TIME DEPARTMENT

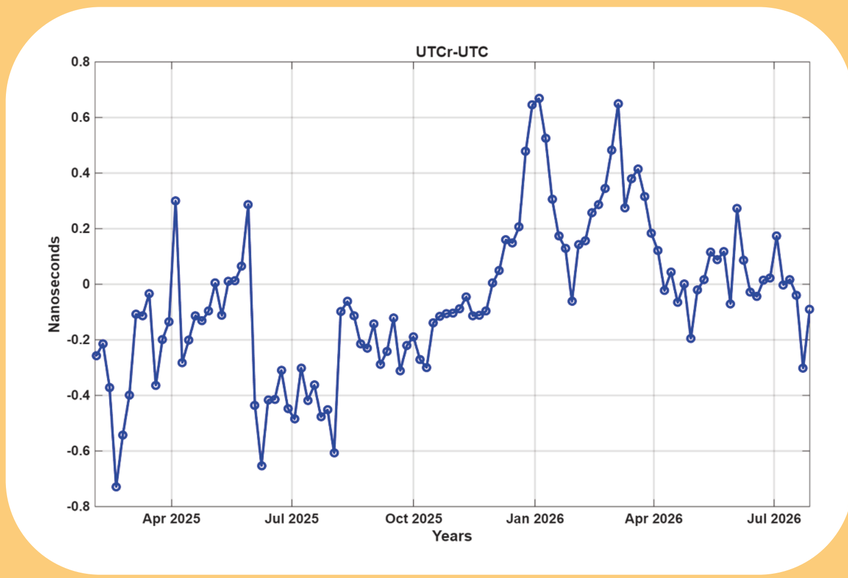
The Department realizes and disseminates the **international time scales Coordinated Universal Time (UTC)** and its Rapid approximation (UTCr).

IMPACT Science, technology, navigation and telecommunications world-wide run on a single, accurate and stable time reference - built and coordinated internationally through the BIPM.

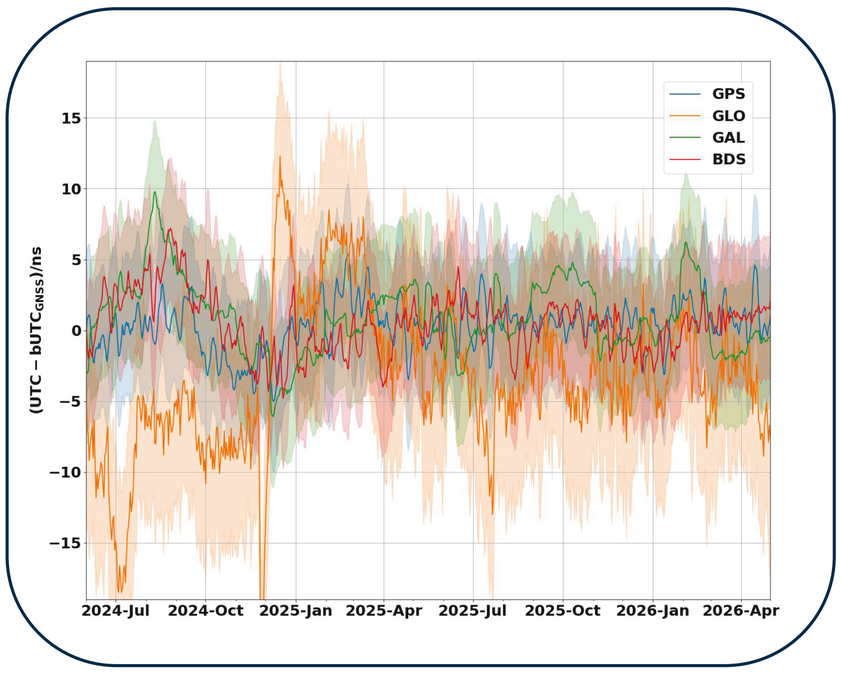
KEY ACHIEVEMENTS SINCE 2022

Rapid UTC (UTCr)

The **Rapid UTC (UTCr)** algorithm was **upgraded in 2025** with weekly clock weight recalculation and gradual frequency steering, replacing abrupt time steps to improve nanosecond-level accuracy.
The upgraded UTCr entered routine operation in June 2025 and has maintained **agreement with UTC within 1 ns.**



Credit: BIPM



Credit: BIPM

New in Circular T

Two main updates were introduced into Circular T:

1. The "**not calibrated equipment**" connecting UTC(*k*) to UTC are explicitly treated **as NC in the evaluation of the uncertainty of the offset UTC – UTC(*k*).**
2. The **UTC prediction broadcast in real-time by Global Navigation Satellite Systems** is now **evaluated** for the European Galileo and Chinese BeiDou systems, together with the US GPS and Russian GLONASS systems.

Capacity building to improve UTC and UTC(*k*)

A CBKT programme started to improve national time scales UTC(*k*) and hence UTC by the submission of more reliable and accurate data. The programme includes development of **e-learning modules** and interactive software for the processing of time and frequency data, **online Technical Exchanges, and five summer schools** in the RMOs and at the BIPM.





Credit : BIPM