

Dear all

Please find below the second Newsletter of the SmartCom project (which can also be found in the **download section** of our homepage).

Newsletter 1/2020

Work and Achievements in 2019



This brochure is deliverable D2 of the EURAMET EMPIR project 17IND02 (SmartCom, WP1)

Published at
<https://doi.org/10.5281/zenodo.3522074>

(DOI: 10.5281/zenodo.3522074)



This document is deliverable D1 of the EURAMET EMPIR project 17IND02 (SmartCom, WP1).

Published at
<https://doi.org/10.5281/zenodo.3522631>
(DOI: 10.5281/zenodo.3522631)

Suggestion for a Digital-SI published

A short description of the data model can be found in "D-SI in Short - Digital brochure on establishing the use of units in digitalised communication". This brochure specifies principles for establishing the use of units in a digitalised communication of machine-readable data.

These principles are the basis for all applications that transfer or require measurement data according to the specifications of the Système International d'Unités (SI). Fundamental principles for a harmonised, unambiguous, easy-to-understand and safe digital communication of metrological data are specified for real quantities and quantities related to constants. The principles consider a broad scope of requirements from a metrological and information and communications technology (ICT) point of view.

Guide on how to use the metrology metadata-format for the digital transfer of metrological data

A guide has been produced specifying the principles for determining the use of units in the digital transmission of machine-readable data. For the first time, in conjunction with the globally established SI, measures are defined which are essential for the simple, secure, harmonised and unambiguous exchange of metrological data. The handling of non-SI units and the requirements for conversion between SI and non-SI quantities are considered. In addition, a classification for the suitability of metrological data for interoperability and machine readability is made (medal system). The classification results from the use of SI units as defined in the 9th edition of BIPM's SI brochure.

Mid-term meeting and Stakeholder workshop

On 13 November, the mid-term meeting between the project partners took place at the National Physical Laboratory (NPL) in Teddington. An overview of the progress in WP1-3 was given and the work in WP 4-7 was prepared. In addition, the mid-term report was prepared.

On the following day the workshop for stakeholders took place together with the project partners. In addition to various presentations, which described some of the project's topics in more detail, the industrial needs of the participants were also discussed. Finally, there was an informative lecture of the partner project "Metrology for factory of the future (Met4FoF)".

Work package 1 dealing with data transfer completed

A unified meta data format has been developed for the exchange of measurement data in ICT applications and their implementation using XML.

A XML schema has been developed which implements the data model Digital-SI (D-SI) for a machine-readable transmission of metrological data in digital applications. It provides a trustworthy and generally understandable interface for the exchange of metrological data based on the SI (International System of Units).

Published at

<https://doi.org/10.5281/zenodo.3366902>

(DOI: 10.5281/zenodo.3366902)

If you like, we kindly ask you to participate in this short survey

<https://tinyurl.com/rdzml6j>



Machine-readable CODATA - list of fundamental constants

The providing of a machine-readable list of the fundamental constants as indicated from CODATA is another result of the work in WP1. All CODATA 2018 values are available for download on the PTB web-page in a machine-understandable format:

https://ptb.de/si/codata/m2m_constants_CODATA_2018_all_v2018.1.xml

What's next? Work planned for 2020



- Implementing UniTerm, an XML-based communication interface for DCC visualisation with a focus on industrial users
- Deploying demonstrators in a close cooperation with our stakeholders and our partner project Met4FoF, using the D-SI and DCC data formats of SmartCom
- Focusing dissemination activities towards standardization bodies and publication of results



If you no longer wish to receive this newsletter,
Please send us an e-mail with the subject **unsubscribe from the SmartCom newsletter**

SmartCom

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100, DE-38116 Braunschweig (Germany)

Tel.: +49 531 592 1189
Fax: +49 531 592 69 1189
E-Mail: smartcom@ptb.de
Internet: SmartCom