European Commission

DG for Internal Market, Industry, Entrepreneurship and SMEs

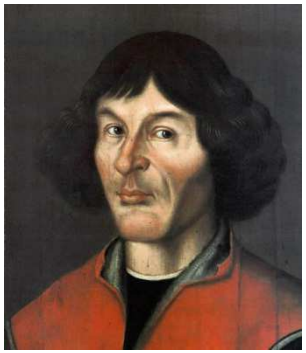
from research to operations: the 'Copernicus' model

B. Pinty, H. Zunker & C. Donati

Copernicus services unit

Copernicus event February 2015

Copernicus
Europe's eyes on Earth

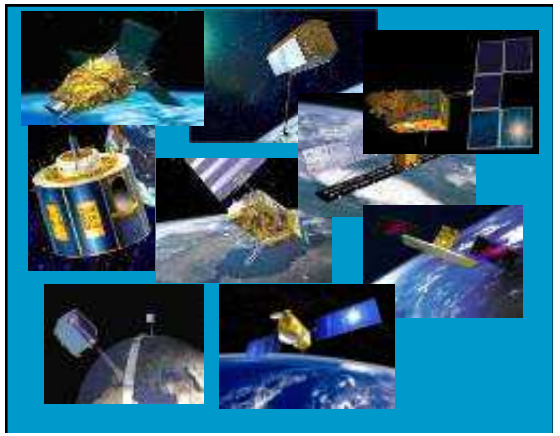


Objectives

`The Union Earth Observation & Monitoring Programme'

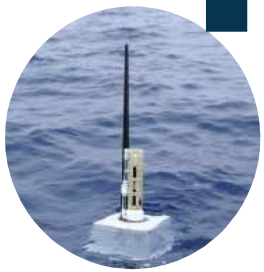
Copernicus architecture

6 services use Earth Observation data to deliver ...



Sentinels

Contributing missions

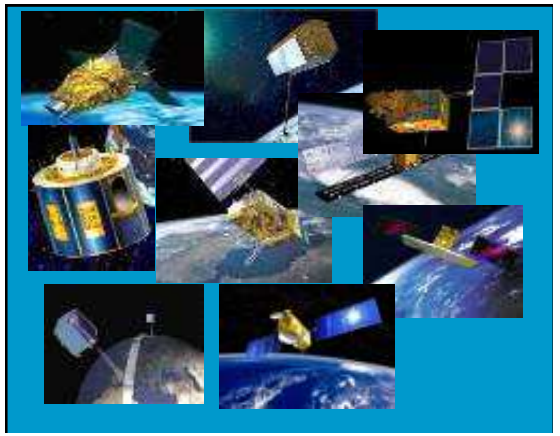


...added-value products

in-situ

Copernicus architecture

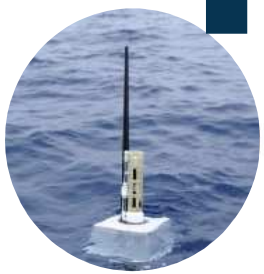
6 services use Earth Observation data to deliver ...



Sentinels

Contributing missions

EMSA
FRONTEX
ECMWF
EEA
esa
EUMETSAT
SatCen
Mercator Ocean
Ocean Forecasters
European Commission

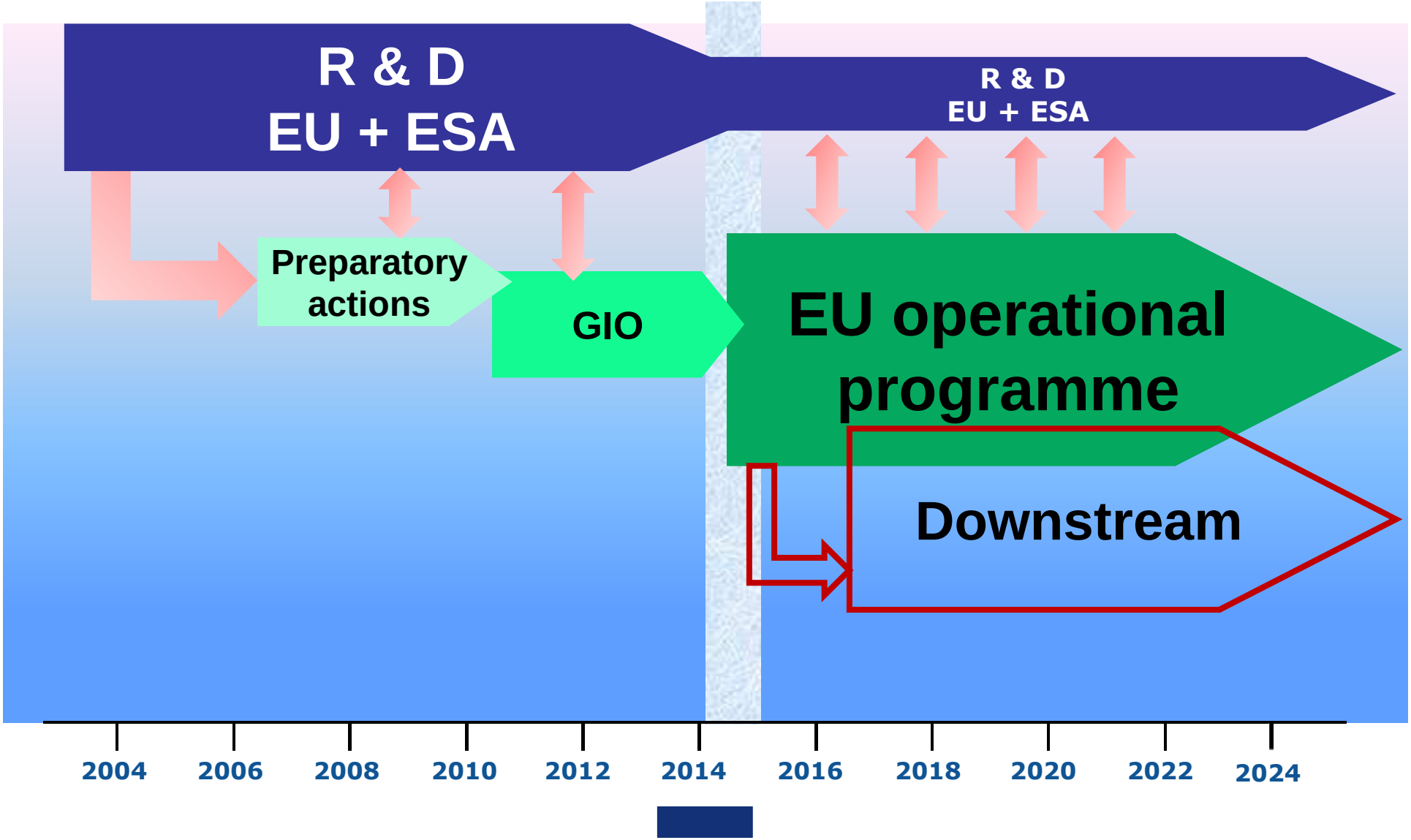


EEA

...added-value products

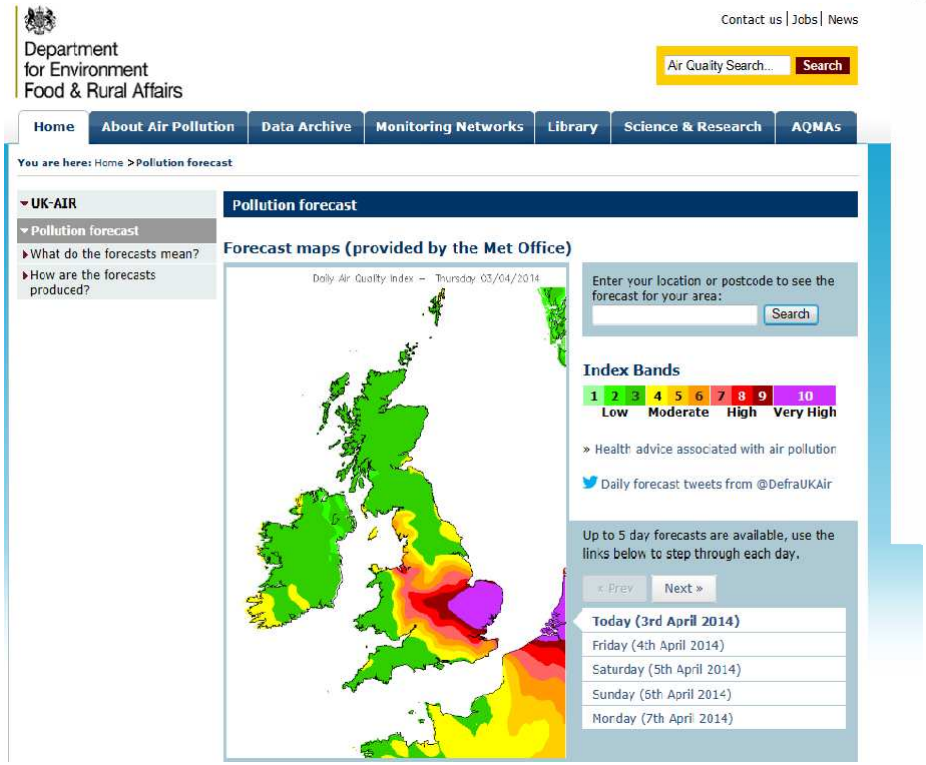
in-situ

Transition to operations

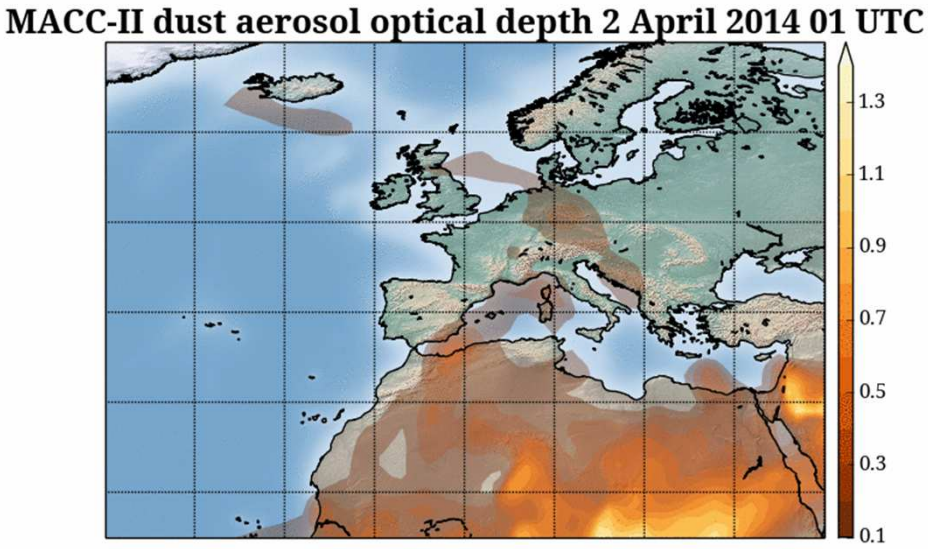


example of downstream

Air quality monitoring in south east UK 04/03/2014



Forecast by UK Met on behalf of DEFRA (Department for Environment Food & Rural Affairs)



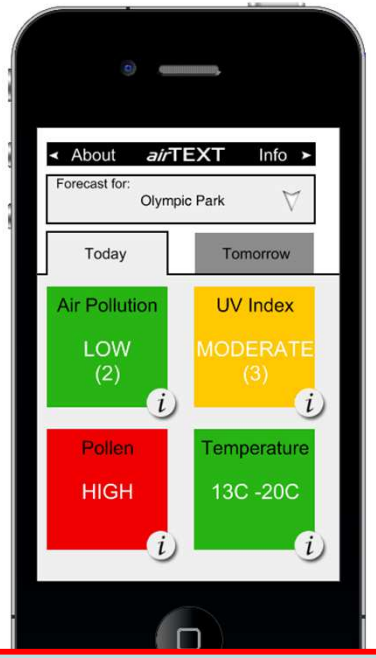
The large scale aerosol picture delivered by Copernicus/MACC-II

Informing the citizen

Downstream opportunities "Air quality information where people live"

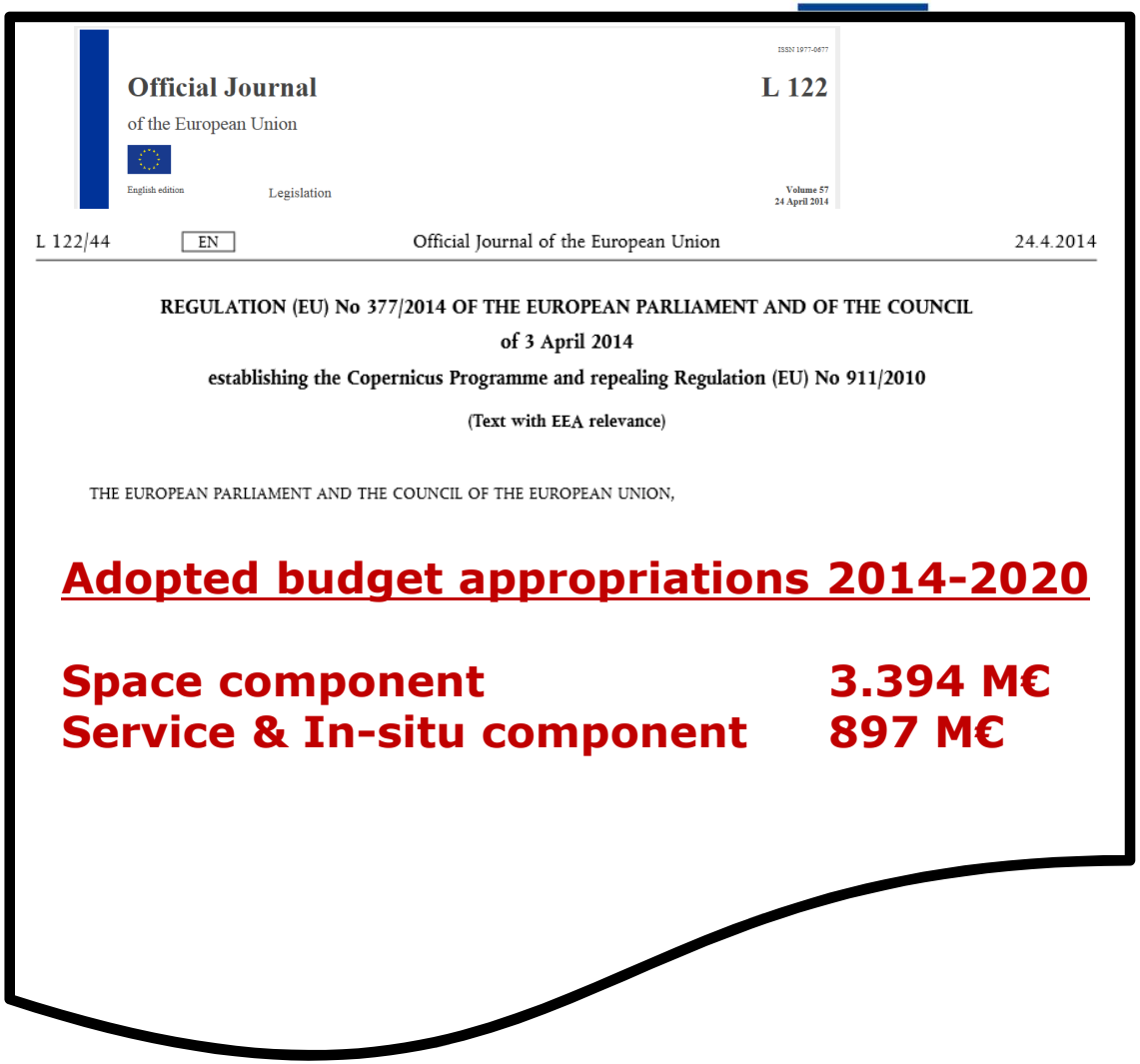
obsAIRve

Application launched for the 2012 Olympics, London



airTEXT

from GMES to Copernicus



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REGULATION (EU) No 377/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 3 April 2014
establishing the Copernicus Programme and repealing Regulation (EU) No 911/2010
(Text with EEA relevance)

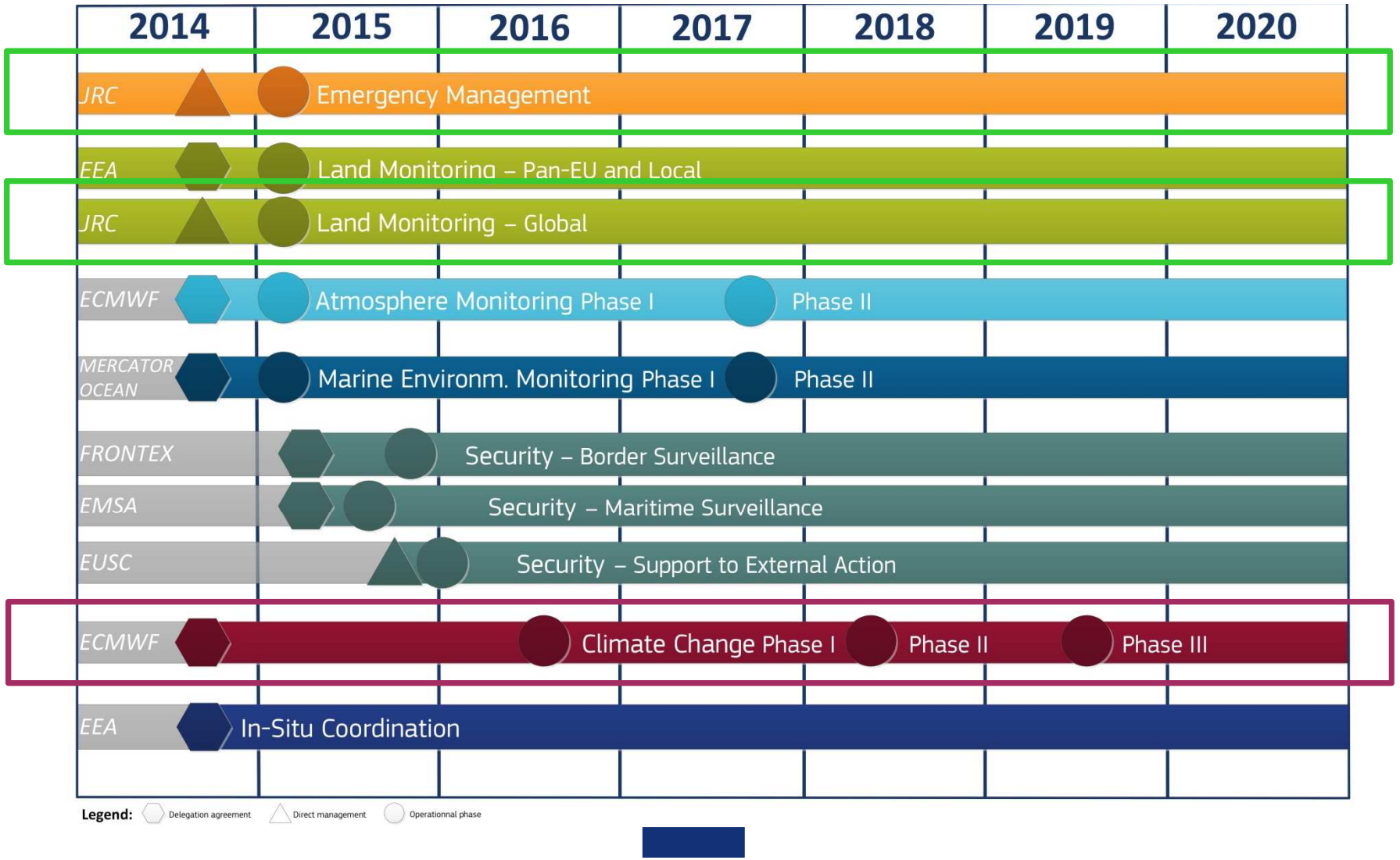
THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Adopted budget appropriations 2014-2020

Space component	**3.394 M€**
Service & In-situ component	**897 M€**

- **Until end-2013 funding for Copernicus comes from GMES Initial Operations (GIO) and FP7 funded pre-operational projects**
- **24.04.2014 adoption of the Copernicus Regulation – legal base for the implementation of the programme**
- **From 2014 Copernicus entered its operational phase**

Service management



Copernicus regulation (EU) 377/2014:

"the Climate Change service shall provide information to increase the knowledge base to support adaptation and mitigation policies. It shall in particular contribute to the provision of Essential Climate Variables (ECVs), climate analyses, projections and indicators at temporal and spatial scales relevant to adaptation and mitigation strategies for various Union's sectoral and societal benefit areas."

Copernicus Climate Change (C3) service

Legal framework (as of July 2014)

- 6 Regulations
- 3 Directives from the EP and the Council
- 1 Directive from the EC
- 1 Decision, 14 Com, 2 proposals and 15 EC internal documents

8 DGs & 9 economic sectors involved

Copernicus Climate Change (C3) service

6th FP7 Space projects

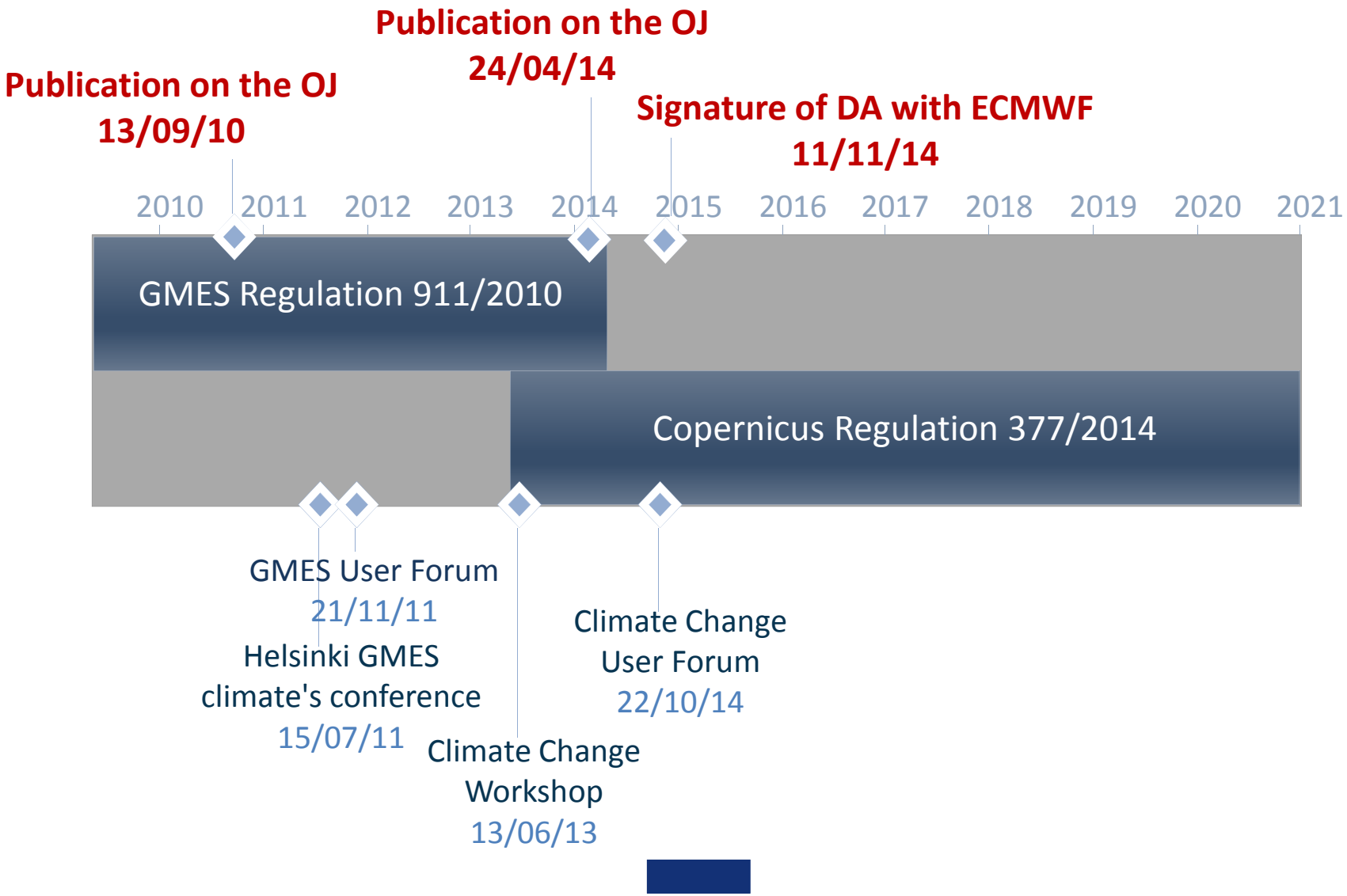
The 2013 6th FP7 space call has prioritized projects relevant for a Climate Change service

- Global 20th century re-analysis and coupling methods → ERA- CLIM2
- Ensemble system of regional re-analysis →UERRA
- Traceable quality assurance system for multi-decadal ECVs → QA4ECV
- Provision of access to simulated & observed climate datasets and climate indicator toolbox
  → CLIPC
- Attribution products → EUCLEIA

EC funding: 26 M€

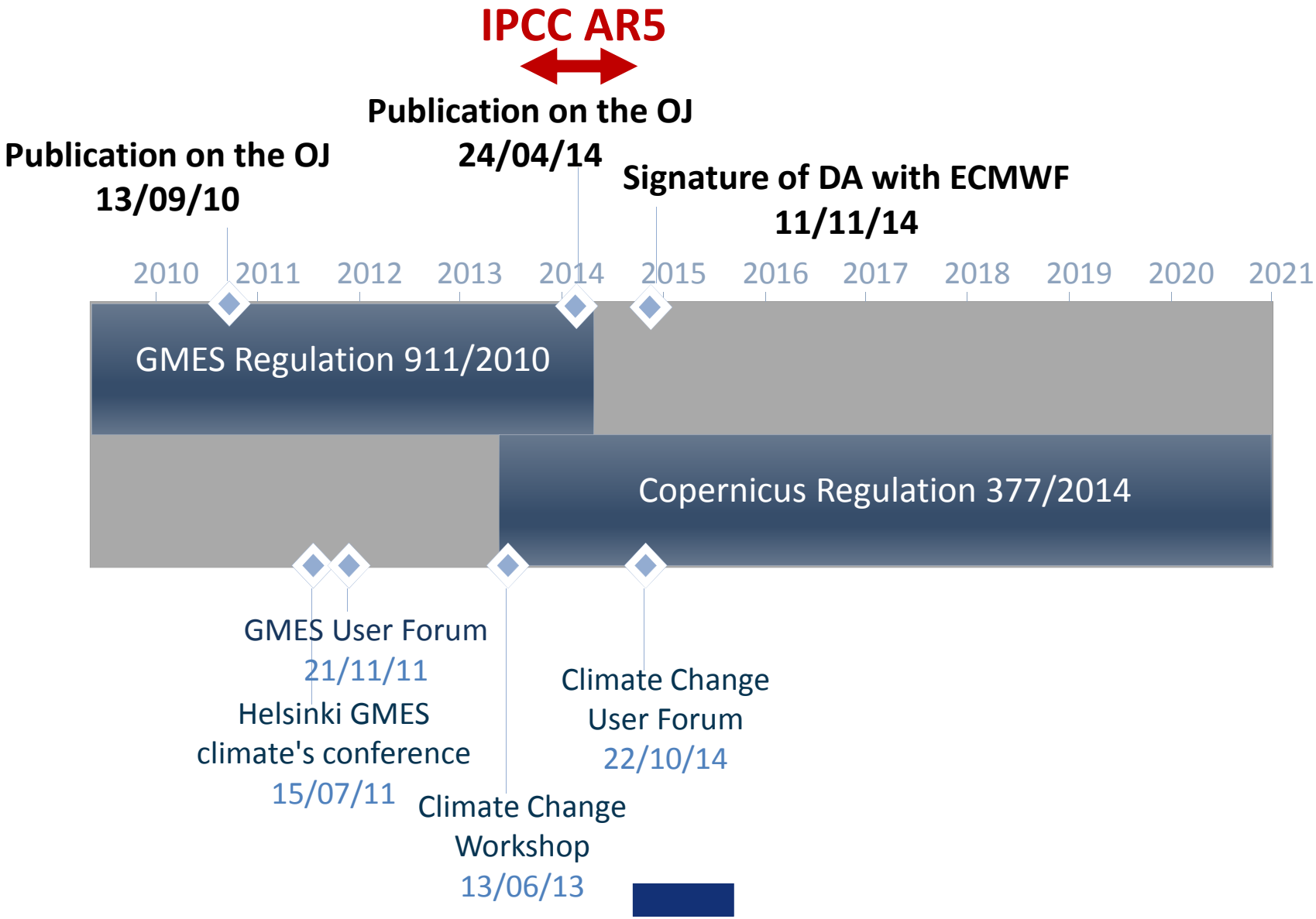
Copernicus Climate Change (C3) service

Legal frame & MS consultations



Copernicus Climate Change (C3) service

Legal frame & MS consultations



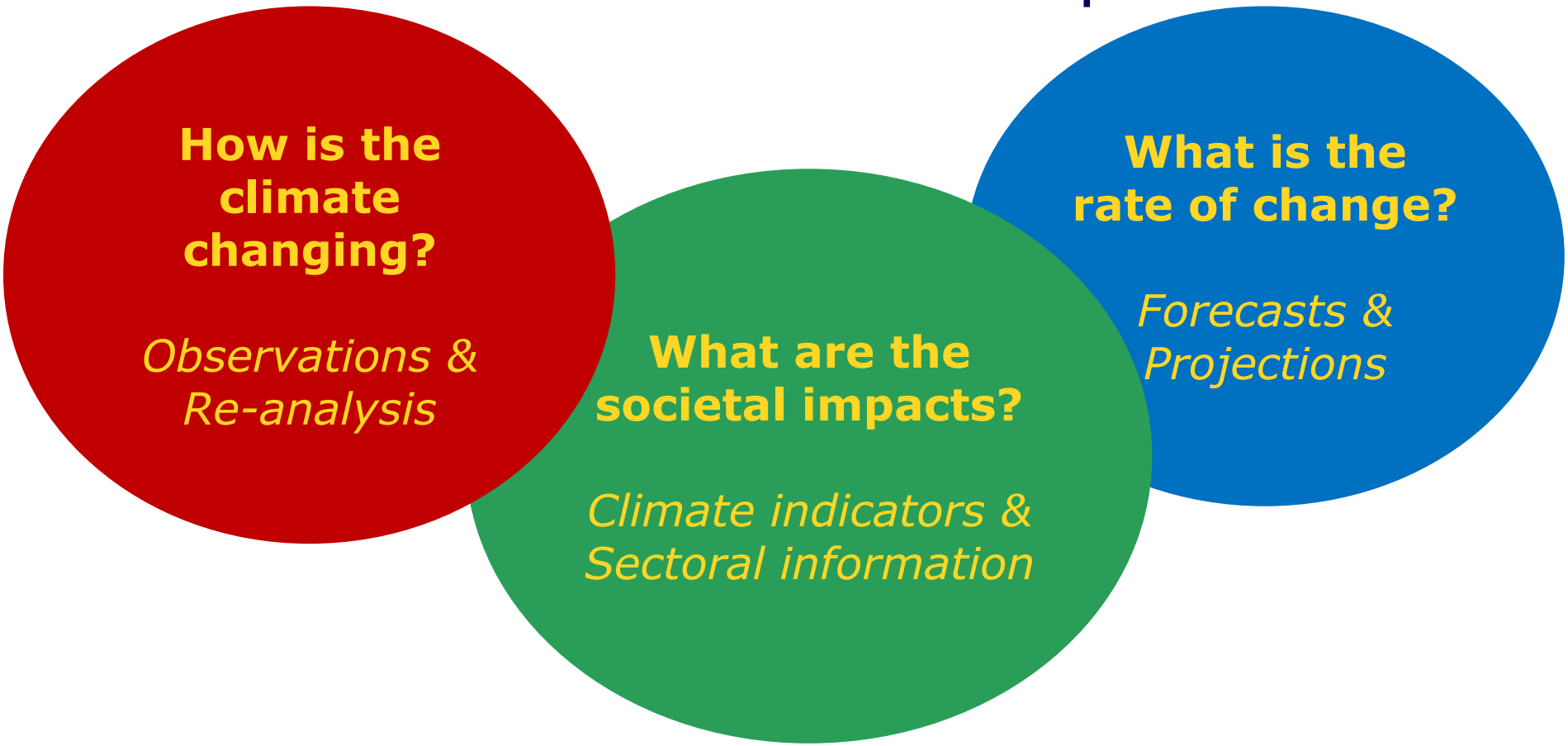
- Warming of the climate system is unequivocal
- Human influence on the climate system is clear
- Limiting climate change will require substantial and sustained reductions of greenhouse gas emissions.

Copernicus Climate Change (C3) service

European Commission

Objectives

to be an authoritative source of climate information for Europe



Copernicus Climate Change (C3) service

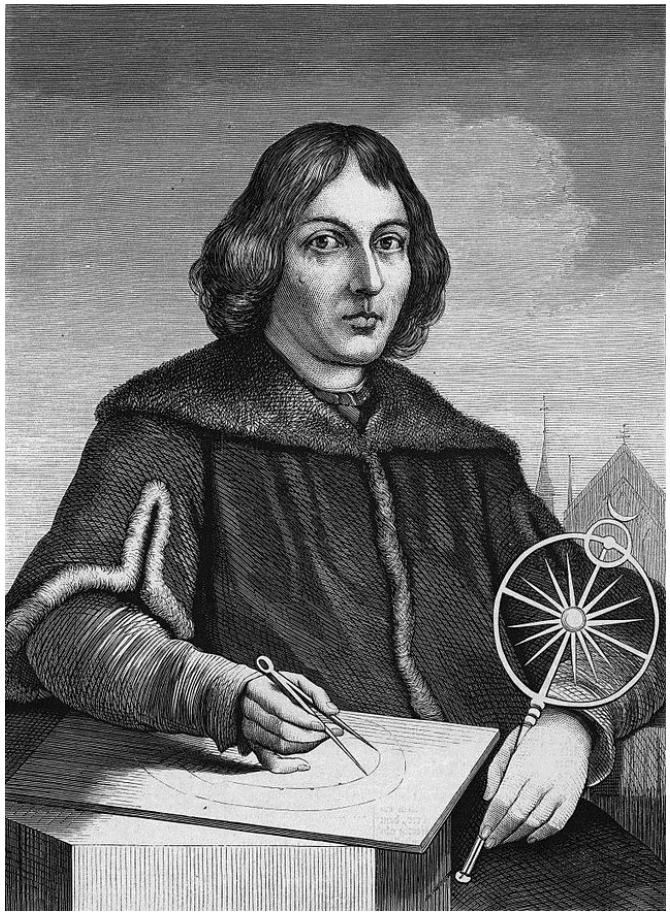
Assets

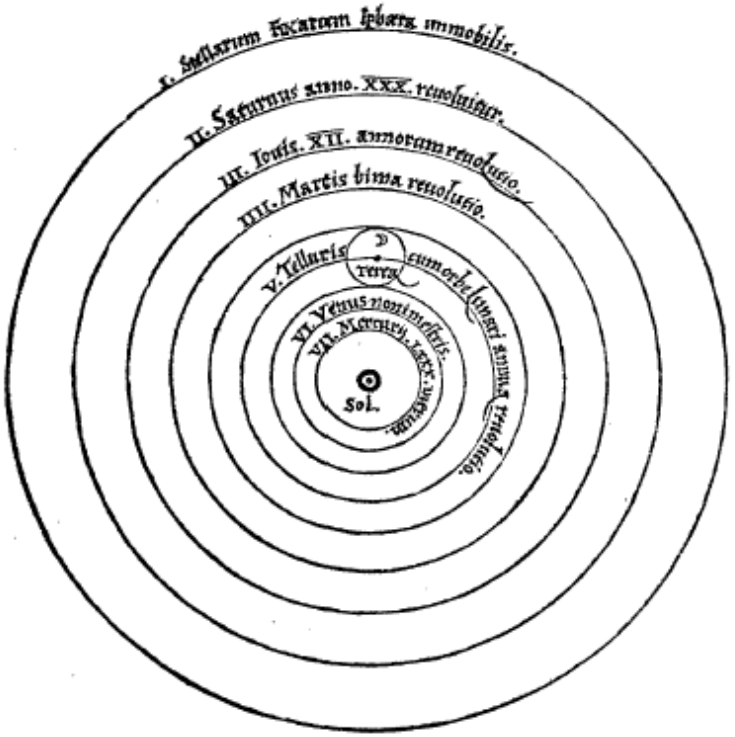
- The C3 service benefits from existing activities.
- The C3 service addresses climate change issues at global scale with a European and Sectoral dedicated focus.
- The C3 service is consistent with global efforts on climate datasets (i.e. GCOS requirements, CEOS/CGMS implementation) and climate Services (i.e. GFCS).
- The C3 service should become the European contribution to building Global Earth Observation System of Systems (GEOSS) developed within the framework of the Group on Earth Observations (GEO).

Concluding remarks

- Copernicus is now entering an **operational mode**.
- Copernicus data policy is **free** and **open access**.
- The Copernicus services will keep benefiting from **research**.
- The Copernicus services will bring new opportunities for **downstream** applications & **market** development.

Mikolaj Kopernik
Nicolaus Copernicus





Thank you