

Earth Observation transformation: how to serve the planet using Satellites and A.I. today

*High-level Panel Debate: “The digital
transformation and global water, food, energy
and environmental challenges”*

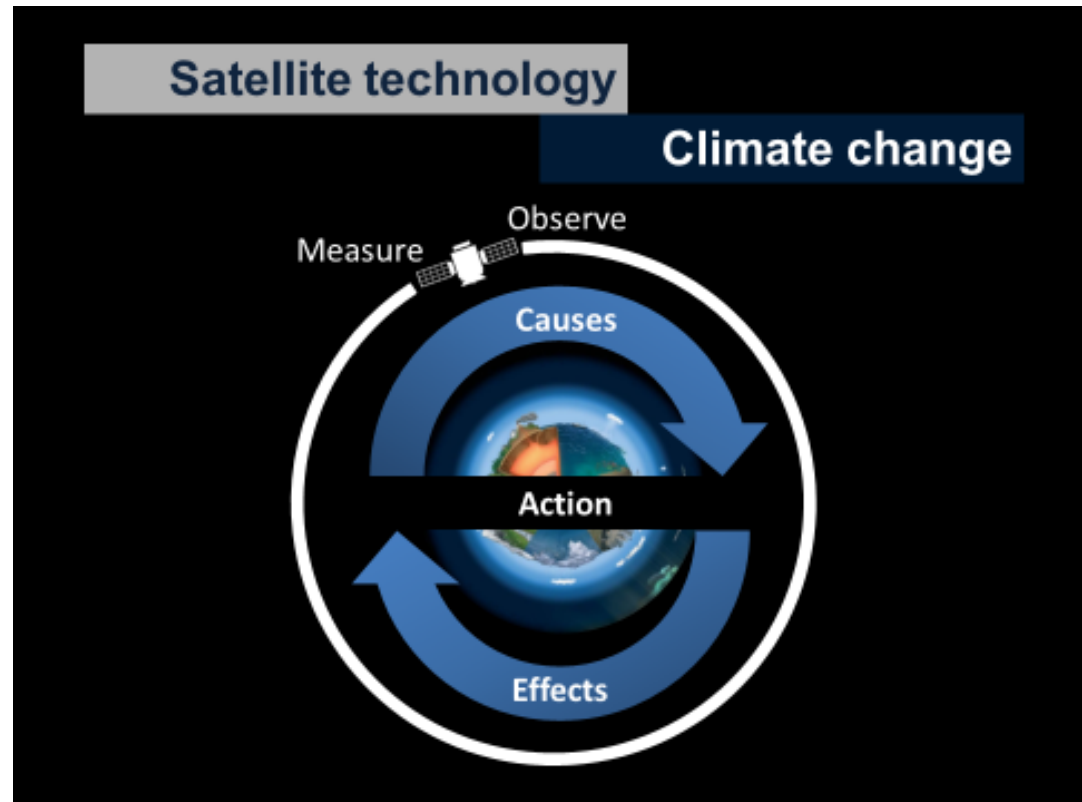
Perugia, 22-11-2018

Pier Francesco Cardillo

e-GEOS

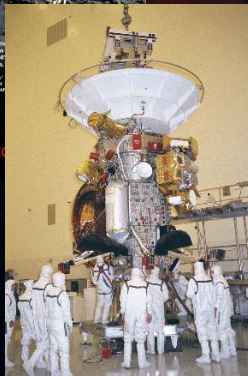
Outlines

- EO for SDGs
- What is in orbit
- The real transformation
- We love Planet Earth



The Space Sector – from exploration to SDGs

■ The Space sector has contributed to open new technological frontiers due to the extreme and demanding nature of **operating in deep space environment** as well as today to address new missions and innovative requirements and **new** markets for a new space economy on our planet Earth



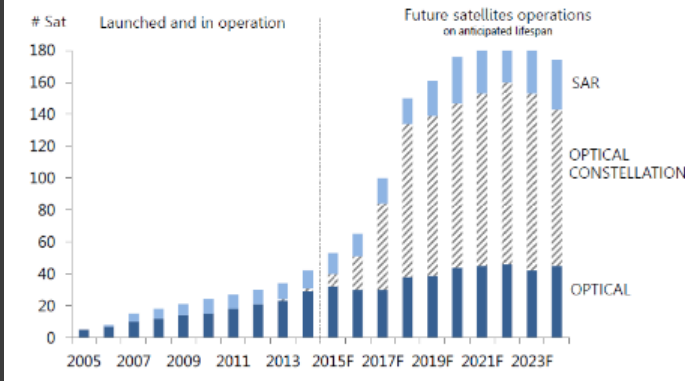
AGRICULTURE <ul style="list-style-type: none"> • IACS GIS Solutions • Parcel Reference Systems • Subsidy Controls • Assistance to Administrators and Farms • Agro Risk Management 	FORESTRY <ul style="list-style-type: none"> • Forest Mapping • Forest Inventories • Biomass and Carbon Stocks • Biodiversity Inventories • Forest Management Systems 	GEOLOGY <ul style="list-style-type: none"> • Geological Mapping • Mining Management • Hydrocarbon Exploration • Groundwater Exploration • Administration Support 	CADASTRE / LAND MGT <ul style="list-style-type: none"> • Land Administration • Cadastres • Water Management • Land Information Systems • Institutional Land Management
ORTHOM & CARTOGRAPHY <ul style="list-style-type: none"> • Satellite data • Aerial/satellite orthomages • Technical Cartography • Digital Terrain Models • Land Use and Land Cover 	INFRASTRUCTURE <ul style="list-style-type: none"> • Transportation Systems • Utility Management • Facility Management • Communication Solutions • Location Based Services 	RISK MGT, LAND PROTEC <ul style="list-style-type: none"> • Landslide • Forest fire • Floods • Geohazard 	ENVIRONMENT <ul style="list-style-type: none"> • Environmental quality analysis • Subsidence • Coastal zone management • Land Use Planning • Watershed Management • Disaster Management • Emission Capacity Building
MARITIME ENVIRONMENT <ul style="list-style-type: none"> • Oil spills • Ship detection • Marine water quality • Surveillance of off shore extraction activities 	GEO INFO SYSTEM <ul style="list-style-type: none"> • Geographic Information Systems • GIS Applications for territory management 	SECURITY <ul style="list-style-type: none"> • Maritime surveillance • Rapid mapping for humanitarian aids • Activities Monitoring 	INTEGRATED GIS <ul style="list-style-type: none"> • On - • Proc • Plat



Massimo C Comparini – Space Big Data, Issues for the value chain

Space Economy – Geo Information evolution

HR Commercial Earth Observation satellites to 2024 (>50kg)
(Optical res <2.5m, SAR res <5m)



+66%

many satellites in orbit today...
and the number is growing fast...

680


EO Satellite in orbit
(2017)*


>1,740


Satellite expected
(2017 – 2024)

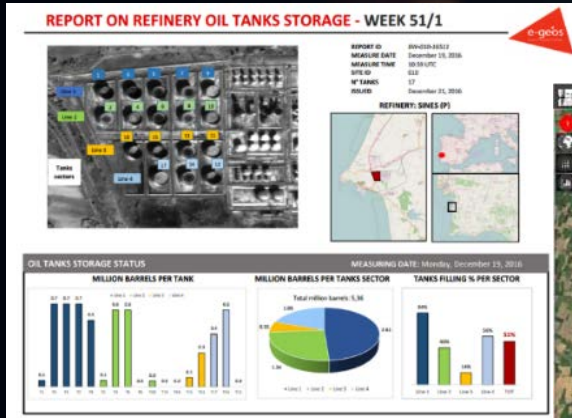
Frost & Sullivan's 2018 first quarter update of the 'Small Satellite Launch Services Market' estimates that over 11,000 small satellites will be launched by 2030. The central value proposition offered by these commercial players to end-users is real-time imagery and seamless global connectivity.

Space and Democratization

From data 

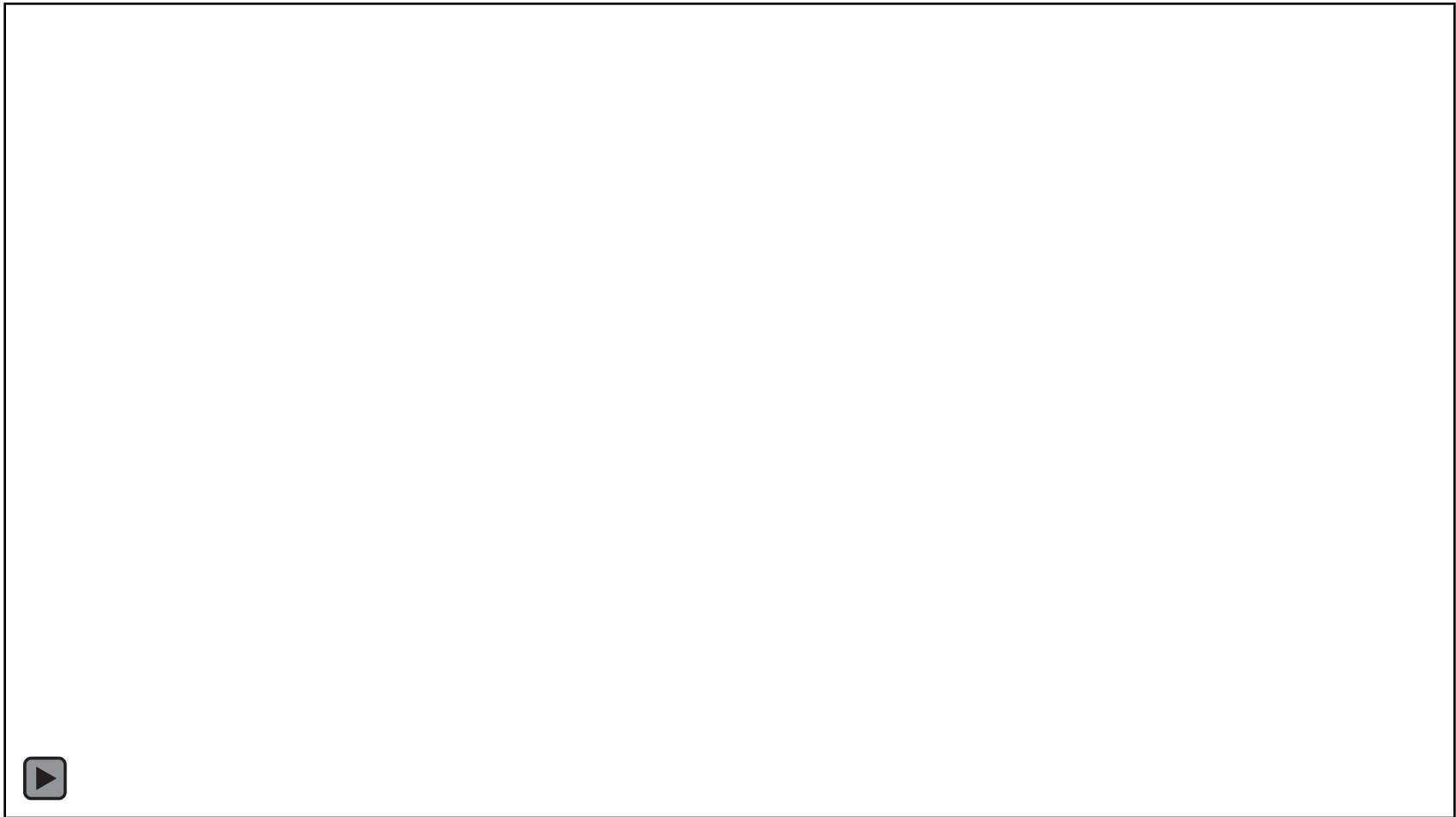
Generating information 

To customized Information
Products and BDA 



Massimo C Comparini – Space Big Data, Issues for the value chain

What is today EO for water resource

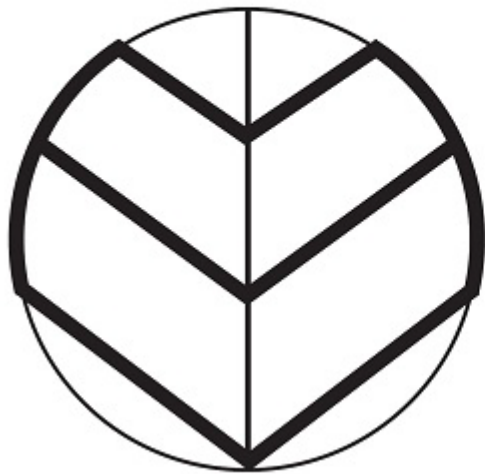


Conclusion

- Earth Observation is able to monitor the causes and the impact of the human activities that may affect the presence, the quality and the security of water resources
- New constellation will support the EO specialized platforms to recreate a «real» DIGITALTWIN of cities to prevent impact thanks to a huge improvement in the modelling sector
- Artificial Intelligence in the wider sense will support the modeler to create detailed scenarios and the decision maker to take the best decision to take care about our resources

Contact info

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love
planet
earth