You can't value what you can't measure

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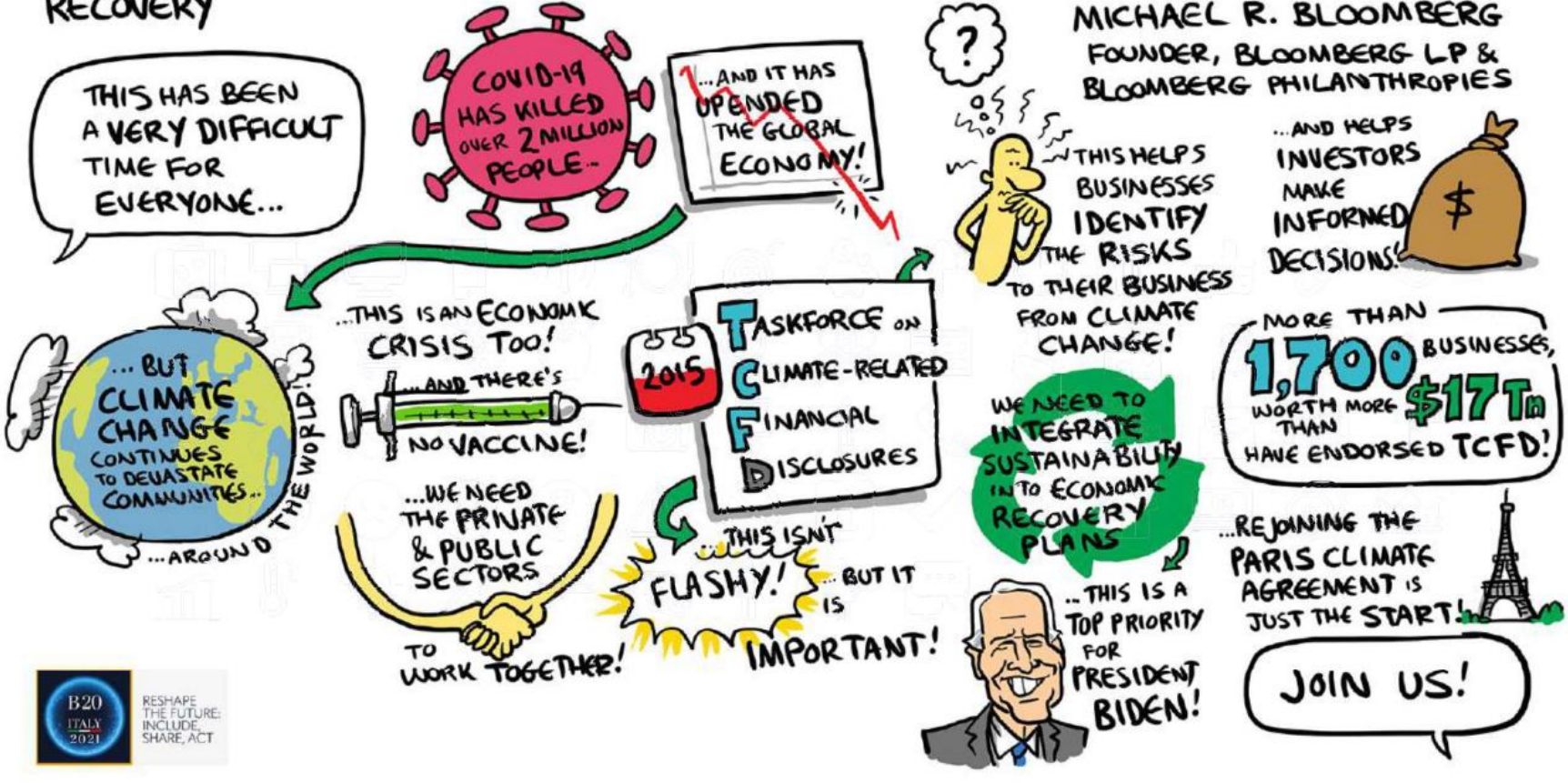
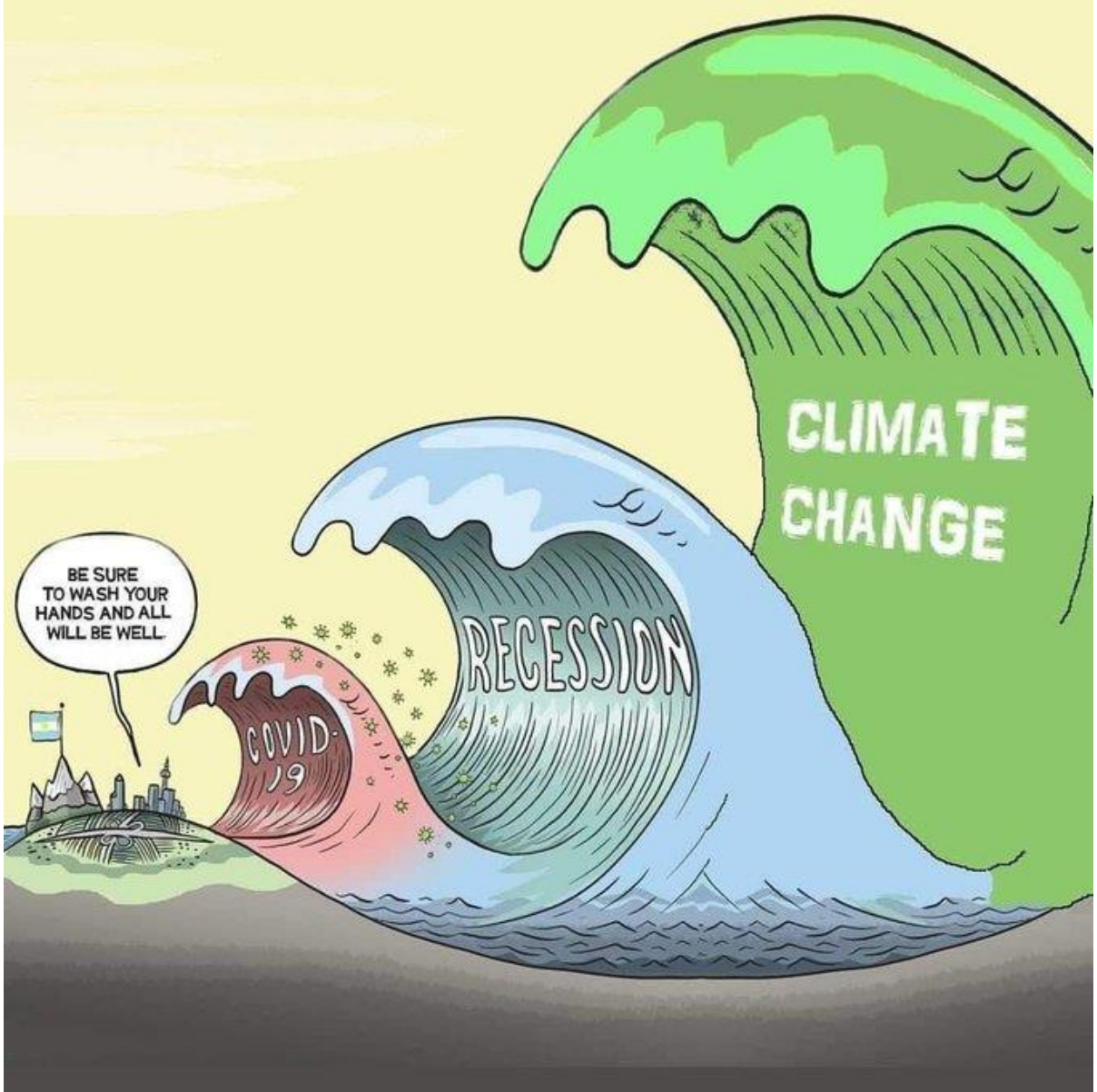
CLIMATE DISCLOSURE AND SUSTAINABLE ECONOMIC RECOVERY

PRESENTER:
GIUSEPPE DE BELLIS, DIRECTOR SKY TG 24

MICHAEL R. BLOOMBERG
FOUNDER, BLOOMBERG LP & BLOOMBERG PHILANTHROPIES



B20 ITALY 2021
RESHAPE THE FUTURE: INCLUDE, SHARE, ACT


BE SURE TO WASH YOUR HANDS AND ALL WILL BE WELL.
COVID-19
RECESSION
CLIMATE CHANGE

Contents

planetek italia

- Approach to Analytics and Rheticus
- Spatial Economy & Climate Change
- Financial & Insurance App
- Conclusions

From Earth Observation to Earth Intelligence

Rheticus®

Monitoring the evolution of our Earth

Satellite Data

Automatic Processing

Knwoledge

Why Rheticus?

Georg Joachim Rheticus

From Wikipedia, the free encyclopedia

Georg Joachim de Porris, also known as **Rheticus** (16 February 1514 – 4 December 1574), was a mathematician, cartographer, navigational-instrument maker, medical practitioner, and teacher. He is perhaps best known for his trigonometric tables and as Nicolaus Copernicus's sole pupil.[1] He facilitated the publication of his master's *De revolutionibus orbium coelestium* (*On the Revolutions of the Heavenly Spheres*).

Georg Joachim de Porris, also known as **Rheticus** (16 February 1514 – 4 December 1574), ... and as Nicolaus Copernicus's sole pupil.[1]

Rheticus main success was made available the Copernicus work accessible to the public.

Industries

UTILITIES

Oil&Gas, Energy, Mining, Sewerage, District heating, Desalination plants

ENGINEERING

Airport, Railways, Roads, Tunnels, Dams, Bridges, Subways, Offshore drilling, dredging

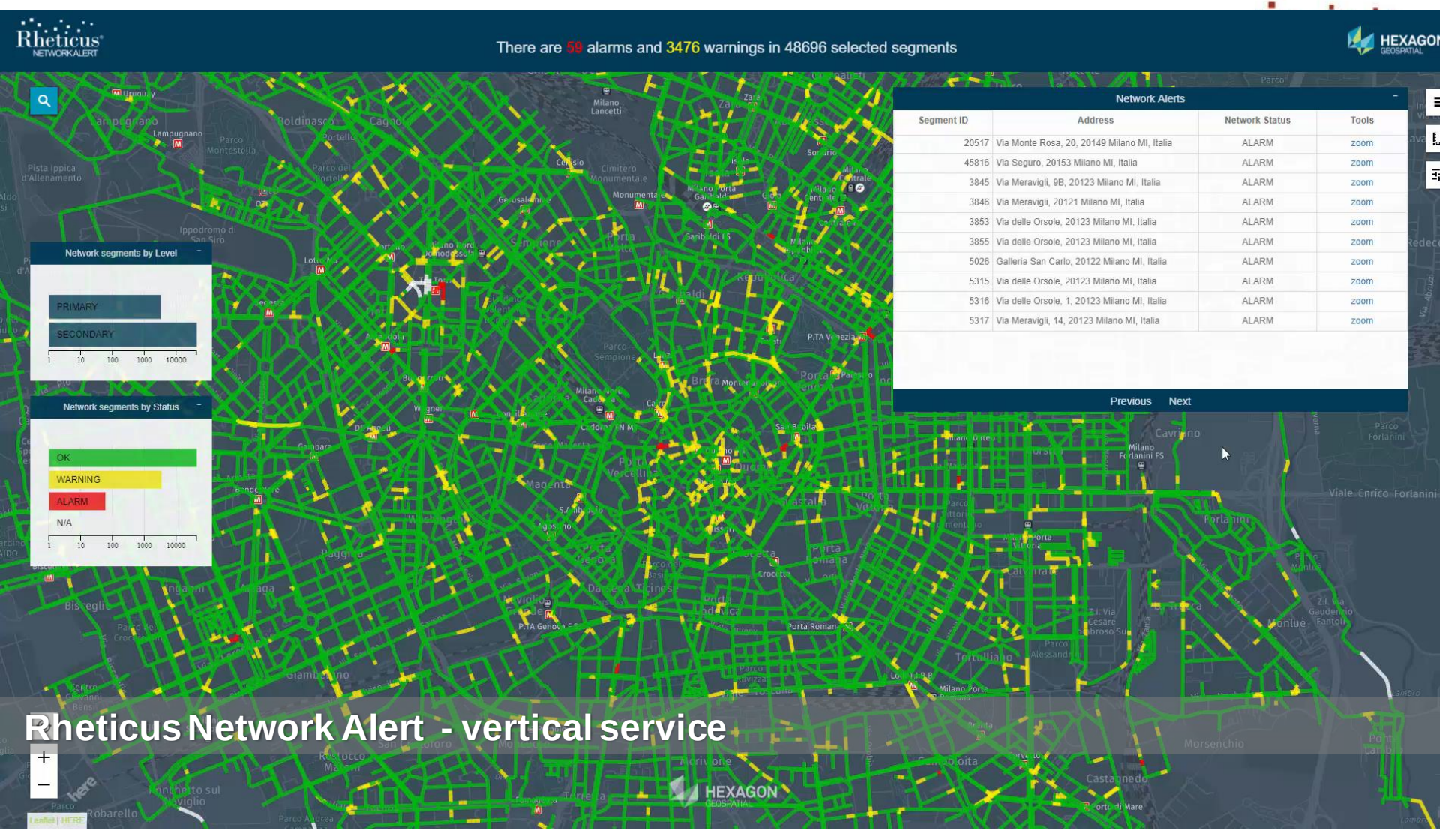
FOOD

Fishing, Aquaculture, Crop yeld forecasting, Precision farming

GOVERNMENT

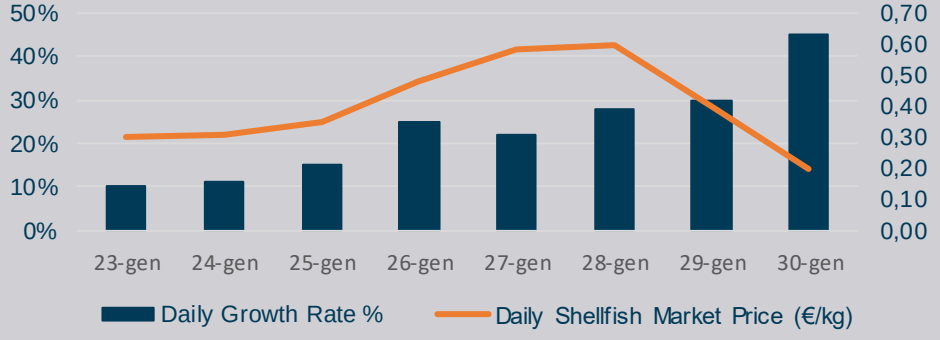
Masterplan, Illegal crops, Wildfires, Coastal marine environment

Rheticus


Rheticus NETWORK ALERT
There are 59 alarms and 3476 warnings in 48696 selected segments
HEXAGON GEOSPATIAL
Network Alerts
Segment ID
Address
Network Status
Tools
20517 Via Monte Rosa, 20, 20149 Milano MI, Italia ALARM zoom
45816 Via Seguro, 20153 Milano MI, Italia ALARM zoom
3845 Via Meravigli, 9B, 20123 Milano MI, Italia ALARM zoom
3846 Via Meravigli, 20121 Milano MI, Italia ALARM zoom
3853 Via delle Orsole, 20123 Milano MI, Italia ALARM zoom
3855 Via delle Orsole, 20123 Milano MI, Italia ALARM zoom
5026 Galleria San Carlo, 20122 Milano MI, Italia ALARM zoom
5315 Via delle Orsole, 20123 Milano MI, Italia ALARM zoom
5316 Via delle Orsole, 1, 20123 Milano MI, Italia ALARM zoom
5317 Via Meravigli, 14, 20123 Milano MI, Italia ALARM zoom
Previous
Next
Network segments by Level
PRIMARY
SECONDARY
1
10
100
1000
10000
Network segments by Status
OK
WARNING
ALARM
N/A
1
10
100
1000
10000
Rheticus Network Alert - vertical service
HEXAGON GEOSPATIAL

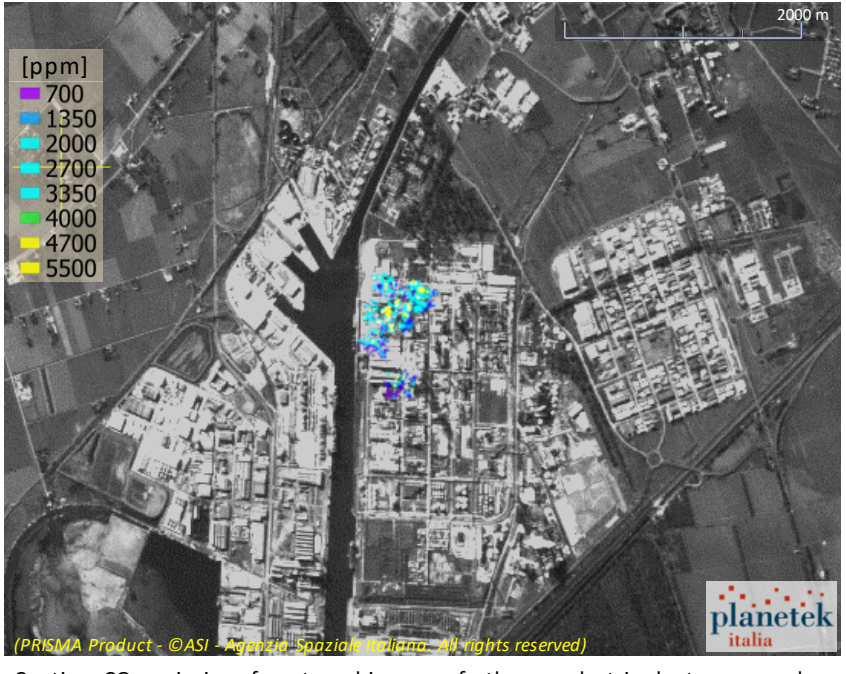
Daily Growth Rate vs Market Prices

as of 23/01/2018 at 10:00 UTM

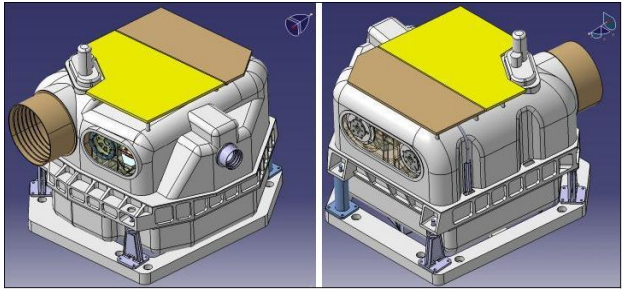


Parameter	Acronym	Value	Units	State
Chlorophyll-a	Chl-a	0.14	mg/m^3	●
Water Transparency	WT	10.00	m	●
Sea Surface Temperature	SST	20	°C	●
Dissolved Oxygen	O_2	3.00	mg/l	●
Salinity	S	34.00	PSU ‰	●
Sea Surface Waves	SSW	0.20	m	●
Current Velocity	UV	0.25	m/s	●
Product Growth Rate		22	%	●
Days to Market Size		10	day(s)	●
Storm Surge Alert		--		●
Average Weekly Shellfish Market Price Source: ISMEA Mercati		0.58	€/kg	▲
Outlook for Risky Situations		Low		●

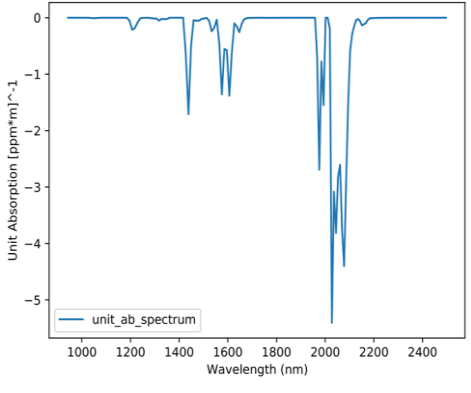
GHG detection from space: example of CO_2 detection from hyperspectral sensor PRISMA



Caption: CO_2 emissions from two chimneys of a thermo-electric plant, measured from a PRISMA image with a spatial resolution of 30m. In the background the corresponding panchromatic PRISMA image (5m spatial resolution).



Pictures of Hyperspectral / Panchrnomatic sensors of PRISMA satellite (image credit: Selex Galileo)

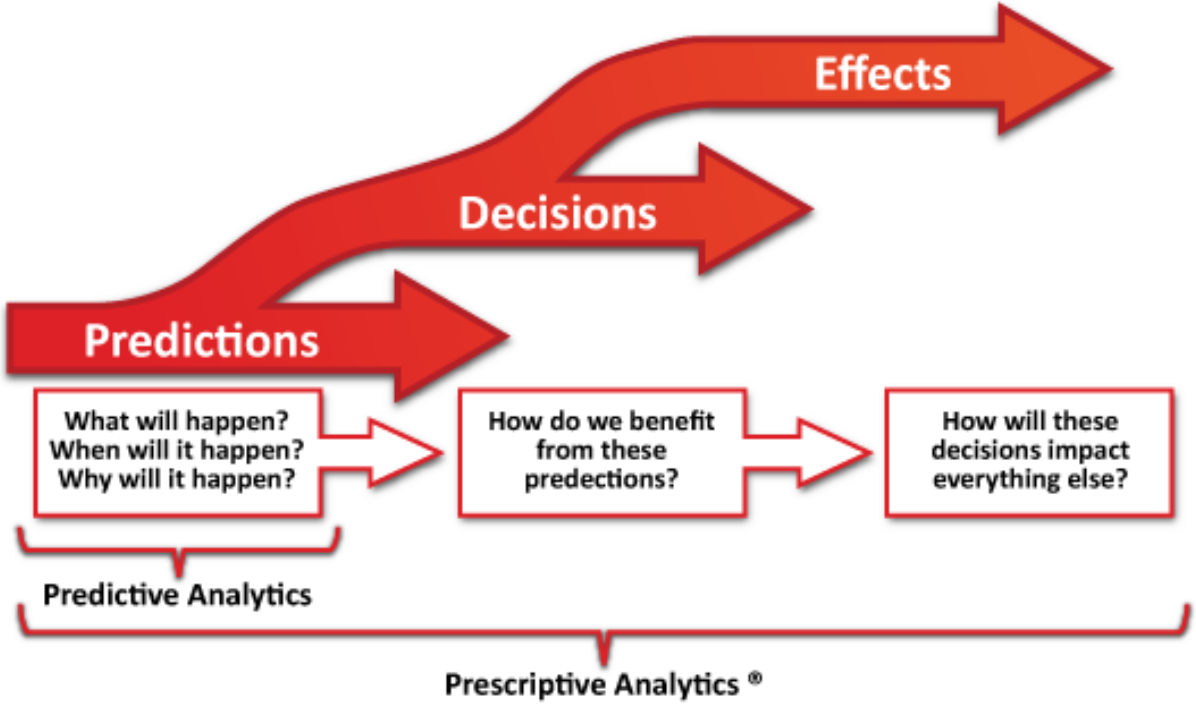


Reference CO2 absorption spectrum

Predictive GEO-ANALYTICS and CG

Info-aaS :

- Subscription Services
- Actionable Vertical Information
- Big Data Integration
- Globally Scalable (Auto) Services

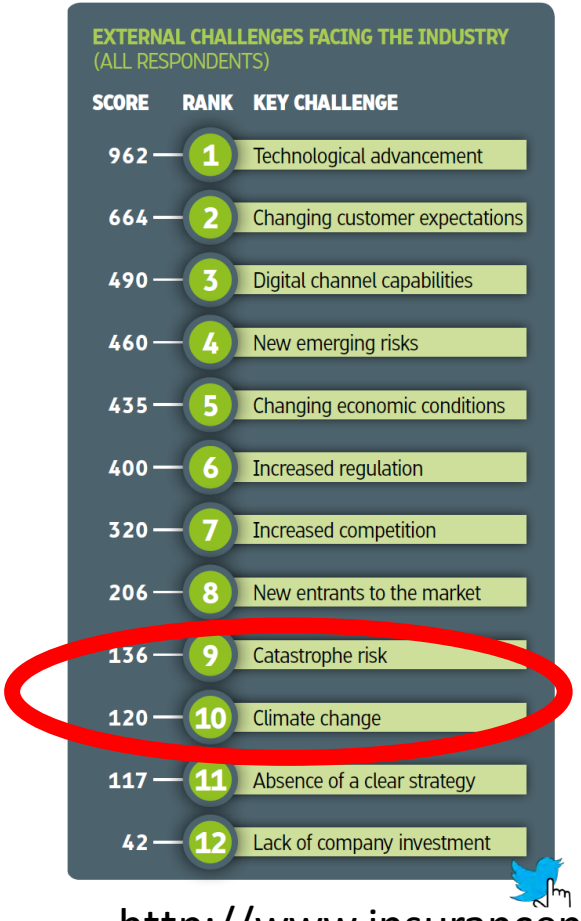


“Projected damages for the EU’s critical infrastructure due to climate change-related disasters …could triple by the 2020s and increase six-fold by 2050 “

Forzieri, G. et al.(2016);
Resilience of large investments and critical infrastructures in Europe to climate change;
EUR27906;

Main Insurance industry Challenge

- Climate and Catastrophe perceived challenges
- Also Analytics are perceived as strategic asset
- Main task for Insurance is Risk Modeling



http://www.insurancenexus.com/

Insurance and Climate information

Actual (limited) use of climate information:

- underwriting decision, short term
- Internal risk assessment, 5-10yrs max
- catastrophe-model development
- Internal communication
- Reinsurance risk evaluation purposes

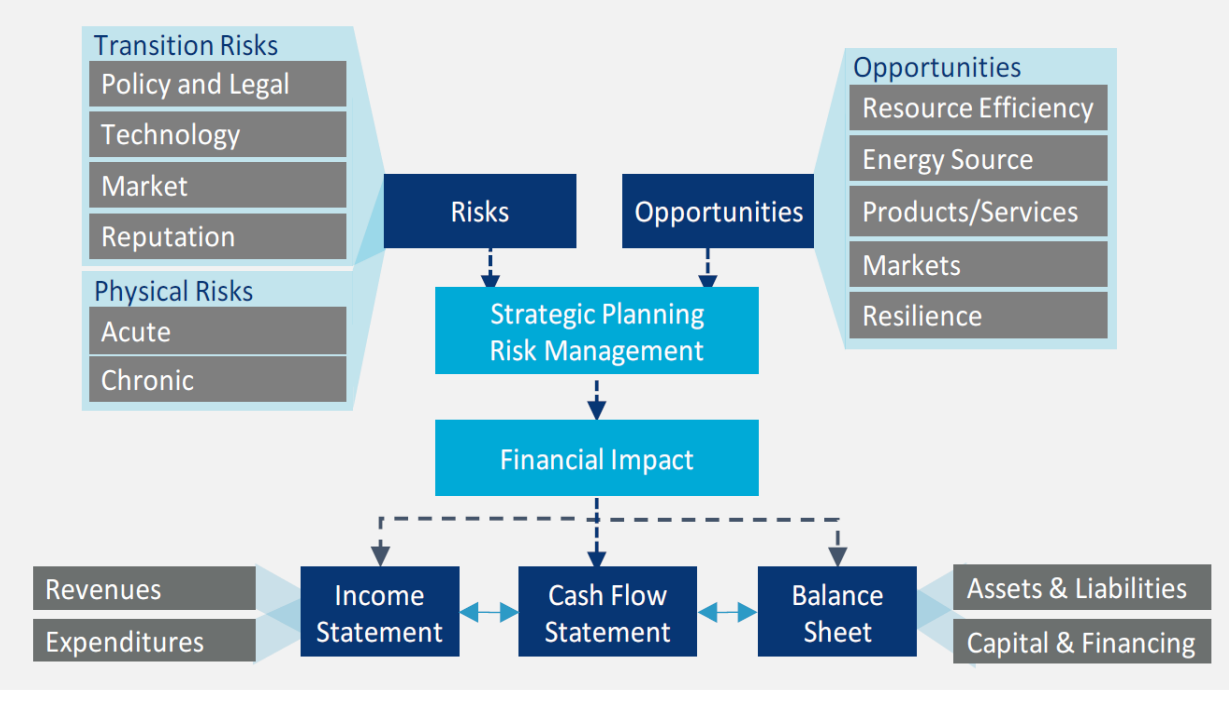
Insurance and Clima information

Potential future use:

- GEO-analytics for premium evaluation
- Cimate Risk Mitigation
- Climate Scenario Risk Analysis
- Agriculture Insurance

Task Force on Climate-related Financial Disclosures

The Financial Stability Board established this TF in response of a G20: request
The TCFD focused on financial impact of climate risk and opportunities rather than the impact of organization on environment



The TFCF recommendations

- further developing 2°C or lower transition scenarios that can be applied to specific industries and geographies;
- developing broadly accepted methodologies, data sets, and tools for scenario-based evaluation of physical risk by organizations;
- enhance comparability of climate-related risk assessments by organizations;
- creating more industry specific (financial and non-financial) guidance for preparers and users of climate-related scenarios.

https://www.fsb-tcfd.org

Conclusions

- An increasing interest from insurance and financial world in estimating CC impact on their business
- A market opportunity for EO based Geo-Analytics and their integration with C3S services
- Some criticality on scale and on spatial resolution
- Definition of quality control and best practices on use of physical variable for climate risk assessment for financial applications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Società Benefit
Thank You!
Galesnjak, Croatia, Credits: Maxar