
EURAMET EMPIR Research Potential Project 17RPT03
A digital traceability chain for AC voltage and current

WP7
Management and coordination

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OUTLINE

- **Task 7.1: Project management**
- **Task 7.2: Project meetings**
- **Task 7.3: Project reporting**
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WORK PACKAGES

- **WP1:** Digitiser Evaluation - **TUBITAK**
- **WP2:** Wide Range Dynamic Digitising – **INRIM**
- **WP3:** Data processing and uncertainty estimation for quick integration - **CEM**
- **WP4:** Validation of the new traceability chain – **NPL**
- **WP5:** Strategy for capacity development and basis for coordinated approach – **PTB**
- **WP6:** Creating impact – **GUM**
- **WP7:** Management and coordination – **FER-PEL**

Task 7.1: Project management

Activity number	Activity description	Partners (Lead in bold)
A7.1.1 M36	<p>The project will be managed by the dedicated project coordinator from FER, who will be supported by the project management board consisting of one representative from each partner; including the leaders of each work package. The members of the project management board will guide the project, attend the project meetings, organise the progress meetings at their local institutes and call additional meetings if needed to ensure the overall project's success.</p> <p>The project management board will be responsible for the high-level management of the project, addressing all the administrative, contractual and financial matters.</p>	FER, all partners
A7.1.2 M36	The work package leaders will report on the on-going progress of the work to the coordinator by e-mail and telephone conferences.	FER, all partners
A7.1.3 M36	The coordinator, with support from the partners, will manage the project's risks to ensure timely and effective delivery of the scientific and technical objectives and deliverables.	FER, all partners
A7.1.4 M36	The consortium will ensure that any ethics issues identified (see Section D.3) are addressed.	FER, all partners

Task 7.2: Project meetings

Activity number	Activity description	Partners (Lead in bold)
A7.2.1 M1	The kick-off meeting, involving all partners, will be held within the first month of the project, at NPL.	FER, all partners
A7.2.2 M1, M12, M18, M36	There will be four formal project meetings. These meetings include the kick-off (around June 2018 (M1), at NPL), mid-term (around November 2019 (M18), at PTB) and final meeting (around May 2021 (M36), at CEM). Another face-to-face meeting will take place as a satellite meeting at the EURAMET TC-EM SC LF and SC Powers and Energy meeting (around M12, May 2019, in Ljubljana). A satellite meeting will take place at the CPEM 2020 for those partners who would like to participate. Two additional meetings will be held as teleconference meetings (M9 (February 2019) and M27 (August 2020)). The meetings will review the progress and will be used to ensure partners are clear as to their role for the next period. The meetings and teleconference meetings will take place before the project reporting.	FER, all partners
A7.2.3 M36	In addition, technical meetings of work package groups may be held whenever necessary and will be arranged on an ad-hoc basis.	FER, all partners

Task 7.2: Project meetings

- **Kick-off Meeting (and Workshop), M1**
 - Venue: NPL, Teddington, United Kingdom
 - Dates: June 6-7, 2018
- **Agenda:**
 - WP1 to WP7: Technical approach, detailed activities, planning, deliverables, challenges & risks
- **Workshop**
 - Open source SW developed at INRIM to control PJVS
- **Lab tour at NPL**

Task 7.2: Project meetings

- **Mid-term Meeting (and Training), M18**
 - Venue: PTB, Braunschweig, Germany
 - Dates: November 26-28, 2019
- **Agenda**
 - WP1 to WP7: Technical approach, detailed activities, planning, deliverables, challenges & risks
- **Training**
 - AC quantum voltmeter for current measurements
 - AC quantum voltmeter and the effects of imperfect generators
 - Pulse-driven Josephson system to characterise an ADC
- **Lab tour at PTB**

Task 7.2: Project meetings

- **Satellite meeting at the EURAMET TC-EM SC LF and SC Powers and Energy meeting, M12**
 - Venue: SIQ, Ljubljana, Slovenia
 - Dates: May 16, 2019
- **Satellite meeting at the CPEM 2020 Conference**
 - The Conference was held on-line so there were no opportunity for in-person meeting

Task 7.2: Project meetings

- **Teleconference meetings, all WPs**
 - M14, July 17, 2019
 - M30, November 16, 2020
 - M40, September 6, 2021
 - M40, September 15, 2021
 - M41, October 14, 2021
 - M42, November 18, 2021
 - M43, December 17, 2021
 - M44, January 20, 2022
 - M45, February 17, 2022
 - M46, March 17, 2022
 - M47, April 22, 2022
- **Teleconference meetings, different WPs: ... many ...**

Task 7.2: Project meetings

- **Final Meeting, M48**
 - Venue: CEM, Tres Cantos, Spain
 - Dates: May 19-20, 2022
- **Agenda**
 - WP1 to WP7: Technical approach, detailed activities, planning, deliverables, challenges & risks
 - Current state of the PJVS and JAWS quantum standards, further work, and collaboration
- **Lab tour at CEM**

Task 7.3: Project reporting

Activity number	Activity description	Partners (Lead in bold)
A7.3.1 M1	One month after the signature of the grant agreement a publishable summary and data management plan (DMP) will be produced and submitted to EURAMET.	FER, all partners
A7.3.2 M9, M27 +45 days M18, M36 +60 days	<p>Following Articles 17 and 20 of the grant agreement, information will be submitted to EURAMET, in accordance with the procedures issued by them to enable EURAMET to comply with its obligations to report on the programme to the European Commission.</p> <ul style="list-style-type: none"> • Progress reports will be submitted at months 9, 27 (February 2019, August 2020; + 45 days), 18, 36 (November 2019, May 2021; + 60 days). • Impact/Output reports and data management plans will be submitted at the same times. <p>All partners will provide input to these reports and the coordinator will provide these and updated publishable summaries to EURAMET.</p>	FER, all partners
A7.3.3 M18, M36 +60 days	<p>Periodic Reports (including financial reports and questionnaires) will be delivered at months 18 and 36 (November 19, May 2021; + 60 days) in accordance with Article 20 of the grant agreement.</p> <p>All partners will provide input to these reports and the coordinator will provide these to EURAMET.</p>	FER, all partners
A7.3.4 M36 +60 days	<p>Final Reports will be delivered at month 36 (May 2021 + 60 days) in accordance with Article 20 of the grant agreement.</p> <p>All partners will provide input to these reports and the coordinator will provide these to EURAMET.</p>	FER, all partners

Task 7.3: Project reporting

- **M1**
 - Publishable Summary
 - Data Management Plan
- **M9**
 - Publishable summary
 - Technical Report (Progress)
 - EMPIR Output and Impact Report
- **M18**
 - Publishable summary
 - Technical Report (Progress)
 - EMPIR Output and Impact Report
 - Horizon 2020 Questionnaire
 - Financial Reports

Task 7.3: Project reporting

- **M27 (M38)**
 - Publishable summary
 - Technical Report (Progress)
 - EMPIR Output and Impact Report
 - Data Management Plan

- **Mid-term Review Conference**
 - On-line, March 17, 2020

Task 7.3: Project reporting

- **M36 (M48): due date is July 30, 2022**
 - Publishable summary
 - Technical Report (Progress)
 - EMPIR Output and Impact Report
 - Horizon 2020 Questionnaire
 - Data Management Plan
 - Public Report
 - Financial Reports
 - Excel files should be reported by due date
 - Scan of the signed financial report of each partner should be reported by due date
 - Hard copies of the signed financial reports should be at FER-PEL by due date
 - Prepare and send to the coordinator by **July 20, 2022**

Deliverables

- **Already reported**

- **D1:** Report on the selection of three digitisers and their parameters that meet the necessary requirements for digital traceability chain. This will include the performance related to the requirements of using AC quantum voltage standards - TUBITAK
- **D2:** Report on the best quantum-based system verification approach for testing digitisers to provide digital traceability chain for AC voltage and current - TUBITAK
- **D7:** Agreed individual strategies and coordinated strategic plan for the long-term development of FER, CEM, CMI, IPQ, JV, GUM, Metroserf, NPL, INRIM, PTB and TUBITAK research capability in digital traceability chain for AC voltage and current metrology - PTB

Deliverables

- **To be reported by May 31, 2022**
 - **D3:** Guidelines on the development of scaling systems employing digital techniques for use at NMIs and calibration laboratories for the practical realisation of step-up and step-down procedures and scaling of electrical current and voltage - INRIM
 - **D4:** Report on the integrated software for data processing and uncertainty estimation of dynamic measurements, including related methods and algorithms - CEM
 - **D5:** Paper on the validation of the complete system, including passive coaxial current and voltage devices, algorithms, and software submitted to a peer-reviewed journal – NPL
 - **D6:** Protocol for a future intercomparison of digital AC voltage and current standards between European NMIs – NPL
 - **D8:** Good Practice Guide on traceability of digital dynamic measurements of AC voltage and current – GUM

Deliverables

- **To be reported by July 30, 2022**
 - **D9:** Evidence of contributions to or influence on new or improved international guides, recommendations and standards with a specific focus on the following guides and committees: EURAMET TC-EM, EURAMET TC-EM SC Low Frequency, EURAMET TC-EM SC Quantum Metrology, EURAMET TC-EM SC Power and Energy. Examples of early uptake of project outputs by end-users – all, coordinator
 - **D10:** Delivery of all technical and financial reporting documents as required by EURAMET – all, coordinator
 - For each partner: financial

Conclusions

- **As consortium, we made all what was expected, in complicated time due to the pandemic, where not all planned actions were possible**
- **Prolongation of one year helped to achieve goals of the project**
- **Coordinator would like to express his admiration for all of the dedicated and hard work of the partners in these past four years**

Thank you!