



ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

il Direttore

**Istituto Nazionale di Geofisica
e Vulcanologia
AOO INGV**

Protocollo Generale - U

N. 0019085

del 18/12/2019



Gestione WEB

Al Dott. Giuseppe PUGLISI

Al Dott. Massimo COCCO

Alla Dott.ssa Carmela FREDA

Alla Dott.ssa Agata SANGIANANTONI

Ai Direttori di Dipartimento

Ai Direttori di Sezione

Al Direttore della Direzione Centrale Affari Generali e Bilancio

Al Responsabile del Centro Servizi Contabilità e Bilancio

All'Ufficio Bilancio

Alla Segreteria della Presidenza

Oggetto: Pubblicità atti

Si notifica in copia l'allegata Delibera n. 267/2019 del 27/11/2019 – Allegato V al Verbale n. 10/2019
concernente: *EPOS TCS Volcano Observations Consortium Agreement – EPOS VO Supplier Letter*.

Dott. Giovanni Torre



Delibera n. 267/2019

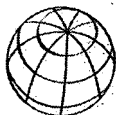
Allegato V al Verbale n. 10/2019

Oggetto: *EPOS TCS Volcano Observations Consortium Agreement- EPOS VO Supplier Letter.*

IL CONSIGLIO DI AMMINISTRAZIONE

- **VISTO** il Decreto legislativo 29 settembre 1999, n. 381, concernente la costituzione dell'Istituto Nazionale di Geofisica e Vulcanologia (INGV);
- **VISTO** il Decreto legislativo 25 novembre 2016, n. 218, recante "Semplificazione delle attività degli enti pubblici di ricerca ai sensi dell'articolo 13 della legge 7 agosto 2015, n. 124";
- **VISTO** lo Statuto dell'Istituto Nazionale di Geofisica e Vulcanologia, approvato con Delibera del Consiglio di Amministrazione n. 372/2017 del 9 giugno 2017, come modificato con Delibere del Consiglio di Amministrazione n. 424/2017 del 15 settembre 2017 e n. 501/2017 del 21.12.2017, e pubblicato sul Sito WEB Istituzionale (Avviso di emanazione pubblicato sulla Gazzetta Ufficiale della Repubblica Italiana – Serie generale – n. 27 del 2 febbraio 2018), in particolare, l'art. 2, comma 5;
- **VISTO** il Regolamento di Organizzazione e Funzionamento dell'Istituto Nazionale di Geofisica e Vulcanologia emanato con Decreto del Presidente n. 45 del 21.02.2018, pubblicato sul sito istituzionale;
- **VISTO** il Regolamento di Amministrazione, Contabilità e Finanza emanato con Decreto del Presidente n. 119/2018 del 14.05.2018, pubblicato sul sito web istituzionale;
- **VISTA** la decisione di esecuzione (UE) n. 2018/1732 della Commissione Europea, del 30 Ottobre 2018 relativa all'istituzione del Sistema di osservazione della placca tettonica europea - Consorzio per un'infrastruttura europea di ricerca (ERIC EPOS), notificata con il numero C(2018) 7011;
- **VISTO** il Decreto Ministeriale per il riparto del Fondo ordinario per gli Enti e le Istituzioni di ricerca, con il quale il MIUR ripartisce i finanziamenti necessari per la partecipazione italiana agli ERIC sotto la voce «attività di ricerca valenza internazionale» e, in particolare, l'art. 1, comma 3 che prevede testualmente "I contributi per la partecipazione agli ERIC, o ai progetti da questi realizzati, sia nella forma in-kind sia di contributi finanziari a valere sul FOE, questi ultimi come determinati nella relativa tabella riferita alle "Attività di ricerca a valenza internazionale" costituiscono a tutti gli effetti quota di entrata dei bilanci dei medesimi ERIC, anche mediante eventuale trasferimento diretto";
- **VISTA** la nota del 04/11/2019 prot. n. 2478, con la quale il Responsabile delle attività nell'ambito del WP11 di EPOS IP, ha precisato che il Consortium Agreement è mirato a formalizzare la partecipazione della comunità scientifica al TCS Volcano Observations nonché, ad assicurare una governance condivisa per contribuire all'operatività di EPOS garantendo l'impegno delle comunità e delle infrastrutture di ricerca nazionali coinvolte nella fornitura di dati e prodotti scientifici, trasmettendo lo schema del Consortium Agreement e della Supplier Letter;

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- **RAVVISATA** la necessità di nominare un rappresentante INGV all'interno del TCS Consortium Board;
- **VISTO** lo schema del Consortium Agreement, della Supplier Letter e le disposizioni in essi contenute;
- **VALUTATE** le esigenze scientifiche e tecnologiche dell'Istituto;
- **VISTO** il parere dell'Ufficio Gestione Dati reso con nota prot. n. 2713 del 25/11/2019;
- **SENTITO** il Collegio dei Revisori dei Conti in corso di seduta;
- Su proposta del Presidente,

DELIBERA

Art. 1

Il Dott. Giuseppe Puglisi, Dirigente di Ricerca dell'INGV, è nominato Rappresentante INGV all'interno del EPOS TCS Volcano Observations Consortium Board, per un periodo di tre anni, rinnovabile, a decorrere dalla data di sottoscrizione del Consortium Agreement. Il Rappresentante avrà cura di interfacciarsi, preliminarmente all'approvazione, aggiornamento e/o revisione del Work Programme annuale, con Presidente e Direttore di Dipartimento, trasmettendo agli stessi una relazione sulle azioni e sulle risorse che costituiscono, per ciascuna annualità, il contributo INGV al TCS Volcano Observations..

Art. 2

Sono approvati lo schema del Consortium Agreement e della Supplier Letter, nell'ambito di EPOS TCS Volcano Observations, allegati alla presente Delibera, della quale costituiscono parte integrante e sostanziale.

Viene dato mandato al Presidente alla sottoscrizione definitiva degli atti.

Letto, approvato e sottoscritto seduta stante.

Roma, 27/11/2019

La segretaria verbalizzante
(Sig.ra Silvana TUCCI)

Silvana Tucci

IL PRESIDENTE
(Prof. Carlo DOGLIONI)

Carlo Doglioni

TCS Volcano Observations Consortium Agreement

for the Construction and Operation of the EPOS Research Infrastructure

Between

Istituto Nazionale di Geofisica e Vulcanologia, whose registered office is in Via di Vigna Murata 605, 00143, Rome, Italy, hereinafter referred to as **INGV**, represented for this purpose hereof by Prf. Carlo Doglioni, as INGV President.

Veðurstofa Íslands whose registered office is at Bústaðavegur 9, 108 Reykjavik, Iceland hereinafter referred to as **IMO**, represented for this purpose hereof by Mr. Árni Snorrason Director general

Agencia Estatal CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS, M.P , whose registered office is at c/ Serrano 117, 28006, Madrid, Spain, hereinafter referred to as **CSIC**, represented for this purpose hereof by Jesús Marco de Lucas, Vice-President for Scientific and Technical Research

Centre National de la Recherche Scientifique, a public research entity having a scientific and technicological nature, located at 3, rue Michel-Ange 75764 Paris Cedex 16, France, hereinafter referred to as **CNRS** represented by its Chairman and CEO, Mr Antoine PETIT, who has delegated his signing authority to Mrs Hélène MAURY, Regional Delegate of the Paris Michel Ange circonscription.

hereinafter, jointly, or individually, referred to as "*Parties*" or "*Party*"

Preamble:

EPOS (European Plate Observing System) is an European Research Infrastructure, facilitating integrated use of data, data products and facilities from distributed research infrastructures for solid Earth Science in Europe.

Volcano Observatories (VOs) are institutions with responsibilities for monitoring volcanic activity forecasting hazards, issuing warnings and alerts. The VOs operate multidisciplinary monitoring and surveillance systems to assess volcanic activity, support decision makers and carry out research and technological developments in all fields of volcanology to further their institutional goals. Volcanological Research Institutions (VRIs) include universities, agencies, institutes, laboratories and groups that use and produce volcano observations, carry out experiments, modelling and scientific studies to improve the knowledge of volcanological processes and hazards.

Whereas the *Parties* to TCS Volcano Observations Consortium Agreement (hereinafter referred to as the "*Agreement*") have agreed to contribute to the EPOS Volcano Observations Thematic Core Service (VO-TCS) and wish to define their rights and obligations as part of the VO-TCS Consortium.

The *Parties* have agreed to enter into the Agreement under the terms and conditions below.

By signing this Agreement, the *Parties* agree to implement the EPOS VO-TCS Work Programme (Annex 1) under their own responsibility and in accordance with this Agreement, with all the obligations and conditions it sets out. The Work Programme focuses on providing data and services to the EPOS Research Infrastructure and describes the yearly plan of the consortium.

The Agreement is composed of:

Terms and conditions

Annex 1: Work Programme

Annex 2: Composition of VO TCS Consortium Board

Annex 3 Regulations of the VO TCS Consortium Board

Annex 4 EPOS Data Policy

Annex 5 TNA Access Rules

Annex 6 Accession document (with description of the activities and resources of the new *Party*)

Annex 7: Suppliers list

NOW THEREFORE, IT IS HEREBY AGREED BETWEEN THE *PARTIES* AS FOLLOWS:

Definitions:

Words beginning with a capital letter shall have specific meaning defined in this Agreement.

Additional Definitions

“Consortium Body(ies)”: means any management body described in the Governance Structure section of this Consortium Agreement.

“Data, Data Products, Software and Services (DDSS)”: means measurements and/or observations of physical and chemical parameters, collections thereof, and information derived from such measurements and/or observations.

“Force majeure”: means any situation or event that:

- prevents either party from fulfilling their obligations under the Consortium Agreement,
- was unforeseeable, exceptional situation and beyond the parties’ control,
- was not due to error or negligence on their part (or on the part of third parties involved in the action), and
- proves to be inevitable in spite of exercising all due diligence.

“Results”: means any (tangible or intangible) output of the action such as data, knowledge or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights.

“Software”: means sequences of instructions to carry out a process in, or convertible into, a form executable by a computer and fixed in any tangible medium of expression.

“Core Software”: means software belonging to a Party prior to the entry into force of the Agreement.

“Derived Software”: means software developed from Core Software under the Agreement.

There are two categories of Derived Software: Adaptations and Extensions:

- Adaptation: Derived Software using the same algorithms as the Core Software from which it is derived and/or rewritten in another language.
- Extension: Derived Software allowing for access to new functions or performance by comparison to the Core Software from which it is derived.

“Shared Software”: means software created ex nihilo under the Agreement

“Supplier”: means entities granting rights of redistribution of their DDSS through EPOS by signing a Supplier Letter

“Service Provider”: means entities responsible for aggregating, collecting and ensuring access to DDSS. They supply DDSS to the EPOS Core Services (ICS and TCS) with DDSS from one or more Suppliers

“Work Programme”: means the description of the actions of the VO-TCS Consortium defined in Annex 1

Section 1: Purpose of this Agreement

The purpose of this Agreement and annexes is to specify the relationship among *Parties*, the rights and

obligations of the *Parties* and the organisational, managerial and financial guidelines to be followed by the VO-TCS Consortium in order to cooperate with EPOS ERIC.

The mission of VO-TCS Consortium is to provide coordination between the European VOs and VRIs, to implement interoperable services to provide long term sustainable access to data, products, software and services (DDSS), and promote best practice through EPOS - ERIC,

To the aim, the VO-TCS Consortium:

- Defines the standard services and their quality, and coordinates their implementation in accordance with EPOS Data policy;
- Defines the Data Management Plan
- Provides access to Data and Data products relevant to the European volcanoes and resulting from monitoring and research activities, as well as Software and Services aiming at modelling the volcanic processes and assessing the volcano-related hazards, described within the Work Program;
- Shares best practice in VO/VRI community in terms of observational techniques, methods of analysis and modelling, service implementation and data management.;
- Promotes Trans-national Access (TNA) to the VO/VRI facilities, by implementing specific services;
- Defines and implements the information and dissemination outreach strategy;
- Coordinates community for collaborative projects across VOs/VRIs

Section 2 *Parties* to the Agreement, accession of a new Party and withdrawal or removal of a Party

2.1. *Parties* to this Agreement

Parties are organisations actively contributing to the VO-TCS Consortium Work Programme as described in Annex 1.

The admission of new parties requires an approval of the Consortium Board according to the provisions of the Annex 3.

Any new party shall sign the Accession form (Annex 6) to the Agreement and describes its activities in the Accession form as agreed upon with the Consortium Board. The accession of any new party shall enter into force upon the date of the signature of the Agreement's amendment.

2.2. Withdrawal or Removal of a *Party*

Any *Party* may withdraw from the VO-TCS Consortium upon request, provided that four (4) months' prior notice is given to the *Consortium Board*. The withdrawing *Party* undertakes to complete its commitment taken up to the date of its withdrawal regarding the joint activities and for the running year regarding its potential financial contribution. The terms of removal shall be fixed by a specific agreement under provisions set out in Annex 3.

In the event a responsible *Consortium Body* as defined in Section 5 identifies a breach by a *Party* of its obligations under this Agreement, the *Consortium Board* will give written notice to such *Party* requiring that such breach be remedied within thirty (30) calendar days. If such breach is substantial and is not remedied within that period or is not capable of remedy, the *Consortium Board* may decide to declare the *Party* to be a defaulting *Party* and to decide on the consequences thereof which may include termination of its participation. Such a decision requires the approval of the *VO-TCS Consortium Board* members, in, accordance to the regulations provided in Annex 3. The terms of withdrawal shall be fixed by a specific agreement under provisions set out in Annex 3.

Section 3 Entry into force, Duration and termination,

3.1 Entry into force

An entity becomes a *Party* to this Agreement upon signature of this Agreement by a duly authorised representative. This Agreement shall come into force on the date on which the final Party signs (hereinafter referred to as "Effective date").

3.2 Duration

This Agreement shall continue in full force and effect for a period of ten (10) years after the Effective Date.

3.3. Termination or extension

This Agreement may be extended or terminated before the expiration date by the Consortium Board by unanimous decision after proposition by any *Party*, in accordance to the rules provided in Annex 3.

3.4 Survival of rights and obligations

The provisions relating to Confidentiality and Intellectual Property Rights, for the time period mentioned therein, as well as for liability, applicable law and settlement of disputes shall survive the expiration or termination of this Consortium Agreement.

Termination shall not affect any rights or obligations of a *Party* leaving the VO-TCS Consortium incurred prior to the date of termination, unless otherwise agreed between the *Consortium Board* and the leaving *Party*. This includes the obligation to provide all input described in the Work program for the period of its participation.

Section 4: Rights and Obligations of *Parties*

4.1 General Principles

Each *Party* has the right to vote within the VO-TCS Consortium Board. There is in total one vote for each country within the Consortium Board i.e. if two or more *Parties*, from a single country, join the consortium their voting right within the Consortium Board will be equally shared as described in Annex 2.

Each *Party* commits to execute its tasks and take part in the efficient implementation of their responsibilities as described in the Work Programme (Annex 1), and to cooperate, perform and fulfil, promptly and on time, all of its obligations as may reasonably be required from it.

Each *Party* undertakes to notify promptly, in accordance with the governance structure of the VO TCS Consortium any significant information, fact, problem or delay likely to affect the tasks described in the Work Programme.

Each *Party* shall promptly provide all reasonably required information having bearings on other EPOS Research Infrastructure activities.

Each *Party* commits to meet EPOS quality requirements of Service response/functionality and quality requirements of products.

Each *Party* shall promote coordination among the Suppliers and their active participation to the VO-TCS Consortium and promote involvement of the broadest volcanological community within its country. To this end the *Party* shall organize at the minimum one Suppliers meeting and one national meeting a year and deliver a report summarizing the priorities of the community and their ideas of development of services. In the case where there are two or more *Parties* from each country the *Parties* will share this responsibility. The report shall be sent to the chairman of the Consortium Board before November 1st each year and be considered by the Executive committee and the Consortium Board in the development of each year Work program.

Each *Party* shall take reasonable measures to ensure the accuracy of any information or materials it supplies to the other *Parties*.

Section 5: Organisation of VO TCS Consortium

The VO TCS Consortium is composed of the following bodies:

- Consortium Board
- Executive Committee
- Technical Committee
- TNA Committee
- Advisory Board

5.1 Consortium Board (CB)

The CB is the decision-making body of the VO TCS Consortium. The CB is responsible for the overall performance of the consortium, it provides an overall leadership for the strategic direction of the consortium and is free to act on its own initiative to formulate proposals and take decisions in accordance with procedures set out in the Agreement. All proposals made by other Consortium Bodies and the implementation of decisions shall be considered and decided upon by the CB.

The CB will be in charge of namely, but not exclusively:

- Definition and update of Data Management Plan.
- Supervision of the proper execution of the Work Programme
- Decide upon the distribution of common funds allocated by EPOS-ERIC or any third Party and the joint budget subject to set up of the related agreements
- Approving any modification to the Articles and Annexes 1, 3 and 5, of the Agreement,
- Be responsible for the overall performance of the Agreement (ensuring the objectives are achieved)
- Supplying information to the members of the consortium,
- Appointing the Consortium Board Chair
- Appointing the Service Coordination Committee representative for EPOS ERIC
- Appointment of the members and Chairperson of the Executive Committee, and if necessary termination of their mandate before the end of the period of four (4) years.
- Deciding on admission of a new Party and a removal/withdrawal from the consortium
- Handling disputes or conflicts
- Interaction/Coordination with EPOS- ERIC
- Select and appoint the members of the Advisory Board
- Adopting/modify the rules of procedure of the, Executive Committee, Technical Committee, Advisory Board and TNA committee
- Appoint the *Party* who signs the Collaboration Agreement for the services for VO-TCS governance and coordination with EPOS ERIC

The CB's regulations are detailed in Annex 3

Each *Party* has the right to vote within the Consortium board subject to the provision sets out in Article 4.1 and Annex 3. The Parties of VO TCS Consortium, their representing entities and voting rights are listed in Annex 2. Annex 2 shall be kept up to date by the chairperson of the Consortium Board or any person authorised by him/her.

Suppliers have the right to attend CB meetings without voting rights.

5.2. The Executive Committee (ExC)

Executive Committee (ExC) is the supervisory body for the execution and implementation of the Work Programme and of CB decisions. This includes the day-to-day coordination of VO TCS activities, and the compliance check with the EPOS data policy (Annex 4).

The ExC shall manage progress reports from other VO -TCS committees and reports from *Parties* and

propose a Work Programme each year based on the recommendations within the reports. ExC shall report to and be accountable to the Consortium Board.

The ExC shall consist of the chairperson of the CB plus two members appointed by the Consortium Board amongst its members for a period of four years. Those members shall belong to three different *Parties*. They have the joint overall responsibility for managing the activities decided by the Consortium Board and representing the VO-TCS Consortium.

The Chairperson of the ExC shall not be the same as the Chairperson of the CB.

The ExC manages the Services for Governance and community coordination. One of the members should represent the *Party* who signs the Collaboration Agreement for the VO-TCS governance and coordination with EPOS ERIC. The term of the Collaboration Agreement shall at minimum be three years.

The ExC cannot make any legally binding decisions on behalf of any *Party*.

The rules of procedure of the Executive committee shall be adopted/modified by the CB under provisions set out in Annex 3.

Each member of the Executive Board present or represented in the meeting shall have one (1) vote. Unless otherwise agreed, decisions shall be taken by a two-thirds (2/3) majority.

5.3. Technical Committee (TeC)

A Technical Committee (TeC) shall be established to provide technical advice, harmonize and share knowledge and solutions between Parties, advice and introduce new technology and share ideas on how the services can develop. The TeC will monitor the performance of services and eventually plan their implementation. The TeC shall before November 1st each year provide a written report summarizing TeC activities and recommendations. The report will be assessed by the ExC.

TeC shall be composed of Information Technology (IT) representatives, one from each Party, and one from each Service Provider. IT representatives are appointed by written notice to the Chairperson of CB of the respective institutions (*Party* or Service Providers)

The TeC shall designate a Spokesperson who shall advise the ExC. She/he can be invited to attend the meetings of the Consortium Board.

The Rules of Procedure of the TeC will be proposed by the TeC and adopted/modified by the CB under provisions set out in Annex 3.

5.4. TNA committee (TC)

A TNA Committee shall be responsible for the financial and technical management of the Transnational access (TNA) activities. The TC shall before November 1st each year provide a written report summarizing TNA activities. This report will be assessed by the ExC.

The TC shall be composed of one representative from each TNA supplier. The representatives are appointed by written notice to the Chairperson of CB of the respective institutions (*Party* or Service Providers)

The rules of procedure of the TNA management shall be prepared by the TC, in compliance with the EPOS ERIC guidelines and approved and adopted by the CB.

The TC shall designate a Spokesperson.. She/he can be invited to attend the meetings of the CB.

5.5. Advisory Board (AB)

An Advisory Board (AB) shall be set up to support the community building, advise the CB on the development of the Work Programme, provide user perspective on the services, and advise on future development, and to suggest priorities to further extend the services. The AB shall before November 1st each year provide a written report containing recommendations. This report will be assessed by the ExC and required actions will be taken to answer the recommendations.

The AB shall be at the minimum composed of five representatives of the stakeholder community,

appointed by the CB.

Organizations that have formally declared their interest to join the VO-TCS Consortium or are in the progress of being admitted to the consortium shall be invited to be represented within the AB.

The rules of procedure of the AB shall be prepared by the AB and approved and adopted/modified by the CB. The AB shall designate a Spokesperson. She/he can be invited to attend the meetings of the CB.

Section 6: Work Programme of the VO-TCS

The Work Programme of the VO-TCS Consortium will be updated annually by decision of the CB under provisions set out in Annex 3.

The Work Programme shall describe Party's activities, the approved services, the service prioritizing, improvements of services and the objectives, activities and expected results of the VO-TCS Consortium. To this end the Work Programme shall clearly state which Parties are approved as Service Providers by the CB.

The Work Program shall describe TNA activities within VO-TCS

The Work Program will outline how the VO-TCS Consortium will work towards integrating new parties and how many meetings are anticipated (and when) each year.

The Work Programme and the resources of each Party are detailed in Annex 1.

Section 7: Resources

Each *Party* shall be responsible for its own resources, as described in the Work Programme (Annex 1)

Any decision regarding a joint budget and distribution of common funds allocated by EPOS-ERIC or any third *Party* requires a two-third (2/3) majority of the CB.

Section 8: Data and Intellectual Property Rights

8.1. General Principles

The principles and process of handling data and intellectual property rights within the activities of the VO-TCS Consortium are laid down in the EPOS data policy, (Annex 4).

8.2 Management of Results

Results obtained in the framework of this Agreement shall belong to the Party or Parties generating it.

In case of Results generated by several Parties, hereafter referred as "Joint Owners", the co-ownership rate and intellectual property costs will be equally shared between the said Parties.

Furthermore, the Parties shall designate between them an intellectual property manager (hereafter "IP Manager") during a meeting of the Consortium Board. The IP Manager will manage and monitor the protection of the Results. In the event that, at least two French public Parties are included among the Joint Owners, such French public Parties shall designate between them a representative, hereafter « Representative », in accordance with the "Décret n°2014-1518 of 16 décembre 2014 relatif au mode de désignation et aux missions du mandataire prévu à l'article L. 533-1 du code de la recherche and Arrête du 19 juillet 2016 relatif aux modalités de prise en charge des frais engagés par le mandataire unique prévu à l'article L. 533-1 du code de la recherche".

The Parties undertake to sign in good faith any legal instrument enabling them to exercise proprietary rights over the Results in accordance with this agreement prior any exploitation.

It is agreed that the Parties shall proceed in the interest of the inventors, in accordance with the legislation.

8.3 Software

In addition to the provisions set out in Sections 8.1 and 8.2, the Core Software shall remain the property of the Party which holds it prior to the signing of the Consortium Agreement.

Adaptations carried out, regardless of the author, in the framework of the Agreement, shall be the property of the Party owning the Core Software. Accordingly, where the Party having carried out Adaptations is not the owner of the Core Software, it undertakes to assign the right of use of such Adaptations, free of charge, to the Party owning the Core Software, including the right to reproduce, represent, translate, adapt, arrange, alter and market the Adaptation.

Each Party shall be the owner of the Extension produced by it within the framework of the Agreement, regardless of which Party is the owner of the Core Software from which such Extensions are derived.

Extensions produced jointly by the Parties, regardless of which party is the initial owner of the Core Software from which such extensions are derived, shall be the joint property of the Parties.

The Shared Software shall be the jointly owned property of the Parties.

8.4 Use of Results

In case of joint ownership: each of the joint owners shall be entitled to use their jointly generated and jointly owned Results, whether patentable or not, for non-commercial research and teaching activities on a royalty-free basis, prior consent of the other joint owner(s). Each of the joint owners shall be entitled to otherwise exploit the jointly owned Results and to grant (exclusive or non-exclusive) licenses to third Parties if the other joint owners are given prior notice and subject to prior agreement between the joint-owners, who agree in particular on the payment of financial compensation. Subject to any third party rights, each Party hereby grants to the other Parties a non-exclusive, royalty-free license to use its Resulting IPR for the purpose of carrying out tasks under this Consortium Agreement. Each Party shall be responsible for securing rights, to the necessary extent, to such Resulting IPR from its employees, students, and/or any sub-contractors.

8.5 Dissemination

For the avoidance of doubt, nothing in this Section 8.5. has impact on the confidentiality obligations set out in Section 9.

8.5.1 Dissemination of another Party's unpublished Results

A Party shall not include in any dissemination activity another Party's Results without obtaining the owning Party's prior written approval, unless they are already published.

8.5.2 Cooperation obligations

The Parties undertake to cooperate to allow the timely submission, examination, publication and defence of any dissertation or thesis for a degree that includes their Results subject to the confidentiality and publication provisions agreed in this Agreement.

8.5.3 Use of names, logos or trademarks

Nothing in this Agreement shall be construed as conferring rights to use in advertising, publicity or otherwise the name of the Parties or any of their logos or trademarks without their prior written approval.

Section 9: Confidentiality

9.1. General Principles

All information in whatever form or mode of communication, which is disclosed by a *Party* (the "Disclosing *Party*") to any other *Party* (the "Recipient") in connection with the activities under this

Agreement and which has been explicitly marked as "confidential" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within fifteen (15) calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

9.2. Obligations

The Recipients hereby undertake, during the Agreement and for a period of four (4) years after the termination of this Agreement:

- not to use Confidential Information otherwise than for the purpose for which it was disclosed;
- not to disclose Confidential Information to any third Party without the prior written consent by the Disclosing Party;
- to ensure that internal distribution of Confidential Information by a Recipient shall take place on a strict need-to-know basis; and
- to return to the Disclosing Party on demand all Confidential Information which has been supplied to or acquired by the Recipients including all copies thereof and to delete all information stored in a machine-readable form. The Recipients may keep a copy to the extent it is required to keep, archive or store such Confidential Information because of compliance with applicable laws and regulations or for the proof of on-going obligations

The Recipient shall be responsible for the fulfilment of the above obligations on the part of their employees or third parties involved and shall ensure that they remain so obliged, as far as legally possible, during the Agreement and/or after the termination of the contractual relationship with the employee or third party.

The above shall not apply for disclosure or use of Confidential Information, if and in so far as the Recipient can show that:

- the Confidential Information has become or becomes publicly available by means other than a breach of the Recipient's confidentiality obligations;
- the Disclosing Party subsequently informs the Recipient that the Confidential Information is no longer confidential;
- the Confidential Information is communicated to the Recipient without any obligation of confidentiality by a third party who is to the best knowledge of the Recipient in lawful possession thereof and under no obligation of confidentiality to the Disclosing Party;
- the Confidential Information, at any time, was developed by the Recipient completely independently of any such disclosure by the Disclosing Party;
- the Confidential Information was already known to the Recipient prior to disclosure, or

the Recipient is required to disclose the Confidential Information in order to comply with applicable laws or regulations or with a court or administrative order, subject to the article 8 last paragraph hereunder.

The Recipient shall apply the same degree of care with regard to the Confidential Information disclosed within the scope of the Consortium Agreement as with its own confidential and/or proprietary information, but in no case less than reasonable care

Each Party shall promptly advise the other Party in writing of any unauthorised disclosure, misappropriation or misuse of Confidential Information after it becomes aware of such unauthorised disclosure, misappropriation or misuse.

If any Party becomes aware that it will be required, or is likely to be required, to disclose Confidential

Information in order to comply with applicable laws or regulations or with a court or administrative order, it shall, to the extent it is lawfully able to do so, prior to any such disclosure:

- notify the Disclosing Party,
- comply with the Disclosing Party's reasonable instructions to protect the confidentiality of the information.

Section 10: Liability

10.1 No warranties

In respect of any information or materials (incl. Results) supplied by one *Party* to another in the context of this Agreement, no warranty or representation of any kind is made, given or implied as to the sufficiency or fitness for purpose nor as to the absence of any infringement of any proprietary rights of third *Parties*.

Therefore,

- the recipient Party shall in all cases be entirely and solely liable for the use to which it puts such information and materials, and
- no Party granting access rights shall be liable in case of infringement of proprietary rights of a third Party resulting from any other Party exercising its access rights.

10.2 Limitations of Contractual liability

No *Party* shall be responsible to any other *Party* for any indirect or consequential loss or similar damage such as, but not limited to, loss of profit, loss of revenue or loss of contracts, provided such damage was not caused by a wilful act or by a breach of confidentiality.

10.3 Damage caused to third Parties

A *Party* shall be solely liable for any loss, damage or injury to third *Parties* resulting from the performance of the said *Party*'s obligations by it or on its behalf under this Consortium Agreement or from its use of Results.

10.4 Force Majeure

No *Party* shall be considered to be in breach of this Agreement if it is prevented from fulfilling its obligations under the Agreement by Force Majeure.

Each *Party* will notify the competent Consortium Bodies of any Force Majeure without undue delay. If the consequences of Force Majeure for the project are not overcome within six (6) weeks after such notification, the transfer of tasks - if any - shall be decided by the competent Consortium Bodies.

Section 11: Miscellaneous

11.1. Amendment, Attachments, inconsistencies and severability

This Agreement consists of this core text and Annexes which are an integral part of the Agreement:

In case of conflicts between the attachments and the core text of this Agreement, the latter shall prevail.

Should any provision of this Agreement become invalid, illegal or unenforceable, it shall not affect the validity of the remaining provisions of this Agreement. In such a case, the *Parties* concerned shall be entitled to request that a valid and practicable provision be negotiated that fulfils the purpose of the original provision.

Amendment proposals may be submitted to the *CB* by any *Party* in accordance to the regulations set out in Annex 3

Amendment proposals shall be listed on the agenda communicated with the invitation to the *CB*.

Notwithstanding the foregoing, in order to modify and/or update the Annexes, it is not necessary to follow the same procedure as for amending the Articles of the Agreement. The Annexes 1, 2, 3 and 7 can be modified and/or updated by decision of the *CB* in accordance to the regulations set up in Annex 3.

11.2 No Partnership or Agency

Nothing in this Agreement is intended to create a partnership of any kind among the *Parties*, or to authorise any *Party* to act as agent for any other. Save to the extent expressly permitted by this Agreement, no *Party* will have the authority to act in the name or on behalf of or otherwise to bind any other *Party*.

11.3 Notices and other communication

Any notice to be given under this Agreement shall be in writing to the addresses and recipients as listed in the most current address list kept by the chairperson of the Consortium Board.

11.4 Formal notices

If it is required in this Agreement that a formal notice, consent or approval shall be given, such notice shall be signed by an authorised representative of a *Party* and shall either be served personally or sent by mail with recorded delivery or telefax with receipt acknowledgement.

11.5 Other communication

Other communication between the *Parties* may also be effected by other means such as e-mail with acknowledgement of receipt, which fulfils the conditions of written form.

11.6 Change of persons or contact details

Any change of persons or contact details shall be notified immediately by the respective *Party* to the chairperson of the Consortium Board. The address list shall be accessible to all *Parties*.

11.7 Mandatory national law

Nothing in this Agreement shall be deemed to require a *Party* to breach any mandatory statutory law under which the *Party* is operating.

11.8 Language

This Agreement is drawn up in English, which language shall govern all documents, notices, meetings, arbitral proceedings and processes relative thereto.

11.9 Settlement of disputes

The *Parties* shall endeavour to settle their disputes amicably.

All disputes arising out of or in connection with this Agreement, which cannot be solved amicably, shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with the said Rules.

The place of arbitration shall be Brussels if not otherwise agreed by the conflicting *Parties*.

The award of the arbitration will be final and binding upon the *Parties*.

Nothing in this Agreement shall limit the *Parties'* right to seek injunctive relief in any applicable competent court.

Notwithstanding the above, should any *Party* (e.g. a Public Body) show that certain provisions of its national law prevents it from submitting the relevant dispute to arbitration, then the concerned *Parties* will submit the dispute to the Courts of Brussels.

List of Annexes

Annex 1: Work Programme

Annex 1 Work Programme

VO-TCS Work Programme including TCS General Activities and Services provided by each Party

VO-TCS General Activities

The **mission** of the Volcano Observation Thematic Core Service (TCS) is to provide, through the European Plate Observing System (EPOS), access to volcanological data, products, services and software in support of the Solid Earth Sciences. To achieve this goal, EPOS-VO:

- facilitates access to relevant and validated volcanological data, data products and relevant metadata,
- coordinates the harmonization and archiving of volcanological data, data products and relevant metadata,
- coordinates the harmonization of virtual, physical and remote access to the volcanological services,
- maintains and distributes (open source) software for the volcanological community,
- Coordinates the community

The table below gives the overview of the different TCS Services and the Parties committed to perform these tasks

Type of service	Description of Services	Service Provider(s)
Governance and coordination	Collaboration Agreement for the VO-TCS governance and coordination with EPOS ERIC.	INGV
Service provision	Gateway	INGV, IMO, CNRS (to be confirmed)
Data and Product provision	Seismological Data and Products [WP11-DDSS-001; WP11-DDSS-002]	INGV, IMO, CNRS-IPGP
	Geodetic Data and Products [WP11-DDSS-003; WP11-DDSS-067]	INGV, IMO
	Geological and Volcanological Data and Products [WP11-DDSS-026; WP11-DDSS-031; WP11-DDSS-032; WP11-DDSS-033]	INGV, IMO, CNRS-UCA, CNRS-IPGP
	Petrological, Geochemical and Environmental Data and Products [WP11-DDSS-036]	INGV, CNRS-UCA
	Remote sensing Data and Products [WP11-DDSS-022; WP11-DDSS-023; WP11-DDSS-024; WP11-DDSS-025; WP11-DDSS-047; WP11-DDSS-049; WP11-DDSS-050; WP11-DDSS-051; WP11-DDSS-053]	INGV, IMO, CNRS-UCA
Software	Modelling and Computational Volcanology [WP11-DDSS-070]	INGV
Hazard	Geohazard products [WP11-DDSS-054; WP11-DDSS-056; WP11-DDSS-057; WP11-DDSS-058; WP11-DDSS-059; WP11-DDSS-060; WP11-DDSS-064; WP11-DDSS-065]	IMO, CSIC
Physical/Remote Access	Transnational Access	INGV, IMO, CNRS-UCA, CNRS-IPGP, CSIC

In the square brackets are reported the codes of the specific DDSSs

Annex 2 Composition of VO TCS Consortium Board

Composition of VO TCS Consortium Board.

Each *Party* has to appoint a Member to the Consortium Board with written notice to the Chairperson of the CB currently in charge. Each Member of the board shall be duly authorised to deliberate, negotiate and decide on all matters submitted to the Consortium Board. The voting rights of each party are described below

Members with voting rights:

Patrick Bachelery (CNRS) - Jean-Christophe Komorowsky (proxy)

Adelina Geyer (CSIC)

Giuseppe Puglisi (INGV)

Kristin Vogfjord (IMO)

Annex 3 Regulations of the VO TCS Consortium Board

The CB shall consist of one representative of each *Party* (hereinafter referred to as "Member"). Each Member has the right to vote within the CB but as there is one vote in total per country votes might be portioned. Voting rights of each party are described in annex 2

The *CB* elects a chair (hereinafter referred to as "Chairperson") among its Members (two-thirds (2/3) majority votes). The term of the mandate is three (3) years renewable once.

1.2 Ordinary and extraordinary meetings:

The *Consortium Board* will meet on ordinary meetings at least twice per year.

The *Chairperson* of the *Consortium Board* shall convene all Members by notice in writing at least 30 (thirty) calendar days preceding the meeting.

The *Consortium Board* may meet on extraordinary meetings when necessary.

The request shall be made by any *Party* to the *Chairperson*, who will decide whether or not it is necessary to organise an extraordinary meeting of the *Consortium Board* and define the organisation of such an extraordinary meeting.

1.3 Agenda

The *Chairperson* shall set the agenda for each meeting and include it in the invitation to the meeting.

Each Member shall be entitled to add issues on the agenda until fifteen (15) calendar days before the meeting.

Any issue which is not on the agenda may not be discussed or decided in the meeting, unless all Members are present and no one objects.

1.4 Voting rules and quorum:

The CB shall not deliberate and decide validly unless two-thirds (2/3) of its Members present or represented (quorum). If the quorum is not reached, the Chairperson of the Consortium Board shall convene another ordinary meeting within thirty (30) calendar days. If in this meeting the quorum is not reached once more, the Chairperson shall convene an extraordinary meeting which shall be entitled to decide even if less than the quorum of Members is present or represented.

Decisions will be made by consensus when possible. Failing consensus, decisions shall be taken by a two-thirds 2/3 majority votes unless otherwise agreed.

The following decisions shall be taken by the Consortium Board by unanimous vote of the Members present or represented :

- Admission of a new party to the Consortium after the said Party has complete the Accession Form (Annex 7) and approval of the settlement on the conditions of the accession of such a new party,
- Removal of a Party to the Consortium and approval of the agreement on the conditions of the removal of this Party. The Party subject to this procedure is not entitled to take part to this vote
- Approval of the agreement on the conditions of the withdrawal of a Party. The withdrawing Party is not entitled to take part to this vote
- Extension or termination before the expiration date of the Consortium,

1.5 Veto rights

A *Party* which can show that its own work, time for performance, costs, liabilities, intellectual property rights or other legitimate interests would be severely affected by a decision of the Consortium Board may exercise a veto with respect to the corresponding decision or relevant part of the decision.

A *Party* may refuse to contribute additional resources beyond the contribution that would be due to meet the agreed level stated in the most recent Work programme.

In case of a deadlock, if no agreement can be reached within two (2) months after a veto, the Consortium Board may appoint an arbitration committee of three independent experts

1.6 Minutes of meetings

The *Chairperson* shall produce written *minutes* of each meeting which shall be the formal record of all decisions taken. She/he shall send the draft to all of its Members within ten calendar days of the meeting.

The *minutes* shall be considered as accepted if, within fifteen (15) calendar days from sending, no Member has objected in writing to the *Chairperson* with respect to the accuracy of the draft of the *minutes*.

The accepted *Minutes* shall be sent to all Members of the *Consortium Board*, and its *Chairperson*, who shall safeguard them. If requested the *Chairperson* shall provide authenticated duplicates to the *Parties*.

1.7 Representation, Representation by Proxy, Remote Participation:

Each *Consortium Board* Member shall be deemed to be duly authorised to deliberate, negotiate and decide on all matters submitted to the *CB*

Any Member shall be able to authorise another Member to represent it in the meeting of the *Consortium Board* and vote on its behalf. In such a case, the representative shall be provided with a written power-of-attorney signed by the delegate of the principal Member.

Any Member shall be able to participate in the Meeting of the *Consortium Board* using a teleconference or videoconference system, if the technical means are available.

In urgent cases, it shall be possible to hold a *Consortium Board* meeting via e-mail or other means of electronic communication, if no Member objects.

Annex 4 Data policy

EPOS DATA POLICY

Content

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1. DEFINITIONS

Core Services: Both ICS and TCS (see definitions below)

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 redistributed 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.

EPOS-ERIC: EPOS-ERIC is a European Research Infrastructure Consortium (ERIC), a specific legal form chosen to facilitate the establishment and operation of EPOS research infrastructure. For more information, see <https://ec.europa.eu/research/infrastructures/index.cfm?pg=eric>

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 (SP): Entities responsible for aggregating, collecting and ensuring access to DDSS. They supply DDSS to the EPOS Core Services (ICS and TCS) with DDSS from one or more Suppliers.

Suppliers Entities granting rights of redistribution of their DDSS through EPOS by signing a Supplier Letter (see Appendix 1).

Thematic Core Services (TCS)

Thematic groups of Service Providers are organised in and coordinated by Thematic Core Services, which provide the scientific expertise for EPOS and interact in close connection with the user community.

User: Individual or institution that utilises the EPOS Services to access Data and Data Products and/or Tools and Software. Access includes discovery, download, execution, or any other use.

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 in all fields of Solid Earth Science and to foster a safe and sustainable society.

EPOS relies heavily on the cooperation with Suppliers as a high proportion 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”) organise and coordinate the Service Providers (“SP”). The contractual link for service provision will take the form of service contracts between EPOS and the SP. In order to foster open, free and easy access to DDSS from the SP, EPOS needs a common data policy. EPOS Data Policy applies directly to the DDSS managed by EPOS through ICS. The detailed data management plans specific to each Service Provider must be compliant with EPOS Data Policy. EPOS Data Policy national and European legislation which are primary regulations.

3. GUIDING PRINCIPLES

EPOS Data Policy 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 maximise 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 recognised 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, adhering to principles outlined by the Organisation for Economic Co-operation and Development (OECD).

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 utilise a widely accepted community licensing scheme, i.e. Creative Commons.

EPOS Data Policy also acknowledges the ongoing work of the European Commission to foster the FAIR (Findable, Accessible, Interoperable, Reusable) principles for data access.

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

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 recognises 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 being made available with minimum time delay and at no-cost, but in exceptional cases at minimal cost recovery.

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 the way in which the DDSS can be used.

Procedures to approve/accept restrictions and embargo conditions will be handled by a dedicated EPOS-ERIC committee. Information on restriction and embargo conditions shall be available to a User in a clear and transparent way.

Within EPOS Data Policy, "Users" in respect of access rights and restrictions, are classified as follows:

- **Anonymous:** Access without any identification or accreditation is not permitted at the ICS level. However, if a TCS decide to grant anonymous access, the TCS should provide alternative mechanisms to monitor use and purposes to which DDSS use is being applied.
- **Registered:** Identified access requiring prior registration, which may differ from specific EPOS services.
- **Authorised:** 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 Authorised user.

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

- **Open:** DDSS freely available/accessible to User(s) either for download or for direct use within an EPOS Service.
- **Restricted:** DDSS that are available under the conditions set out by the SP. Restrictions to specific type of user categories, if any, should be limited to specific datasets. Restrictions may also mean that fees could be charged. While metadata shall always be available at no charge, fees, if any, should no higher than the actual cost of making the DDSS available.
- **Embargoed:** DDSS that are available only after a predefined limited time (embargo period – that cannot exceed 3 years) has passed since collection/generation. Once the embargo period has passed, DDSS 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 may 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 LICENCING

5.2.1 DDSS licensing

To facilitate effective rights/ownership management, EPOS shall only redistribute DDSS after 2021 to which a licence has been applied/affixed. EPOS aims to grant one default licence set for EPOS-managed DDSS, Creative Commons 4.0. Within the Creative Commons permitted licence scheme, two licences will be adopted, CC:BY and CC:BY:NC. SP(s) have the possibility, provided it is agreed with Suppliers, where no licence type is identified to apply/affix a licence on unlicensed data on the Supplier's behalf.

5.2.2 Metadata licensing

To ensure the widest dissemination and publicity for EPOS managed DDSS, it is essential that metadata are easily and freely accessible at any time, with as few restrictions as possible. In order to achieve this, Suppliers will be encouraged to affix open licenses, preferably Creative Commons 4.0 CC:BY, to their metadata. The machine-readable version of this licence will allow User(s) to identify the relevant datasets through search engines licences filters.

5.3 QUALITY CONTROL

Quality control of the DDSS rests with the Supplier. SP 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 will disseminate good practice and shall provide a mechanism to obtain User feedback on DDSS quality.

EPOS will ensure a continuous process of review and assessment to verify that EPOS DDSS provision is operating as envisioned, seeking improvements and preventing/eradicating problems.

EPOS will give emphasis to controlling the quality of the services provided (e.g. 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 intends to comply with all international, European and national legislation regarding the protection

of personal data and privacy.

6. INTELLECTUAL PROPERTY RIGHTS

Intellectual property rights subsisting, incorporated or contained within of any DDSS shall continue to belong to the entity/individual that owns or has generated it or holds the rights (by licence or otherwise) at the time of submission of the DDSS to EPOS, except in case where these rights have been specifically waived by the owner/generator/holder.

Suppliers are required to verify that the DDSS they provide do not, to the best of their knowledge and belief, infringe any third party intellectual property rights, and ensure that, where identified, third party interests are fully accounted for and acknowledged.

7. MANAGEMENT FOR THE EPOS DATA POLICY

Any failures regarding use of or the implementing of 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-ERIC General Assembly. The committee will then take a decision accordingly.

The responsibility of the implementation and monitoring of EPOS Data Policy is that of the Service Providers. This means that there shall be a dedicated data management plan for every SP, and that every SP needs to ensure DDSS is managed efficiently and delivered according to EPOS Data Policy. In addition, the SP(s) agree to make sure the Suppliers are informed and agree that the EPOS infrastructure redistributes their DDSS (see Appendix 1).

8. POLICY REVIEW

This document is subject to revision according to changes in the law, the needs and strategy changes of

EPOS. EPOS Data Policy reviews will be approved by the EPOS-ERIC General Assembly.

Annex 5 TNA Access Policy

Trans National Access (TNA) to Research Facilities

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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:

- Identify potential TNA facility using the ICS-C brokering service
- Hold any initial discussions deemed useful with the TNA facility to agree scope and develop application
- Submit application to EPOS, notifying TCS/TNA facility
- 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.

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

Annex 6 Accession form

ACCESSION FORM

of a new *Party* to the EPOS Volcano Observations TCS

XXXX a legal entity established under the laws of the[include address and representation]

hereby consents to become a *Party* of the EPOS Volcano Observations TCS Consortium and accepts all the rights and obligations of a *Party* of this Consortium Agreement that will become effective at the date of **XXXX** signature.

YYYY, Chairperson of the *Consortium Board*

hereby certifies that the *Consortium Board* has accepted in the meeting held on **ZZZZ** the accession of the **xxxxx** to the Consortium that will become effective at the date of **XXXX** signature.

The Accession document has been made up in two originals to be duly signed by the undersigned authorised representatives.

Signature **XXXX** Stamp organisation **XXXX**

Place and Date **ZZZZ**

On behalf of **TTTTT**, Chairperson of the Consortium Board

Signature **TTTT**

Place and Date **ZZZZ**



SUPPLIER LETTER FOR THE VOLCANO OBSERVATIONS THEMATIC CORE SERVICE

(DRAFT)

1. In accordance with the EPOS Data Policy which is available at https://www.epos-ip.org/sites/default/files/repository/PDFFiles/EPOS%20DATA%20POLICY_July2018.pdf and the "Istituto Nazionale di Geofisica e Vulcanologia" (INGV; National Institute of Geophysics and Volcanology) data Policy, available at, <https://data.ingv.it/docs/>, INGV permits EPOS to redistribute the data and/or data products and/or software and/or services, hereinafter referred to as "DDSS", identified in the Annex A.

2. INGV confirms that to the best of its knowledge and belief:

- a. It has full rights of ownership to the DDSS and/or it has full rights to distribute the DDSS or to transfer rights to permit their redistribution by a third party;
- b. It is not under any obligation/disability/restriction at law, contract or otherwise, which would in any manner or to any extent prevent or restrict it from entering into and fully performing the obligations contained within this Supplier Letter;
- c. The release of DDSS in accordance with the terms of this Supplier Letter and it is made in the public interest in order to disseminate data and knowledge through Open Access.
- d. It has taken all reasonable steps to maximise the quality of the DDSS.

3. INGV hereby grants rights to permit:

- a. The relevant EPOS Service Provider to apply/affix the Creative Commons 4.0 CC:BY license on any Data or Data Product provided with no license information. The license will be applied/affixed on behalf of INGV, and will in no way limit the rights of ownership or otherwise of the Supplier.
- b. The relevant EPOS Service Provider to affix the relevant license on any Software provided with no relevant license information. The license will be applied/affixed on behalf of INGV, and by no means and will in no way limit the rights of ownership or otherwise of the Supplier.
- c. EPOS-ERIC to distribute the DDSS without delays as soon as they are made available.

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

Roma,

DD/MMM/YYYY,

Carlo Doglioni,

Signature, Stamp

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ANNEX A

<i>DDSS - ID</i>	<i>Category</i>	<i>DDSS Name</i>	<i>Access (*)</i>
WP11-DDSS-001	Seismological Data and Products	Velocity seismic waveforms	Open
WP11-DDSS-002	Seismological Data and Products	Acceleration /Accelerometer waveforms	Open
WP11-DDSS-003	Geodetic Data and Products	GNSS raw data (Rinex Data)	Open
WP11-DDSS-026	Geological and Volcanological Data and Products	Collections of magmatic rocks	Restricted (provided in the frame of the TNA service)
WP11-DDSS-027	Seismological data	Earthquake parameters (hypocentral and magnitude)	Open
WP11-DDSS-031	Geological and Volcanological Data and Products	Reports on volcanic activity	Open
WP11-DDSS-036	Geochemical and Petrological Data and Products	Chemical analysis and physical properties of gas, water and rocks	Open
WP11-DDSS-050	Remote sensing data and products	Wrapped Differential Interferograms (Phase and Amplitude)	Open
WP11-DDSS-070	Modelling and Computational Volcanology	Software catalogue for petrological to geophysical modelling	Open
WP11-DDSS-018	Remote sensing data and products	RAW SAR data and SAR SLC	Open
WP11-DDSS-019	Remote sensing data and products	VIS/IR Sensors onboard polar orbiting satellites (AVHRR, MODIS)	Restricted (according to the Space Agencies' rules)
WP11-DDSS-023	Remote sensing data and products	Ground-based visible and thermal / IR camera	Open
WP11-DDSS-041	Geochemical and Petrological Data and Products	Soil CO2 fluxes	Embargoed
WP11-DDSS-046	Remote sensing data and products	SO2 flux	Open
<p>(*) EPOS Data Policy</p> <ul style="list-style-type: none">- <u>Open</u>: DDSS freely available/accessible to User(s) either for download or for direct use within an EPOS Service.- <u>Restricted</u>: DDSS that are available under the conditions set out by the Service Provider- <u>Embargoed</u>: DDSS that are available only after a predefined limited time (embargo period – that cannot exceed 3 years) has passed since collection/generation. Once the embargo period has passed, DDSS may become either Open or Restricted			

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