



CLARIFICATION NO. 2

INTERNAL GSA REFERENCE: WF 237872

Related to GSA/GRANT/05/17 – "Development of a Galileo-based timing receiver for critical infrastructure"

Question no. 17: page 6 states: "The primary backup solution in case of loss of tracking of Galileo signals shall be a suitable time-steering solution for keeping an accurate timing until availability of Galileo satellites returns." It is not evident what can be regarded as "suitable" in this context. Could the GSA either provide examples of suitable solutions, or better describe what shall be understood by the word "suitable" in this context?

Answer: "Suitable" means any appropriate timing solution able to operate in case of loss of tracking of Galileo signal, e.g. the clock holdover defined as the operating condition of a clock which has lost its controlling input and is using stored data (acquired while in locked operation) to control its output. The stored data are used to control phase and frequency variations, allowing the locked condition to be reproduced within the clock's specifications

Question no. 18: page 8: "Performance tests shall be performed either in a national Timing Laboratory in an EU Member State or in the Joint Research Centre (JRC) facilities (for more details on the latter, please see section 2.4) with simulated data." If these tests are to be conducted with simulated data, what is the role expected for the national timing laboratory? For instance, if the data are simulated using a constellation simulator (e.g., Spirent), only a stable frequency reference is necessary as the input; a UTC(k) reference does not seem necessary. Furthermore, is it necessary for the tests to take place physically in the laboratory of the national timing institute, or is it sufficient to use any timing link provided by that institute?

Answer: The expected role of a timing laboratory is to provide the UTC or other time scale. Indeed as defined in task 2 the receiver shall be capable of and configurable for providing time in Galileo System time and UTC. Other additional time scales may be proposed.

Furthermore, it is not necessary for the tests to take place physically in the laboratory of the national timing institute but it is sufficient to use any timing laboratory provided the timing link was given by the national institute.

Question no. 19: Do all interfaces mentioned in the "Call for Proposal": PTP, NTP, SYNCE, PPS, 10MHz, and IRIG-B need to be implemented in the timing receiver? Can we implement only interfaces needed for the two identified applications?

Answer: See answer to Clarification note #1, question 4.



Question no. 20: Could the GSA detail which Constellations and frequencies the Timing Receiver needs to track and the minimum required?

Answer: The requirements on constellations and frequency are indicated in task 2, page 6.

Question no. 21: Could the GSA clarify the use of JRC facilities and if the involvement of JRC experts will be present to support all testing phase? Should applicants contact JRC in proposal phase?

Answer: See reply n. 18. As defined in sec. 2.5 JRC support will be limited to assist in the use of the facility. The testing and validation campaign definition is under complete responsibility of the applicants. Moreover it is recommended but not mandatory to contact JRC in the proposal phase. In the proposal phase the beneficiary shall define a preliminary strategy for the validation of the receiver's performances to be submitted together with the proposal.

Question no. 22: Could the GSA clarify what do you mean by "one (1) development Kit"?

Answer: The development kit, also known as evaluation kit, is a Hardware and Software platform enabling fast and simple prototyping validation of the performance.

Question no. 23: If documents such as FIF, LEF and a company registration extract were already provided in previous procedures, could the GSA clarify if the following documents shall be necessary:

- Extract from official journal;
- Copy of articles of association;
- Extract of trade or association register or a copy of the certificate of liability to VAT.

Answer: The evidence presented in support of the LEF shall allow the GSA to verify that all the information stated in the LEF is correct. Depending on the countries, this document may vary.

Question no. 24: Does the call concern only for receiver for timing function or can other prototype on geo automation to alert motorcyclists can be presented?

Answer: The grant concerns only the timing function and the description of a product to alert motorcyclists does not fit the purpose of the grant.

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