

Copernicus 2.0 @ ECMWF

The Global Context

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Funded by the European Union



ECMWF: Entrusted By the European Commission to implement the Copernicus Atmosphere monitoring (CAMS) and Climate Change (C3S) Services

- Delegation agreement signed on 11th November 2014

“The development of our **global weather model** has provided the opportunity for ECMWF to **analyse and predict** other aspects of the **natural environment**. Combined with being an **international organisation**, this **modelling capability** has led to ECMWF becoming involved with the EU Copernicus programme. Taking on the implementation of two of the Services and contributing to a third one is a privilege and a challenge that we aim to meet through enhanced collaboration with our **international partners**, and also through a very close working relationship with the European Commission”. *Alan Thorpe, Director-General, ECMWF, November 2015*

The EU financial envelope for implementation of the Copernicus programme is set for the period from 1 January 2015 to 31 December 2020, with 2021 being a transition year.



Alan Thorpe, Director General, signing on behalf of ECMWF (left) and Daniel Calleja, Director General, DG Enterprise, EC





Atmosphere
Monitoring Service

atmosphere.copernicus.eu



Climate
Change Service

climate.copernicus.eu

The **Copernicus Climate Change Service (C3S)** supports society by providing authoritative information about the past, present and future climate in Europe and the rest of the World.

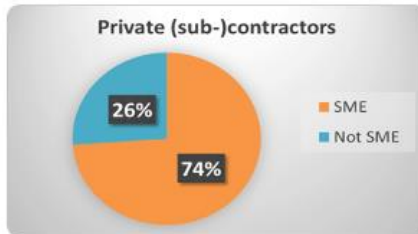
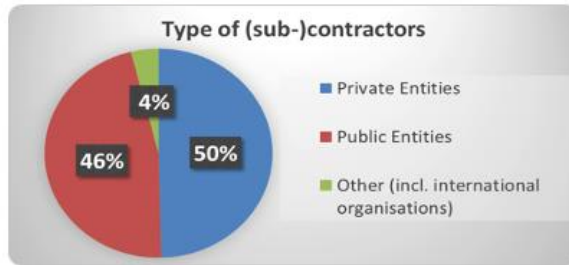
The **Copernicus Atmosphere Monitoring Service (CAMS)** provides consistent and quality-controlled information related to air pollution and health, solar energy, greenhouse gases and climate forcing, everywhere in the world.

Copernicus@ECMWF: Building on synergies and combining efforts to provide two world class operational Services.



Copernicus@ECMWF: A Truly European Effort

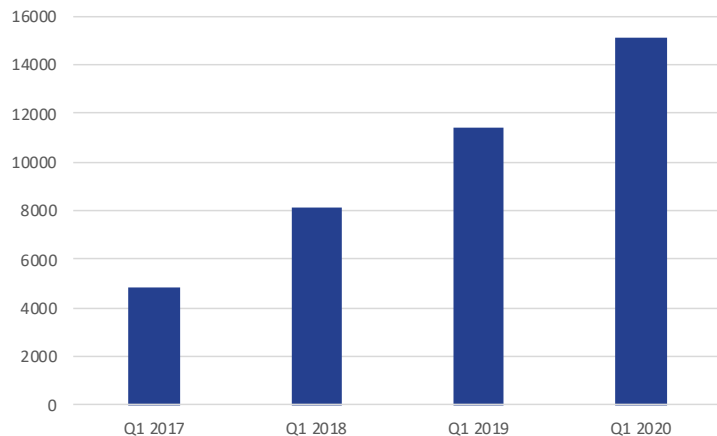
- > 120 ITTs carried out
- 381 different entities from **32 European countries**



Number of C3S and CAMS users

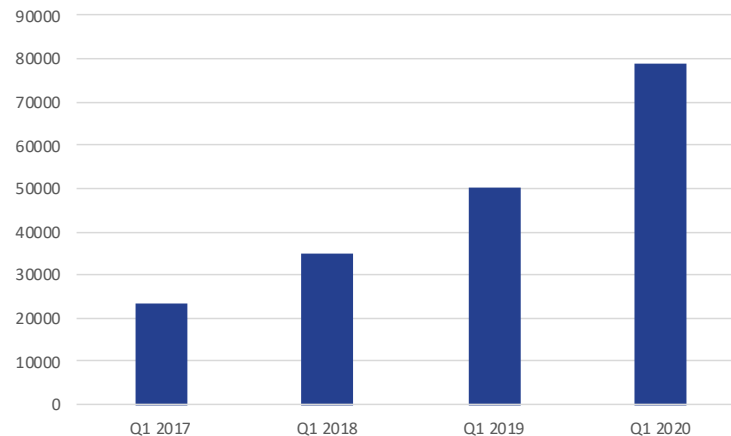
CAMS: 214% increase from
Q1 2017 to Q1 2020

CAMS total users



C3S: 235% increase from
Q1 2017 to Q1 2020

C3S total users



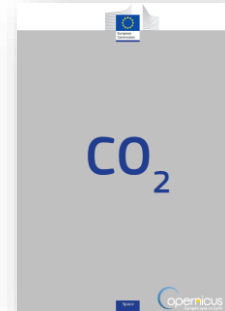


ECMWF



Context for Copernicus@ECMWF post-2021

- Planned evolution of the Copernicus Space Infrastructure
- "Enhanced Continuity" – applies to space infrastructure and Services
- Do more with "more? less? the same?"...
- Increased support to policies (COP21 – Sendai – SDGs – Green Deal...)
- Increased coordination between EEs and other stakeholders
- Collection of new user requirements through:
 - Copernicus User Forum
 - User Requirement Data Bases and Analyses (URDB – URAD)
 - Workshops, user days, etc.
- Mid-term review, surveys & economic impact analysis
- High level presentation to ECMWF Council in December 2017



Context: Space Regulation (work in progress)

Article 50: Eligible actions for Copernicus Services

Copernicus shall include actions in support of the following services:

(a) environmental monitoring, reporting and compliance assurance services covering:

– atmosphere monitoring to provide information on air quality with a **global coverage**, with a special focus at **European level**, and **composition** of the atmosphere

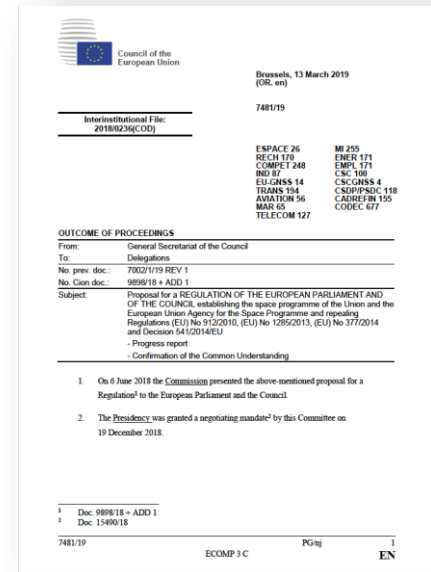
– marine environment monitoring to provide information on the state and dynamics of ocean, sea and coastal ecosystems, their resource and use;

– land monitoring and agriculture to provide information on land cover, land use and land use change, cultural heritage sites, ground motion, urban areas, inland water quantity and quality, forests, agriculture and other natural resources, biodiversity and cryosphere;

– **climate change monitoring to provide information on anthropogenic CO₂ and other greenhouse gas emissions and absorptions, essential climate variables, climate reanalyses, seasonal forecasts, climate projections and attribution, information on Polar/Arctic changes, as well as indicators at relevant temporal and spatial scales;**

(b) emergency management service to provide information in support of and in coordination with public authorities concerned with civil protection, supporting civil protection and emergency response operations (improving early warning activities and crisis response capacities), and prevention and preparedness actions (risk and recovery analyses) in relation to different types of disasters;

(c) security service to support surveillance of the Union's and its external borders, maritime surveillance, as well as Union external action responding to security challenges facing the Union, and Common Foreign and Security Policy objectives and actions



Thank You!



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