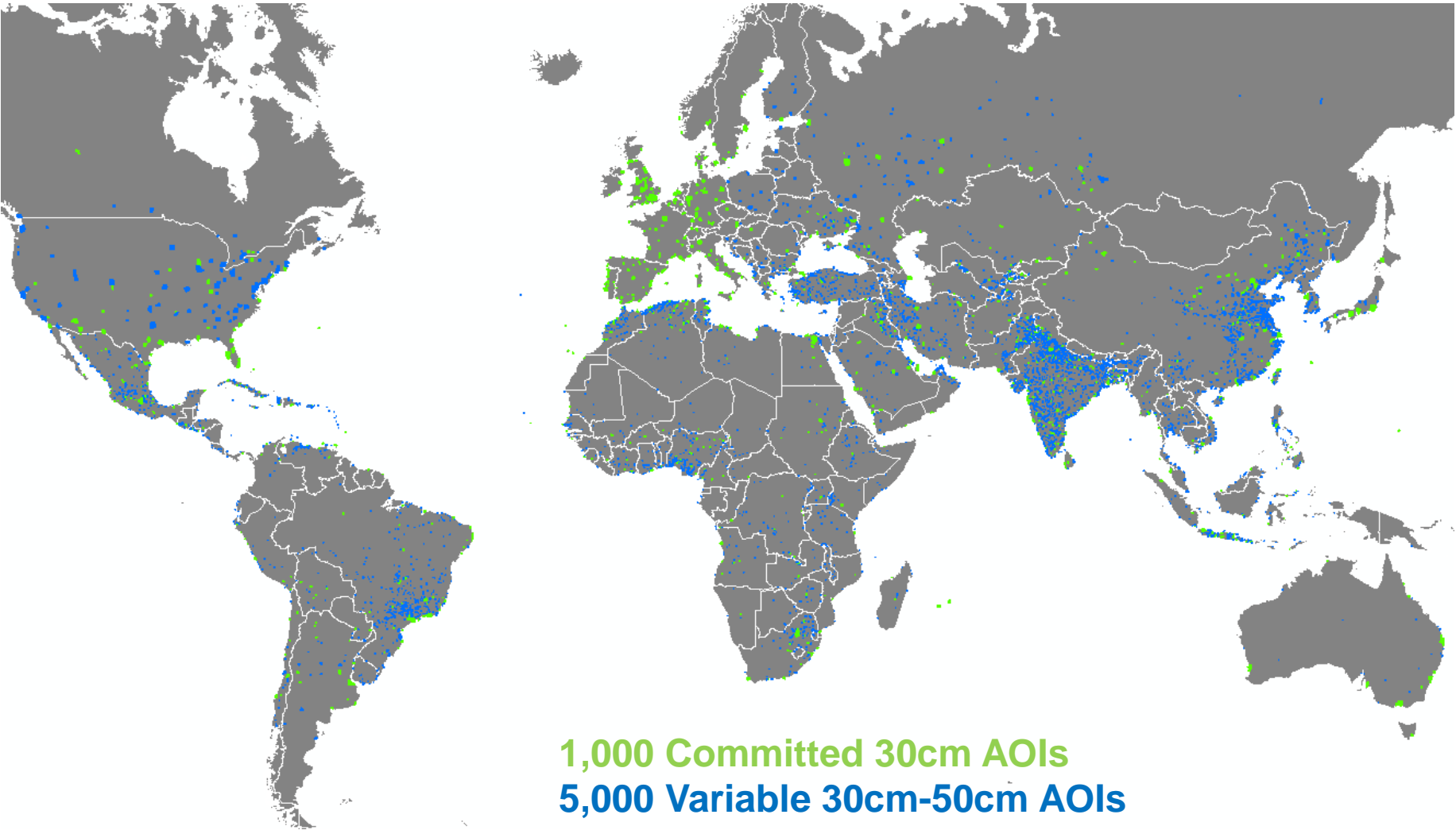
	Metro 2.0/2.1	
Description	Premium image layer over urban areas across the globe, refreshed annually to maintain a current view of the ground	
Product AOIs AOI Coverage Area	6,000 ~2.16 million sqkm	
Product GSD	50cm up to 3,000 AOIs	30cm (native & HD ¹) at least 3,000 AOIs
AOI Annual Refresh Refresh Coverage	100% (all 6,000 AOIs refreshed annually) >75% of the AOI for most AOIs; >50% allowed	
Currency	Over 2,000 AOIs <12 months Remaining AOIs <24 months	Over 2,000 AOIs <12 months Remaining AOIs <24 months

1. Metro v2.1 released in Q3 2019 introduced Metro mosaics with 30cm GSD using HD sampling, to expand 30cm coverage using our entire constellation





METRO INCLUDES 6,000 HIGH-POPULATION, HIGH-INTEREST GLOBAL METROS



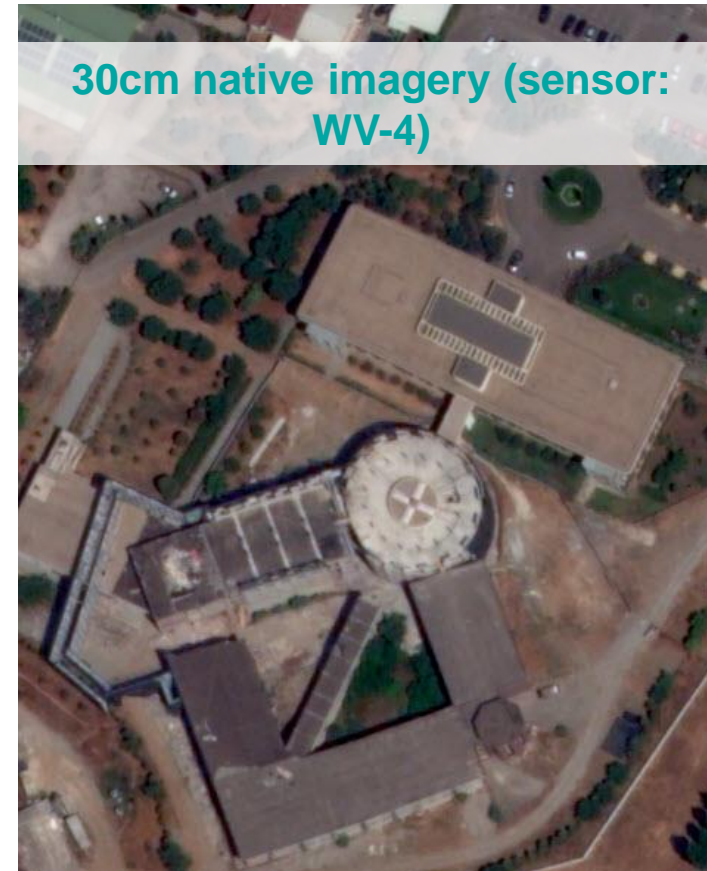
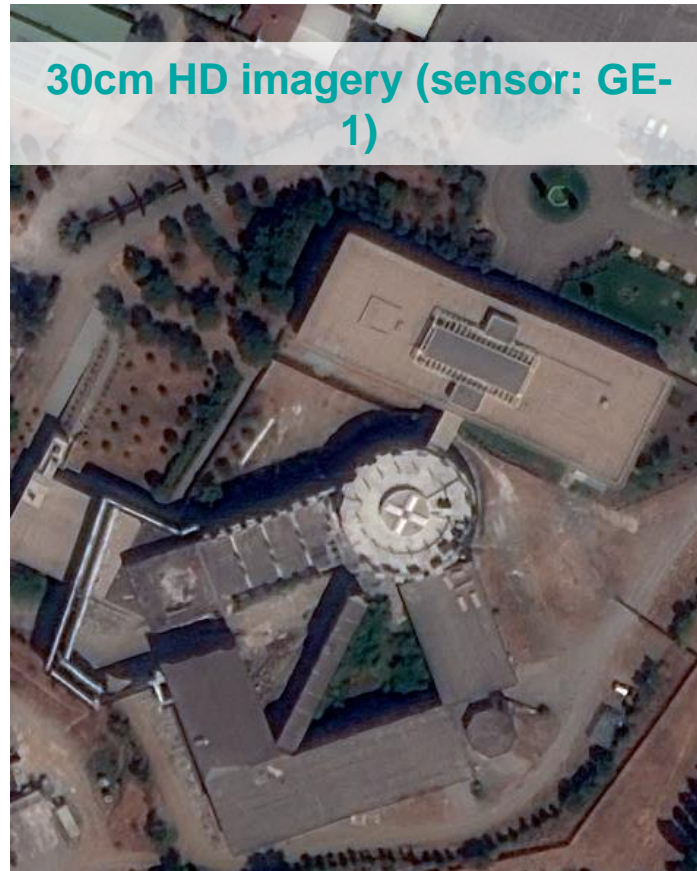
METRO 2.1 OFFERS EXPANDED 30CM COVERAGE USING HD SAMPLING

Metro offers unique and differentiated value with

- ✓ Enhanced aesthetics through manual tonal balancing and cloud patching
 - ✓ Higher relative accuracy with image bundling and seam line editing
 - ✓ Committed currency with minimum annual refresh % for each area
 - ✓ **Better clarity and feature definition with 30cm product GSD**
-
- With Metro 2.0 in 2018, we expanded from ~500 AOIs with 30cm coverage to 3,000 AOIs with 30cm coverage each year

 - With Metro 2.1 in 2019, we're expanding our 30cm coverage by employing our innovative High-Definition (HD) sampling technology, which enables 30cm effective resolution from our entire constellation
 - 30cm coverage will include 30cm native and 30cm HD
 - Imagery using HD will have "HD" noted in the product metadata

HD SAMPLING IMPROVES IMAGE CLARITY



- Visual and automated feature comparisons indicate 30cm HD imagery has a comparable sharpness to 30cm native imagery



Dynamic



Current: mosaics created & updated with current imagery



Rapid & Scalable: produced quickly at any scale



Accurate: mosaics produced at accuracy of 8.5m CE90



High resolution: country scale image at 50cm resolution



Indispensable: enables wide range of use cases



Integrated: seamless interoperability with GIS tools

RAPID & SCALABLE: BROAD COVERAGE AVAILABLE WHEN AND WHERE YOU NEED IT



- Mosaics are rapidly producible for any region



Region	Area	Production Time
Shanghai	1.4M km ²	2 days
Australia – Simpson Desert	1.1M km ²	3 days
Zimbabwe, Zambia & Botswana	750,000 km ²	2 days
Syria	100,000 km ²	8 hours

Sections of Zimbabwe, Zambia & Botswana

ACCURATE: MISSION CRITICAL ACCURACY FOR MISSION MAPPING AND PLANNING



- Mosaics are created to an accuracy of 8.5m CE90
- Provides a trusted baselayer for georeferencing or military mapping

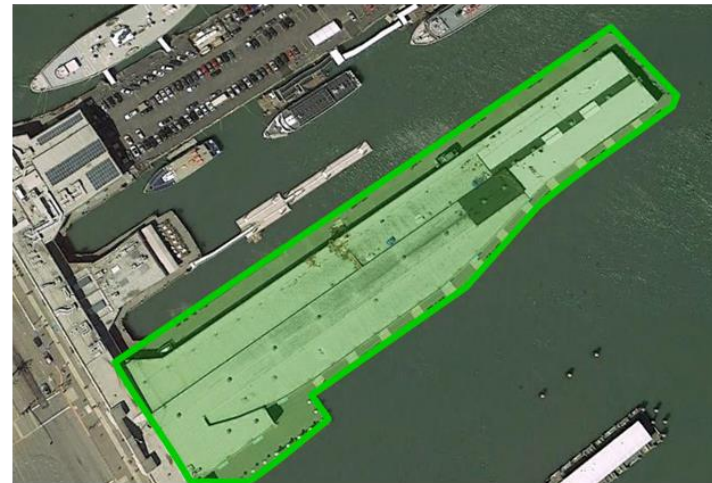
Nearest Satellite Competitor



Customer Impact:

Potentially devastating errors

DigitalGlobe Accuracy



Customer Impact:

Accurate and precise positioning

HIGH RESOLUTION: THE INDUSTRIES BEST RESOLUTION TO PROVIDE CRITICAL INSIGHT

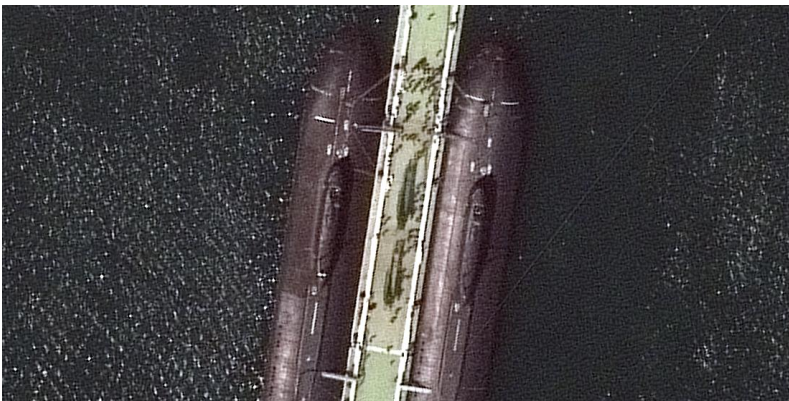


Syria – Turkey Border : Dynamic Mosaic

INDISPENSABLE: ENABLING A WIDE VARIETY OF USE CASES



Broad Area Monitoring



Military Mapping



Mission Planning



Broad Area Navigation



Broad Area Search

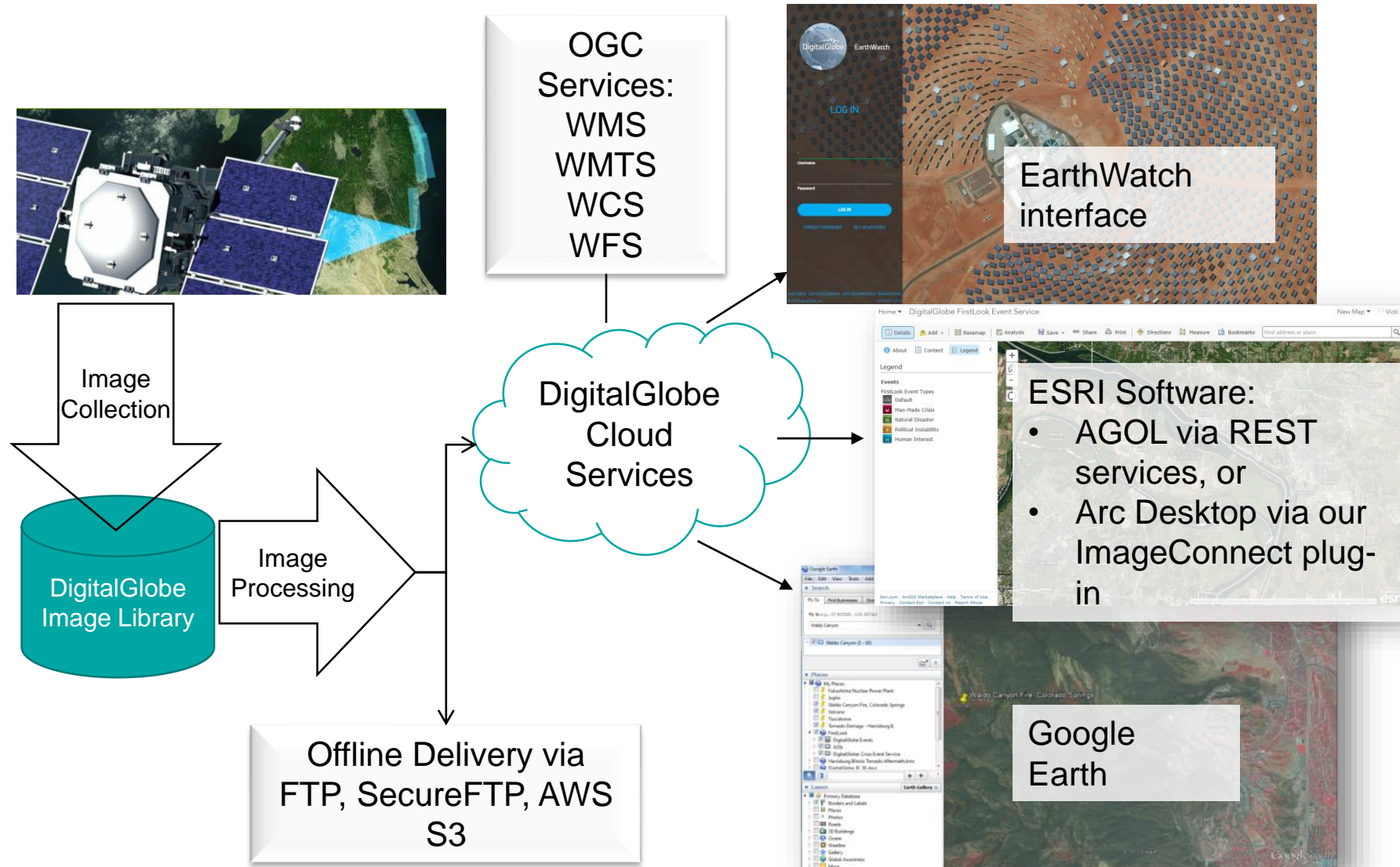


Humanitarian and Disaster Response (HADR)





DIGITALGLOBE MOSAICS AREA HOSTED IN THE CLOUD FOR EASY ACCESS AND INTEGRATION INTO EXISTING WORKFLOWS



MOSAIC PRODUCT SPECIFICATION TABLE

	Vivid	Metro	Dynamic
Coverage	Global	6,000 metro areas	Anywhere, on demand
Product Type	Orthomosaic	Orthomosaic	Orthomosaic
Image Bands	3-band pan sharpened natural color	3-band pan sharpened natural color	3-band pan sharpened natural color
Spatial resolution	50cm	30cm (3,000+ areas), 50cm (remaining areas)	50cm
Accuracy	<8.5m CE90	<4.2m CE90, <10.2m CE90	<8.5m CE90
Cloud Cover	<5% globally	<3% target; <20% allowed	<5% target
Off Nadir Angle	<30 deg	<30 deg	<30deg
Sun Elevation	>30 deg	>30 deg; >15 deg allowed	>30 deg
Bit depth	8	8	8
Projection/Datum	Geographic/WGS84	Geographic/UTM	Geographic/WGS84
Image Age	Average <30 months	<12 months, <24 months	Best available
When can I see new images?	Online/Offline: as soon as the mosaic is completed	Online/Offline: as soon as the mosaic is completed	Per delivery schedule



CURRENCY

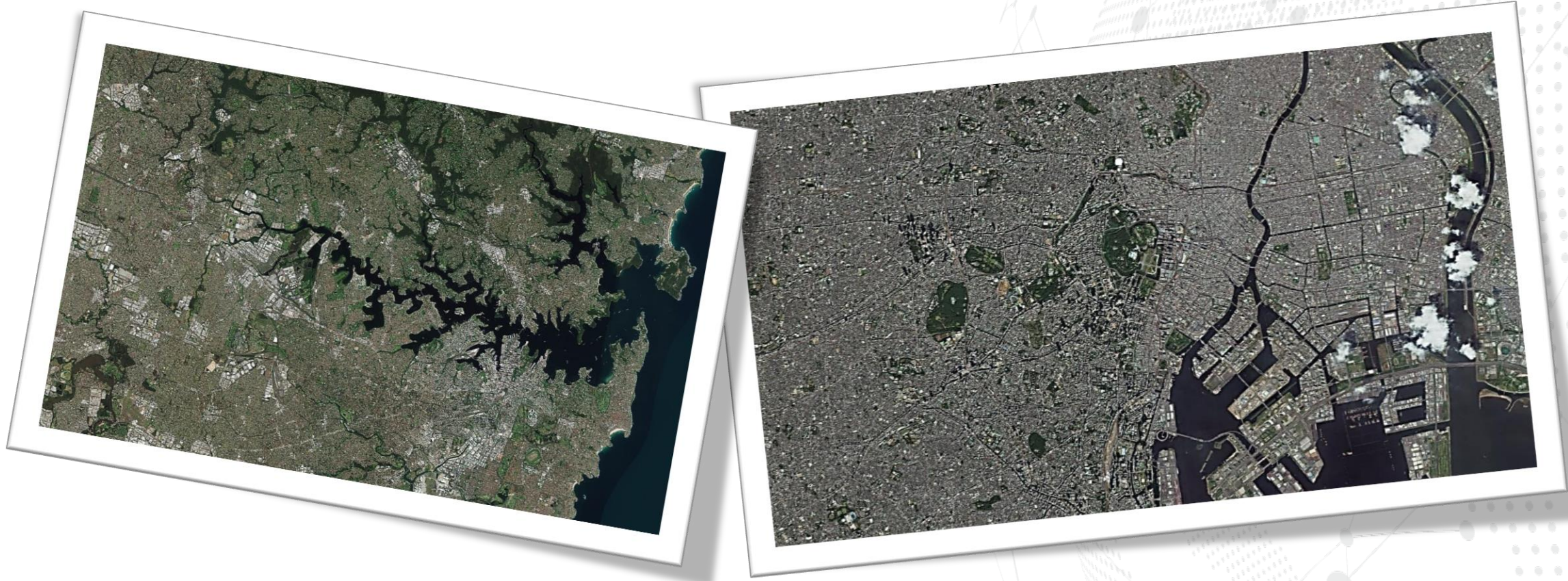
CLARITY

COMPLETENESS

CONSISTENCY



LET'S GET STARTED!



MAXAR

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