



## Update on activity of the CCPR-WG-SP TG9 OTDR (length) comparison May 29, 2024

The main objective of TG9 is to address relevant topics related to OTDR calibration. It was agreed to concentrate on following tasks:

### Discussion of CMC entries on Fibre Optics

Improved service categories for fibre optics have been prepared within the CCPR-WG-CMC-TG 4 and have been approved by the CCPR-WG-CMC and are listed in the "Classification of Services in Photometry and Radiometry document", Version No. 17, 10 July 2023.

*These service categories have been now fully integrated in the BIPM KCDB CMC structure.*

- Following entries were specifically defined for OTDR distance and for attenuation scale calibration
  - 7.10.1 Location offset, OTDR: wavelength, pulse width, distance range, index of refraction, specification standard used
  - 7.10.2 Distance scale deviation, OTDR: wavelength, pulse width, distance range, index of refraction, specification standard used
  - 7.5.2 Loss, measuring instrument: *wavelengths or wavelength range.*

### Realization of a series of Inter-comparisons to support the new entries

The APMP.PR-S8 supplementary inter-comparison of optical fibre length calibration is still ongoing. A first version of Draft B report was prepared by KRISS in March 2023, and a revision of Draft-B report is now under discussion with APMP.PR chair. The report should be finished before the end of this year.

A supplementary inter-comparison on OTDR calibration within AFRIMETS is still under preparation. NMISA is willing to take up the lead and will confirm that point soon. A first draft of the technical document was already prepared, jointly between NIS, NMISA and METAS.

As a preparation for this first supplementary inter-comparison, an informal inter-comparison led by NIS was carried out between NIS, NMISA and METAS, using an OTDR provided by NIS. The measurements are now complete and the evaluation of the results is ongoing. NIS will provide results before the end of this year. Based on the expertise gained out of this informal-intercomparison, the next steps will be to optimize the technical protocol for the supplementary inter-comparison and to define the definitive list of participants. METAS has already found an instrument manufacturer willing to make an OTDR available for this inter-comparison.

The objective is to start the formal supplementary inter-comparison as soon as possible, presumably in 2025.