

Fostering the Innovation Potential of Research Infrastructures
INFRAINNOV-2-2016: Support to Technological Infrastructures



CLONETS – CLOck NETwork Services
Strategy and innovation for clock services
over optical-fibre networks

Grant Agreement Number: 731107

Deliverable D5.1

Adaptation of the consortium agreement for a future
exploitation phase
Final

Version: 1.0
Author(s): Philip Tuckey, OBSPARIS
Date: 29/09/2019



This project receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 731107

DOCUMENT INFORMATION

Project and Deliverable Information

Project Acronym:	CLONETS
Project Ref. №:	731107
Project Title:	CLONETS – CLOck NETwork Services: Strategy and innovation for clock services over optical-fibre networks
Project Web Site:	http://www.clonets.eu
Deliverable ID:	D5.1
Deliverable Nature:	Report
Dissemination Level*:	PU
Contractual Date of Delivery:	31/07/2019
Actual Date of Delivery:	29/09/2019
EC Project Officer:	Patricia Postigo-McLaughlin

* The dissemination level is indicated as follows: **PU** – Public, **CO** – Confidential (only for members of the consortium, including the Commission Services), **CL** – Classified (referred to in Commission Decision 2991/844/EC).

Document Control

Document	Title:	Adaptation of the consortium agreement for a future exploitation phase
	ID:	D5.1
	Version:	1.0
	Status:	Final
	Available at:	http://www.clonets.eu
	File(s):	CLONETS_Deliverable_D5.1_v1.0
Authorship	Main author:	Philip Tuckey, OBSPARIS
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Document Change History

Version	Date	Status	Comments
1.0	29/09/2019	Final	First published version

Document citation record

P. Tuckey, E. Bookjans, H. Veillard, Adaptation of the consortium agreement for a future exploitation phase. Version 1.0 of D5.1 of the HORIZON 2020 project CLONETS. EU Grant agreement no. 731107.

Keywords: optical fibre, network, clock, time, frequency, service, consortium agreement, legal entity

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LIST OF ACRONYMS AND ABBREVIATIONS

AISBL	International not-for-profit association (Association Internationale Sans But Lucratif)
BIPM	International Bureau for Weights and Measures (Bureau International des Poids et Mesures)
CERIC	Central European Research Infrastructure Consortium
CERN	European Organization for Nuclear Research
CFHT	Canada France Hawaii Telescope
CGPM	General Conference on Weights and Measures (Conférence Générale des Poids et Mesures)
CLONETS	CLOCK NETWORK Services: Strategy and innovation for clock services over optical-fibre networks project
CTA	Cerenkov Telescope Array
EC	European Commission
EGI	European Grid Initiative
ESA	European Space Agency
ESO	European Southern Observatory
ERF	Association of European-Level Research Infrastructures Facilities
ERIC	European Research Infrastructure Consortium
ESFRI	European Strategy Forum on Research Infrastructures
EU	European Union
EURAMET	European Association of National Metrology Institutes
JIVE	Joint Institute for VLBI ERIC (JIV-ERIC)
NMI	National Metrology Institute
NREN	National Research and Educational Networks
PRACE	Partnership for Advanced Computing in Europe
RI	Research Infrastructure
SKA	Square Kilometre Array
THEMIS	THEMIS solar telescope

LIST OF PROJECT PARTNER ACRONYMS

AGH/AGH-UST	Akademia Górniczo-Hutnicza im. Stanisława Staszica w Krakowie, Cracow, Poland
CESNET	CESNET, zájmovésdruženíprávnických osob, Prague, Czech Republic
CNRS*	Centre National de la Recherche Scientifique, Paris, France
INRIM	Istituto Nazionale di Ricerca Metrologica, Turin, Italy
GARR#	Gruppo per l'Armonizzazione delle Reti della Ricerca, Rome, Italy
Menlo	Menlo Systems GmbH, Martinsried, Germany
Muquans	Muquans, Talence, France
NPL	National Physical Laboratory, Teddington, United Kingdom
OBSPARIS [¶]	Observatoire de Paris, Paris, France
OPTOKON	OPTOKON a.s., Jihlava, Czech Republic
Piktime Systems	Piktime Systems sp z o.o., Poznan, Poland
PSNC	Instytut Chemii Bioorganicznej Polskiej Akademii Nauk – Poznańskie Centrum Superkomputerowo-Sieciowe, Poznan, Poland
PTB	Physikalsch-Technische Bundesanstalt, Braunschweig, Germany
RENATER	Groupement d'interêt Public pour le Réseau National de Telecommunications pour la Technologie, l'Enseignement et la Recherche, Paris, France
SEVENSOLS	Seven Solutions S.L., Granada, Spain
TOP-IX	Consorzio Torino Piemonte Internet eXchange, Turin, Italy
UCL	University College London, London, United Kingdom
UP13	Université Paris 13, Villetaneuse, France
UPT AV CR (ISI)	Ustav Pstrojove Techniky AV, v.v.i., Brno, Czech Republic

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third party to INRIM

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REFERENCES

- [1] GÉANT Formalités, https://www.geant.org/About/Our_organisation/Pages/Formalities.aspx
- [2] EGI Foundation, <https://www.egi.eu/about/egi-foundation/>
- [3] About EURAMET, <https://www.euramet.org/about-euramet/>
- [4] ESFRI, <https://www.esfri.eu/>
- [5] AISBL, Association Internationale Sans But Lucratif, https://justice.belgium.be/fr/themes_et_dossiers/societes_associations_et_fondations/associations/aisbl, <https://www.lexology.com/library/detail.aspx?g=2a7928c1-def9-49f1-8eb7-075d566da905>
- [6] PRACE-AISBL, <http://www.prace-ri.eu/prace-in-a-few-words/>
- [7] ERF-AISBL, <https://erf-aisbl.eu/>
- [8] ERIC, https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures/eric_en
- [9] ERIC Landscape, https://ec.europa.eu/info/research-and-innovation/strategy/european-research-infrastructures/eric/eric-landscape_en
- [10] JIV-ERIC, <https://jive.eu/>
- [11] CERIC-ERIC, <https://www.ceric-eric.eu/>
- [12] CTA Observatory, <https://www.cta-observatory.org/about/governance/>
- [13] CFHT, <https://www.cfht.hawaii.edu/>
- [14] THEMIS Solar Telescope, <http://161.72.34.10/dokuwiki/doku.php>
- [15] ESFRI Roadmap 2018, <http://roadmap2018.esfri.eu/>

EXECUTIVE SUMMARY

The CLONETS project aims to accelerate the transfer and uptake of techniques for the transmission of extremely high-performance time and frequency references over optical fibre. This approach provides significant improvements over the widely-used current approaches based on signal distribution by satellites. The project has allowed many aspects of the development of time and frequency reference distribution over optical fibre at the European level to be explored: scientific and industrial applications; status of and needs for telecommunications network equipment and equipment for time and frequency transmission over optical fibre; the general characteristics of a pan-European service and possible scenarios for its implementation as a European Research infrastructure.

The present document, CLONETS deliverable D5.1, provides the results of Task 5.4 of the project. It considers the possible legal statuses which may be used for future stages of the project. It considers two types of future stages, one in the context of European research and innovation actions, similar to the current project, and one concerning the implementation and operation of the proposed research infrastructure itself. It reviews a number of possible legal statuses, with examples of their use for scientific infrastructures, and analyses their relevance based on the current state of knowledge about the concept of the future infrastructure. Very briefly, it concludes that the status of an ERIC would be well-adapted to the infrastructure, but that other statuses such as national not-for-profit associations may also be possible, with the case of the GÉANT association being a relevant example.

1 INTRODUCTION

The CLONETS project addresses the major scientific and technological challenge of comparing and distributing very high-performance time and frequency references, moving from satellite-based methods to signal transport over optical fibre networks. Fibre-based technology presents significant performance advantages, over distances up to continental scale. A variety of actors such as metrology institutes, research centres, universities, research and education network operators and individual companies are putting great efforts towards developing related technologies adapted to specific cases and applications of this new paradigm.

The CLONETS project has the goal of accelerating the transfer of fibre distribution of time and frequency to industry and strengthening the coordination between research infrastructures (RI) and the national research and education networks (NREN), in order to prepare the creation of a sustainable, pan-European network to provide high performance clock services via optical fibre infrastructure. The project has allowed many aspects of the development of time and frequency reference distribution over optical fibre at the European level to be explored: scientific and industrial applications; status of and needs for telecommunications network equipment and equipment for time and frequency transmission over optical fibre; the general characteristics of a pan-European service and possible scenarios for its implementation.

The present document, CLONETS Deliverable 5.1, provides the results of Task 5.4 of the project, which studied the question of adaptations to the consortium agreement necessary for the future CLONETS exploitation phase. It was decided to broaden the study into a review of possible legal statuses for the future phases of CLONETS. In effect, CLONETS is a coordination and support action, funded under the INFRAINNOV-2-2016 Call. Its consortium agreement was put into place specifically for this action, and is based on the standard EU template for such consortium agreements. Therefore it is well-suited to Horizon 2020 or other EU research and innovation programme projects, but is not appropriate as a basis for implementing and operating a European Research Infrastructure. Therefore this document provides a preliminary but wide review of possible future legal statuses beyond the current consortium agreement. It analyses their relevance as far as possible in function of the current state of advancement of the concept of the research infrastructure proposed by CLONETS.

The document is structured as follows: Chapter 2 provides a preliminary description of the requirements to be satisfied by future legal structures. Chapter 3 surveys a variety of legal structures which may be relevant for the future of the project. Chapter 4 discusses these possible structures, indicating advantages and disadvantages in view of the current state of knowledge about the research infrastructure proposed by CLONETS. Chapter 5 provides the Conclusion.

2 REQUIREMENTS ON FUTURE LEGAL FRAMEWORKS

We consider two possible future phases for the continuation of the work carried out in CLONETS:

- further Actions under future Calls of European Union research and innovation programmes, i.e. Horizon 2020 and/or Horizon Europe;
- implementation and operation of the pan-European optical fibre time and frequency research infrastructure which is the ultimate objective of CLONETS.

2.1 Further EU research and innovation programme projects

The present CLONETS project, carried out under an INFRAINNOV call, has allowed many aspects of the development of time and frequency reference distribution over optical fibre at the European level to be explored: scientific and industrial applications; status of and needs for telecommunications network equipment and equipment for time and frequency transmission over optical fibre; the general characteristics of a pan-European service and possible scenarios

for its implementation. With the end of the present project approaching, it has become clear that there is considerable scope for implementing such an infrastructure, while at the same time that a more detailed and focused study is needed to prepare it. For example, an appropriate context for carrying out this needed work would be an Action in an “INFRADEV Design Studies” Call.

For future work of this type, the current CLONETS Consortium Agreement would naturally require only fairly minor modifications. This is because it is closely based on the relevant EU template for consortium agreements for such research and development actions. The main foreseeable modifications for a new CLONETS action would be:

- taking account of updates to the EU consortium agreement template;
- modifying the consortium members and coordinator if required for the new project. Many of the members of the current project would be expected to participate in a future Design Study, while additional partners may be added, for example to contribute to further developing the science requirements for the various application areas, studying the legal status, etc;
- updating the governance arrangements for the new project if required;
- adapting the financial arrangements to the details of the Grant Agreement for the new project.

Indeed, the CLONETS Consortium Agreement has worked well and no significant issues with it have arisen.

Thus in this case the question of the future legal status required for continuing CLONETS is rather simple, based on a similar consortium agreement to the present one. We will not consider this case further in the rest of this document.

2.2 Implementation and operation of a European Research Infrastructure

Looking further forward, a legal structure will be needed to support the implementation and operation of the European research infrastructure itself. This is a very different context from that which the current consortium agreement is intended for and it will no doubt require a very different legal context from the current Consortium Agreement. The rest of this document is dedicated to a preliminary exploration of the possibilities for legal structures for this future phase.

2.2.1 Participating entities

The CLONETS INFRAINNOV project brings together a variety of partners: national metrology laboratories, university research groups, national research and education network providers, an internet exchange and innovative, high-technology SMEs already working in this area. Many of these may be expected to play a role in the implementation and operation of the future European research infrastructure. For the purposes of discussing the required legal status, we find it useful to define some general categories of relevant entities:

- Policy makers and funding agencies: they take the decision to create the infrastructure and provide necessary funding. They have ultimate control over the infrastructure.
- Developers or promoters of the research infrastructure: they develop the concept and design of the infrastructure and take steps to obtain support for it to be implemented. They may be expected to play a role of technical oversight in the functioning of the infrastructure. We refer to them simply as Developers of the research infrastructure in the following.
- Network operators, equipment and service suppliers, etc: they provide services and equipment for the infrastructure, presumably under contract with the legal entity in charge of the infrastructure.
- Users: they use the services provided by the infrastructure and may pay fees for this, but do not have a responsibility in the functioning of the infrastructure.

Individual entities may be members of more than one of these categories. Nevertheless, this approach helps in identifying the different kinds of requirements which the legal arrangements must satisfy.

2.2.2 Activities to be carried out under the legal structure

The legal structure must be able to exert effective control of the research infrastructure. It must ensure that the infrastructure is built, operated and ultimately decommissioned. At the present stage there are few constraints or assumptions on how this should be done. The structure may purchase equipment itself and operate the infrastructure with its own employees, or it may do this primarily through subcontractors, leasing arrangements and so on. The main activities to be carried out are:

- make the detailed design of the infrastructure
- implement (build) the infrastructure
- operate the infrastructure, providing the services to the users, including connecting and disconnecting users as needed
- monitoring and reporting of the infrastructure
- decommission the infrastructure at its end-of-life

2.2.3 Requirements on the legal structure

Some of the requirements to be satisfied by the legal structure are as follows:

- it must allow ultimate control to be exerted by the relevant policy makers and funding agencies;
- it must allow control or oversight of the construction and operation of the infrastructure by the developers;
- it must have effective control over the construction and operation of the infrastructure;
- it must have the capacity to receive funding from funding agencies and possibly other sources;
- it must have the capacity to purchase equipment and services, recruit personnel, sign long-term contracts, etc;
- it must have the capacity to interact with and respond to the users, for example adding and removing users (enter into and terminate service provision agreements), interacting with user representation groups, etc;
- it should be able to operate in multiple EU Member countries;
- the capability of providing commercial services may also be useful.

3 BRIEF SURVEY OF POSSIBLE LEGAL STATUSES

3.1 Collaborative agreement among existing legal entities

This approach does not rely on the creation of a dedicated legal entity for the infrastructure. Instead, one or more existing legal entities take responsibility for the infrastructure. This may take place on the basis of a contractual agreement among the relevant interested parties, i.e. the policy makers and funding agencies and the developers of the infrastructure. This agreement could entrust one or more of these parties with the legal responsibility for the infrastructure, in return for the provision of the necessary financing, and define the rights and mechanisms allowing the other interested parties to participate in the oversight and orientation of the infrastructure. The designated responsible entity or entities then incorporate these responsibilities into their normal operations, employing any necessary personnel, purchasing equipment and services, and so on.

There are many examples of existing legal entities grouping together to carry out certain activities. In the area of metrology, there is the example of the leasing of telecommunications

satellite bandwidth by some European National Metrology Institutes for long distance clock comparisons, where one of the NMIs, the PTB, carries out this activity on the basis of cost-sharing agreements with the others.

However the implementation and operation of the European RI considered here would be challenging in its scale and complexity and possibility outside the terms of reference of the individual legal entities which are currently participating in CLONETS. Therefore such a collaborative approach would be likely to require a (complicated) repartition of the responsibilities between multiple participants, possibly on a geographic basis, necessitating an excellent coordination among the participants in order to ensure the overall consistency of the RI. It may however be noted that several cross-border links are currently being operated on such bases, by small consortia involving members of CLONETS.

3.2 Dedicated legal entity

In this approach a new legal entity is created specifically for the infrastructure. Some or all of the relevant interested parties, i.e. the policy makers and funding agencies and/or the developers of the infrastructure, will have effective control over this legal entity in order to ensure oversight and orientation of the infrastructure. The new legal entity will receive funding for the infrastructure, employ personnel, purchase equipment and services, and so on, if and as necessary.

There are many possible choices for the status of a new legal entity. In this section we summarise some of them and mention relevant examples.

3.2.1 National not-for-profit legal entity

Many countries have created not-for-profit entity legal statuses, often called “associations”. They typically have a number of advantages, such as a relative simplicity of creation and official reporting and exemption from taxation. These statuses are used commonly for entities which provide scientific services, including European research infrastructures. We give here some relevant examples.

GÉANT, the collaboration on network and related infrastructure and services for the benefit of research and education, has the legal status of a Dutch association (Vereniging), registered in Amsterdam, with a complementary registration in the UK [1]. The EGI Foundation, which coordinates the European Grid Initiative infrastructure, is also a Dutch association [2].

EURAMET, the European Association of National Metrology Institutes, the Regional Metrology Organisation for Europe, is a German association of type “eingetragener Verein” (e.V.) [3].

One national not-for-profit status appears to be quite commonly used in the context of European infrastructures under the European Union research and innovation programmes and the ESFRI Roadmap [4]. This is the:

AISBL, International not-for-profit association:

AISBL, “Association Internationale Sans But Lucratif” in French, is a Belgian association, intended for international non-profit activities [5]. This status is known for being simple and flexible to create and operate. The headquarters of an AISBL must be situated in Belgium, it has a minimum of 2 members (3 is recommended), and has two internal components: management (“direction”) and administration. It is important to note that the members cannot obtain any material benefit from the AISBL, in the case of its dissolution its assets must be transferred to another not-for-profit entity. Some examples of AISBLs are:

- PRACE-AISBL, which coordinates access to high-performance computing facilities in 5 countries via a scientific review procedure [6];
- ERF-AISBL, a European not-for-profit association with the purpose of promoting the cooperation between European-level research infrastructures and external researchers.

Its members include national infrastructures as well as European networks and consortia of research infrastructures, such as EGI and PRACE [7].

Both of these associations provide services to groups of research infrastructures having common interests.

3.2.2 International not-for-profit legal entity

Many international scientific activities are operated by dedicated international entities. A well-known example is the International Bureau of Weights and Measures (BIPM, “Bureau International des Poids et Mesures”), created under the auspices of the inter-governmental General Conference on Weights and Measures (CGPM, “Conférence Générale des Poids et Mesures”). Some other well-known examples are CERN, ESA, ESO and the new SKA Observatory. However such structures are ad hoc, requiring specific and lengthy negotiations and agreements between the participating states for their creation. In order to streamline this process, the EU has created a specific legal status to facilitate the establishment and operation of Research Infrastructures with European interest. This is the:

ERIC, European Research Infrastructure Consortium [8] :

An ERIC is created by a decision of the European Commission, after formal commitments by interested states to become members. Among its characteristics are:

- Its legal status is recognised in all EU countries.
- The Members of an ERIC may be European Union Member States, associated countries, third countries other than associated countries and intergovernmental organizations.
- The primary objective of an ERIC is to establish and operate, through its Members, a research infrastructure of European importance on a non-economic basis.
- Limited economic activities are possible if they are closely related to its principal task and they do not jeopardize its achievement.

The ERIC status is widely used for European research infrastructures under the European Union research and innovation programmes and the ESFRI Roadmap [4]. At the present date 20 ERICS have been created [9]. Some examples of ERICs are:

- JIV-ERIC, which operates the European VLBI Network data processor [10].
- CERIC-ERIC, a multidisciplinary Research Infrastructure open for basic and applied users in the fields of Materials, Biomaterials and Nanotechnology, which provides a single entry point to some of the leading national research infrastructures in 8 European countries [11].

It is interesting to note that the CTA Observatory is currently operating under the German status of a “charitable limited-liability company”, gGmbH, as an interim measure until an ERIC is created [12].

3.2.3 Private limited company

A certain number of international scientific infrastructures are operated by private, limited liability companies, under the control of the participating countries’ relevant funding agencies. Examples are the Canada-France-Hawaii Telescope [13] and the THEMIS solar telescope [14]. The ESFRI Roadmap 2018 [15] contains two cases of infrastructures which have limited liability company status, both of type GmbH (Germany):

- INFRAFRONTIER, the European Research Infrastructure for the generation, phenotyping, archiving and distribution of mouse disease models
- European XFEL, the European X-Ray Free-Electron Laser Facility

A more detailed study is needed to clarify the advantages of this approach, compared to the disadvantages of losing the benefits of a not-for-profit status.

4 DISCUSSION OF POSSIBLE LEGAL STATUSES

It is important to note that the present document is a very preliminary exploration of possible legal statuses for the future phases of CLONETS. Many questions about the design of the future research infrastructure are still open, awaiting a further detailed study. The conclusions of that study will of course have a major bearing on the final choice of legal status. Therefore we limit ourselves here to some general observations about the nature of the research infrastructure and its implications for the legal status:

- For the reasons given in section 3.1, it appears unlikely that any one of the current CLONETS consortium members could implement and operate the European research infrastructure alone, on behalf of all of the participants. A purely consortium-based organisation, without a specific legal entity, would probably require a sophisticated repartition of activities among the consortium members, and coordination between them. Although this approach is currently being used for existing cross-border links, it must be considered whether it could be extended successfully to a pan-European network.
- The RI proposed by CLONETS is not a collection of autonomous national facilities with shared interests and objectives, it is a technically integrated infrastructure of European dimension. It is thus qualitatively different from the infrastructures run by most of the “national not-for-profit” entities listed above. It may be natural to consider that a structure with (at least) an EU-wide status would be better-adapted to running such an infrastructure. A relevant counter-example is however provided by GÉANT, an association which operates an integrated European infrastructure with many similarities to the proposed CLONETS RI.
- For the reasons mentioned in the previous point, the status of an ERIC appears to be well-suited to this research infrastructure.
- Most of the requirements set out in section 2.2.3 can be satisfied by almost all of the legal structures considered. The EU-wide legal status of an ERIC may facilitate operations over a wide geographic area. Further, the capacity of an ERIC to carry out limited commercial activities may be advantageous in allowing the RI to contribute directly to encouraging the uptake of time and frequency services over fibre.
- We note that many of the structures considered here, such as national not-for-profit entities, could be created by (at least some of) the legal entities which are already members of CLONETS. This would lead to a context where these entities are directly responsible for creating and operating the infrastructure, organising relations with users, etc, subject of course to funding being provided by funding agencies. The case of an ERIC is somewhat different since the members are the interested states themselves, in effect acting for both the infrastructure developers and the users.

5 CONCLUSION

In this document we have made a preliminary study of the requirements and possibilities for legal structures for future phases of the CLONETS project. A follow-on Action under an EU research and innovation programme, such as an INFRADEV Design Study, would naturally proceed on the basis of a Consortium Agreement very similar to that of the current CLONETS INFRAINNOV Action. Future phases of implementation and operation of the CLONETS research infrastructure would need very different legal arrangements because of its operational complexity, technical integration and European dimension. The status of an ERIC appears to be well-adapted to this. Nevertheless other approaches, such as national not-for-profit entities, cannot be ruled out at this stage.