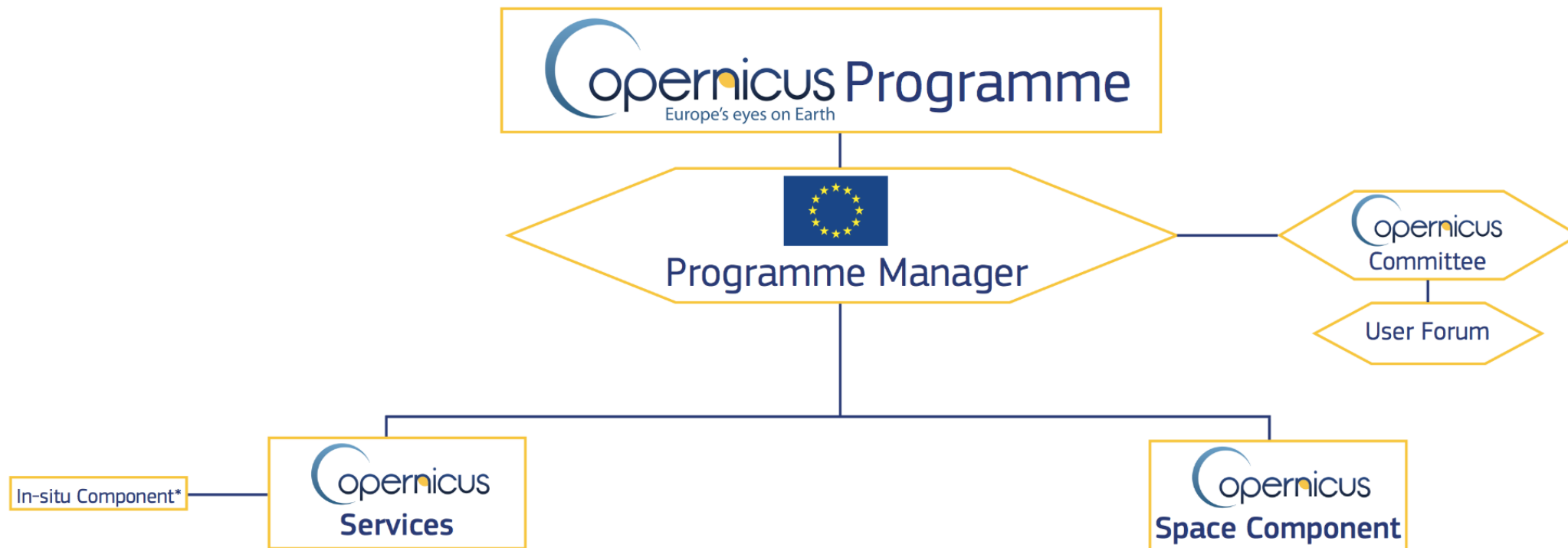


# Tender Copernicus in via di pubblicazione relative al WP2016

A. Taramelli – Secondo Delegato nazionale presso lo User Forum di Copernicus

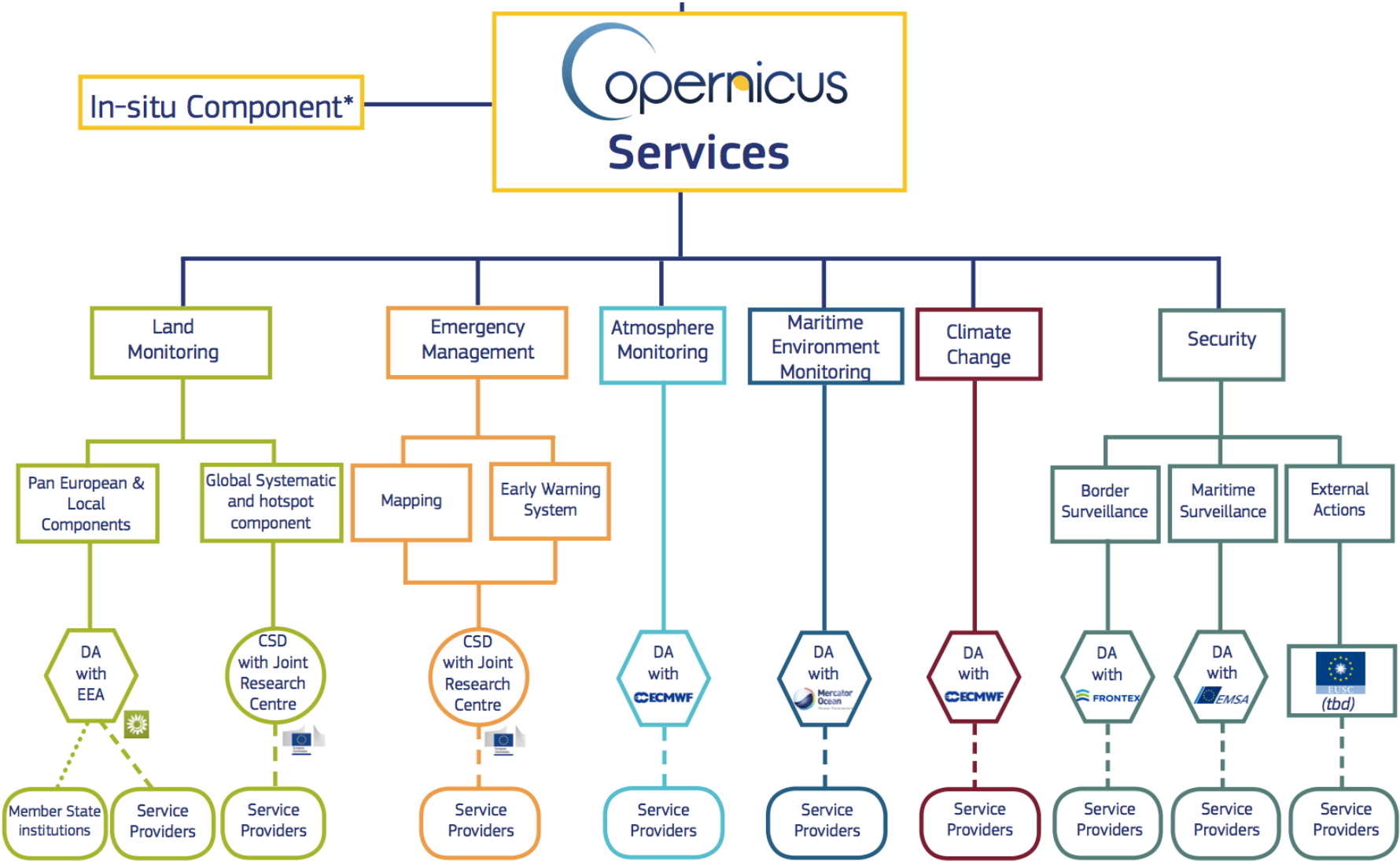


L'Italia è presente nella Governance Copernicus all'interno di

**Copernicus Committee:** MIUR, ASI, ISPRA

**Copernicus User Forum:** ISPRA, ASI

# Stato di Implementazione dei Servizi Copernicus





## Pan-European and local component, and in-situ coordination – managed by EEA

- ★ **Recruitment processes:** four vacancies published
- ★ **Operational ramp up:** 23 tasks identified and translated into a Request for Services to the Eionet ETC/ULS
- ★ **GIO contributions ongoing (2015 still a transitional year)**
- ★ **Pan European component:** HRL production focus shifted to delivery and semantic checking of final integrated products
- ★ **Riparian Zones:** GAF AG (Germany) was procured to implement the local component Riparian zones, and kick-off meeting took place.
- ★ **Natura2000 sites:** mapping of additional 21,745 km<sup>2</sup> of LC/LU for the reference years 2006 and 2012, and assessment of changes, pressures and threats with respect to certain grassland habitat types
- ★ **Reference Data Access:** The Copernicus Reference Data Access (RDA) component is implemented using existing framework contracts at EEA (for the preparation) and new public procurement (for the implementation).
- ★ **Support to the harmonisation of national monitoring at EU level/the EAGLE Working Group:** Contract was established with coordinator GeoVille (LU) for assistance to the EEA
- ★ **IT developments: Verification and enhancement platform**
- ★ **Preparations for GIO land final event : 19+20 October 2015 in Copenhagen)**



## Global component – managed by JRC

- ★ A new FWC is in preparation for autumn this year, to cover
  - ★ In Situ data collection for Product validation
  - ★ Hot Spot Monitoring
  - ★ Biophysical variables production





★ Production:

- ★ operational tasks of the Service started on the 1st of May 2015, taking over from the pilot service MyOcean carried out under the Horizon2020 framework
- ★ 14th of January 2015 nine first Open calls published for the TACs and MFCs, tender closed 10th March, evaluated by 31st March – started operations in May
- ★ 20th March 2015 two Open calls published for global MFC, tender closed 12 May – to start in June

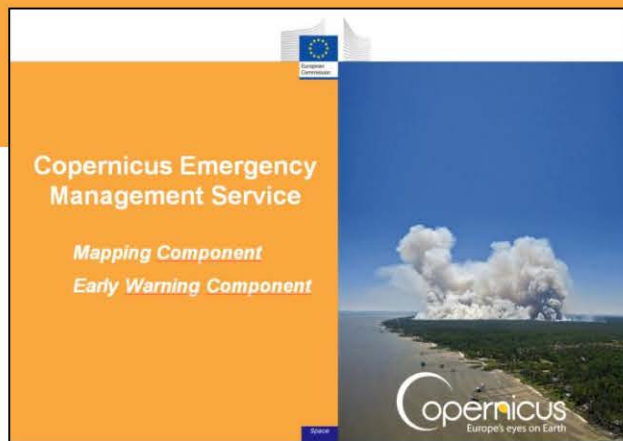


## ★ Atmosphere Monitoring service

- ★ Copernicus: ramp-up for seamless transition – current recruitment is ongoing
- ★ Production still carried by MACC III funding until mid 2015 – partly by means of directly-negotiated contracts, allowing some current MACC-III partners to continue providing the pre-operational services to the users after the end of MACC-III (30/06) and before the CAMS procurements are completed
- ★ Public procurements have been announced & published

## ★ Climate Change service

- ★ Copernicus: ramp-up phase – recruitment ongoing, team is building up
- ★ Public procurements have been announced & published (for Climate Data Store, Sectoral Information System proof-of-concept)
- ★ Strong involvement of user community in workshops to shape service provision



- ★ Rapid Mapping: activations since mid-April are:
  - ★ 20/5 EMS 126: Algae Bloom in French Guiana, 1 delineation map
  - ★ 25/4 EMS 125: Earthquake in Nepal, 44 maps
  - ★ 24/4 EMS 124: Phyto-sanitary emergency in Italy (olive trees disease), 29 maps
  - ★ 14/4 EMS 123: Tropical cyclone in Tanna Island (Vanuatu), 4 monitoring maps
- ★ Risk & Recovery Mapping (non-rush mode):
  - ★ No activation since August last year
- ★ Tenders for EFAS and EFFIS
  - ★ Lots for Early Warning module of Emergency Management Service for floods and forest fires currently being evaluated.
- ★ 27 April - EMS workshop in Brussels, back-to-back to EFAS 10<sup>th</sup> annual meeting
  - ★ update of new tender's specifications and share experience among national experts/authorised users. Thanks to those who participated.
- ★ New publication of EMS User Guide:
  - ★ updated to reflect new specifications of the service. The User Guide will be distributed in the room to the members of the User Forum.



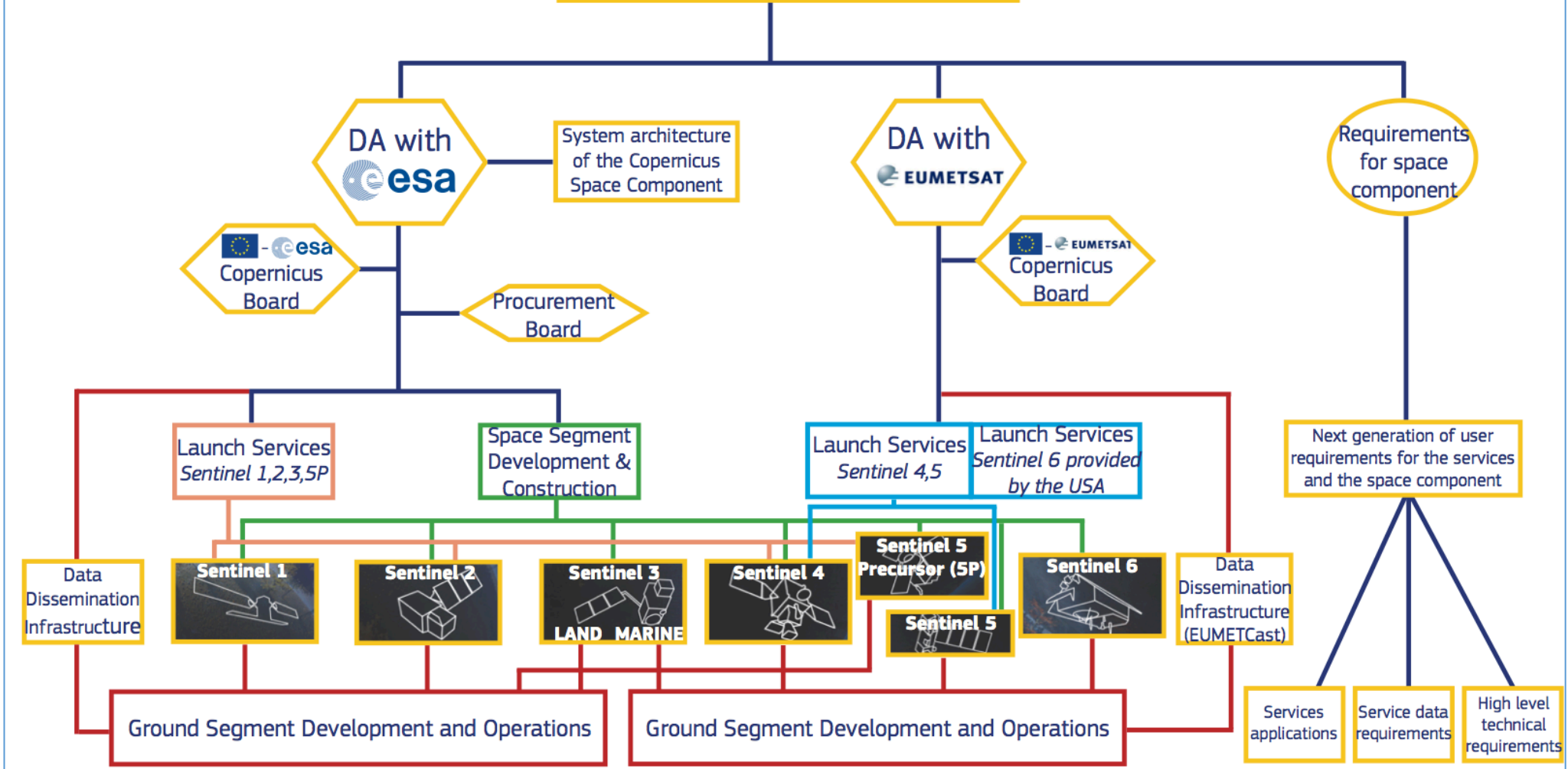


- ★ Delegation of operations for Border Surveillance to **FRONTEX**, Maritime Surveillance to **EMSA** and specific arrangements with **EUSC** for SEA, all supported by **Industrial capacities**
- ★ **Operations** planned as from **2015**

## Cross-cutting & study activities

- ★ **User Uptake Framework Contract:**
  - ★ Framework contract has been awarded
  - ★ First specific contract is being prepared
  
- ★ **Supporting studies contracts:**
  - ★ "Copernicus Dissemination system and portal" is ongoing
  - ★ To define specifications for implementation
  
- ★ **Next generation user requirements:**
  - ★ Contract has been awarded
  - ★ First specific contract is starting

# Copernicus Space Component



# Copernicus Space Component – stato Operativo

European  
Commission



Technical coordination and will procure and develop dedicated Copernicus missions, operate Sentinel -1, -2, and disseminate the products of Sentinel -1, -2 and the land products of Sentinel -3



D.A. signed on  
28.10.2014

## ★ **CSC Development:**

- ★ Sentinel-2A: successful QAR in April 2015, launch campaign ongoing, indicative launch date 22 June 2015
- ★ Sentinel-3A: Satellite AIT progressing nominally (with very tight schedule margins), indicative launch date 31 Oct 2015
- ★ Next: launch of Sentinel-1B, Sentinel-5P in first half of 2016
- ★ Other key developments:
  - ★ Sentinel-6 contract signed with Airbus
  - ★ Deadline for proposals to build S1,S2, S3 C and D Units: mid-June 2015

## ★ **CSC operations:**

- ★ Ramp-up of Sentinel-1A completed, routine operations review on 9 June 2015 to kick off full operations



# EUMETSAT SC – stato Operativo

European  
Commission



Will operate Sentinel -3, -4, -5 and -6 as well as Jason 3 and be committed to process and disseminate the data (for Sentinel -3 only marine products).



D.A. signed on  
07.11.2014

## ★ Launches:

- ★ Preparation of Jason-3 launch (foreseen August 2015) and operations,
- ★ Preparation of Sentinel-3A launch (indicative launch date 31 Oct 2015) and operations,

## ★ Sentinel-6 upcoming decision point at EUMETSAT

## ★ Regular meetings with Marine and Atmosphere Copernicus Services.

## Other Highlights

- ★ **Integrated Ground Segment:**
  - ★ A Task Force on Integrated GS has been set up
  - ★ Terms of Reference have been adopted by Member States

April 2015

May 2015

June 2015

July 2015

Sep 2015



Discussion



1st Draft WP 2016



Discussion  
Comments

2nd Draft WP 2016



Pos. Opinion

Final Draft WP 2016

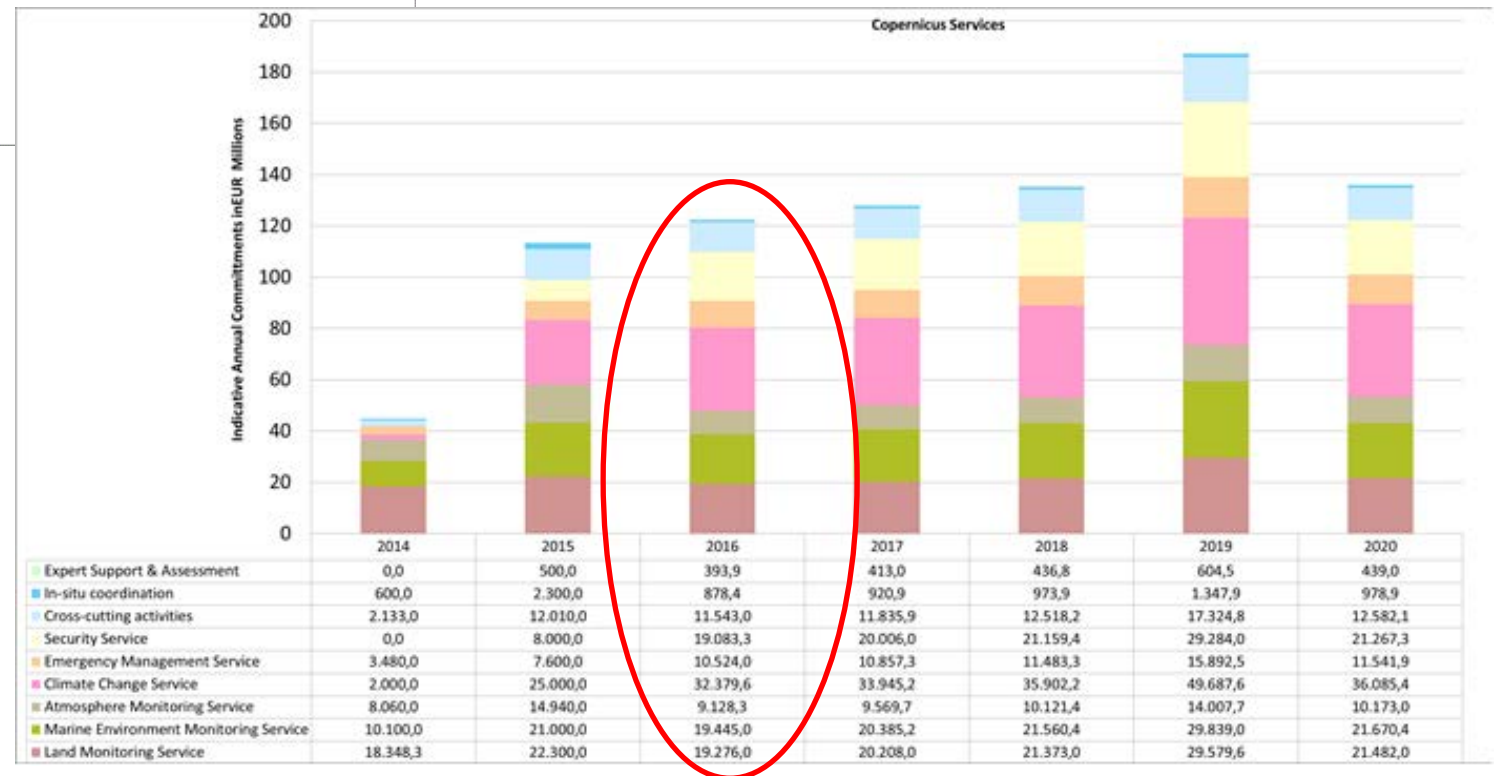
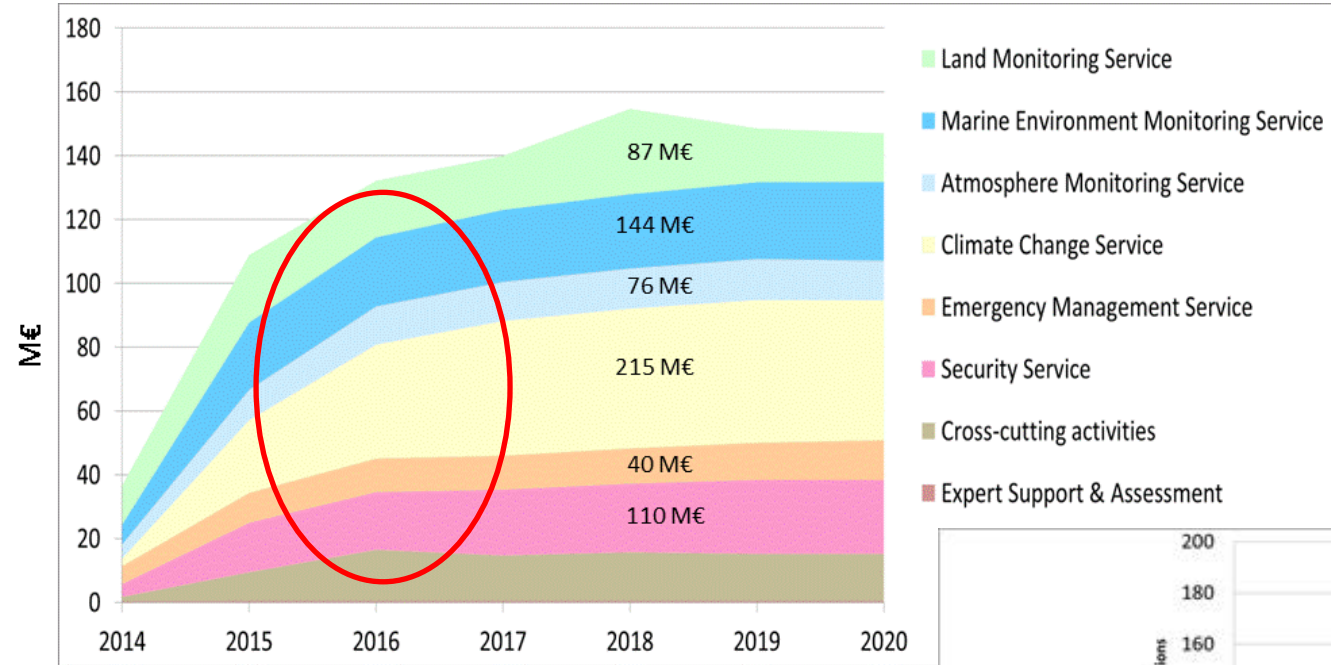


Adopted WP 2016



Inter-service  
Consultation

# Programma Copernicus allocazione budget Servizi (2014-2020)





The Copernicus Regulation defines the fields that may be covered by actions. With a view to the funding available in 2016 and in order to optimise the available resources, **the Commission proposes to concentrate the 2016 work programme on the following fields funded** by budget lines 02.0601 and 02.0602:

1. Emergency Management Service, including Rapid Mapping and Risk and Recovery Mapping, as well as **Early Warning System for floods and forest fires**;
2. The Land Monitoring Service (including Pan-European land cover, European local land, global land coverage (incl. **hot spot monitoring**), as well as Sentinel-2 Pre-processing);
3. The Marine Environment Monitoring Service;
4. The Atmosphere Monitoring Service;
5. The Security Service;
6. The Climate Change Service;
7. Cross-cutting activities (including Communication, **in-situ coordination**, user-uptake activities of Copernicus products, evolution for large data distribution options);
8. The space component (**including construction, launch and operation of satellites and ground segments**, data access and dissemination, consolidation of user requirements).

## Copernicus Core Services Budget allocato 2016

<b>SERVICES COMPONENT - Budget 2016 (thousands EUR, rounded)</b>	
Activities	Budget Line 02 06 01
<b>1. INDIRECT MANAGEMENT</b>	
Land Monitoring Service ( <i>indirect management components</i> )	9.197
Marine Environment Monitoring Service	19.455
Atmosphere Monitoring Service	9.128
Security Service (Border & Maritime Surveillance)	14.209
Climate Change Service	32.380
In-situ coordination	878
<b><i>Sub-total</i></b>	<b>85.238</b>
<b>2. DIRECT MANAGEMENT</b>	
Emergency Management Service	10.524
Land Monitoring Services (Direct management components)	10.128
Cross-cutting Activities	11.195
Security Service (Support to External Actions)	4.874
Expert Support & Assessment	394
<b><i>Sub-total</i></b>	<b>37.115</b>
<b>TOTAL</b>	<b>122.353</b>

# Copernicus Emergency Core Services Budget allocato 2016

## European Flood Awareness System (EFAS)

### Activities 2016

- ★ Full outsourcing of the operational EFAS including computation, dissemination, data collection for hydrological AND *meteorological* data. Data collection envisaged in support to all Copernicus services.

### New developments in 2016

- ★ Testing of a new indicator for satellite pre-tasking based on EFAS forecasts to further improve response time of Rapid Mapping
- ★ Continue expansion of the model domain to include EU Eastern and Southern neighbourhood policy (ENP & SNP) as well as Balkan countries into operational EFAS
- ★ Preparation for the provision of flood forecasts at a global scale

### Estimated budget 2016

- ★ 2.4M Euro (depending on new contractors, tender evaluation currently ongoing)

### EFAS web platform



# Copernicus Emergency Core Services Budget allocated 2016

## European Forest Fire Information System (EFFIS)

### Status

- ★ Preparation of public tender ongoing for
  - ★ Fire Danger Forecast
    - ★ Collection and processing of meteorological data (jointly with EFAS)
    - ★ Production of daily fire danger forecasts (1-10 day forecast)
  - ★ Burnt Area Mapping and Monitoring
    - ★ Retrieval and processing of near-real time satellite information
    - ★ Production of active fire maps (updated 4x/day) and near-real time maps of burnt area perimeters (updated 2x/day)
- ★ Start of operations under Copernicus EMS scheduled for January 2016

### Development of new features

- ★ Further testing and implementation of a global wildfire information system
- ★ Testing the use of fire danger forecast for pre-tasking Rapid Mapping
- ★ Testing the use of fire danger forecast, active fire mapping and fire behaviour modelling to predict potential impact of large fire

**Budget 2016: 1.4M Euro**



## Copernicus Land Monitoring Core Services Budget allocated 2016: Global Component

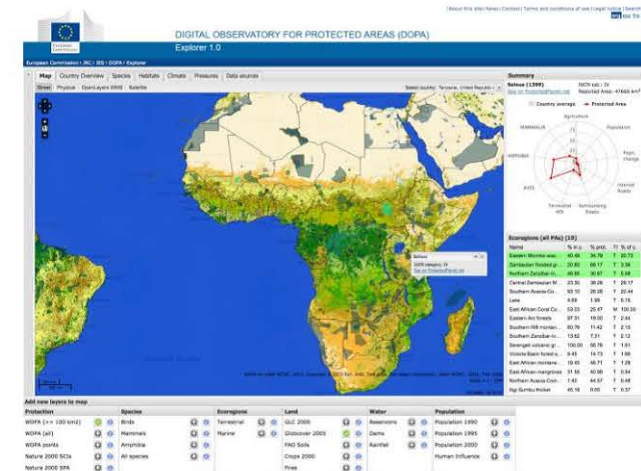
ACTIVITY	YEAR	BUDGET LINE	BUDGET
Procurement	2016	02.0601	5.500.000

### WP 2016 : Continuity of the current service

- ★ WP 2016 : fully operational phase PROBA V
  - ★ Continuation of current biophysical variables production
  - ★ Introduction of new biophysical variables (under evaluation)
    - ★ Phenology metrics, Water levels, Active Fire, Surface Soil Moisture, Snow cover, Snow Water Equivalent, Greenness, ETA
  - ★ Extension of 300 m resolution variables (Africa)
  - ★ SENTINEL 1 integration into Soil Water Index variable
  - ★ Continuation of Technical User Group and Audit/Reviews
  - ★ Consolidation of Data Dissemination System (WEB site)
- ★ WP 2016 : pre-operational phase SENTINEL 3 / 6 months
- ★ Implementation : New FWCs under preparation – Prod/In Situ (July 2015)
- ★ Risk : S1 coverage, S3 data availability and delivery in 48 h

## WP 2016 : Continuity of WP 2015 service on Hot Spot monitoring

- ★ High and very high resolution land cover – land use maps on areas of interest
- ★ Specific Thematic products : biomass estimates, land degradation ...
- ★ WP 2015 : Protected Areas in Africa
  - ★ Support to DG DEVCO Biodiversity Strategy, DOPA-IUCN system ...
- ★ WP 2016 : Continuation on Protected Areas
- ★ WP 2016 : Evolution to support other policies (forest monitoring, land planning..) including field activities and development projects implemented by EU Delegations
- ★ New FWC under preparation (July 2015)





## Continuity of services:

### Post processing of space data (+/- 0,4 M€)

- ★ Mosaicking of ortho-rectified false colour optical satellite imagery:

- ★ High Resolution
- ★ Very High Resolution

- ★ Bio-geophysical parameters

- ★ NDVI

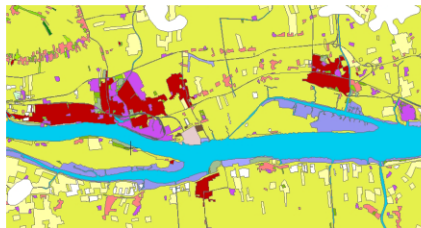


- ★ Implementation: ETC/ULS: specs, industry: production via CfT
- ★ KPI: nr of scenes processed / nr of available scenes in the DWH
- ★ Risks: incomplete coverage will require a complementary processing iteration in 2017

## Continuity of services:

### Urban Atlas, Riparian Zones, Natura2000 (+/- 1 M€)

- ★ Extension of Riparian Zones
  - ★ including full Strahler hierarchy
- ★ Evolution of Natura2000 sites
  - ★ 2<sup>nd</sup> series of N2K sites, (DG ENV)
- ★ Extension of Urban Atlas 2012
  - ★ remaining Functional Urban Areas up to EEA39 coverage



- ★ Implementation: ETC/ULS: specs, industry: production via CfT
- ★ KPI: nr. of riverbasins completed with Strahler L3-1; km2 of N2K produced/ km2 N2K requested; km2 of UA produced / total km2 to be produced
- ★ Risks:
  - ★ incomplete VHR coverage
  - ★ methodological aspects of addressing Strahler L1-3 by sampling and extrapolation

## Continuity of services:

### Update of 5 High Resolution Layers (+/- 4 M€)

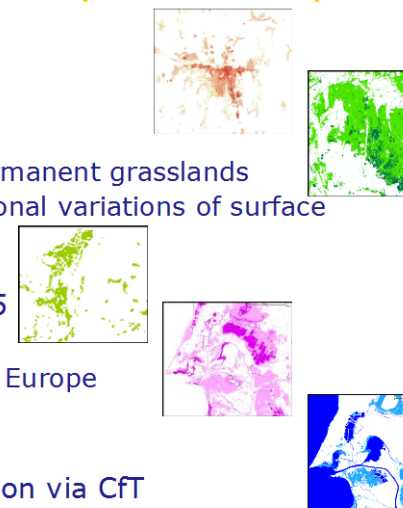
Update of HRLs to reference year 2015 (+/- 1y)

- ★ Imperviousness: degree of sealed soil
- ★ Forest areas: tree cover density and leaf-type
- ★ Grasslands: improved methodology for mapping permanent grasslands
- ★ Wetlands: improved methodology for mapping seasonal variations of surface water
- ★ Small water bodies (incl. inland & coastal waters)

Re-analysis HRLs imperviousness 2006-2012 + 2015

Support to EAGLE

- ★ continued development of a new model for LC/LU in Europe



Implementation: ETC/ULS: specs, industry: production via CfT

KPI: km2 HRL produced / total EEA39 area

Risks: incomplete coverage will require a complementary processing iteration in 2017

## Newest local land monitoring services

(+/- 1 M€)

- ★ Coastal Zone monitoring
  - ★ first implementation
- ★ Urban Atlas
  - ★ Inclusion of height information (downtown)



- ★ Implementation: ETC/ULS: specs, industry: production via CfT
- ★ KPI: km coastline produced / total length coastline; nr. of FUAs for which 3D info is included
- ★ Risks:
  - ★ incomplete VHR coverage
  - ★ matching land side info versus sea side info

# Copernicus Marine Environment Monitoring Core Services Budget allocated 2016

## (3) Estimated budget

	In k€	TOTAL	Entrusted Entity	Procurement
<b>A. Overall Coordination</b>		<b>833</b>	<b>833</b>	<b>0</b>
B1. Cross-cutting tech. Management		1761	1252	519
B2. Framework Service Elements		1944	101	1843
B3. Central Service Elements		449	146	303
B4. Production Centre Service Elements		15974	1750	14224
<b>B. Operational Tasks</b>		<b>20 129</b>	<b>3239</b>	<b>16890</b>
<b>Total A+ B</b>		<b>20962</b>	<b>4073</b>	<b>16890</b>
Entrusted entity remuneration		1392	270	1121
<b>GRAND TOTAL</b>		<b>22 354</b>	<b>4343</b>	<b>18011</b>

# Copernicus Atmosphere Monitoring Core Services Budget allocated 2016

## CAMS: Draft IP 2016: Procurement plan

### Open ITTs

N.	Call ID	Title	Call date and nature	Start	Duration (months)	Total value (€k)
1	CAMS_83	Ad hoc satellite data processing	Multiple	Q1-Q2/2016	TBD	1700 (entire programme)
2	CAMS_95	Use cases (2-3 projects)	Q1/2016	Q3/2016	12-18	200 (first call)
3	CAMS_96	Training activities	Q1/2016	Q3/2016	TBD	300 (entire programme)
4	CAMS_97	Communication activities	Q1/2016	Q3/2016	TBD	500 (entire programme)

### Direct negotiation

N.	Call ID	Title	Call date and nature	Start	End	Total value (€k)
5	CAMS_28	Acquisition of in-situ data from international networks	Multiple	To be confirmed	To be confirmed	200 (entire programme)
6	CAMS_91	Specialised user support	Multiple	To be confirmed	To be confirmed	100 (entire programme)



# Copernicus C3S Monitoring Core Services Budget allocated 2016

## C3S: Draft IP 2016: Procurement plan

Call theme	Title	Call date	Start	End
<b>C3S_2000</b>				
	System software development	Q2-2015	<b>Q4-2015</b>	Q4-2018
	Application software development	Q2-2015	<b>Q4-2015</b>	Q4-2018
<b>C3S_3000</b>				
	Observation collection and processing	Q3-2015	<b>Q4-2015</b>	Q4-2020
	Observation gridded products (I)	Q3-2015	<b>Q1-2016</b>	Q4-2017
	Observation gridded products (II)	Q3-2016	Q1-2017	Q4-2020
	Regional Climate reanalyses	Q3-2016	Q2-2017	Q4-2020
	Seasonal Forecasts	Q1-2015	<b>Q3-2015</b>	Q4-2017
	Global Climate Projections	Q2-2015	<b>Q4-2015</b>	Q4-2018
	Regional Climate Projections	Q3-2015	<b>Q2-2016</b>	Q4-2018

# Copernicus C3S Monitoring Core Services Budget allocated 2016

## C3S: Draft IP 2016: Procurement plan

Call theme	Title	Call date	Start	End
<b>C3S_4000</b>				
	Proof-of-concept (PoC) with three sectors	Q1-2015	<b>Q3-2015</b>	Q4-2018
	Extension to other sectors	Q2-2016	<b>Q4-2016</b>	Q4-2020
	Toolbox and business developments	TBD		
<b>C3S_5000</b>				
	Proof-of-concept: CDS infra. and content, UR	Q2-2015	<b>Q4-2015</b>	Q4-2017
	Proof-of-concept: SIS development for pilot sectors, UR	Q2-2015	<b>Q4-2015</b>	Q4-2017
<b>C3S_6000</b>				
	Web content provision & management	TBD		
	Public Outreach		ongoing	
	Events		ongoing	
	Training	Q3-2015	<b>Q1-2016</b>	Q4-2020

## Copernicus Security Monitoring Core Services Budget allocato 2016

<b>ACTIVITY</b>	<b>YEAR</b>	<b>BUDGET LINE</b>	<b>BUDGET</b>
Security Service – Border surveillance	2016	02.0601	7.750.000

<b>ACTIVITY</b>	<b>YEAR</b>	<b>BUDGET LINE</b>	<b>BUDGET</b>
Security Service – Maritime surveillance	2016	02.0601	6.459.000

<b>ACTIVITY</b>	<b>YEAR</b>	<b>BUDGET LINE</b>	<b>BUDGET</b>
Security Service – Support to EU External Actions	2016	02.0601	4.874.000

## Copernicus Space Component (2016)

<b>SPACE COMPONENT - Budget 2016 (thousands EUR)</b>	
Activities	Budget Line 02 06 02
<b>1. INDIRECT MANAGEMENT</b>	
<b>A - INDUSTRIAL COSTS</b>	
Construction and Launch Services (ESA)	156.297
<i>Of which construction</i>	<i>144.054</i>
<i>Of which launch services</i>	<i>12.243</i>
Operations	159.571
<i>Of which: ESA part</i>	<i>140.940</i>
<i>Of which: EUMETSAT part</i>	<i>18.631</i>
Management and Dissemination of Sentinel data (ESA)	9.391
Access to Contributing Mission Data	61.261
<i>Of which: ESA part</i>	<i>60.750</i>
<i>Of which: EUMETSAT part</i>	<i>511</i>
<b>Sub-total</b>	<b>386.520</b>
<b>B - INTERNAL COSTS</b>	
<i>Of which: ESA part</i>	<i>55.400</i>
<i>Of which: EUMETSAT part</i>	<i>13.894</i>
<b>Sub-total</b>	<b>69.294</b>
<b>2. DIRECT MANAGEMENT</b>	
User requirements	2.000
SST Contribution	3.400
<b>Sub-total</b>	<b>5.400</b>
<b>TOTAL</b>	<b>461.214</b>

## Scelte strategiche

Position paper per ogni core service?

Quali service sono all'interno di servizi operativi in Italia?

Che tipologia di dati a valore aggiunto può garantire il sistema paese?



Grazie per l'attenzione

