

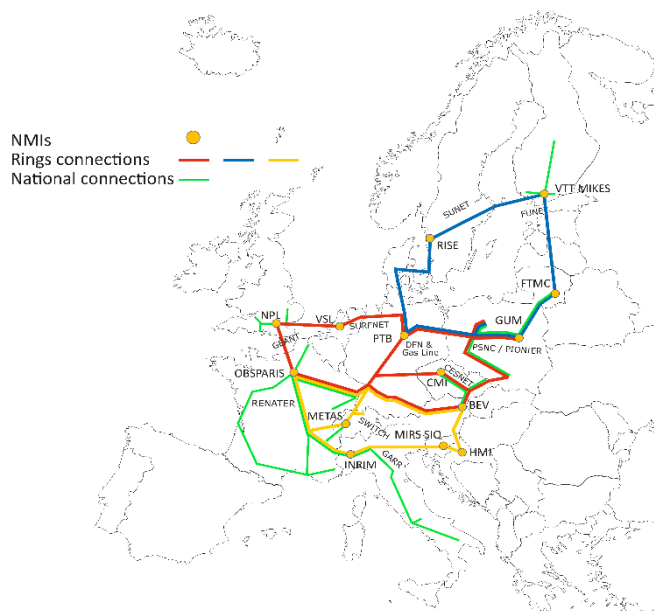
CLONETS-DS INTRODUCTION

The CLONETS-DS (Clock Network Services – Design Study) project aims to establish a pan-European time and frequency reference system as a European Research Infrastructure to serve the European science community. It is based on transmitting ultra-precise time and frequency information via optical fibre. The proposed project builds on several joint European projects and its direct precursor project, CLONETS. CLONETS-DS goes beyond previous efforts by designing a sustainable, pan-European, ultra-precise, time and frequency reference system available to the European research community. This Research Infrastructure considers users’ needs, designs the required architecture, engineering models and roadmaps, and develops a sustainability model for future service, thus strengthening the European research area.

END OF THE PROJECT BUT NOT END OF COOPERATION

The CLONETS-DS project ends on March 31, 2023. During the project, the requirements for precise time and frequency of scientific users were determined, and a time and frequency dissemination network based on a 3-ring topology was designed to allow the delivery of time and frequency signals to a large number of end users, as well as to connect National Metrology Institutes (NMIs), time and frequency laboratories, and national time and frequency dissemination networks. The cost of building such a network was estimated, and a network governance and maintenance structure were proposed.

Despite the end of the project, the partners plan further cooperation aimed at building a European time and frequency dissemination network in the future. Periodic meetings and cooperation in the field of other European and national initiatives are planned. Project partners plan to sign a Memorandum of Understanding.



Topology of the CLONETS-DS network (3-rings)

CLONETS-DS CONFERENCE PROMOTION

Project partners promote the CLONETS-DS project at international conferences. During the project, CLONETS-DS was presented at 14 conferences and workshops:

- Conference on Lasers and Electro-Optics (CLEO) 2021
- Asia Communications and Photonics (ACP) 2021
- The Networking Conference (TNC) 2022
- Robust Optical Clocks for International Timescales (ROCIT) Workshop
- International Conference on Research Infrastructures (ICRI) 2022
- CLEO 2022
- NORDUnet conference
- Internet2 conference
- GÉANT infoshare event
- Sympozjum Techniki Laserowej (STL) 2022
- European Frequency and Time Forum (EFTF) 2022
- Quantum Sensors and Tests of New Physics (QSNP) conference
- Precise Time and Time Interval Systems and Applications (PTTI) 2023
- CLEO 2023

Mostly these were presentations, but there were also poster sessions.

LIST OF DELIVERABLES

17 deliverables were prepared during the project; all can be found on the CLONETS-DS website. Most of them are public. A full list of deliverables is given below:

- D1.1 Stakeholder Workshop
- D1.2 Requirements and Definition
- D2.1 Technical Design
- D2.2 Roadmap for Technical Implementation
- D2.3 Data Management Plan
- D3.1 Governance and Sustainability
- D3.2 Governance and Sustainability Policy Paper
- D4.1 Positioning Paper on Access Models
- D4.2 ESFRI Roadmap
- D4.3 Impact on ERA
- D4.4 Dissemination and Exploitation Activities
- D5.1 First Newsletter
- D5.2 Second Newsletter
- D5.3 Third Newsletter
- D5.4 Data Protection Plan
- D5.5 Fourth Newsletter
- D6.1 Protection of Personal Data Requirement No. 1



PROJECT PARTNERS

The Seven Solutions partner has been acquired by the Orolia company. All Seven Solutions activities in the CLONETS-DS project have been taken up by Orolia.

CLONETS-DS project participants:



FUTURE ACTIVITIES

Project partners will work together to find funding opportunities to build a European T&F dissemination network.



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