



« Les données satellitaires en Wallonie 4.0 »

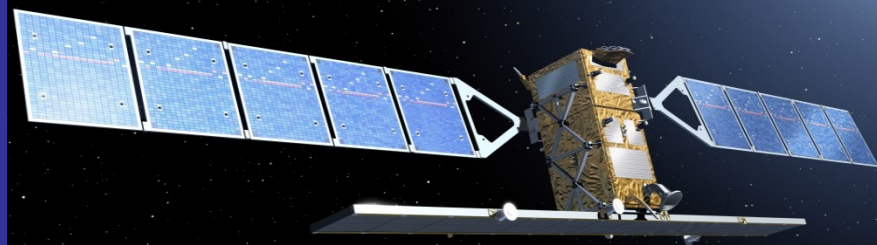
23 octobre 2015

Copernicus the EU's Earth Observation Programme



Daniel Quintart, Copernicus
Directorate DG GROW

Follow us on:



Copernicus
Europe's eyes on Earth

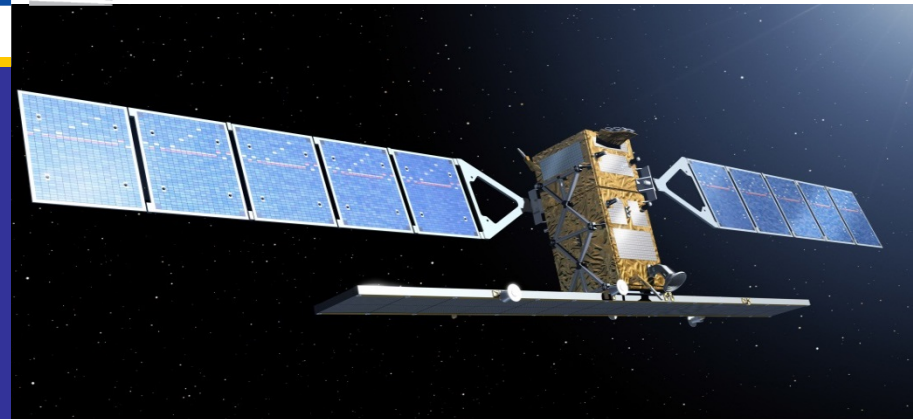
Space

Copernicus the EU's Earth Observation Programme

**Copernicus Directorate
DG GROW**

*Namur, 23 October 2015
Daniel Quintart*

Follow us on:



Objectives



"The Union Earth observation and monitoring programme"

Monitor the environment



Protect people and assets



Increase general knowledge on the state of the Planet



Improve environmental policy effectiveness



Facilitate adaptation to climate change



Foster downstream applications in a number of fields



Help managing emergency and security related situations

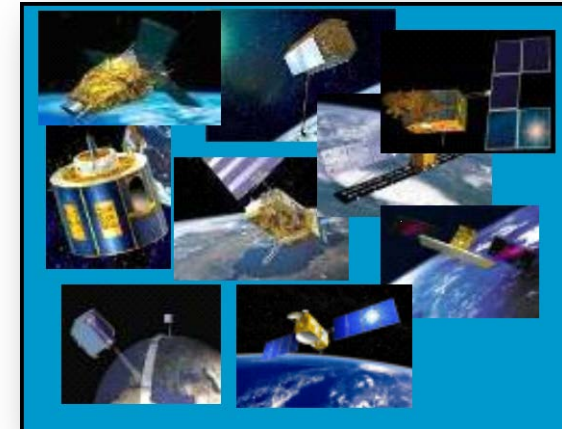


Space

Copernicus architecture

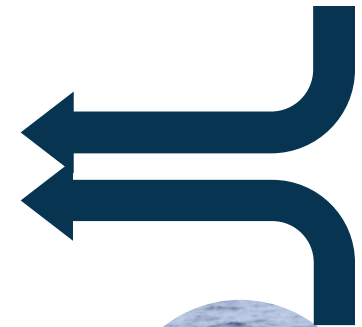


6 services use
Earth Observation
data to deliver ...

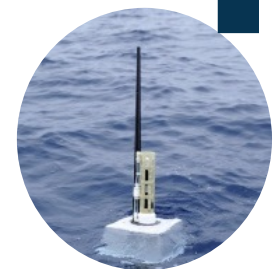


Sentinels

Contributing missions



...added-value products



in-situ

Copernicus current status



- ★ **Copernicus Regulation secures budget of € 4.3 Bn for 2014-2020**
 - ★ ensuring operations until 2020,
 - ★ and setting out a long term plan for EO Space component
- ★ **Free, full and open access to data and information**
- ★ **Successful launches of Sentinel 1A and Sentinel 2A**
- ★ **Funds delegated to ESA/EUMETSAT for space component provision and operations**
- ★ **Five services are now operational delivering 24h / 7d, with the last one pending**

Each Sentinel is technically different to meet the needs of the 6 services



Sentinel 1 – radar imaging
All weather, day/night applications



Sentinel 2 – Optical imaging
Land applications: urban, forest, agriculture,...



Sentinel 3+6 – Ocean and global land monitoring, high precision ocean altimetry

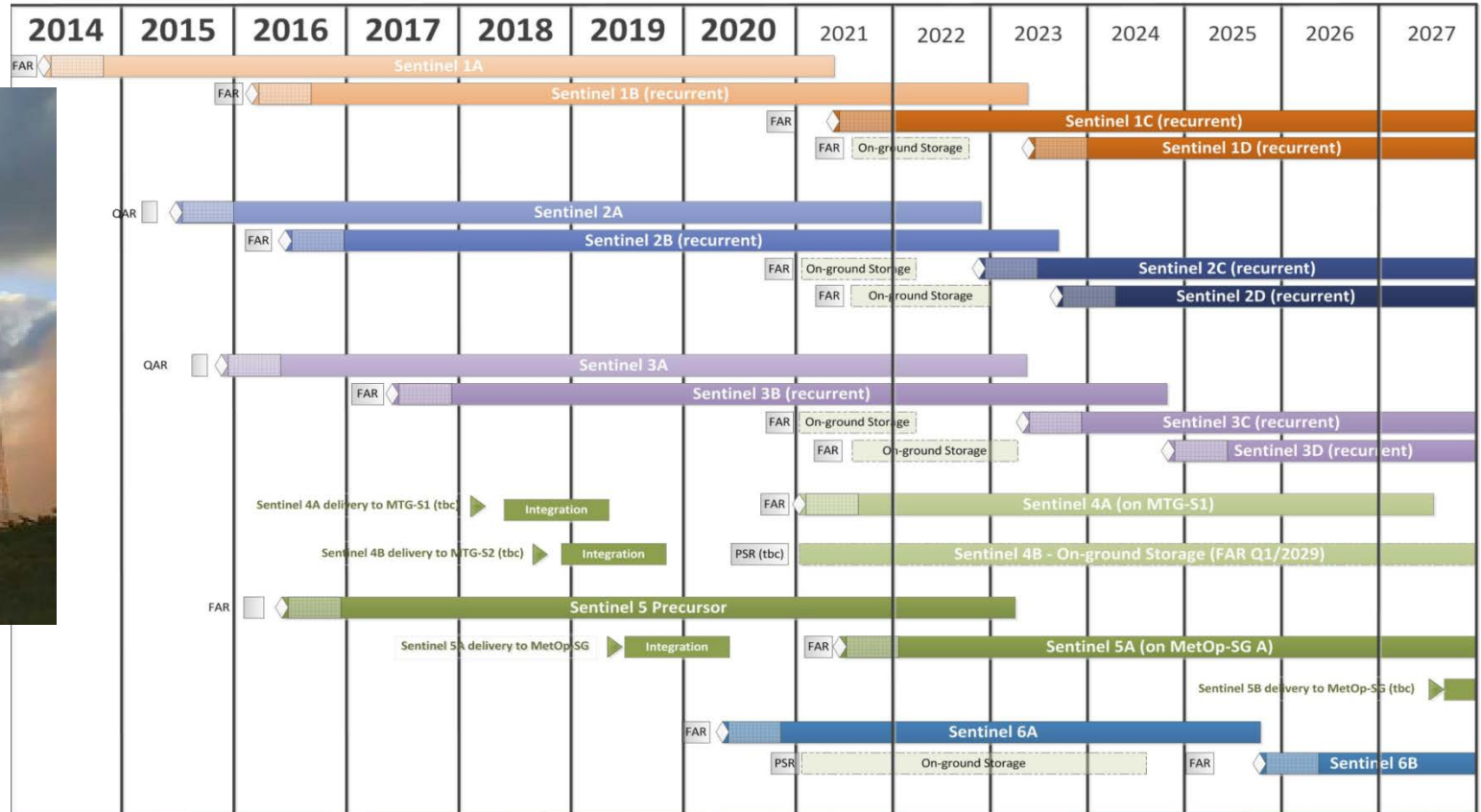


Sentinel 4+5 – Atmosphere composition monitoring, from a geostationary (-4) and a polar orbit (-5)

Deployment schedule



Copernicus Constellation Deployment Schedule



Legend:

- Qualification Acceptance Review (QAR)
- Flight Acceptance Review (FAR) or PreStorage Review (PSR)
- On-ground Storage
- Tentative launch date
- In-orbit Commissioning

Status: 22 April 2015

CSC operations status: Sentinel-2A



6 operational Services



Monitoring the State of
the Earth System
Environment ...

Copernicus
Land Monitoring
Service



Copernicus
Marine Environment
Monitoring Service



Copernicus Climate
Change Service



Copernicus
Atmosphere Monitoring
Service



Copernicus Emergency
Management Service

*Mapping Component
Early Warning Component*



Copernicus
Security Service



... cross-cutting Thematic
Services

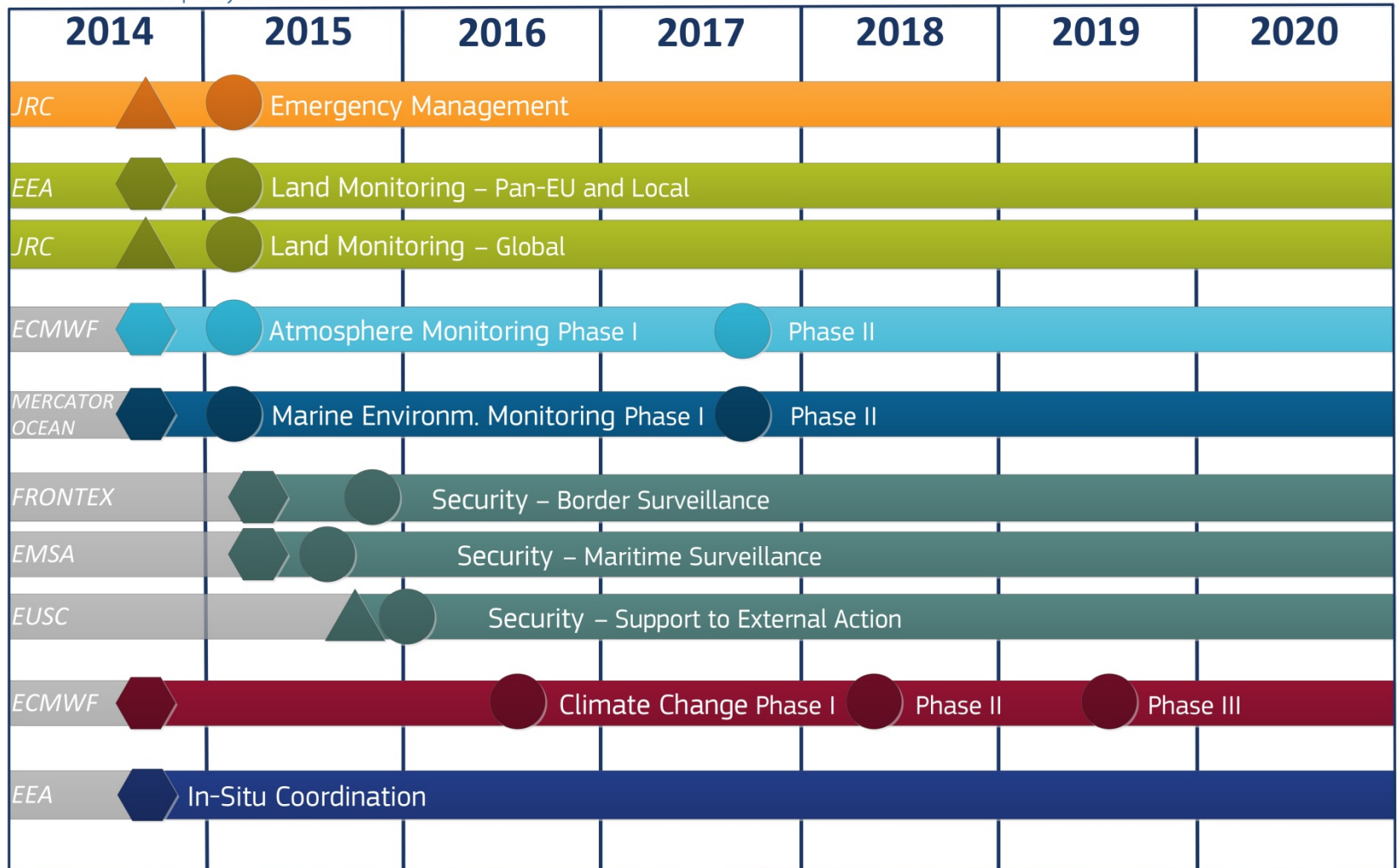
Services Deployment



Status 3 February 2015



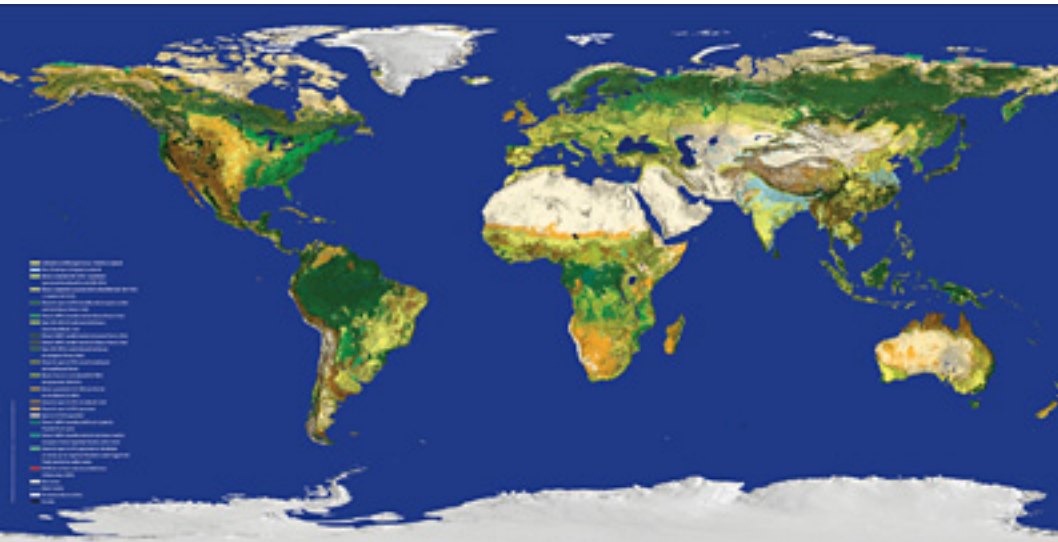
Copernicus Services Implementation Schedule



Legend: ◆ Delegation agreement ▲ Direct management ● Operational phase

Copernicus Land Monitoring Service



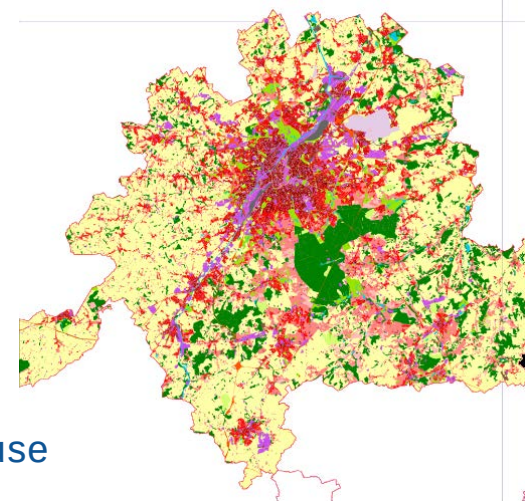


From global...

e.g. Vegetation dynamics, Bio-physical parameters, energy balance

...to pan-European...

e.g. bio-diversity, water bodies, land-use, land change



...to local
e.g. urban land-use

9 groups of products (vegetation-energy-water) providing a picture of the world every ten days

<i>Variable</i>	<i>Temporal Coverage</i>	<i>Temporal resolution</i>	<i>Spatial coverage</i>	<i>Spatial resolution</i>	<i>Sensor</i>
LAI/FAPAR/FCover	1999 – present	10 days	Global	1km	SPOT/PROBA V
NDVI/VCI/VPI	1999 – present	10 days	Global	1km	SPOT/PROBA V
Dry Matter Productivity	2009 – present	10 days	Global	1km	SPOT/PROBA V
Burnt Area	1998 – present	1 day	Global	1km	SPOT/PROBA V
TOC Reflectance	2013 – present	10 days	Global	1km	SPOT/PROBA V
Surface Albedo	1999 – present	10 days	Global	1km	SPOT/PROBA V
Land Surface Temperature	2009 – present	1 hour	Global	0.05 °	Σ Geo
Soil Water Index	2007 – present	1 day	Global	0.1 °	Metop / ASCAT
Water bodies	1999 – present	10 days	Global*	1km	SPOT/PROBA V

Current service evolution : move from 1 km resolution to 300 m (EU)

INTERNET dissemination

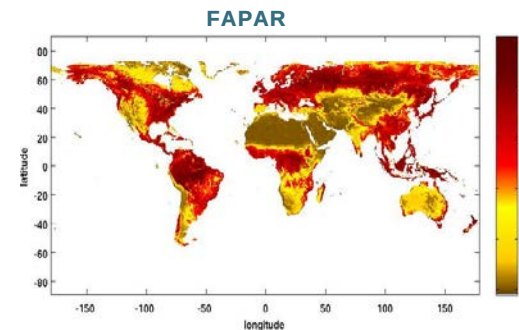
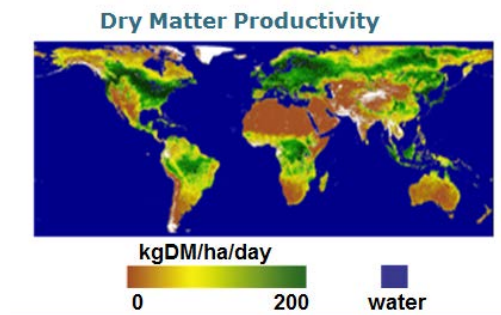
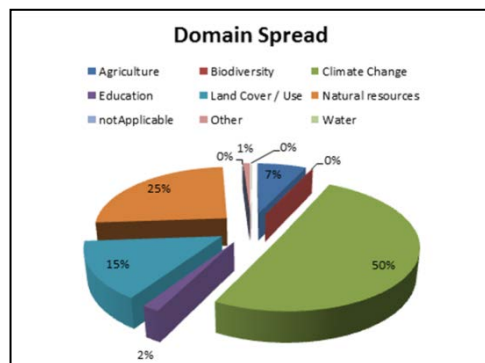
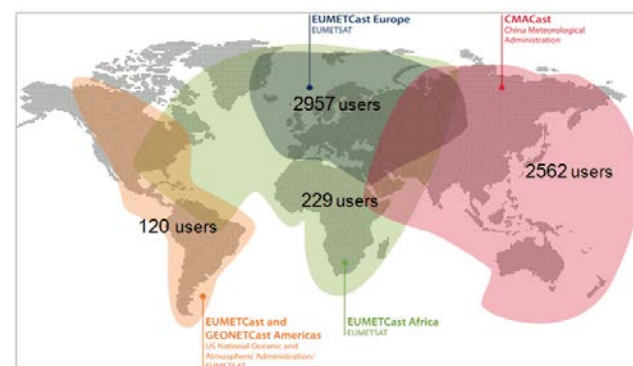
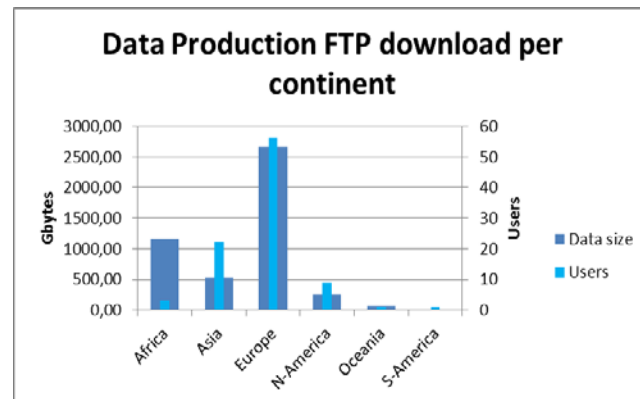
- Around 900 Gb delivered each month
- 158 countries accessed the WEB site
- Around 700 regular FTP users

Top ten user countries:

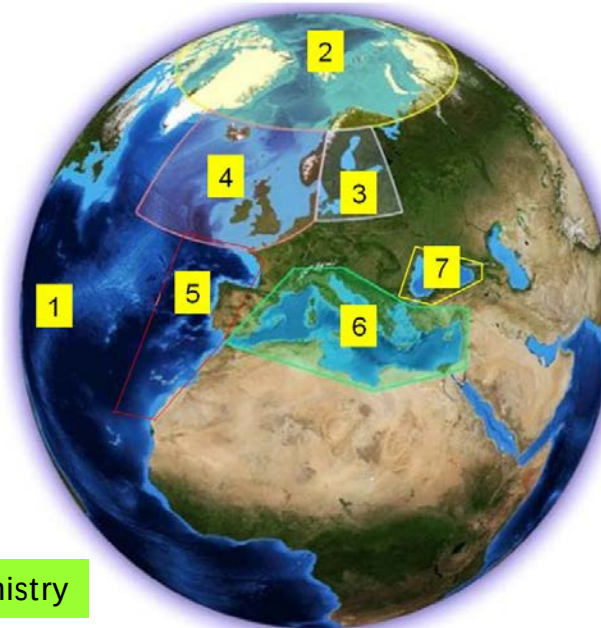
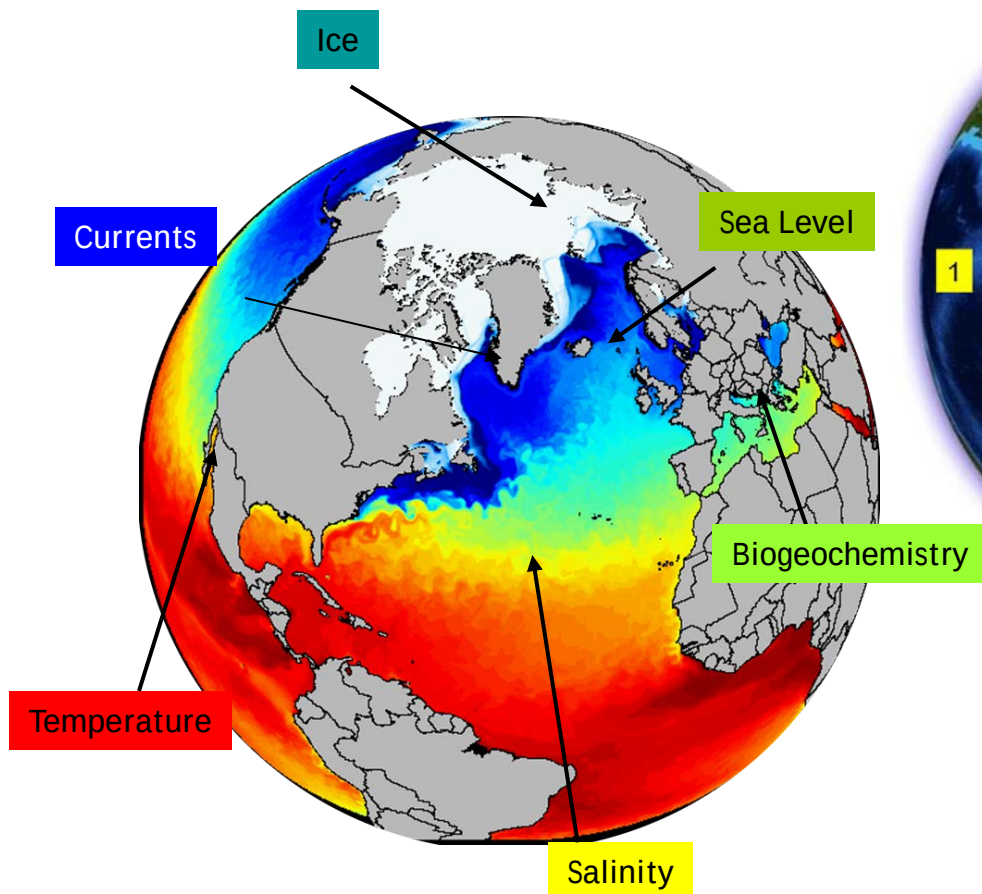
Italy, Spain, France, China, Germany,
Netherlands, US, Poland, Austria, Belgium

EUMETCAST delivery

- 550 users registered
- More than 250 receiving stations and 300 regular users in Africa
- 56 organizations registered in South America



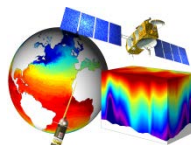
Copernicus Marine Environment Monitoring Service



- 1. Global
- 2. Arctic
- 3. Baltic
- 4. NWS
- 5. IBI
- 6. Med Sea
- 7. Black Sea

- **Global and Regional**
- **Real time and Reanalyses**
- **Satellite & In Situ obs. and Models**

A 3D and consistent
estimation of the ocean

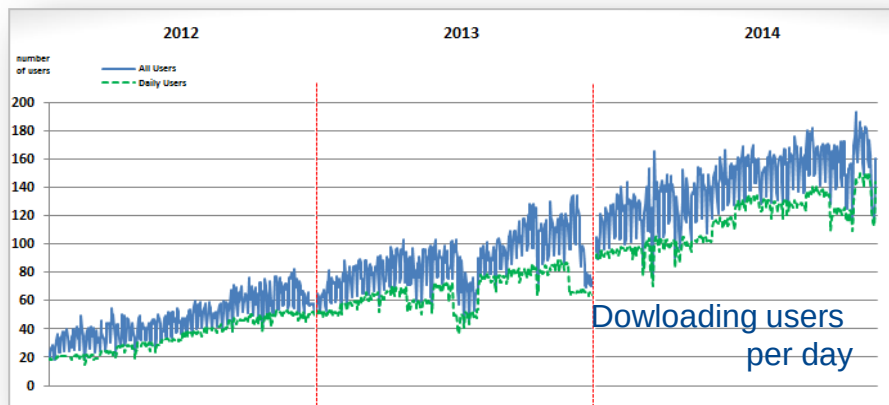


Service portfolio: 11 product groups with ~120 data products covering Ocean state

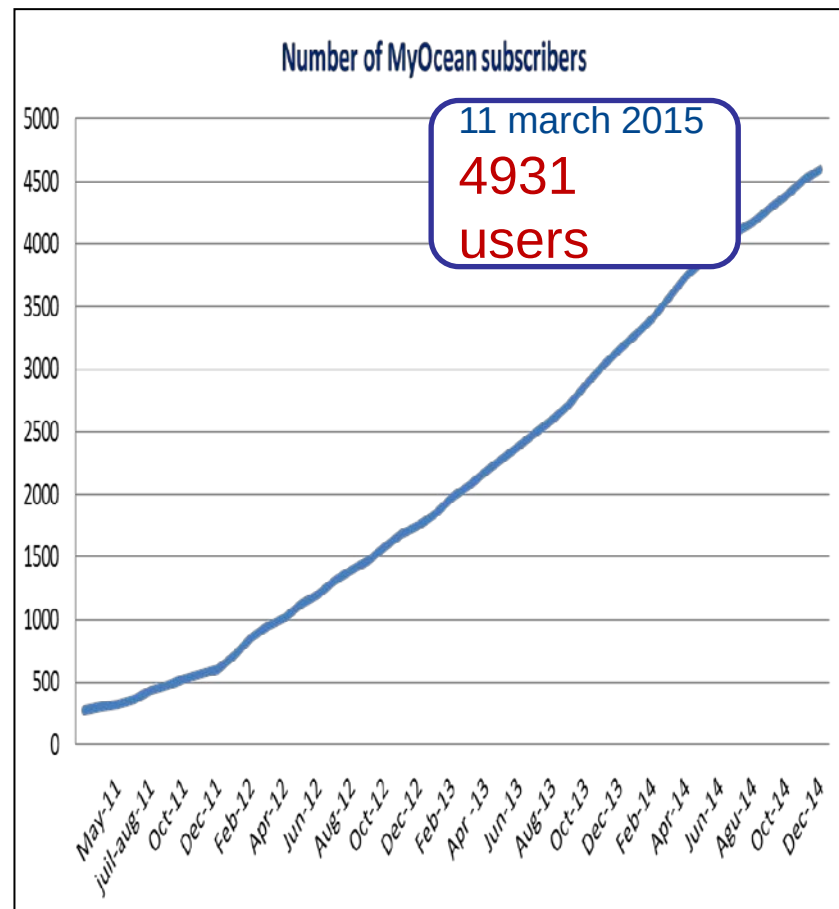
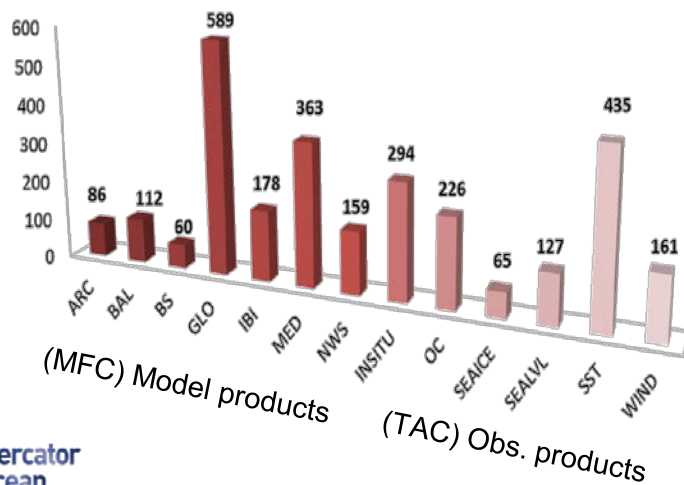
Product groups	
Analysis and Forecast	Global Ocean
	Arctic Ocean
	Baltic Sea
	Atlantic-European North West Shelf Ocean
	Atlantic-Iberian Biscay Irish Ocean
	Mediterranean Sea
	Black Sea
Observation	Sea Level
	Ocean Colour
	Sea Surface Temperature, Sea Ice, Wind
	In-situ (Temperature, Salinity, Bio)

- ❑ Details in: *MyOcean catalogue of PRODUCTS, Mercator Ocean / November 2014*
- ❑ Future: *Product Portfolio = Baseline document of operational service*

Key Performance Indicators illustrated with MyOceanFollowOn operations (H2020, pilot phase)



MyOcean - 2014
Number of users per product family (MFC & TAC)



Copernicus Atmosphere Monitoring Service

Atmosphere Monitoring service



European
Commission

Monitoring atmospheric composition & climate

maccc Monitoring atmospheric composition & climate

HOME NEWS ABOUT THE PROJECT SERVICES DATA PRODUCTS DOCUMENTS EVENTS CONTACT US

Home >

maccc Monitoring Atmospheric Composition and Climate - is the current pre-operational atmospheric service of the European GMES programme. MACC provides data records on atmospheric composition for recent years, data for monitoring present conditions and forecasts of the distribution of key constituents for a few days ahead. MACC combines state-of-the-art atmospheric modelling with Earth observation data to provide information services covering European Air Quality, Global Atmospheric Composition, Climate, and UV and Solar Energy.

Services by theme

- European Air Quality
- Global Atmospheric Composition
- Climate
- UV, Solar Energy, Stratospheric Ozone

Services by user

- Health Community
- Environmental Agencies
- Science Community
- Citizens
- Meteorological Institutes

Quick Links

- GEMS of
- PROMOTE of
- GMES of

Latest News

- Reanalysis production started
- Volcanic Eruption in Iceland
- MACC supports HIPPO-III campaign

Services by theme

- European Air Quality
- Global Atmospheric Composition
- Climate
- UV, Solar Energy, Stratospheric Ozone

Services by user

- Health Community
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Quick Links

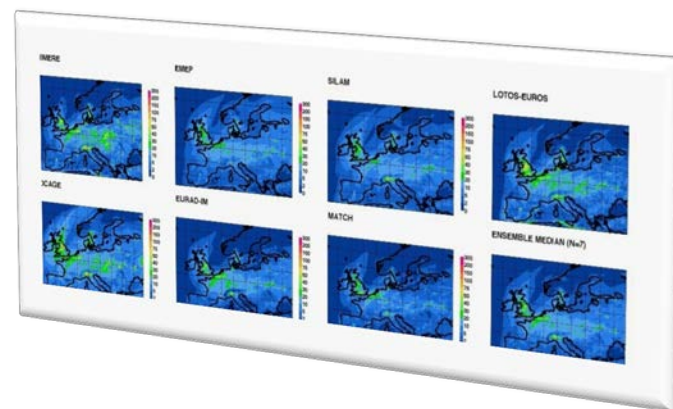
- GEMS of
- PROMOTE of
- GMES of

Potential users of MACC are invited to complete the questionnaire at this link

MACC is a Collaborative Project (2009-2011) funded by the European Union under the 7th Framework Programme. It is coordinated by the European Centre for Medium-Range Weather Forecasts and operated by a 45-member consortium.

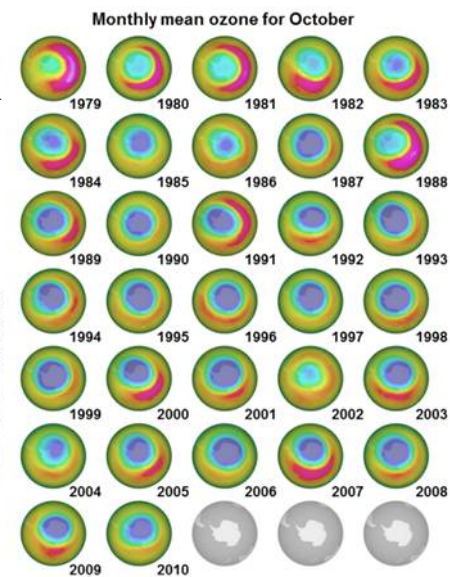
Air Quality
forecast

and
(Re-)Analysis



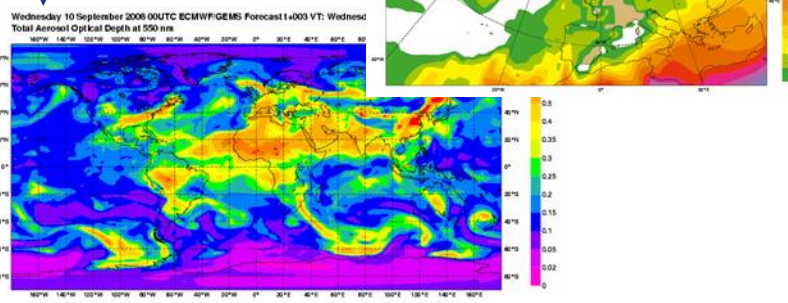
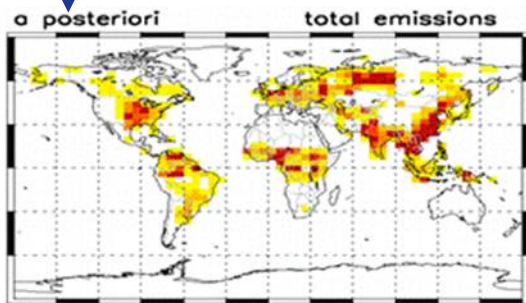
Stratospheric
Ozone

UV Information



Emissions

Global
Forecasts



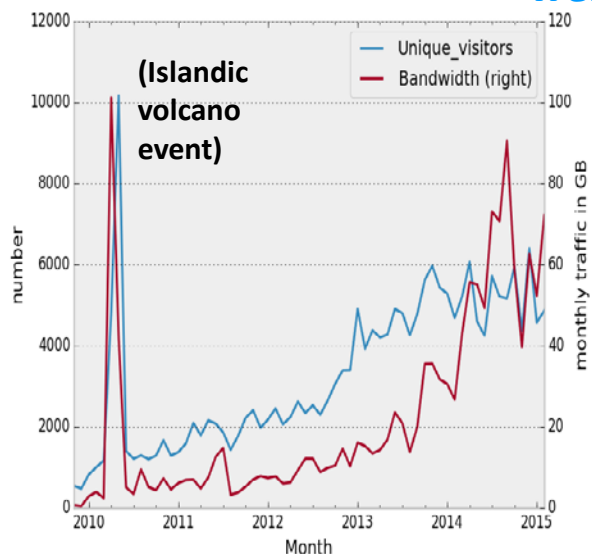


Product groups	
Regional products	European AQ NRT analysis and forecast
	European AQ reanalysis
Global products	Atmospheric composition NRT analysis and forecast (troposphere and stratosphere)
	Atmospheric composition reanalysis (troposphere and stratosphere)
Supplementary products	Policy support
	Solar radiation
	Greenhouse gas fluxes
	Climate forcing
Emissions products	Anthropogenic emissions
	Fire emissions

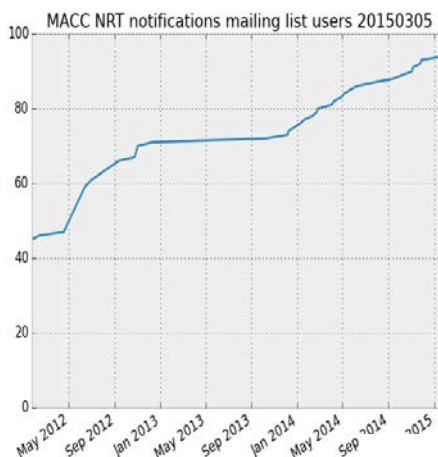
☐ Current details:
MACC - Product and Service Specifications Document V2, ECMWF / July 2014

☐ Future:
Product Portfolio = Baseline document of operational service

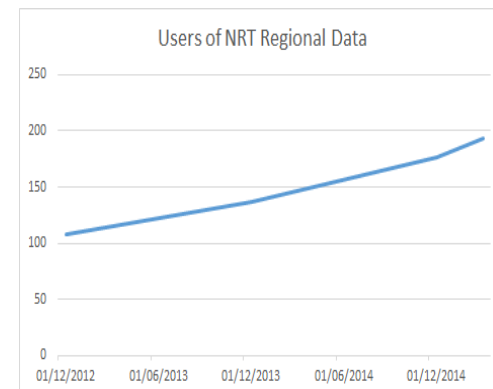
atmosphere.copernicus.eu web



Daily time-critical users of Global Services

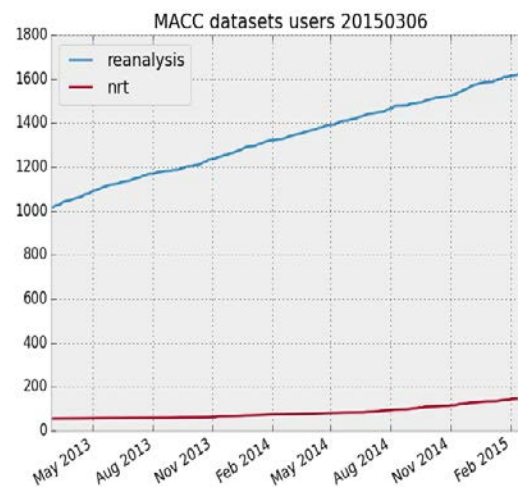


Daily time-critical users of Regional Services



Service	Number of Users/ Requests for data
Global NRT Analyses & Forecasts	~225 users
Regional NRT Analyses & Forecasts	155 users
Global Reanalysis	1600 users
GHG flux inversions	40 users
Solar Radiation	~1000 requests/year
Global ftp	~ 40 users
Emissions, fire	1773 users (716 institutes)

Users of the global re- analysis



Copernicus Climate Change Service





★ Objectives:

- ★ Monitor the climate system
- ★ Detect climate change behaviours to allow projections
- ★ Assess impacts of, and support adaptation to climate variability & change

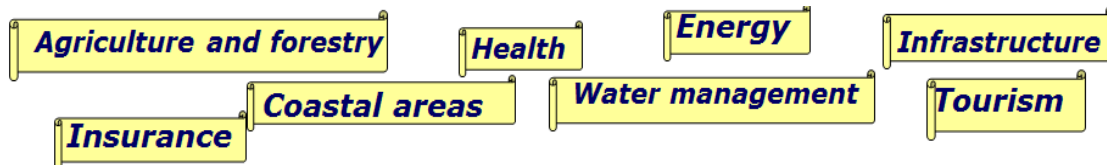
Space & in-situ
Observations

Climate data & re-
analyses

Climate model
projections

★ Consistent Climate Data Store

★ Sectoral Information System



Copernicus Emergency Management Service

Mapping Component

*Early Warning
Component*



Emergency Management service



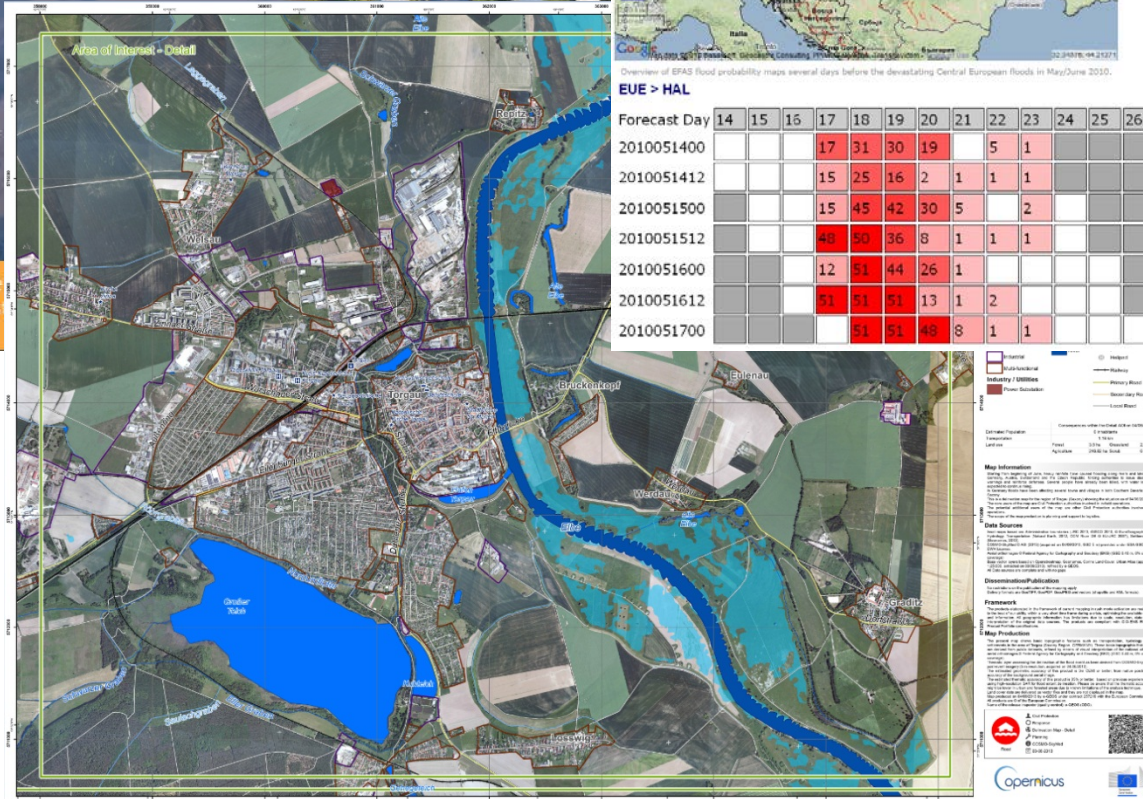
Flood and forest fire risk forecasts



Overview of EFAS flood probability maps several days before the devastating Central European floods in May/June 2020.

EUE > HAL

Forecast Day	14	15	16	17	18	19	20	21	22	23	24	25	26
2010051400				17	31	30	19		5	1			
2010051412				15	25	16	2	1	1	1			
2010051500				15	45	42	30	5		2			
2010051512				48	50	36	8	1	1	1			
2010051600				12	51	44	26	1					
2010051612				51	51	51	13	1	2				
2010051700				51	51	49	8	1	1				



Providing support to emergency response services

Situation maps, reference information

Service covers all the 3 phases of emergencies

Non-rush mode products

- On demand
- Tailored on user needs
- Weeks-months

Reference maps

Pre-disaster situation maps

Reference maps

Post-disaster situation maps



Rush mode products

- On demand
- Standardized
- Hours-days

Reference maps

Delineation maps

Grading maps

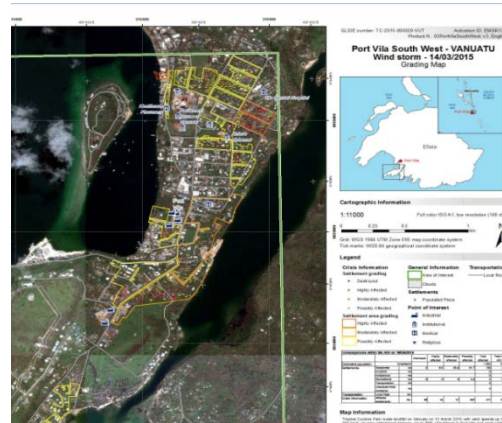
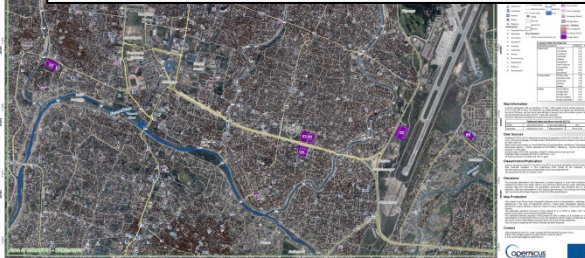
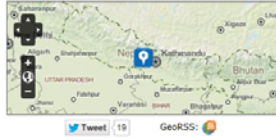
- ★ Service is provided on the basis of activation via Authorised Users
- ★ In case of non-EU states via the EU Delegation

EMSR125: Earthquake in Nepal

Event Time (UTC): 2015-04-25 11:45
Event Time (LOC): 2015-04-25 16:45
Event Type: Earthquake
Activation Time (UTC): 2015-04-25 12:20
Reference maps: 4
Delineation maps: 0
Grading maps: 4
Activation Status: Open

Affected Countries:
 Federal Democratic Republic of Nepal
Area Descriptor: Katmandu, Bidur, Pokhara, Bharatpur
Authorized User:
 EC Services/DG ECHO

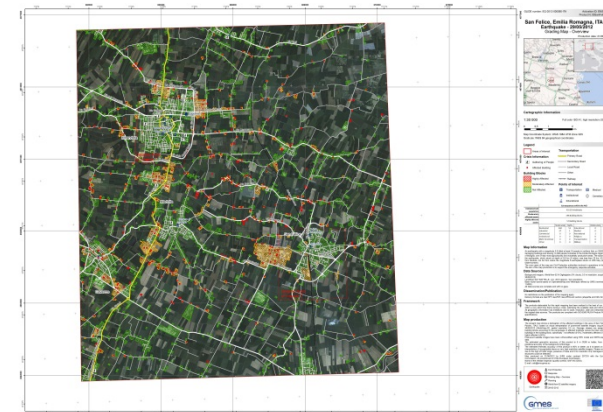
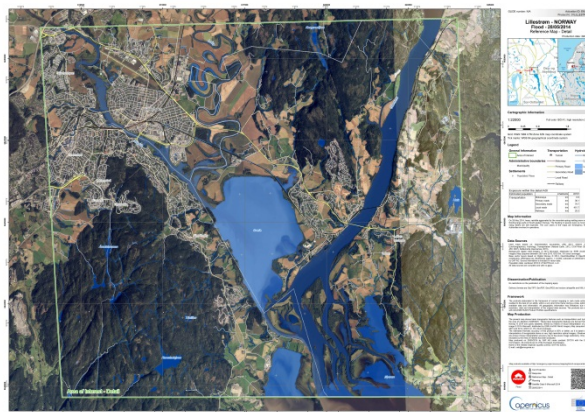
Activation Reason:
 An earthquake in Nepal with a magnitude of 7.9M, 10km depth occurred with at least one consequent aftershock of 7.1M, 10km depth. The epicenter is located between the capital Kathmandu and the city of Pokhara, and was also felt in northern parts of India. Extensive damage to buildings and injuries have been reported.
Requested Product: Reference and Grading Maps



Earthquake, Nepal

Tropical Cyclone, Vanuatu

Ebola epidemic, Guinea

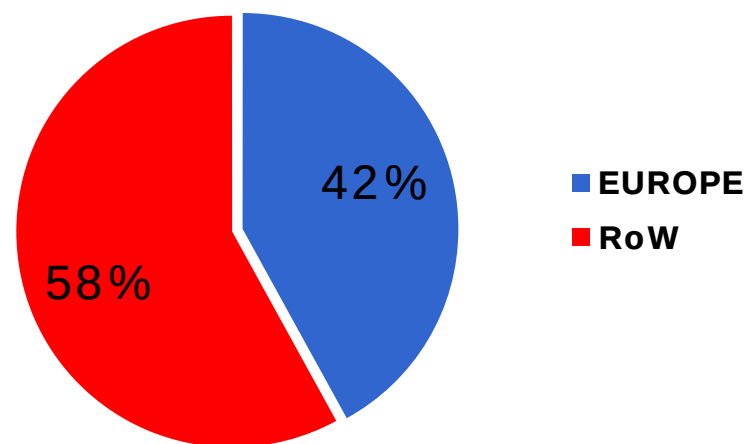
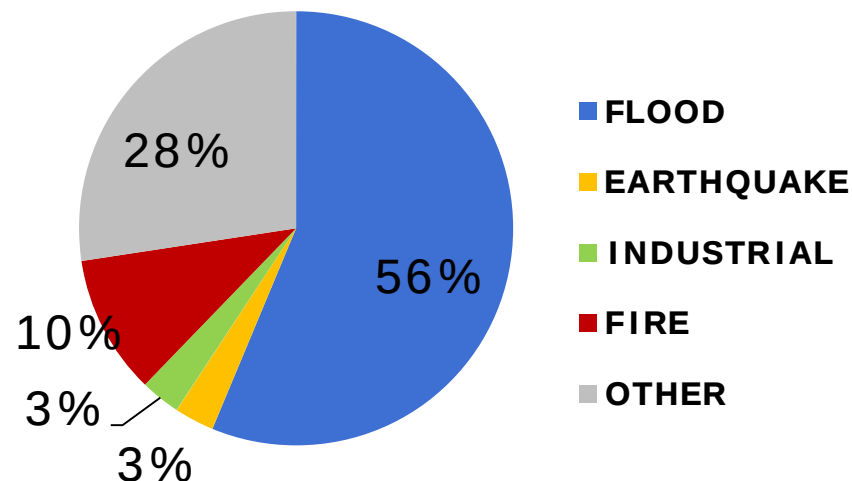


Refugee Camp, Al Mafraq Jordan

Floods, Ostlandet Norway

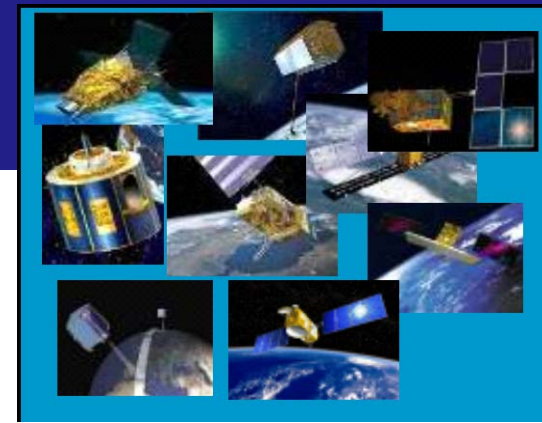
Earthquake, San Felice sul
Panaro Italy

- ★ How many activations?
 - ★ 135 in total since April 2012:
 - ★ 69 within Europe, 66 outside
- ★ Which kind of disaster?
 - ★ 14 Fires, 76 Floods, 4 Earthquakes, 4 Industrial accidents, 37 Other
 - ★ In Europe: mostly floods
 - ★ Outside Europe: many humanitarian
- ★ Who is activating?
 - ★ Activations are received by:
 - ★ MS Civil Protection,
 - ★ European Services or UN agencies via DG ECHO



Copernicus Data Access

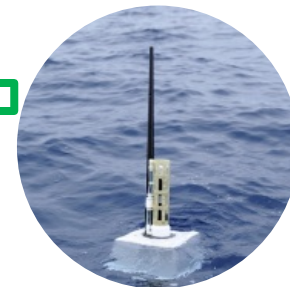




6 Copernicus Services need Earth Observation data ...

Sentinels

Contributing Missions



... to make value-added products

in-situ Data

Access to data

- ★ Access to In Situ Data
- ★ Access to Sentinel Mission Data
- ★ Access to Contributing Mission Data

Access to In Situ Data

- ★ Each Copernicus Service manages its access to In Situ data
- ★ The EEA is coordinating access to In Situ data

Access to Sentinel Data

- ★ Copernicus Services access – CSC-DA
- ★ Science hub access for any user
- ★ MS collaborative ground segment access hub -> towards IGS
- ★ International access hub

Sentinel Data Access



**Free, full
and open
Access for
everybody**



**Copernicus Space Component
Data Access Portal**

sentinels.copernicus.eu

**Copernicus
Services
Access**

**Scientific / Other
Access Hub**

**Collaborative
Access Hub**

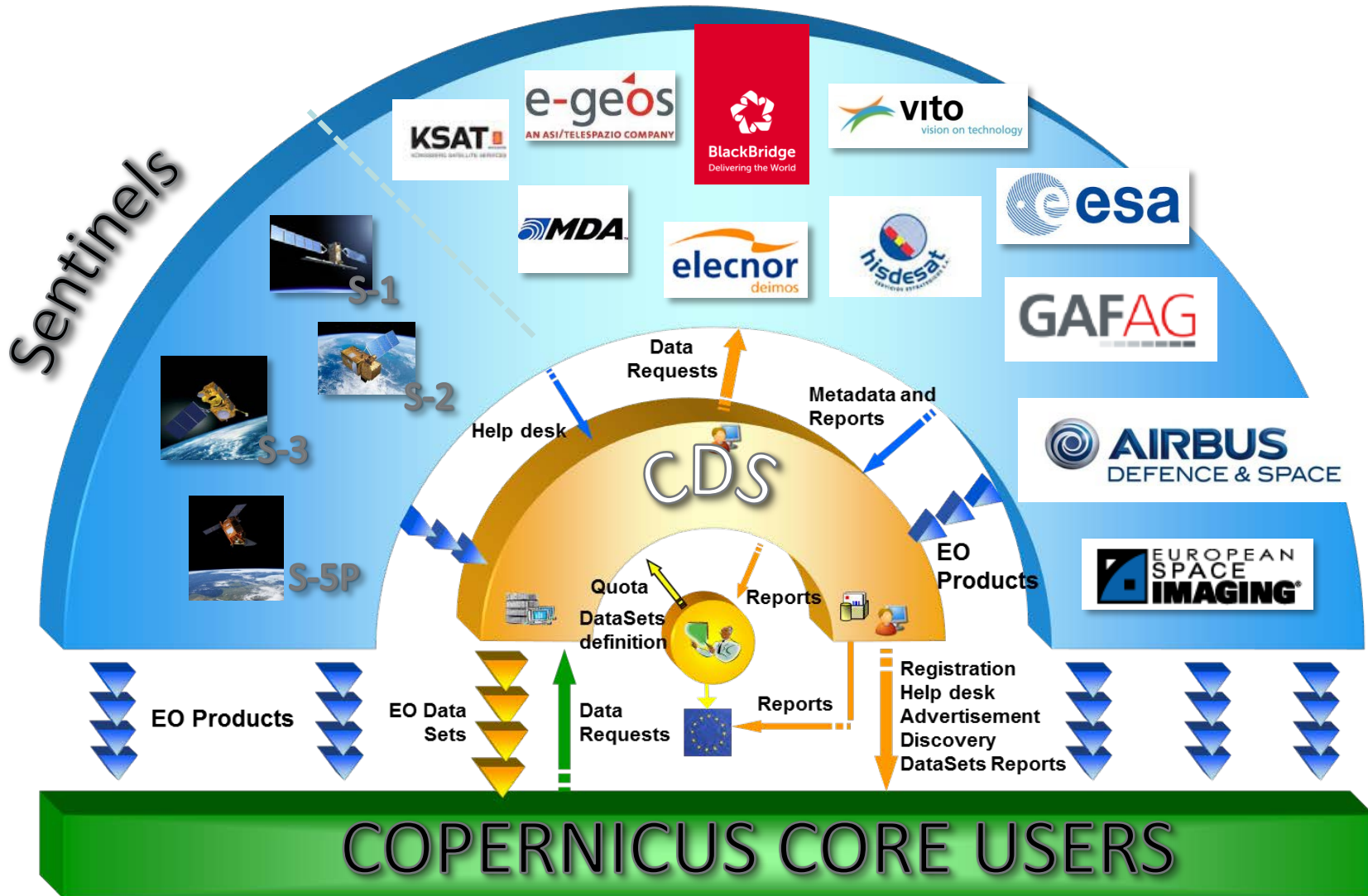
**International
Agreements
Access Hub**



European
Commission

CCMEs

Copernicus
Europe's eyes on Earth



CORE datasets – Access rights by user categories



Dataset newly procured 2014-2020	[Copernicus Services]	[Union_Inst]	[Union_Research_Projects]	[Public_Authorities]	[Int_Org_NGO]	[Public]	[FP7/H2020 nonspace]
HR_IMAGE_2015	D	D	D	D	V	-	D
HR_IMAGE_2018	CCMs are backup (S2 is planned as main supplier for time being)						
VHR_IMAGE_2015	D	D	D	D	-	V	D
VHR_IMAGE_2018	not procured, new ITT in 2016 for VHR_IMAGE_2018 and VHR_IMAGE_2021						
MR_IMAGE_2015	D	D	D	D	V (option) not yet procured	-	D (option) not yet procured
MR_IMAGE_2018	CCMs are backup (S2 is planned as main supplier for time being)						
HR1_OPT_GLOBAL	CCMs are backup (S2 is planned as main supplier for time being)						
HR2_OPT_GLOBAL	CCMs are backup (S2 is planned as main supplier for time being)						D
MR_OPT_GLOBAL	D	D	D	-	-	-	D
LR_OPT_GLOBAL	D	D	D	-	-	-	D
HR2-MR1_SAR_GLOBAL	CCMs are backup (S1 is planned as main supplier for time being)						
LR_SAR_GLOBAL	CCMs are backup (S1 is planned as main supplier for time being)						
HR2-MR1_SAR_Sea_Ice	D	D	D	-	-	-	D (option) not yet procured
EUR_HR2_MULTITEMP	D	D	D	D	D	V	D
VHR1-2_Urban_Atlas_2011-2013	D	D	D	D	V	V	D
Dataset from previous Phases	[Copernicus Services]	[Union_Inst]	[Union_Research_Projects]	[Public_Authorities]	[Int_Org_NGO]	[Public]	[FP7/H2020 nonspace]
IMAGE2006	D	D	D	D	V	V	D (option) not yet procured
IMAGE2009	D	D	D	D	V	V	D (option) not yet procured
DWH_MG2_CORE_01 - Optical HR Pan EU	D	D	D	D	V	V	D (option) not yet procured
DWH_MG2b_CORE_03 - Optical VHR2 coverage EU 2011-2013	D	D	D	D	V	V	D (option) not yet procured
DWH_MG3_CORE_04 - Optical new worldwide LR coverage	D	D	D	D	V	V	D (option) not yet procured
DWH_MG3_CORE_05 - Optical archive worldwide LR coverage	D	D	D	D	V	V	D (option) not yet procured
DWH_MG3_CORE_06 - Optical new worldwide MR coverage	D	D	D	D	V	V	D (option) not yet procured
DWH_MG3_CORE_07 - Optical archive worldwide MR coverage	D	D	D	D	V	V	D (option) not yet procured
DWH_MG2-3_CORE_08 - Monthly composites EU 2011-2012	D	D	D	D	V	V	D (option) not yet procured
DWH_MG2_CORE_09 - Sub-Saharan Optical coverage HR2	D	D	D	D	D	V	D (newly procured in DWH Phase 2014-2020)
DWH_MG1_CORE_11 - Sea Ice monitoring	D	D	D	D	V	V	D (option) not yet procured
DWH_MG2b_CORE_30 - Urban Atlas (2006, 2009)	D	D	D	D	V	V	D (option) not yet procured

D	DOWNLOAD
V	VIEW
	Licences already available from DWH Phase 2010-2014
	Not procured, new ITT to be launched
	Free and open from Sentinels

Data Warehouse Data Access



- Dedicated services for eligible users of Data Warehouse Datasets
- Point of entry via <https://spacedata.copernicus.eu>
- On going major evolutions in 2015

FOLLOW via TWITTER for latest news
[@CopernicusData](#)

Maximizing the socio-economic benefits of Copernicus

Namur, October 2015

Follow us on:

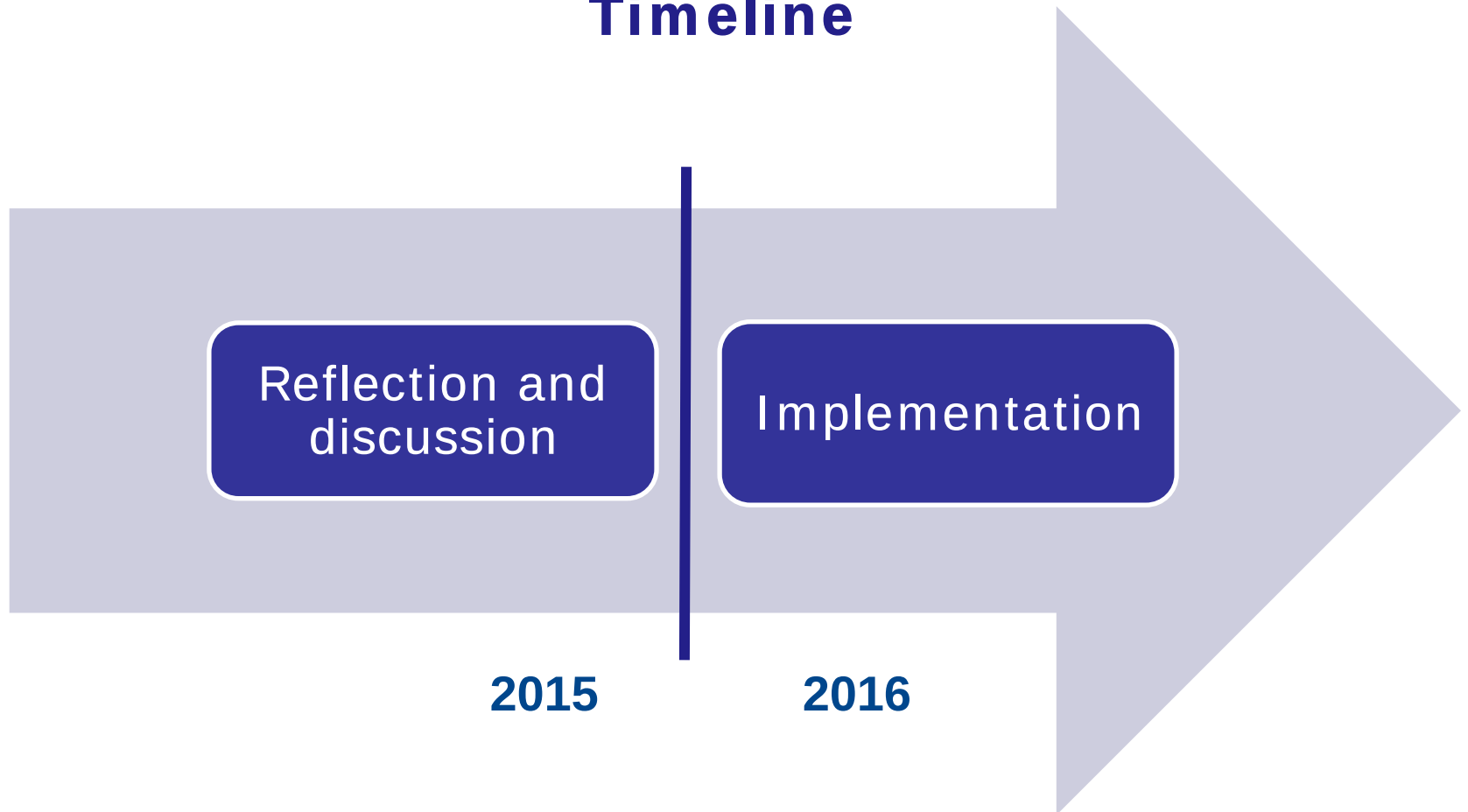
 Copernicus EU  CopernicusEU 
www.copernicus.eu

Space

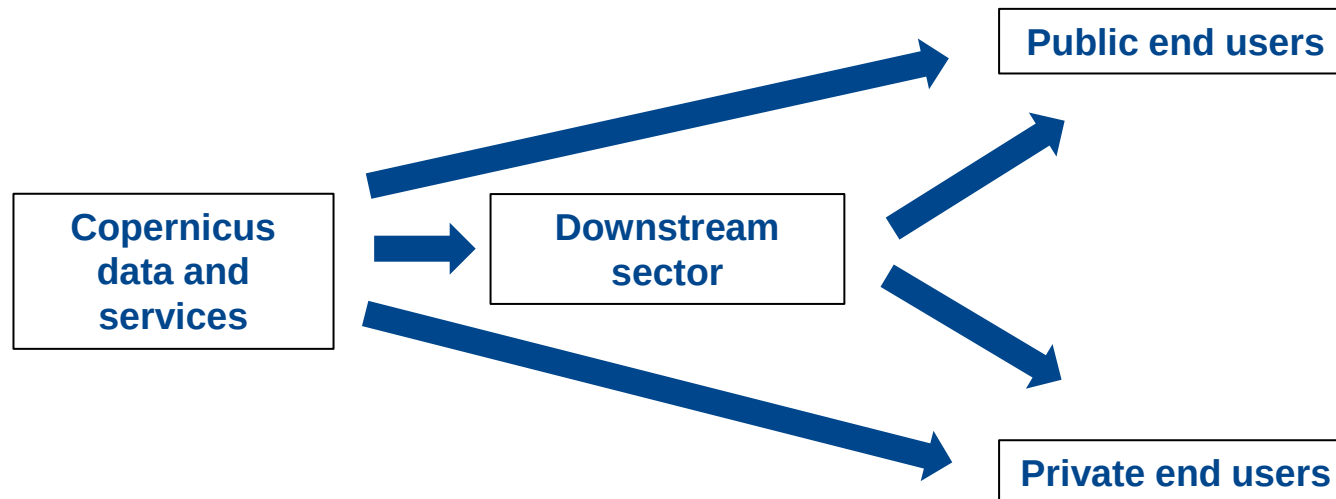


 **Copernicus**
Europe's eyes on Earth

Timeline



1. Providing users with **easy access and use of the data**
2. Fostering adoption of new business models in the **downstream sector**
3. Improving **awareness of end users** (both public and private)



1. Data dissemination architecture

- ★ **Easy access and use of the data/information** with a robust dissemination infrastructure
- ★ Make the most **of new technologies** to facilitate use of the data/information and avoid duplications
- ★ Improved interoperability and standardisation (both EO and non-EO data)
- ★ Creating critical mass of EO data and services around Copernicus

Two complementary approaches:

- ★ *Bringing the data to the user:*
web portal, mirroring of the data – high bandwidth connection needed
- ★ *Bringing the user to the data:*
cloud computing/web services/hosted computing – upgrade of the Copernicus core ground segment needed

2. Fostering the adoption of new business models in the downstream sector (brainstorming)

★ Framework conditions

- improving predictability: clear boundary between public and private, (strengthen the procedure to integrate new products in the copernicus services)
- dialogue with industry

★ Supply-side measures

- incubators, ICT skills, financial instruments, internationalisation

★ Demand-side measures

- Innovative public procurement, awareness of end users

2. Fostering the adoption of new business models (brainstorming)

- ★ **Copernicus accelerator** to support start ups through the Copernicus master and incubators
- ★ **Develop technical assistance services** with the Copernicus entrusted entities
- ★ **Framework partnership agreement** to support Member States in their user uptake initiatives
- ★ **Support the internationalisation of EO companies** (matchmaking events)
- ★ **Background material/copernicus.eu website**

3. Increasing awareness of end users

★ Public end users

- Improve the uptake of EU institutions
- Support national/local initiatives with networks and materials

★ Private end users

- Market intelligence to identify actors and value chains
- Co-operation with Member States, industry associations, chambers of commerce, clusters and other multipliers
- Dedicated awareness events and materials

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Thank you for your attention!

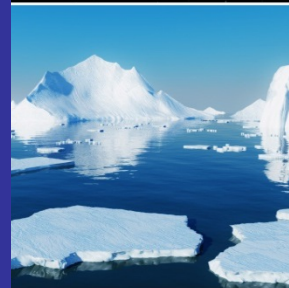
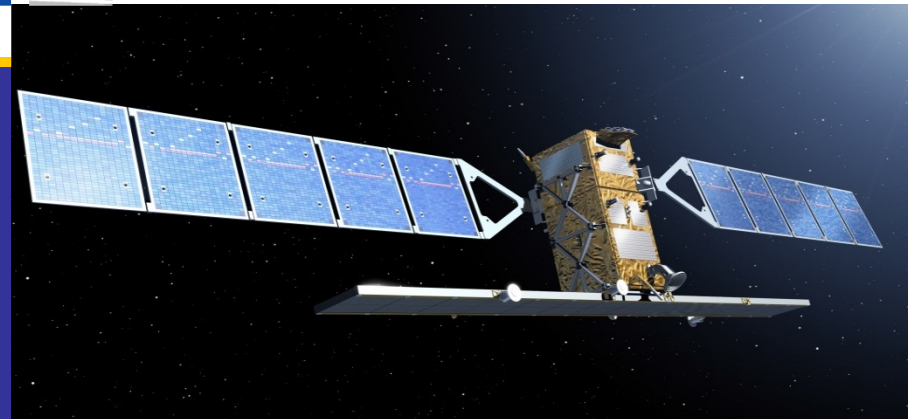
<http://www.copernicus.eu/>

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Space



 **Copernicus**
Europe's eyes on Earth



HORIZON 2020

Earth Observation

Space Research – main actors



- ★ **Research Executive Agency (REA)**
Call handling, receipt of proposals, evaluation process, grant agreement preparation
grant agreements signature, receipt of reporting, reviews, payments, audits
New Mandate for Horizon 2020 and continued implementation of FP7 Space projects
- ★ **Executive Agency for SMEs (EASME)** ex-Executive Agency for Competitiveness and Innovation (EACI)
- ★ **European Commission DG GROW:**
EU Space policy and Research and Copernicus
http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents

Satellite
Navigation
(Galileo and
EGNOS)

Earth
Observation
(Copernicus)

Competitiveness
of the European
Space sector

Protection of the
European Space
Assets

Applications

Applications

Technologies for
European non-
dependence and
competitiveness

Space
Surveillance and
Tracking

EGNSS evolution

Data

Independent
access to space

Space Weather,
Space Debris,
Near Earth
objects

Copernicus
evolution

Space Science
and Exploration

Bottom-up engagement of SMEs in space
R&D (SME Instrument)

Fast Track to
Innovation pilot

EGNSS

Galileo & EGNOS
applications and
infrastructure

Calls for proposals:

- EGNSS applications

Other actions:

- Evolution of EGNSS infrastructure, mission and services

EO

Earth Observation
applications and services

Calls for proposals:

- EO downstream applications
- Evolution of Copernicus services
- EO "big data" shift

COMPET

Competitiveness of the
European Space sector:
Technology and Science
(incl. Space Weather)

Calls for proposals:

- Critical space technologies
- EO & SatCom technologies
- Science and Exploration
- **Space Weather**
- Space Portal
- Technology transfer

Other actions:

- ESA Engineering support
- Horizon prize on low-cost access to space

SST

Space Surveillance
and Tracking support
framework

Other actions:

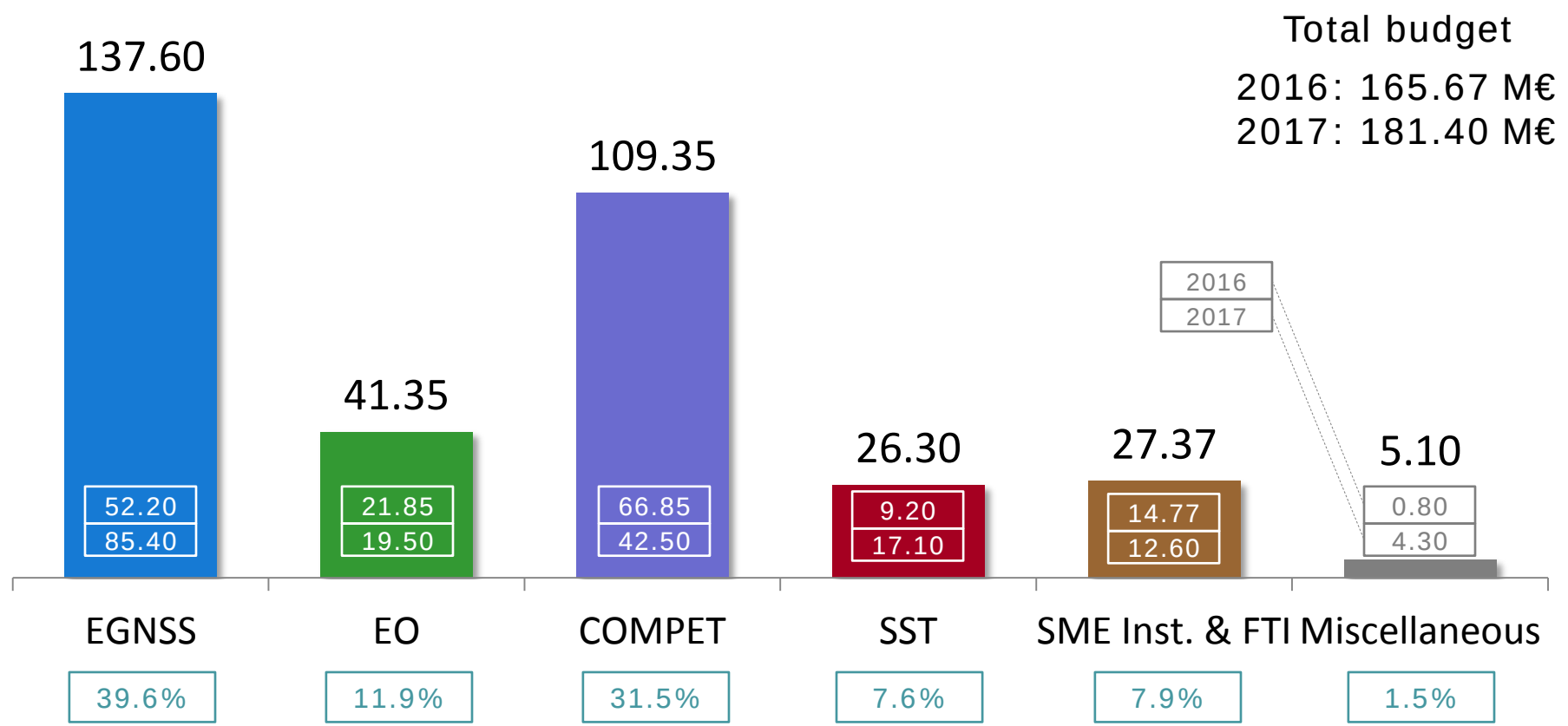
- Contribution to the SST support framework
- Improving the performance of SST at European level

SME Instrument

Fast Track to
Innovation 'pilot'



LEIT-Space 2016-2017 WP **indicative budget** (figures in M€) Calls for proposals + "Other actions"



- In Horizon 2020, Earth observation (EO) research and innovation is addressed in the GEO part of societal challenge 5 and in LEIT/space
 - global environmental observation and information systems; environmental and climate services; global markets
 - future generation of the Union space systems including Copernicus; innovative products and services based on remote sensing, geo-positioning or other types of satellite enabled data; data access

LEIT/space

- Copernicus user uptake: stimulate business environment and foster public demand
- Copernicus evolution: services, data infrastructure
- Cross-cutting: technologies, international cooperation, market intelligence

SC5/GEO

- Global and in-situ observing systems
- GEOSS challenges
- Cross-cutting: data, international cooperation



SC2: Blue Growth – demonstrating an ocean of opportunities (H2020-BG-2016-2017):

- BG-9-2016: An integrated Arctic observing system
- BG-12-2016: Towards an integrated Mediterranean Sea Observing System

SC2: Sustainable Food Security – resilient agri-food chains (H2020-SFS-2016-2017):

- SFS-43-2017: Earth Observation services for the monitoring of agricultural production in Africa

SC5: Earth Observation (H2020-SC5-2016-2017):

- SC5-18-2017 - Novel in-situ observation systems
- SC5-19-2017 - Coordination of citizens' observatories initiatives
- SC5-20-2016 - European data hub of the GEOSS information system

LEIT/space: Earth Observation (H2020-EO-2016 and H2020-EO-2017)

- EO-1-2016 and EO-1-2017: Downstream applications
- EO-2-2016: Downstream applications for public sector users
- EO-3-2016: Evolution of Copernicus services
- EO-2-2017: EO Big Data Shift

LEIT/space: Competitiveness of the European Space Sector: Technology and Science (H2020-COMPET-2017)

- COMPET-2-2017: Competitiveness in Earth observation mission technologies

SME Instrument (H2020-SMEInst-2016-2017)

- SMEInst-04-2016-2017: Engaging SMEs in space research and development
- SMEInst-12-2016-2017: Boosting the potential of small businesses

'Space' WP 2016 / 2017

	2016	2017
Call for proposals	Indicative budget (M€)	Indicative budget (M€)
EO-1-2016/2017: Downstream applications	9.85	12.0
EO-2-2016: Downstream services for public authorities	3.0	-
EO-3-2016: Evolution of Copernicus services	9.0	-
EO-4-2017: EO Big Data Shift	-	7.5
Sub-total EO-2016/2017	21.85	19.5
COMPET-2-2017: Competitiveness in Earth observation mission technologies		7.0
Total EO related 2016 / 2017	21.85	26.5

'SC2' + 'SC5' WP 2016/2017

	2016/2017
Societal Challenge 2: Blue Growth – demonstrating an ocean of opportunities (H2020-BG-2016-2017)	Indicative budget (M€)
BG-9-2016: An integrated Arctic observing system (RIA)	15.0
BG-12-2016: Towards an integrated Mediterranean Sea Observing System (RIA)	8.0
Societal Challenge 2: Sustainable Food Security – resilient agri-food chains (H2020-SFS-2016-2017)	Indicative budget (M€)
SFS-43-2017: Earth Observation services for the monitoring of agricultural production in Africa (RIA)	10.0
Societal Challenge 5: Earth Observation (H2020-SC5-2016-2017)	Indicative budget (M€)
SC5-18-2017 - Novel in-situ observation systems (RIA)	15.0
SC5-19-2017 - Coordination of citizens' observatories initiatives (CSA)	4.6 *
SC5-20-2016 - European data hub of the GEOSS information system (RIA)	10.0
Total EO related 2016/2017	58.0

* This amount corresponds to three topics (not included in the total).

Horizon 2020 Space infodays in 2015

Venue	Type of event	Date
FR (Paris)	National infoday	17 September 2015
UK (London)	National infoday	22 September 2015
PL (Warsaw)	National infoday	28-29 September 2015
FR (Toulouse)	National infoday	9 October 2015
ES (Madrid)	National infoday	20 October 2015
Brussels	NCP workshop	13 October 2015
IT (Rome)	National infoday	21-23 October 2015
FR (Paris)	Horizon 2020 Innovation Procurement Event	27, 28 October 2015
PT (Lisbon)	National infoday	28 October 2015
GR (Athens)	National infoday	2 November 2015
Brussels	H2020 Space Infoday	9-10 November 2015
SE (Stockholm)	National infoday	9 December 2015



HORIZON 2020

**Thank you
for your attention**

Space research and guidance documents

http://ec.europa.eu/growth/sectors/space/research/horizon-2020/index_en.htm

Pre-published work programme 2016-2017

<https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17>