EPOS Data Policy

March 2017

Trans National Access to Research Facilities

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EPOS DATA POLICY

1 – DEFINITIONS

Creative Commons (CC) Licences	See https://creativecommons.org/
Data, Data Products, Software and Services (DDSS).	Measurements and/or observations of physical and chemical parameters, collections thereof, and information derived from such measurements and/or observations. Data and Data Products distributed by EPOS are provided by Suppliers to EPOS Integrated Core Services (ICS) and Thematic Core Services (TCS) and are accessible by Users. Data and data products are grouped in 4 levels: raw or basic data (level 0), data products coming from (nearly) automated procedures (level 1), data products resulting from scientific investigations (level 2), integrated data products resulting from complex analysis (level 3). Software are Computer programs or any other processing, visualization and analysis tools for treatment of Data and Data Products, also including methods and workflows or their description. Tools and Software are made available and/or accessible in EPOS through specific EPOS Services. They may be made available as software packages, libraries, or descriptions for download, and/or be made accessible for execution.
Core Services	Both ICS and TCS (see definitions below)
Integrated Core Services (ICS)	Services provided by EPOS as integrated services reaching across the scientific themes/disciplines of EPOS, focusing on advanced ICT infrastructures (e-infrastructures) for discovery of and access to DDSS generation of multidisciplinary products and services, development and execution of workflows.
Metadata	Information about provenance, description, quality, processing, maturity level, and collection/generation context, which supports interoperability across disciplines. Metadata associated with Data and Data Products and Tools and Software in EPOS shall meet or exceed applicable national or European requirements.
Service Providers	Entities in charge of aggregating, collecting and ensuring access to DDSS. They feed the EPOS Core Services (ICS and TCS) with DDSS from one or more Suppliers.
Suppliers	Entities allowing distribution of their DDSS through EPOS by signing a letter of intent (see Appendix 1).
Thematic Core Services (TCS)	Thematic groups of Service Providers are organized in and coordinated by Thematic Core Services which provide the scientific expertise for EPOS and interact in close connection with the user community.

2 – GENERAL INTRODUCTION

The purpose of the European Plate Observing System (EPOS) is to create a pan-European research infrastructure for solid Earth science to support state-of-the-art cross-disciplinary research activity il aill fields of Solid Earth Science and to foster a safe and sustainable society.
EPOS strongly depends on the cooperation with Suppliers as most of the data are available in distributed national data repositories and not in dedicated repositories owned and operated by EPOS. Suppliers produce and deliver the data upon which the EPOS catalogue of DDSS is built. The Thematic Core Services (TCS) organize and coordinate the Service Providers. The contractual link for service provision will take the form of service contracts between EPOS and Service Providers (SP).

In order to foster open, free and easy access to DDSS from the Service Providers, EPOS needs a common data policy. The EPOS data policy applies directly to the DDSS managed by EPOS through ICS. The detailed data management plans specific to each Service Provider must state compliancy with the EPOS data policy. EPOS data policy shall respect national and European legislation which are primary regulations.

3 – GUIDING PRINCIPLES

Through its policy EPOS aims to promote:

- Innovation: by encouraging diversity of analysis and opinion to facilitate evaluation of alternative hypotheses and to permit the coordinated application of scientific, social, and business knowledge to generate solutions to complex challenges.
- Collaboration: among diverse disciplines to foster greater productivity and creativity.
- Efficiency: by preventing duplication of effort and by enabling secondary analyses and enhancement of existing data, permits the redirection of resources to the most promising endeavours to maximize the impact of investments.
- Accountability: by encouraging independent verification.
- Capacity Strengthening: by facilitating the education of new researchers, and enabling broader access to data for secondary analysis and stimulation of bold and innovative ideas, which is of particular importance to researchers in developing countries.

It is generally recognized that throughout Europe various scientific communities are at different stages of implementing data sharing and use different methods of data distribution. EPOS intends to work closely with Suppliers and users to ensure their diverse models and needs are accommodated. EPOS will adopt this flexible approach in recognition that one size does not fit all. This will help to reinforce open science inquiry, encourage diversity of analysis and opinion, and promote new research, all important OECD principles.
EPOS will provide transnational and interdisciplinary services that will simultaneously integrate and support national and regional infrastructures. Where there are differences in policies relating to data sharing, EPOS will encourage a culture of openness and sharing of research data within public research communities and within member countries and beyond.

EPOS intends to adopt the following key principles:

- to disseminate data and knowledge through Open Access;
- to make DDSS available in a timely manner, without undue delay and preferably free of charge taking in due account the need to differentiate between virtual and remote access and physical access;
- to follow the OECD principles for research data from public funding;
- to utilize a widely accepted community licensing scheme, e.g. Creative Commons.

4 – EUROPEAN LEGAL FRAMEWORK RELATED TO ENVIRONMENTAL DATA, INFORMATION AND DATABASES

The EPOS data policy takes into account the overall European legal framework related to environmental data, information and databases. The most important regulatory documents which also impact EPOS data policy are:

- *Aarhus Convention* (access to environmental data),
- *INSPIRE Directive* (sharing of the spatial information among public sector organizations and access to the spatial data),
- *Database Directive* (protection of the databases),
- *Software Directive* (protection for computer programs) and
- *PSI Directive* on the re-use of the public sector information

EPOS data policy also recognizes relevant international observation system initiatives and national policies and legislation with the aim of full and open exchange of data, metadata and elaborated data products to be made available with minimum time delay and at minimum and whenever possible no-costs.

5 – ACCESS TO EPOS DATA, DATA PRODUCTS, SOFTWARE AND SERVICES

5.1 OPEN ACCESS

EPOS supports the European Commission's approach regarding data policy: "As open as possible, as closed as necessary". Reasonable restrictions that are still in line with open access principles may therefore be implemented for specific data sets, especially when their divulgation could jeopardize a potential industrial/commercial use, violate the rules on personal data protection or on confidentiality for security reasons; or for any other legitimate reason given by a Supplier. Wherever possible EPOS will support the wishes and conditions placed by Suppliers on the way in which the DDSS can be used.
Procedures to accept restrictions and embargo conditions will be handled by a dedicated EPOS committee. Information on restriction and embargo conditions shall be available to the user in a clear and transparent way. In the case of an admitted exception, EPOS provides the user with access under the same terms and conditions as the original Supplier.
Within the EPOS Data Policy, users, with regard to access rights and restrictions, are classified as follows:

- ***Anonymous**:* Access without any identification or accreditation is not allowed at the ICS level. However, if the TCS decide to allow anonymous access, they should provide alternative mechanisms to track users and purposes of DDSS use;

- ***Registered**:* Identified access requiring prior registration, which may differ from specific EPOS services;
- ***Authorized**:* Identified and authenticated access requiring specific permissions for particular DDSS or EPOS services to identified user group(s). Only a Registered user can become an Authorized user.

Within the EPOS Data Policy, "Access to DDSS", with regard to access rights and restrictions, is classified as follows:

- ***Open**:* DDSS freely available/accessible to User either for download or for direct use within an EPOS Service.
- ***Restricted**:* DDSS that are available under the conditions set out by the Service Providers. Restrictions may also mean that fees could be charged. Restrictions to specific user categories, specific type of, if any, should be limited to specific datasets.
- ***Embargoed**:* DDSS that are available only after a predefined limited time (embargo period) has passed since collection/generation. Once the embargo period has passed, they may become either Open or Restricted.

Metadata (and DDSS descriptions) are always free and available at any time, even for restricted and embargoed data.

Software disseminated via EPOS can take one of three forms:

- ***Acquired Software***, acquired for use by EPOS or users.
- ***Contributed Software***, which may be contributed by another research infrastructure and which may have restrictions on use.
- ***Generated Software***, which will be generated within EPOS.

5.2 LICENSING

5.2.1 DDSS licensing

For an effective rights management, all the DDSS distributed by EPOS shall have a license affixed to them. EPOS is aiming to grant one default licenses set for all the DDSS, Creative Commons 4.0, with two allowed licenses, CC:BY and CC:BY:NC. Services Providers shall ensure that they are allowed by the Suppliers to affix licenses on unlicensed data on their behalf in case the supplied DDSS don't include a license.

5.2.2 Metadata licensing

To ensure a wide dissemination and a vast publicity for EPOS DDSS, it is essential that their metadata are easily and freely accessible at any time, with as few restrictions as possible. In order to achieve this, Suppliers are encouraged to affix CC:0 public domain licenses to their metadata. The machine-readable version of this licence will allow the users to identify the relevant datasets through search engines licences filters.

5.3 QUALITY CONTROL

The quality control of the data rests with the Supplier. The Service Providers are responsible for checking the quality parameters of the metadata descriptions that provide information for discovery, contextualisation and action and on provenance and traceability.

EPOS disseminates good practices and shall provide a mechanism to obtain users feedback on DDSS quality. EPOS will ensure a continuous process of review and assessment to verify that the EPOS DDSS provision is operating as envisioned, finding out improvements and preventing identified problems. EPOS will especially control the quality of the services provided (response time, number of successful requests, number of peer reviewed publications…).

External audit on quality assurance and quality control is also foreseen through an external advisory scientific board.

5.4 LIABILITY

- EPOS users register and in so doing agree to relieve EPOS of any liability for any use of the EPOS DDSS.
- EPOS is not liable for any misuse of DDSS or associated metadata.
- EPOS does not relieve Service Providers and Suppliers from their legal responsibilities.

5.5 PRIVACY

- EPOS complies with International, European and national legislation regarding the protection of personal data and privacy.

6 –INTELLECTUAL PROPERTY RIGHTS

Rights to intellectual property of any DDSS shall remain with the entity or person that has generated it or holds these rights at the time of submission of the DDSS to EPOS, except in case where these rights have been explicitly waived by the original generator or holder.
The Suppliers are in charge of checking that the DDSS they provide do not infringe any third party intellectual property rights, and ensure that third party interests are fully acknowledged.

7 – MANAGEMENT FOR THE EPOS DATA POLICY

Failure of implementing EPOS data policy shall be reported to the EPOS head office which will inform an ad hoc committee, whose statutes, missions and composition will be defined by EPOS General Assembly. The committee will then take a decision accordingly.
The responsibility of the implementation and monitoring of the Data Policy falls to the Service Providers. This implies that there shall be a dedicated Data Management Plan for every Service Provider, and that every Service Provider needs to ensure the proper DDSS delivery. In addition, the Service Providers need to make sure the Suppliers are informed and agree that EPOS distributes their DDSS (see Appendix 1).

8 – POLICY REVIEW

This document is subject to revision according to the needs and strategy changes of EPOS, as well as according to the evolution of the legislation. The reviewed policy shall be approved by the EPOS general assembly.

Appendix 1 : SUPPLIER LETTER

Insert supplier logo

SUPPLIER LETTER

1. In accordance with the EPOS Data Policy, which is available at www….; (Name of the Supplier) allows EPOS to distribute the data and/or data products and/or software and/or services, hereinafter referred to as "DDSS", identified in the Annex A.

2. (Name of the Supplier) confirms that :

   a. To the best of its knowledge and belief it has full ownership rights to the DDSS and/or it has full rights to distribute the DDSS or to allow their distribution by a third party;
   b. It is not under any obligation or disability at law, contract or otherwise, which would in any manner, or to any extent, prevent or restrict it from entering into and fully performing, this Letter Of Intent;
   c. The release of the DDSS in accordance with the terms of this Letter of Intent does not and will not contravene any laws;
   d. It has taken reasonable steps to maximize the quality of the DDSS.

3. (Name of the Supplier) allows :

   a. The relevant EPOS Service Provider to affix the Creative Commons 4.0 CC:BY license on any Data or Data Product provided with no license information. The license will be affixed on behalf of (Name of the Supplier), and by no means will this be deemed as waiver to any of its Ownership Rights.
   b. The relevant EPOS Service Provider to affix the relevant license on any Software provided with no license information. The license will be affixed on behalf of (Name of the Supplier), and by no means will this be deemed as waiver to any of its Ownership Rights.
   c. EPOS-ERIC to distribute the DDSS without delays as soon as they are made available.

4. In return, the Supplier may benefit from EPOS Users authentication system's feedback, in order to be informed about its DDSS usage.

Place, Date, Name, Signature, Stamp

TRANS NATIONAL ACCESS (TNA) to RESEARCH FACILITIES

1. INTRODUCTION

This document focuses on provision of physical and remote access to facilities of *Research Infrastructures* (RIs) through the EPOS Integrated Core Services (ICS) and the Thematic Core Services (TCS). RIs include, but are not limited to, laboratories, observatories, volcanos, near-fault sites, geo-energy test beds, equipment pools and instruments. This document sets out the general principles of Trans-National Access (TNA).

In order to provide TNA services to a wide range of users, the EPOS-ERIC must balance the interests and expectations of the *Suppliers* of *Research Facilities* against the needs of the *Users* requesting access to those resources. The general principles of TNA provision, including Supplier and User requirements and expectations where known, as well as the TNA Web Service for coordination and access through the EPOS ICS, will be covered in this document.

2. THE EPOS ICS BROKERING WEB SERVICE FOR ACCESS TO FACILITIES

While virtual access to *DDSS* through the ICS will be governed by the EPOS Data Policy and the Data Management Plan, physical access to *Research Facilities* will require site specific agreements on a case by case basis. In this respect, the EPOS-ICS will take the role of an intermediary Brokering Web Service and provide key metadata (information, gathered by each TCS from their facilities, describing the facility's capabilities) to the *User*.

Research Facilities should each provide clear and *Transparent Information* (metadata) on the Facility: its services, access rules including any terms and conditions of use of equipment by users, data management policy, and other information deemed necessary or useful by the facility to enable open access to visiting researchers.

TNA Facility Metadata

In order to make TNA services of a facility searchable and discoverable, metadata for the following points might be included in the ICS Brokering Web Service:

- Name, location and nature of facility (testbed, laboratory, field equipment, etc.)
- Laboratory manager/contact details
- Technical description, specifications and capabilities
- Supporting resources and available know-how (e.g. supporting labs and/or technical expertise)
- Time schedule and availability - typical length of access (i.e. by day/week/month) required to carry out meaningful research
- Critical technical or HSE constraints – e.g. operating temperature/pressure range
- Links to general user requirements for access (rights and responsibilities)
- Links to insurance and logistics considerations (if available)
- Links to cost estimates (if available)
- Links to former collaboration agreements (if available)

Links sample contracts (if available)

Links to procedures and rules for dealing with the results of TNA

The CERIF metadata catalogue of the EPOS-ICS will hold this metadata. A **TNA Brokering Service** (at ICS-C) establishes the links between *Users* and *Research Facilities* by making TNA services searchable, discoverable, and then accessible through defined specifications, schedules and transparent procedures.

A **harmonization group** will regularly review the TNA information in the EPOS-ICS Brokering Web Service and agree on the metadata elements required in the catalogue to allow *Users* to effectively discover, identify and access facilities. Because of the heterogeneous nature of the *TNA Suppliers*, the specific metadata structure should be adapted and updated as necessary to set out the requirements and constraints of the Research Facility, e.g., there will be different metadata requirements, and costing approaches, for *Suppliers* providing physical access to their equipment or site, or for *Suppliers* that loan or deploy equipment for field use.

Through its role as an intermediary and information broker, EPOS will acquire experience from both *TNA Suppliers* and *TNA Users* on the establishment of appropriate, practical, fit for purpose access agreements. This knowledge will be made available through the EPOS TNA brokering service in the form of model/example access agreements or sample contracts, to allow future access agreements to be refined. EPOS ICS may ultimately be in a position to provide service and access agreement templates to improve the smooth progression of integration of new TNA services and user TNA applications.

Each *Research Facility* offering TNA will compute the cost of access (per unit time) to their facility based on either unit costs, or actual costs based on previous access provision, and in accordance with appropriate prevailing H2020 guidance (e.g. InfraDev-3 programme). The cost estimates will not be made publically available in advance. They will instead be provided to potential users early in the application process i.e. after an initial approach to EPOS and/or the facility.

TNA governance

The TNA itself will be managed at the TCS level, where, on a regular basis, an open search will be conducted to select hosting *Research Facilities* as well as *applicants* for TNA on the basis of their scientific records and research proposals. Each TCS will have a committee responsible for the selection of the facilities and researchers, and for administration of the budget made available by the TCS for the TNA activities. The TCS committee will work closely with the specific *TNA Suppliers* in the process to select *TNA Users*. The TNA provision will follow established H2020 standards, cost estimation and regulations.

The selection of *TNA Suppliers* represented in the EPOS-ICS Web Service will be made by a selection committee, consisting of members of all EPOS TCSs, ICS members, the EPOS-ERIC management and external advisors. Together with the TCSs, the selection committee will develop selection criteria for *TNA Suppliers*, frequently review the services of *TNA Suppliers* already in the EPOS database and evaluate proposals of *TNA Suppliers* that want to add their services to the ICS catalogue.

The TCS committee will work closely with *TNA Suppliers* in matching *TNA Users*. Transnational Access provision is in accordance with an appropriate transparent set of guidelines, e.g. H2020 including support for travel, subsistence, accommodation for visiting researchers where appropriate.

Provision of TNA

The nature of calls for TNA applications (e.g. continuous, time-limited or open scope, defined scope, invited) will be determined by the TCS. TNA applications/proposals will be assessed against transparent criteria e.g. scientific merit, alignment with the scientific roadmap of the TCS concerned, or in accordance with the European Commission's "European Charter for Access to Research Infrastructures" (2015) *Access Modes*: ''excellence-driven", "market-driven" and "wide" or a combination of these.

3. RESEARCH FACILITIES SUPPLYING TNA

Access Procedures involved in the access to Research Facilities may consist of application, negotiation, evaluation, feedback, selection, admission, approval, feasibility check, setting-up, use, monitoring and dismantling. Research Facilities should in any case clearly communicate and motivate their decision to the Users upon their request.

In order to facilitate access, Research Facilities are encouraged to offer *Support Measures* to Users such as guidance through User manuals, provision of User support, provision of accommodation, and guidance with immigration procedures. Research Facilities are encouraged to offer *Education and Training* in the areas of their activities and to collaborate with other institutions and organisations that would benefit from using the Facility for their education and training purposes.

Access to any given Research Facility should be based on a facility specific *Regulatory Framework* that can range from generic terms and conditions for use accepted by the User, through a dedicated contract up to the provisions of international agreements or treaties. The regulatory framework should cover, at the least, access, insurance requirements, time schedule, intellectual property rights, data protection, confidentiality, liability and eventual fees.

Research Facilities should each have a single point providing clear and *Transparent Information* on the Facility itself, its services, access policy, data management policy and the legal terms and conditions for use of equipment. Information should be provided on the available equipment, costs, fees, contractual obligations, health safety and environment rules and procedures, intellectual property rights and the legal settlement of disputes.

As a rule, the final decision for access to Research Facilities for every TNA proposal will be taken by the management of the respective Research Facility

Research Facilities should undertake the necessary measures to ensure the *Health, Security and Safety* of any User accessing the Facility as well as to take the necessary actions to minimise the *Impact on the Environment*.

Research Facilities may restrict physical access by means of quota, pre-defined User groups or specific expertise requirements as long as the *Conditions for Access* are clearly communicated to

the Users. Such restrictions may be based on established acceptable practices such as, but not limited to, scientific excellence, research programmes, ethics, legal and contractual obligations, financial contributions, resources and membership.

Access Limitations to Research Facilities may originate, amongst others, by the following: national security and defense; privacy and confidentiality; commercial sensitivity and intellectual property rights; ethical considerations in accordance with applicable laws and regulations.

4. EXPECTATIONS OF USERS OF TNA SERVICES

It is proposed that *Users* will follow a step-wise application procedure:

(1) Identify potential TNA facility using the ICS-C brokering service
(2) Hold any initial discussions deemed useful with the TNA facility to agree scope and develop application
(3) Submit application to EPOS, notifying TCS/TNA facility
(4) If approved, sign a case-specific Access Agreement with the TNA facility

An online proposal submission service will be developed as part of the TNA Programme, and which will likely include a short (e.g. Expression of Interest/Outline Concept) application form. Once approved, the user will need to agree to a case-specific Access Agreement as above.

Users need to submit a written proposal to the TNA Supplier (with copy to EPOS TNA Brokering) with details about the planned experiment in accordance with general rules of EPOS TNA access and the specific requirements of the *TNA Supplier*. All questions related to the *Conditions of Access* must be addressed in the proposal.

Users must comply with security, safety and environmental rules and with procedures in force at the Research Facility, in particular concerning the notifications on introduction of material and instrumentation that could induce risks or ethical issues to the facility. Equipment of the *User* that requires special authorization needs to be cleared before the TNA can be granted.

Users must strictly follow the Supplier's access policy, data management policy and the legal terms and conditions for use of equipment.

Users are required to leave a copy of the raw data/results of the experiment at the host facility. Users also need to make sure that data/results produced in projects under EPOS brokering with *TNA Suppliers* will be accessible within the EPOS delivery framework. Access to data produced within the EPOS facility network will be governed by the EPOS data policy, including the possibility of an embargo period for the publication of the data/results/

Users are required to write a final report of the activity carried out at the host facility (or with the host equipment). It should be submitted to the host facility not later than one month after the end of the experiment.

Users need to include a standard phrase acknowledging the host facility and EPOS as the intermediary when the experimental results are published in the scientific literature.

ANNEX: DEFINITIONS/TERMINOLOGY

TNA	Trans-national access
Supplier	The facility providing access
User	The User gaining access to a facility through TNA
Service agreement	Between EPOS ERIC and the facility, enabling the facility to provide TNA through EPOS
Access agreement	Between facility and user – prepared on a case by case basis, and including all local rules, HSE, site access, IP arrangements, etc.
DDSS	Data, Data Products, Software, and Services
EPOS ERIC	The EPOS European Research Infrastructure Consortium (to be established)
EPOS GA	The EPOS General Assembly
EPOS TNA Committee	A committee in each TCS for TNA
EPOS TCS	The EPOS Thematic Core Services – the community specific services
EPOS ICS-C	The EPOS Integrated Core Services – where C means located at the central hub of EPOS
EPOS ICS-D	The EPOS Integrated Core Services – where D refers to distributed services (i.e., not at the central hub)
EPOS ECO	The EPOS Executive Coordination Office
TNA harmonization group	A group harmonizing TNA on the ICS level