Copernicus

INSPIRE conference

Session EuroGEOSS – Tailoring Earth Observation services to Europe's needs.

Relation EuroGEOSS and Copernicus

19/09/2018

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Copernicus
Europe's eyes on Earth

Space

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www.copernicus.eu

COPERNICUS

Sentinels (full, free and open access)

Copernicus Services

deliver INFORMATION products (full, free and open access)

added-value products

Contributing missions

In Situ

opernicus Europe's eyes on Earth

European Commission

European Commission

opernicus
Europe's eyes on Earth

2018	All 6 services OPERATIONAL
7	SATELLITES IN THE ORBIT
7	Data distributed in PB – The 4th big data provider
150	Thousands of registred users

The most advanced earth observation system in the world

Copernicus

Services & application

DIAS platforms: easy access to data

Climate change & environmental monitoring

Natural disasters
Floodings, earthquakes, fires, huricanes

AGRICULTURE
Farmers use Copernicus for smart farming

SECURITY/BORDER MANAGEMENT

EU Space Programme Regulation

- 1 single programme: simplification, coherence, streamlining, visibility
- 4 components (EGNOS/Galileo and Copernicus (existing systems), Governmental Satellites Communication and Space Situational Awareness (new systems))
- 3 main objectives: **Continuity, Evolution** to match the needs, **Adaption** to new realities
  - **COPERNICUS:** New observation capacities for:
  - **CO2 emission monitoring** supporting the objectives of the COP21 Paris agreement,
  - **Land use** including support to agriculture,
  - Observations of the **Polar areas;**
  - **Security needs**
- Indicative Timeline: (Spring) 2019

EUROGEOSS and Copernicus

- (recital 8)

"Copernicus should be considered as a European contribution to building the Global Earth Observation System of Systems (GEOSS) developed within the framework of the Group on Earth Observations (GEO)."

- Article 4 – objectives

"…supporting and contributing to European policies and fostering global initiatives, such as GEOSS."

EUROGEOSS and Copernicus

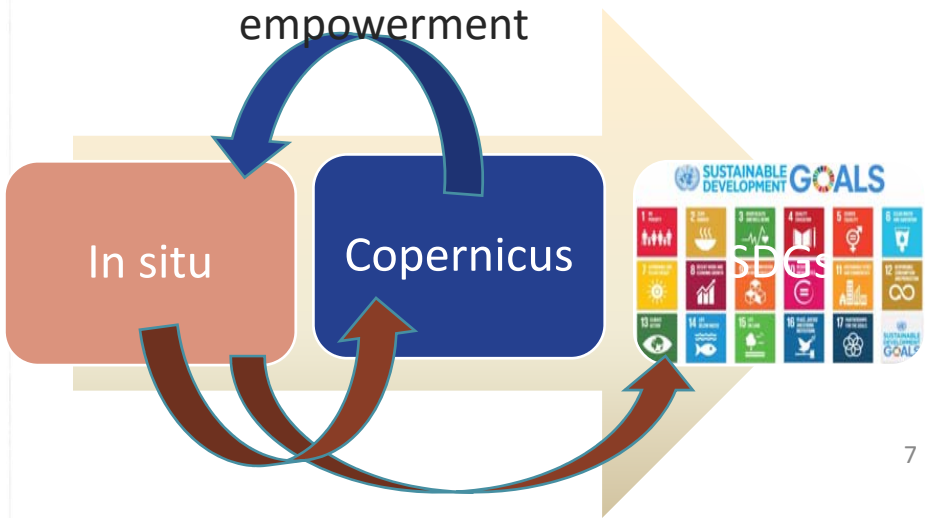
- EUROGEOSS to implement/enhance valorization of GEOSS (Copernicus, contribution by others e.g. Landsat…) with the help of European industry;

- EUROGEOSS to stimulate **virtuous circle where existing** R&D community engages users in the MS
  - to demonstrates operational benefit from prototype-projects,
  - to produce indicators in support of the Sustainable Development Goals (best practices, spin-off effects…);

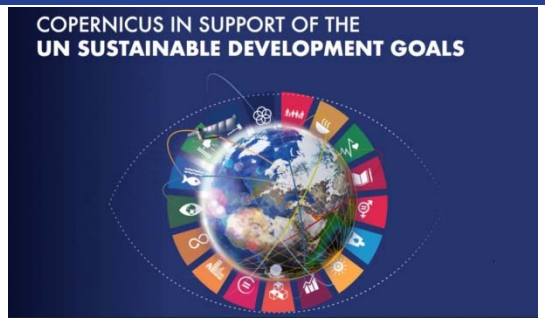
Copernicus & SDGs

- UN sustainable development knowledge platform

"The-Future-We-Want" in paragraph 274 recognizes "the importance of space-technology-based data, in situ monitoring, and reliable geospatial information for sustainable development policy-making, programming and project operations."



Copernicus & SDGs



- *United Nations Office for Outer Space Affairs : European Global Navigation Satellite System and Copernicus: Supporting the Sustainable Development Goals /BUILDING BLOCKS TOWARDS THE 2030 AGENDA'*

http://www.unoosa.org/res/oosadoc/data/documents/2018/stspace/stspace71_0_html/st_space_71E.pdf

- Eurostat Sustainable development in the European Union – Monitoring :

https://ec.europa.eu/eurostat/web/products-statistical-books/-/KS-01-18-656report on progress towards the SDGs in an EU context

In situ

Copernicus in situ data needs

- https://insitu.copernicus.eu

Examples:

- CLMS priority needs (pan-European and local):
- - administrative boundaries (INSPIRE Annex 1)
- - (partial) Land Use information (NOT Land cover) (INSPIRE Annex 3)
- - parcel boundaries – Land Parcel Identification System /Integrated Administration and Control System(IACS) (anonymous)

EC legal service:

- INSPIRE applies to spatial data on agricultural parcels under the LPIS
- INSPIRE also applies for the IACS spatial data (crop types etc.)

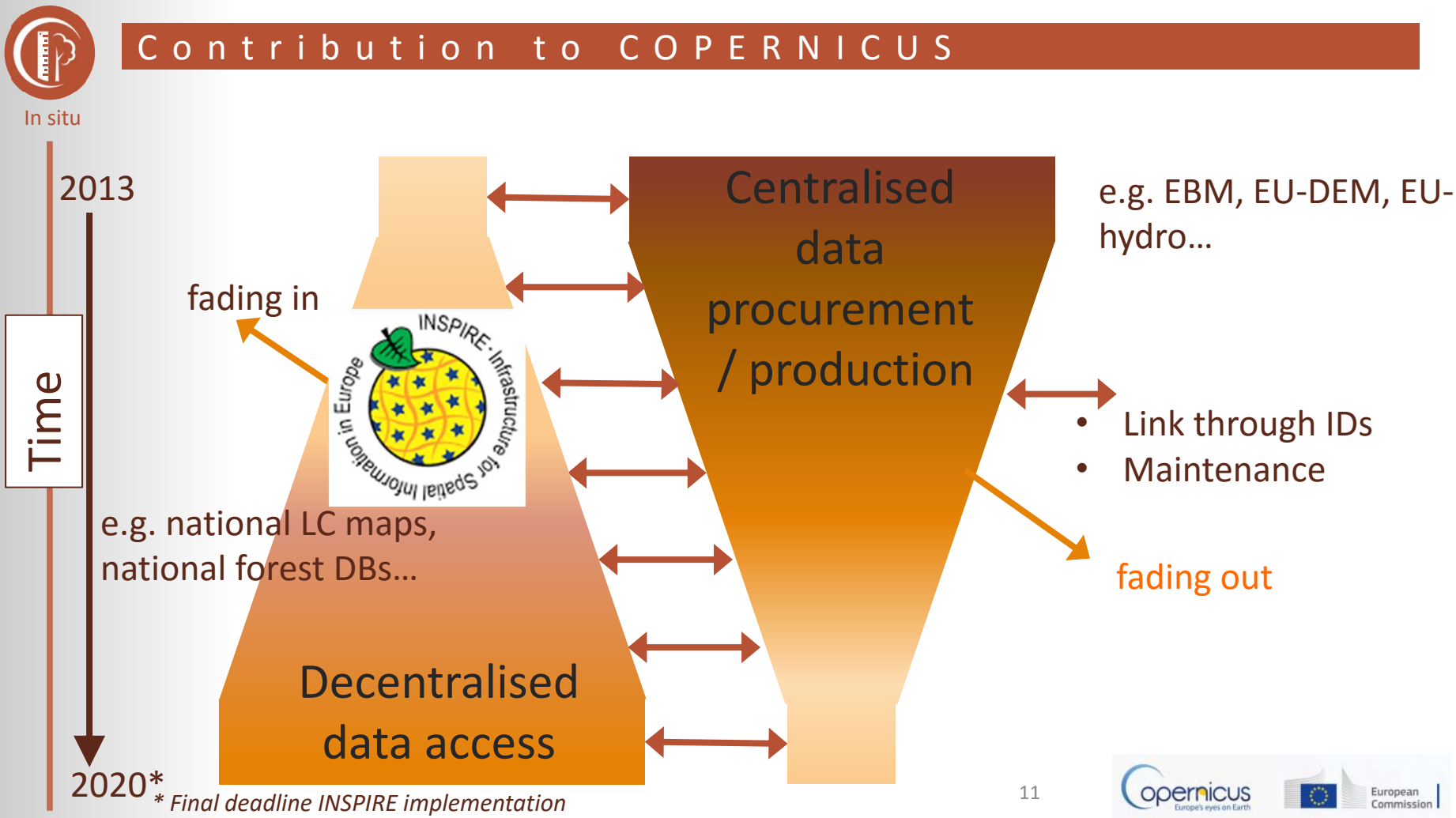
Example: LPIS/IACS & Copernicus

LPIS : Land Parcel Identification System
IACS : Integrated Administration and Control System

Fruitful interchanges are possible in both directions between LPIS, IACS and CAP & Copernicus

LPIS, IACS and CAP		Copernicus & its products
Targeting and evaluation	←	Information about non-declared land Information about environmental conditions
Grassland management	→	HRL Grassland, Natura 2000, Riparian zones
Types of crops	→	Natura 2000
Types of crops – Crop conditions (also relevant for product development)	← →	Biophysical products
Greenhouses	→	HRL Imperviousness
Permanent grassland monitoring	→ ←	HRL grassland (ploughing indicator)
Ecological Focus Areas	→	HRL Small woody features

Contribution to COPERNICUS



Contributions from Copernicus

also: Copernicus data and services´information can support MS

Presentation Nordbeck, Space Centre Norway efgs2016.eu

(EFGS: European Forum for Geography and statistics)

Integrating Geography and Statistics, but what about Earth Observation ?

Spatial community – internal differences

National Mapping Authorities

Method:

- "Definite mapping"

Data:

i. Moderate data volumes
ii. Object-based
iii. Resolution: Geographical
iv. Diverse specifications and quality
v. Discontinuous data/borders included
vi. Variable usage rights / licensing
vii. Updating: Periodic/Continuous (low frequency)

Earth Observation (EO) community

Method:

- "Probability mapping"

Data:

i. Considerable data volumes
ii. Image-based
iii. Resolution: Geographical, Spectral and Temporal
iv. Consistent specification and quality
v. Seamless/borderless
vi. Uniform usage rights / licensing
vii. Updating: Continuous (high frequency)

EO data supporting the digitalisation of public sector in Norway

> Mapping is going real-time – following same development as Meteorological and Marine Services

> The modernisation and digitalisation of public sector is on-going

> Norwegian Space Centre promotes integration of satellite data in existing national data management systems

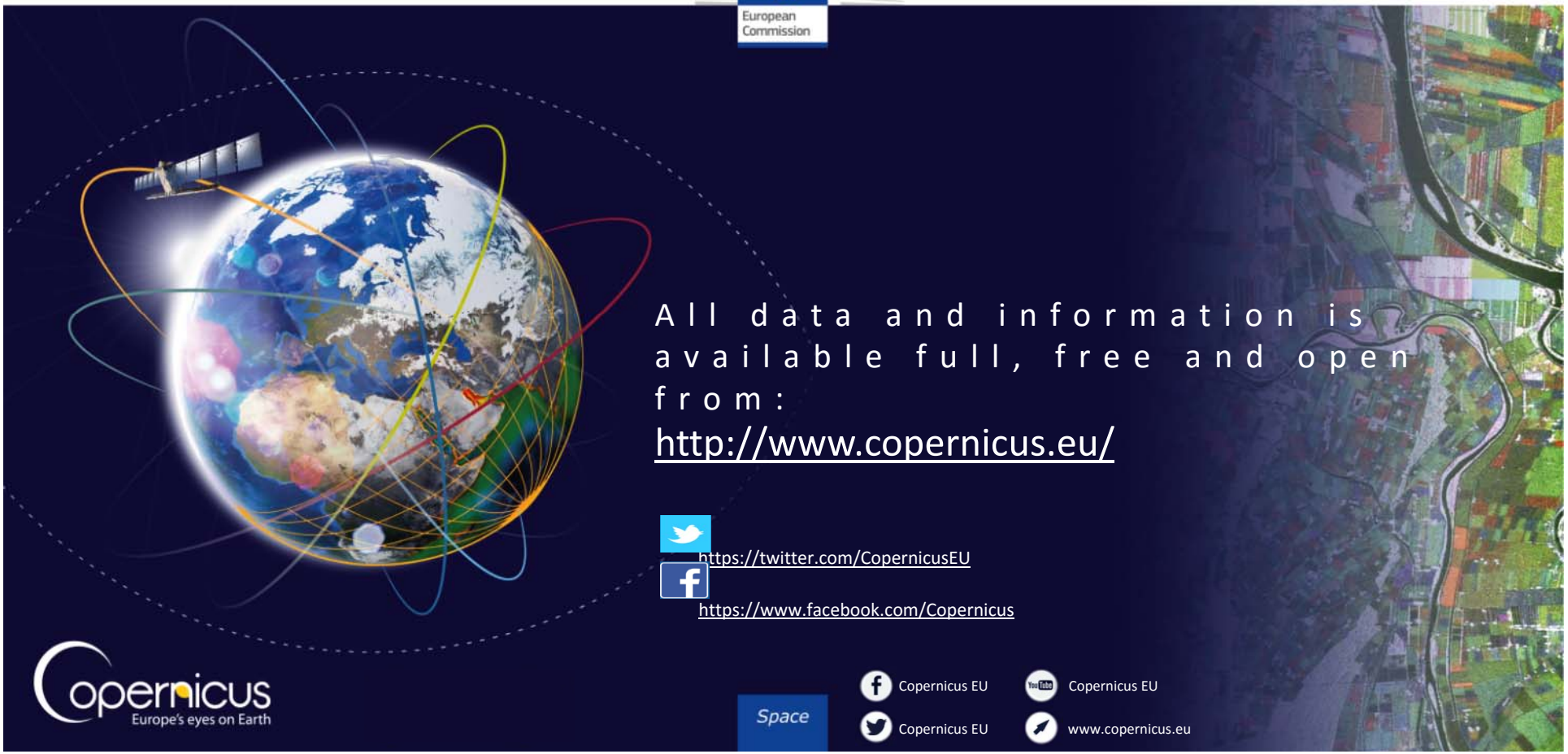
> Some public authorities have the skills to carry out this work themselves others need assistance -> opening up for public - private partnership

Examples:

1. National Mapping and Cadastre Authorities (NMCA)
2. National Road Authorities (NRA)

In situ

- **Directive 2007/2/EC Article 12**
- Member States shall ensure that public authorities are given the technical possibility to link their spatial data sets and services to the network referred to in Article 11(1). This service shall also be made available upon request to third parties whose spatial data sets and services comply with implementing rules laying down obligations with regard, in particular, to metadata, network services and interoperability.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