

Project:	EPOS-IP (Horizon2020 – Project number: 676564)	
Work Package(s):	WP6, WP7 and TCS WPs	
Task(s):	Tasks regarding ICS-TCS integration and interoperability	
Document type:	ICS TCS Integration Guidelines – short version	
Document file name:	EPOS-ICS-TCS-Integration-Guidelines-short-version-20150805.doc	
Document title:	TCS-ICS Integration: the foundations for EPOS success	
Purpose:	For internal use between Transverse WPs and the TCS WPs	
Author(s):	ICS Development Team	
Version:	1.1	
Date:	20150805	
Contact:	http://www.epos-eu.org/	http://eposwiki.bo.ingv.it/ daniele.bailo@ingv.it

TCS-ICS Integration: the foundations for EPOS success

1. Introduction

This document is a first approach from the Integrated Core Services (ICS) development team within EPOS to the Thematic Core Services (TCS) teams and it aims to introduce how effective collaborations can be developed between our communities. Efficient collaboration between ICS and TCS will require excellent two-way communications and this will ultimately form the foundations for the successful implementation of EPOS.

This document provides an initial high level overview of the work TCS and ICS will do together. Before the kick-off meeting for EPOS-IP (October 2015), we will issue further communications that will successively build up a more detailed picture of what will be achieved, the concepts and technical developments that will underpin the system and the collaborations that will be required.

2. What will EPOS achieve?

EPOS's challenge is to simplify scientists' access to and usage of multidisciplinary earth science data by producing an e-platform where access, use and reuse of heterogeneous data (in terms of format, metadata and accessibility) and associated software, services and resources is easy and

transparent. EPOS will use new e-science opportunities to create a pan-European infrastructure for solid Earth science that will support a safe, innovative and sustainable society.

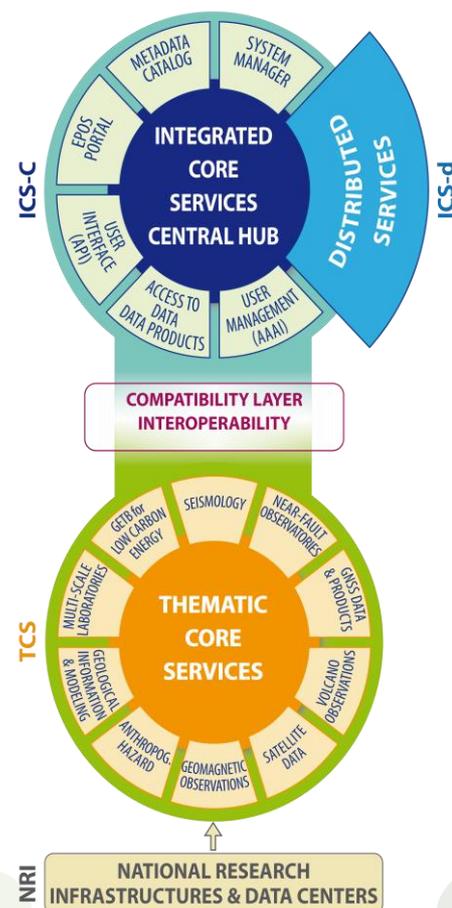
3. Organisational architecture

The EPOS architecture is organised into three main layers (see diagram):

National Layer: providing data and other services at a national level (NRI)

Thematic Core Services (TCS): A Community Layer providing integrated services for a range of specific disciplines

Integrated Core Services (ICS): An Integration Layer enabling scientists to discover and integrate data and other services provided by the



different communities.

The ICS and TCS layers within the architecture will communicate via a compatibility layer which will ensure interoperability between the ICS and TCS

4. Work ahead

4.1 ICS mission

The ICS developments will provide the integration layer as detailed above. The main goal for the ICS is to integrate data, data products, services and software provided by the TCSs. The integration layer will ultimately enable a user to login, search for, discover and process data online and then download the results produced.

4.2 TCS mission

The TCS consist of data and service providers for specific thematic communities and they are responsible for the community layer. The main goal for the TCS community is to ensure their services are interoperable with each other and can integrate into the ICS. It is worth noting that individual TCSs have varying maturities with different governance, financial and technical goals. These differences are reflected in the levels of complexity of the services they provide. All TCS groups will ensure their services, whatever their level of development, are interoperable and can be integrated into the ICS.

4.3 Collaborative work

Together, it is the joint task of the ICS and TCS teams to develop the compatibility layer through which the integration and community layers will communicate. This collaboration work will focus around three activities:

The definition and usage of metadata describing the community data

The implementation of services for discovery and access to data.

Matching and mapping metadata between the different standards and systems used by ICS and the various TCS to ensure interoperability and harmonisation.

Communication and collaboration between the ICS and TCS teams will be key to building a common understanding of the work we are required to undertake. To initiate this process the ICS development team will collect requirements and use cases from TCSs in order to start to outline and develop the system for the integration layer.

ICS, in turn, will then provide guidelines to TCS describing the technical requirements they need to adhere to when providing services intended to be integrated into the ICS and utilised by EPOS.

This process will ensure TCS services are interoperable both with the ICS and between TCSs, so that TCS providers gain maximum benefit from the EPOS architecture e.g. seismological data from Seismological and Volcanic Observatory TCS's are harmonised.

5. Next steps

This first-approach document introduces the high-level concepts that will be involved in the TCS-ICS integration. A more detailed TCS-ICS communication and interaction plan will be produced before the kick off meeting in October 2015. This will include a set of recommendations, guidelines and requests for requirements and use cases. These follow up documents will discuss in more detail the technical work that will be required by TCSs. It is hoped this will enable both TCS and ICS to gain a common understanding of the work we are required to undertake in order to facilitate a smooth start to the project and form a successful partnership that will continue throughout the lifetime of the project and beyond.