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## **Clarification No. 1**

Project Title: Spatial Information Services for BiH - phase I: Establishing of Network of permanent (referent) GPS stations - BiHPOS

Publication reference: EuropeAid/ /128415/C/SUP/BA

Tender number: EC/BiH/09/030

### **Question 1:**

Page 25: „Connect GNSS Stations through dedicated communication lines to the two Control Centers” Is our assumption correct that those dedicated communication lines will be provided by the purchaser?

### **Answer 1:**

Dedicated communication lines will be provided by the Beneficiary.

### **Question 2:**

Page 25: “Provide applications for monitoring of the coordinates of all stations of the GNSS network, detect un-expected movements and generate alarms” Is our assumption correct that monitoring of coordinate displacements in real time is requested?

### **Answer 2:**

No, real time is not requested. This Monitoring shall be provided in post-processing mode over 24 hours sessions and on daily interval.

### **Question 3:**

Page 25: “Provide software applications at the Control Centers for managing the collection, reformatting, analysis and publishing of all GNSS data” Is our assumption correct that the software application handling reformatting and publishing of GNSS data should be capable to provide the different Rinex versions 2.11 and 3.0?

### **Answer 3:**

Rinex version 2.11 is obligatory.



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**Question 4:**

Page 25: “Implement a Real Time server for both Internet/GPRS and GSM/data over voice connections” Is our assumption correct that related information about GPRS and GSM users should be stored in the same database?

**Answer 4:**

No, they do not need to be stored in the same database.

**Question 5:**

Page 27: “VPSP (PDGNSS) – high-precise service of positioning in real-time-Correctness 1-2 cm” Is our assumption correct that the VPSP service is meant to be a RTK (Real Time Kinematic) service?

**Answer 5:**

Yes, your assumption is correct.

**Question 6:**

Page 28: “Minimum 72 Channels” for “GNSS CORS Receiver” As GPS, GLONASS and GALILEO compatibility is required is our assumption correct that taking into account all currently planned future Global Navigation Satellite Systems and signals at least 275 channels would be required to enable data processing for all signals under full satellite coverage?

**Answer 6:**

No, it is sufficient with 72 channels.

**Question 7:**

Page 28: “Data format: Both binary and RINEX v2.x and / or v3.x, with Hatanaka compression.” Is our assumption correct that it is sufficient that Rinex v2.x and / or v3.x files will be logged at the control center software?

**Answer 7:**

RINEX files are also requested to be logged temporarily on the receiver so that RINEX files can be retrieved remotely from the in-built ftp server, even in case of a temporary failure of the Control Centre.

**Question 8:**

Page 29: “Memory 4 Gbytes” Is our assumption correct that it is preferable to have at least 8 Gbytes of non removable internal memory, extendable with an external removable memory device?



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**Answer 8:**

There is no requirement for a non removable internal memory. The requirement is to have a memory of 4 Gbytes.

**Question 9:**

Page 29: “Sending of message log in scheduled intervals over email” Please specify the message details and interval for the scheduled message log.

**Answer 9:**

The bidder has to specify the message details and interval for the scheduled message log.

**Question 10:**

Page 30: “Temperature range from  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ ” Is our assumption correct that it is preferable that the receiver works fully functional within  $-40^{\circ}\text{C}$  and  $+65^{\circ}\text{C}$ ?

**Answer 10:**

There will not be a preference for  $-40^{\circ}\text{C}$  and  $+65^{\circ}\text{C}$ . The requirements are  $-20^{\circ}\text{C}$  up to  $+50^{\circ}\text{C}$ .

**Question 11:**

Page 30: “RTK Messages: in RTCM 2.x, Messages types 18, 19, 20, 21, 22, 23, 24, in RTCM v3.0” For non-compatibility reasons the use of message 20 and 21 in RTCM 2.x is not recommended. Message 18 and 19 of RTCM 2.x contain full Carrier Phase and Pseudorange information while message 20 and 21 contain only Carrier Phase and Pseudorange corrections at the same message size. Is our assumption correct that provision of message 20 and 21 output is not necessary if message 18 and 19 are provided?

**Answer 11:**

This requirement is for provisional local RTK broadcast following the RTCM v2.X and V3.0 standard. Messages 20/21 are part of the RTCM standard and are required.

**Question 12:**

Page 30: “Simultaneous transmissions: 2 real time output interfaces via independent ports” Is our assumption correct that it is preferable if the receiver is capable of addressing at least 10 parallel and active Ethernet sockets?

**Answer 12:**

No, 2 real time output interfaces via independent ports are required.



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**Question 13:**

Page 31: “phase center stability better than 2 mm” Is our assumption correct that “phase center stability” refers to phase center repeatability and must be better than 1mm?

**Answer 13:**

No, phase center stability must be better than 2mm.

**Question 14:**

Page 31 “Temperature range is -30°C to +60°C. Is our assumption correct that it is preferable that the antenna works fully functional within -40°C and +70°C

**Answer 14:**

There will not be a preference for -40°C and +70°C. The requirements are -30°C up to +60°C.

**Question 15:**

Page 33: “Windows 2003 or Windows 2008 Server standard” Windows 2003 is outdated. So is our assumption correct that Windows 2008 Server must be provided?

**Answer 15:**

No, Windows 2003 is acceptable.

**Question 16:**

If so, is our assumption correct that a state of the art 64Bit operating system must be provided?

**Answer 16:**

No, a 64bits operating system is not required.

**Question 17:**

Page 35: “The proposed configuration shall enable the integration of receiver models currently installed in the neighboring countries (to date: Leica *GRX 1200* and Trimble *5700,4400,NetRS i NetR5*) using binary or RTCM V3 format, without additional costs.” Please specify the number and type of receivers from neighboring countries that should be supported.

**Answer 17:**

The exact number and type of neighbouring receivers is not available at this point.

**Question 18:**

It is not recommended to use the 4400 receiver as a reference station receiver anymore because of high hardware delays and low data quality. Please confirm that this receiver is not going to be



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used in your network solution.

**Answer 18:**

Integration of Trimble 4400 Receivers will not be part of the evaluation of the SW performances.

**Question 19:**

Page 35: “Software Services shall start automatically with other services when booting”

Is our assumption correct that the health status of each control center software service must be monitored and status changes should be logged (e.g. into the Windows Event Viewer)?

**Answer 19:**

The software must run without the Administrator logging to the server.

**Question 20:**

Page 36: “The Software shall have two access level administrator and viewers”

Is our assumption correct that the “Network-RTK software must allow at least three user security access levels with different access rights?

**Answer 20:**

Requirement is 2 access levels (i.e. ‘administrator’ and ‘viewer’).

**Question 21:**

Page 42: “Automatically nearest to a given coordinate position, which is entered manually or selected in the map graphic” Is our assumption correct that it is preferable to receive data for a virtual reference station with modeled atmospheric conditions for the keyed in position?

**Answer 21:**

This requirement is for “normal” RINEX.

**Question 22:**

Page 43: “Ability to retrieve for each station “...” GDOP” Is our assumption correct that it is sufficient if the PDOP and HDOP could be retrieved for each station?

**Answer 22:**

No, your assumption is not correct.

**Question 23:**

Page 43: “The GNSS Software (web server part) shall also provide Automatic Coordinates Computation Service :

- o Full integration of static data processing algorithms in the web server application,



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- o Users just upload their GNSS raw data and the web server will use one or more closest stations to calculate the coordinates automatically
- o Computation report with results will be sent to the clients registered email account”

A web server based automatic coordinate computation service will require the users to upload their proprietary field measurements to the server. This is a very questionable procedure with regards to data protection. In such a static environment the user will have no influence on the coordinate processing strategy. On the other hand the network operator has no proof of the correctness of the user’s data but will provide results back to the user. If data uploaded by users contains wrong information there is no possibility for interaction of users or network operators. Is our assumption correct that not offering a web server based automatic computation service is not a non compliance criterion?

**Answer 23:**

Not offering a web server based automatic computation service will be considered a non-compliance.

**Question 24:**

Page 45: “The GNSS Software shall also provide the following minimum information for Accounting at BENEFICIARIES:

- o General Log file monthly based with the following information :
  - o Name of user
  - o Date & Time of connection,
  - o Type of Real-time Service required,
  - o Length (duration) of connection
- o Possibility to generate an invoice based on these information and user’s registration information.
- o Possibility to de-activate/re-activate individual users account temporarily.”

Is our assumption correct that the control center software package must provide the possibility of an automatic renewal process for user subscriptions to reduce administration work for the network operator?

**Answer 24:**

This is not required.

**Question 25:**

Page 46: “The GNSS Software shall also provide the following minimum information so that to provide individual Auditing:

- o Detailed log file for all user connection including the following information for each connection in Html format :
  - o Name of User
  - o Date & Time of connection,
  - o Type of Real-time Service required,



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- o Length (duration) of connection
- o Status of rover (Nb sat, GDOP, Position, RTK or DGPS fix...) at each change
- o Termination of connection (user or Administrator).
- o These information are intended for auditing purposes for the BENEFICIARIES hot-line Service from GNSS Network central desk.

Is our assumption correct that log files must also be exportable in PDF file format for easier distribution and representation?

**Answer 25:**

Html format is required for internal use in auditing.

**Question 26:**

Is our assumption correct that the Control Center software must provide the possibility to generate log files on schedule and on demand?

**Answer 26:**

The required detailed log files are expected to be always available for any registered user.

**Question 27:**

Page 47: “Use of IGS predicted ephemeris” Is our assumption correct that it is preferable that predicted ephemeris of the CODE (Center of Orbit Determination Europe) including GLONASS predicted orbits must be fully supported in the software?

**Answer 27:**

IGS is mandatory. The software must allow the configuration of different ftp servers where to download precise predicted ephemeris. The CODE ephemeris are allowed.

**Question 28:**

Page 48: “Use of the most common proprietary solutions (iMAX, Virtual Reference Station and FKP) is allowed as secondary service for old legacy receivers” Please explain the term “old legacy receivers” in more detail.

**Answer 28:**

GPS receivers which are not able to process MAC corrections and non-physical Reference Stations as defined in RTCMv3.1. Other Real-Time Services for GPS and/or GPS+GLONASS in RTCM v3.0, v2.x format for iMAX, VRS or FKP are suitable for these receivers.

**Question 29:**

You specify the most common proprietary solutions to be allowed as secondary service, please specify what primary service you are referring to.



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**Answer 29:**

MAC corrections and non-physical Reference Stations as defined in RTCMv3.1.

**Question 30:**

Page 48: “It shall be possible to replay any combination of the Network by using 1sec. recording rate Rinx files as data input.” Is our assumption correct that replaying any combination of the Network by using recorded binary raw data files will be sufficient?

**Answer 30:**

In Real-time, we may use RTCMv3.0 standard to connect different brands of receivers. Same as in Real-Time, Re-processing requires use of raw data from different brands of receivers and the only known standard is RINEX. All receivers in the network (including neighboring) must be included in the re-processing.

**Question 31:**

Page 50: “The bidder shall provide both GNSS software and GNSS hardware as in an optimal solution and guarantee both the operation of the system and the provision of maintenance: the bidding company is responsible for the whole system.” Please specify what does “the bidding company is responsible for the whole system” mean in detail? Is our assumption correct that the statement refers to the 1 year monitoring of network stability?

**Answer 31:**

This statement means that the bidder is responsible for the full compatibility of the GNSS hardware and GNSS software in the case they are from different manufacturer.

**Question 32:**

Is the operation of the network by the contractor to be guaranteed? If so, for how long is the operation of the network to be guaranteed by the contractor?

**Answer 32:**

Yes, one year after provisional acceptance.

**Question 33:**

For how long is maintenance to be guaranteed?

**Answer 33:**

One year after the provisional acceptance.





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**Question 34:**

Page 52: „Education (training) - Employees of State Geodetic Administration (Quantity: 2 x 3 employees)” Is our assumption correct that the bidder should propose duration for the training?

**Answer 34:**

Yes, your assumption is correct.

**Question 35:**

Page 53: “At the end of the installation process, the Contractor submits to BENEFICIARIES the Handing Over document which shall be accepted by BENEFICIARIES no later than 4 weeks of continuous operation of the GNSS System” Is our Assumption correct that 4 weeks of continuous operation is equivalent to 4 weeks after finishing the installation and start of operation?

**Answer 35:**

Yes, your assumption is correct.

**Question 36:**

Page 53: “Warranty should cover the period of 1 years after the provisional acceptance.” Please specify what is the criterion to get provisional acceptance?

**Answer 36:**

Provisional acceptance will be issued after all contractual obligations are fulfilled by the Contractor.

**Question 37:**

Page 54 “The Contractor shall be responsible for all repairs/replacements of hardware provided which are malfunctioning.” Please specify the replacement procedure and location for the delivery of replacement material, hardware and software.

**Answer 37:**

Contractor shall provide the resources necessary at all times during this contract and warranty period.

**Question 38:**

Page 57 “additional civil works need to be performed” Please specify who will be responsible for performing additional civil works.

**Answer 38:**

Beneficiary will be responsible.



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**Question 39:**

ANEX 2 - technical specifications - 26.1.a.4 , requires that (cit.):

"The GNSS Software (web server part) shall also provide Automatic Coordinates Computation Service :

- Full integration of static data processing algorithms in the web server application,
- Users just upload their GNSS raw data and the web server will use one or more closest stations to calculate the coordinates automatically

Computation report with results will be sent to the clients registered email account ."

As much as we know, there is only one producer of strictly such web application. Regarding that such requirement violates competition on bidding of the complete system, we would like to know if this web service is mandatory, or what are the other acceptable technical options.

**Answer 39:**

Web service – the GNSS Software for Automatic Coordinates Computation Service is mandatory. The bidder may propose independent or third party SW for this web service if this SW provides for the required functionality.

**Question 40:**

It is stated that Bidders may offer the goods originating in other countries, if the same cannot be procured within the IPA eligible origin. How this will be considered if some of the items offered are IPA eligible origin and some items are originating in other countries? For example, several items together are forming a harmonised and complex system where all the parts are compatible to each other. Is it acceptable, to offer a system of such parts, where some of them do not comply with the rule of origin (even if they might be available within the IPA eligible origin - but not compatible with the offered system)?

Please, give us more details on how the rule of origin will be assessed and interpreted.

**Answer 40:**

Please note that the country of origin is deemed to be the country in which the goods have undergone their last, economically justified, transformation and the provisions of Article 24 of the Community Customs Code must therefore be applied on a case by case basis to those goods. It is a Chamber of Commerce or other authorized body of the supplies' or supplier's country of origin which will assess the goods origin on the basis of the relevant detailed documentation provided to them by the Manufacturer/Supplier.

The award is based on the lowest price offered in the administratively and technically compliant offer.