Module 3: What is EOSC Synergy?

Introduction

The European Open Science Cloud envisions a Europe where digital technologies are prepared to deliver services to researchers, complying with the transparency and openness principles ruling Open Science.

...a Europe where observational, experimental and simulated data are supported by latest technologies for transfer and storage. Where data preservation becomes a service for the many, and not for the few.

Where advanced research projects are supported by cutting-edge computing infrastructures.

...a Europe where state-of-the-art software enables technology, and streamline collaboration to solve fundamental problems in science and societal challenges.

EOSC-synergy is working to contribute to this vision for already one year. A challenging year in which we have exploited the power of digital technologies to bootstrap EOSC in the countries involved in the project.

EOSC-Synergy is putting EOSC in practice

We met in Santiago de Compostela one year ago and in Valencia at the beginning of 2020.
Actually, our specialized teams met virtually over 200 times in the past 12 months using videoconferencing tools.

EOSC-synergy development teams are highly skilled and recognized for their deep understanding of technology and its applications to science.

During the days of lockdowns through Europe, we prove that challenging times are also an opportunity to show the strength of the technological know-how developed in Europe in distributed computing over the past 10 years.

On the 20th of March we set up the first EOSC-enabled service that was able to support the analysis of genomic data related to the COVID-19 pandemic, on Cloud infrastructures.

For that we used open source software, and made the service open and freely available to all the European researchers in genomics.

We appointed a dedicated task force, which in less than 48 hours was able to deploy the COVID-19 service via the Federated Cloud of EGI.

Our approach to raise awareness on EOSC among researchers is offering quality certified services.

Quality builds trust, and a trusted environment is of paramount importance to foster the adoption of EOSC.

Thematic services are our key concept to serve the needs of scientific communities.

We have identified ten thematic services addressing four scientific areas: Earth Observation, Environment, Biomedicine and Astrophysics. (https://www.eosc-synergy.eu/eosc-synergy-and-its-10-thematic-services/)

Those services gather and expose data and computing services directly to researchers in a user-friendly interface.

The architecture of the thematic services is evolving to operate within EOSC framework. This will lead to higher performance and capacity as well as resilience and economy of scale.

Our scientific applications have now the capability to interact with EOSC federation services: standard authorization and authentication, monitoring, or security.

Let us look at one of them, the Water Monitoring Sentinel Cloud platform, WORSICA.

WORSICA is a service for the detection of water using satellites, unmanned Aerial Vehicles and in-situ data.

With WORSICA the researchers of the Laboratory of Engineering and Civil Protection in Portugal are able to estimate flooded areas from rainfall, storms, hurricanes or tsunamis, or even the detection of large water leaks in major water distribution networks.

It provides support to the preservation of lives during an emergency, supporting emergency rescue operations of people in dangerously inundated areas.

WORSICA will be available without cost to all European public research groups.

In EOSC Synergy, the WORSICA service is being evolved using advanced technologies such as high-performance computing and cloud, that will allow scaling up to European level to reach all interested research communities.

WORSICA uses standard user Authentication and Authorization mechanisms, so that European researchers, or civil protection authorities, are able to access the service in a transparent and EU-compliant way.

By the end of 2020 we will have finished the integration of 10 thematic services in Europe, and beyond !

"The project EOSC-SYNERGY would not be possible without the funding of the European Union Horizon 2020 program, an inspirational environment to develop technologies to support cutting-edge Science"