

**A NEW GLOBAL TIME SIGNAL  
SECURE CERTIFIED PRECISE AND TRACEABLE**



**Alt-PNT Demo Day, 18 May 2022 – European Commission, JRC Ispra**  
Sebastien Teot – COO SCPTime





[>> Link to SCPTime video Presentation](#)

- SCPTime is 100% French company, spin-Off of GORGY-TIMING
- Delivering performance and security at an efficient cost thanks to Strong background / International patents / Legal Time connection



## An excellence consortium

6 years of R&D with leading-edge scientific partners



## A patented technology

- 3 international patents
- 1 proprietary technology



Time arbitration (Triptyque) PA 4076 of 31 MAI 2016



Secure Time Estimation (STE Blockchain) FR n° 18/58872 of 27 September 2018



Secure Time Synchronization protocol (STS NTP) FR n° 18/58873 of 27 September 2018



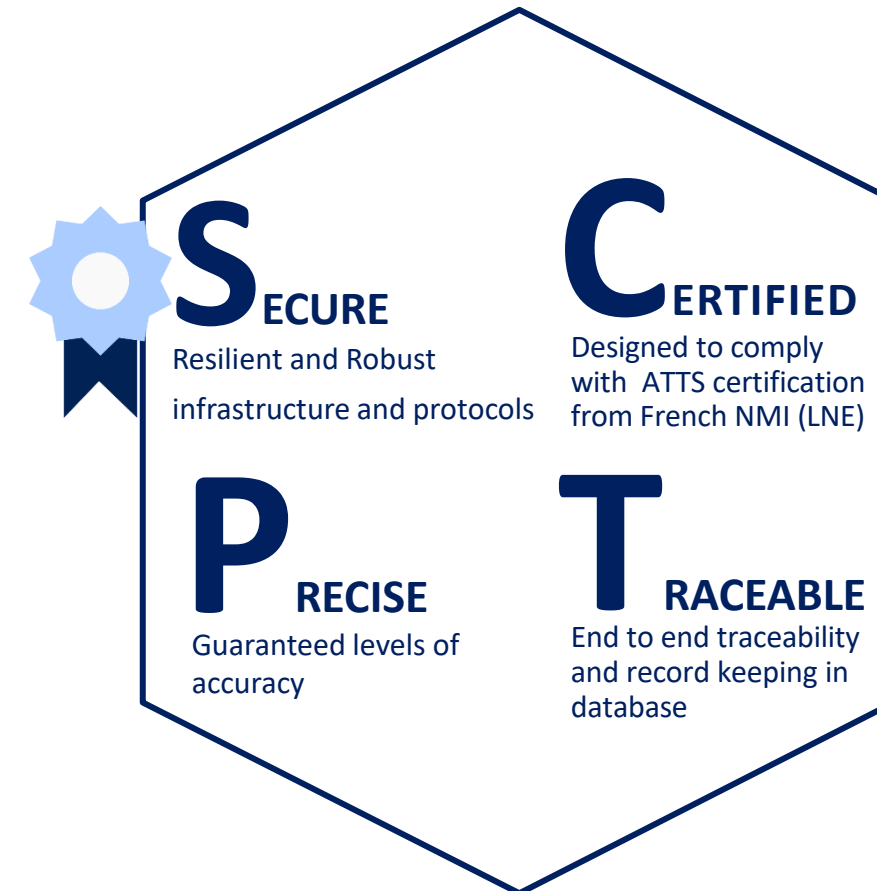
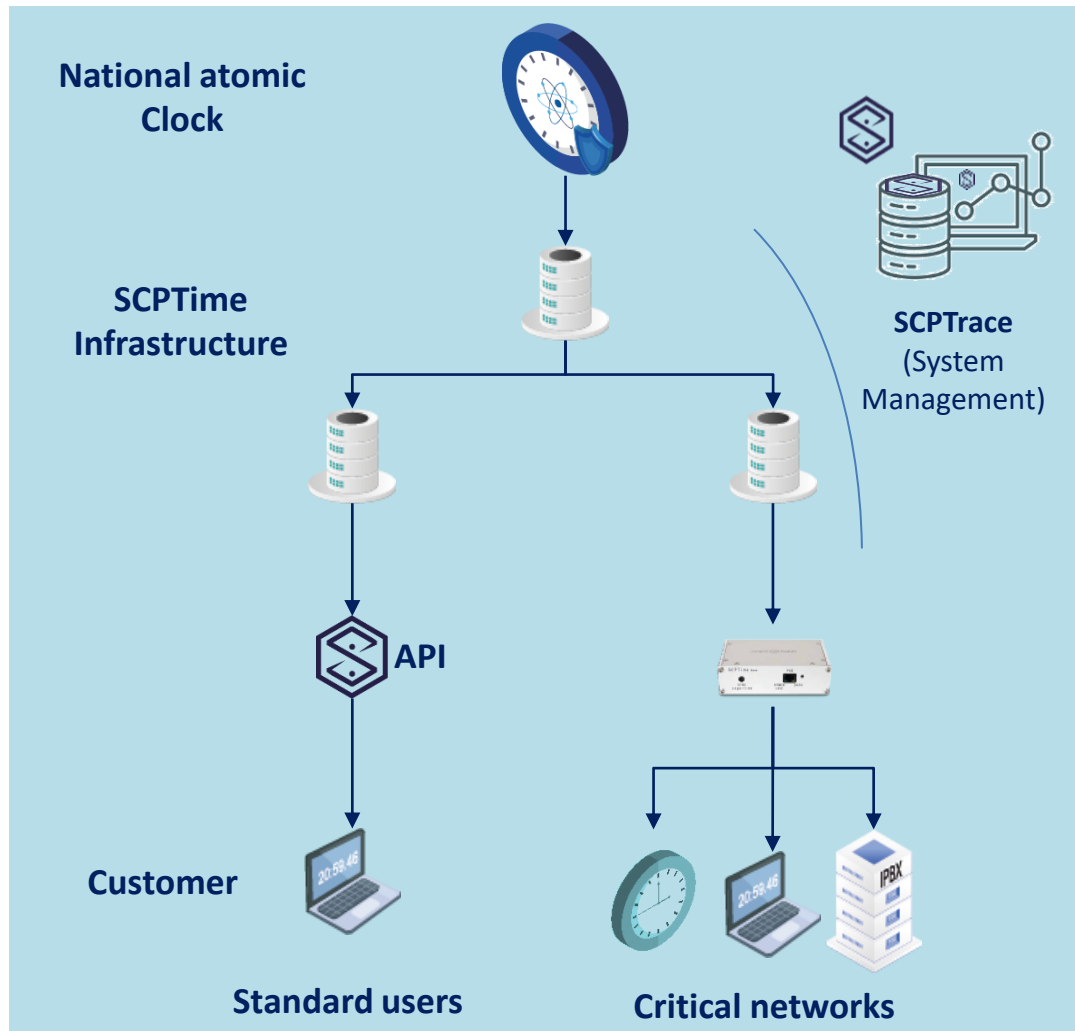
Source drift calculation - SCPTview (proprietary)



## Privileged access

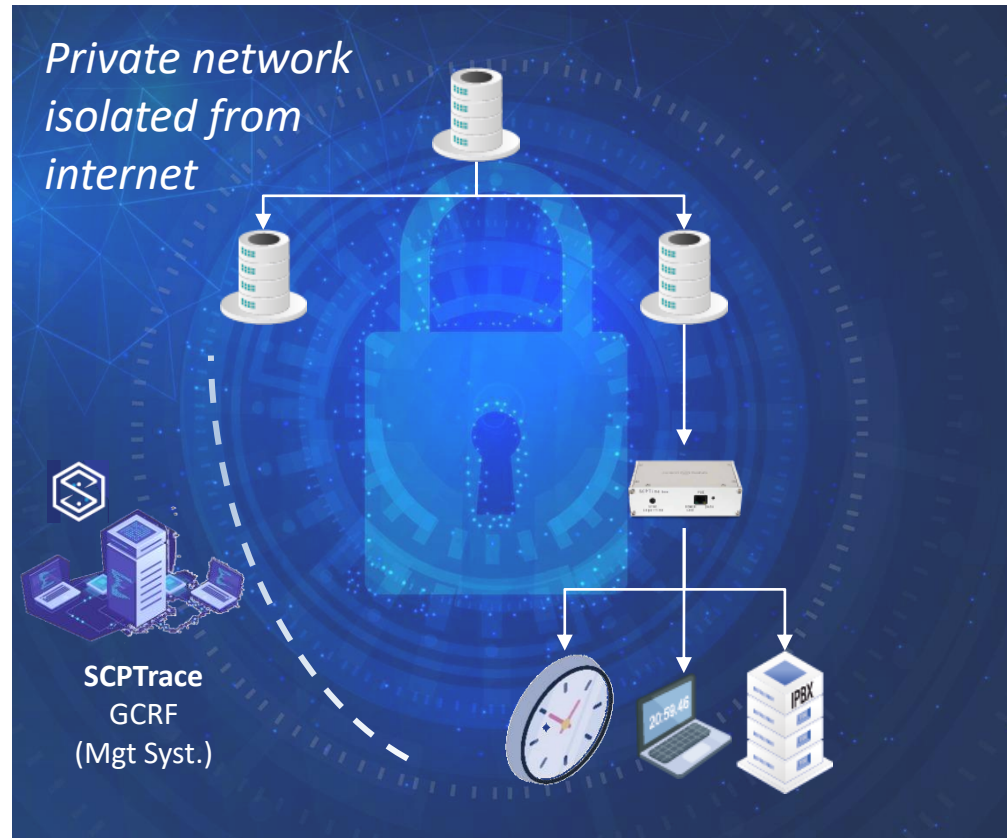


We deliver a Secure, Traceable and Precise Time signal through an unique architecture designed with French National Metrological Institute and connected to the legal Time (UTC)





## Setting up the infrastructure model in an existing closed network *(Critical infrastructures use cases)*



## Service broadcasted by a Partner

(B2B or Public use cases)

Customers to subscribe SCPTime services depending on SLA's

*Service performance*

### Agent

1s guaranteed  
API Service

### Basic

0.1s to 1ms  
Standard hardware  
(holdover in case of signal lost)

### Advanced

up to 10ns  
Patented high precision holdover system

Agent

Bundled solutions



## Main challenges that we address:

- **CYBERSECURITY AND RESILIENCE**
  - Service continuity ensured by a centralized, resilient timing infrastructure
  - Robustness of time signal, independent and/or from GNSS
- **END-TO-END TRACEABILITY, A KEY ENABLER OF TRUST TIME**
  - Traceability to official UTC
  - Traceability in end-to-end transmission from UTC(k) source to user devices
- **WIDE-AREA COVERAGE:** via terrestrial communication networks, including internet and local networks
- **CAPACITY OF ADAPTATION AND EXPANSION:** scalable timing infrastructure to meet the needs of coverage and of timing service performances. Interoperability with GNSS and other technologies (5G, Radio-Frequency,...)
- **FLEXIBILITY:** Time as a Service (TaaS) with a range of service packages to multiple sectors & users
- **INDUSTRIAL PERFORMANCE :** cost-efficient comprehensive approach and and full traceability,

## Demo activities in two folds:

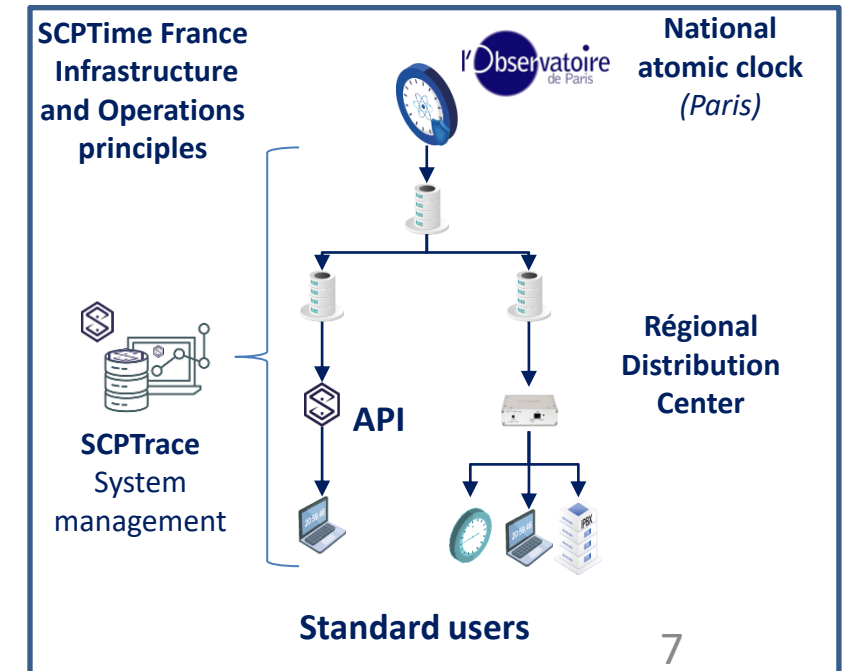
### JRC Ispra:

Tests were focused on the **timing accuracy performance** of the demo equipment

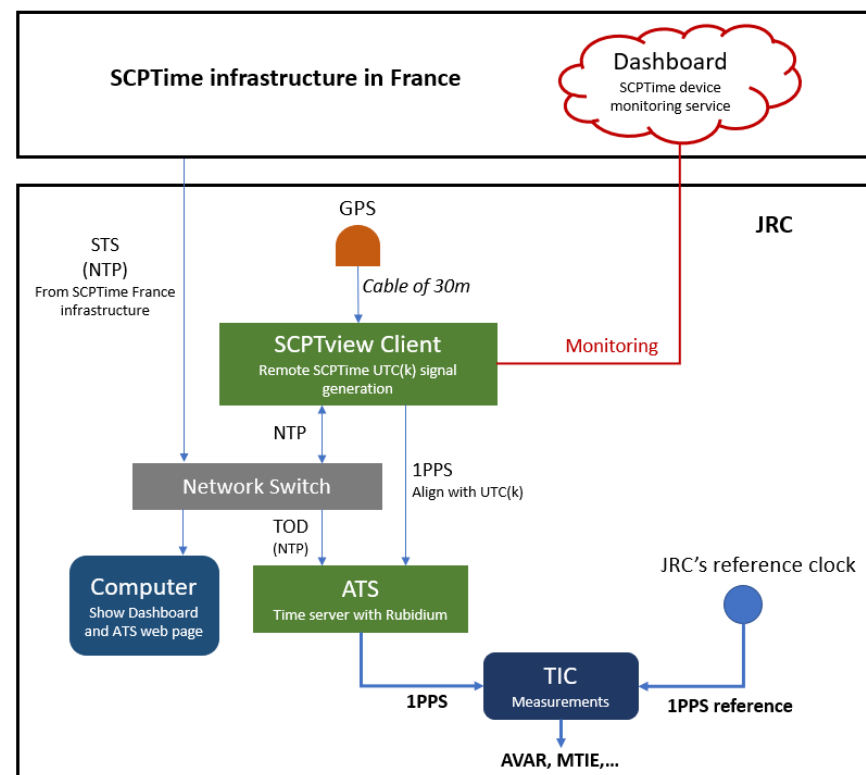


### France:

Tests and demonstration in France were to give an overview of the SCPTime infrastructure in France as well as its **network resilience capacity** and the **SCPTime timing service availability**.



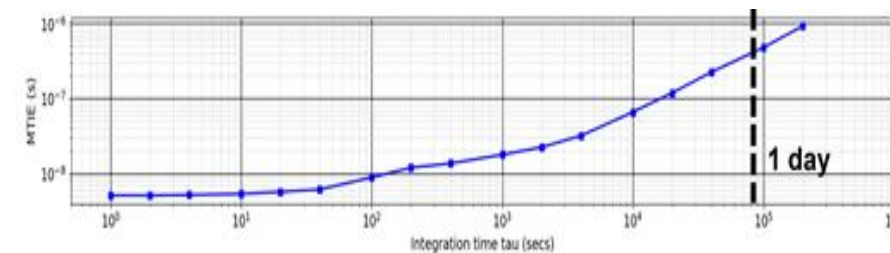
## Tests Setup



## Result summary:

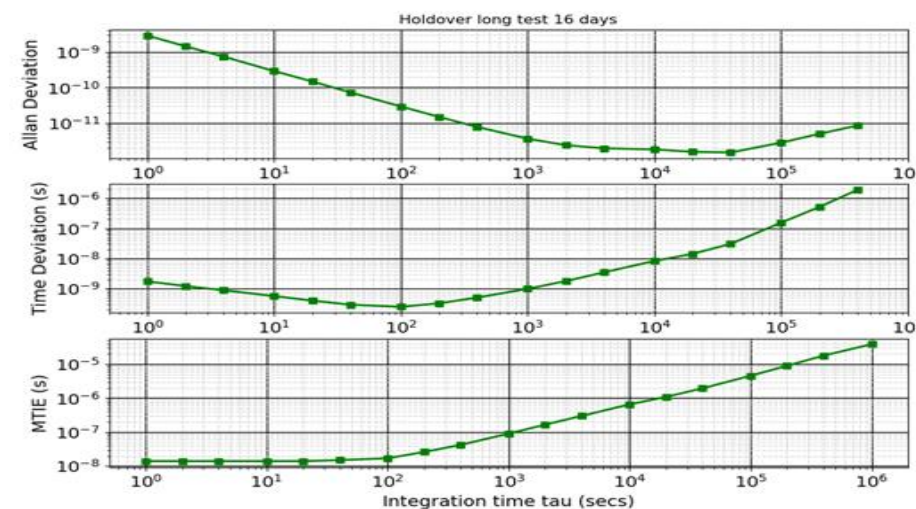
### T2: SHORT TERM STABILITY WITH GNSS LOSS OF 24H:

- Drift less than  $1\mu\text{s}$



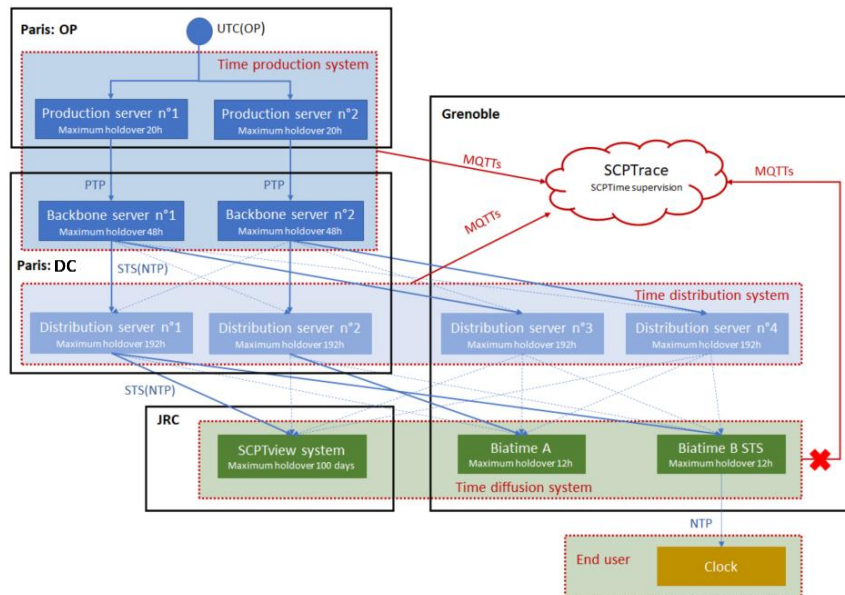
### T3: MEDIUM TERM STABILITY WITH GNSS LOSS OF 14 DAYS:

- Drift of  $35.9\mu\text{s}$  over 14 days





## Tests Setup



## Result summary:

### T4: RESILIENCE AND NETWORK MONITORING

- Visiting *SCPTime France* Strategic nodes and infrastructures in Paris and Grenoble
- Continuity of timing services was ensured in different scenarios of network failure or device failure.
- SCPTTrace Management system interface showed that the full traceability of time signal is documented with data recording in the end-to-end transmission from UTC(op) to end user devices, a key enabler of secure and trusted time.

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**THANK YOU FOR YOUR ATTENTION**



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