Time and Frequency

The Consultative Committee for Time and Frequency (CCTF)

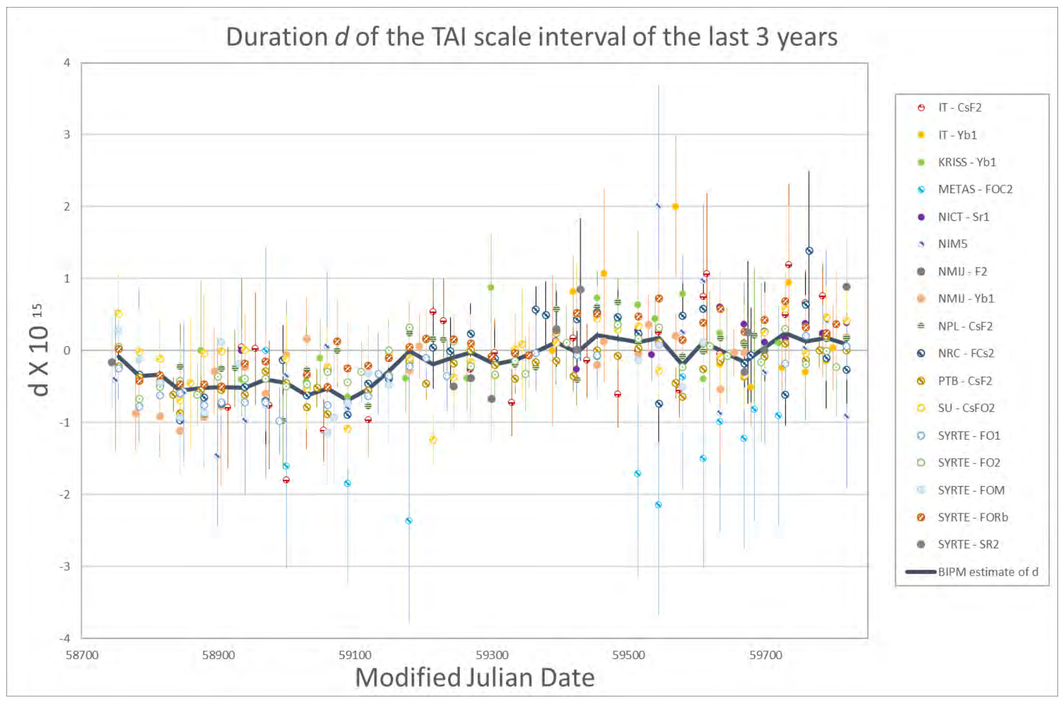
Global forum for NMIs on **best practices, innovations** and **state of the art**

The CCTF promotes research on **time scales, primary and secondary frequency standards, time and frequency transfer techniques** and their applications.

The CCTF relies on the **BIPM** for computing and maintaining the international time scales (**TAI, UTC, UTCr, TT(BIPM)**), and manages the key comparison **CCTF-K001.UTC.**

CCTF is concentrating its activities on four 'Hot Topics'

1. Updating the **Roadmap towards the redefinition** of the SI second
2. Leap seconds in UTC and building a consensus for a **continuous timescale**
3. Promoting the mutual benefit of UTC and GNSS, including **Traceability to UTC from GNSS** measurement
4. **Sharing Resources** to improve international timekeeping



Promotion of dialogue between **NMIs and stakeholders** on new emerging technologies

Earth and space sciences need precise timing for observation, research, and modelling in the fields of geodesy, geophysics and astronomy.

Geodesy and Astronomy ⟺ **Provide precise data to timekeeping**

- **Telecommunications** are based on precise network synchronization. Radiocommunication techniques allow UTC and UT1 transmission.
- UTC is the reference for **financial market** coordination and **cross-border energy transmission**

- **Global Navigation Satellite Systems (GNSS)** are based on precise timing and are **synchronized to UTC. GNSS broadcast a UTC prediction** as a timing service.

- **Civil time keeping** and legal times are based on UTC.

In collaboration with the RMOs, support **CMCs** for mutual recognition

The CCTF coordinates the strategies for time and frequency **comparisons** and **dissemination** with NMIs and relevant international and regional organizations.

816 **CMCs** in 19 service categories, based on:
1 Key Comparison **CCTF-K001.UTC**,
2 Supplementary Comparisons (**GULFMET.TF-S1 and EURAMET.TF-S1**)