



TITLE OF THE TENDER:

**“PROCUREMENT AND INSTALLATION OF THE
BUILDING AUTOMATION AND CONTROL
SYSTEM (BACS) IN THE THESSALONIKI
METRO EXTENSION TO KALAMARIA”
RFP-327/17 Α.Σ. 48966**

CLARIFICATIONS DOCUMENT 2

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This **Clarifications Document 2** is issued in accordance with the stipulations in paragraph 9.2 of the Invitation to Tender and incorporates responses to question submitted.

The content of the **Clarifications Document 2** is viewed as an integral part of the Invitation to Tender.

A. RESPONSES TO QUESTIONS

Question 1

Having taken cognisance today, from ATTIKO METRO S.A. web page, of the clarifications document, as well as of its documents attached thereto pertaining to the Tender entitled: **“PROCUREMENT AND INSTALLATION OF THE BUILDING AUTOMATION AND CONTROL SYSTEM (BACS) IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA”**, RFP-327/17, and further to:

- 1) the explicit requirement on the part of ATTIKO METRO S.A. regarding the interconnection of the new project with the existing SCADA SIL2;
- 2) the content of response #5 of the clarifications document that this is a specific application developed *ad hoc* for the Base Project by Engineering SpA based on two operating systems (Windows & Linux) and two frameworks (DotNet & Qt),

kindly clarify the manner in which the Contractor of the new project is secured by ATTIKO METRO as concerns the existence of license for use, option for extension, updating, documentation and option for customization of software, etc., given that, finally, on the basis of what was stated, this is a specific application and not a brand product.

Response 1

ATTIKO METRO shall ensure the necessary preconditions, so that the connection with the initial BACS system of the Base Project be implemented.

Question 2

Kindly clarify whether maintaining the same compatibility SIL 2 of the base project and its extension presupposes that the same equipment used in the base project must be also used in its extension at both local and central level.

Response 2

All necessary modifications, upgrading activities and additions must be performed, or new equipment must be provided, not necessarily the same as the one of the Base Project, but having the same functionality and potentials as the initial equipment of the Base Project, which will be in line with the requirements of the specifications, ensuring – through the certification you should provide via an independent assessor – that the system will still have safety level SIL2 at least for those systems and functions considered critical for the safety of passengers and facilities, both for the

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Base Project and the Extension, with one central system at Operation Control Centre level.

Question 3

Kindly notify to us the following data as regards SCADA Complicity:

1. Does it have installed the Modbus and OPC communication protocols?
2. Is the installed licence confined to users or workstations? We have to know whether we must budget for any licence extension cost.

Response 3

1. Modbus and OPC communication protocols are already installed.
2. No, there is no confinement to users or workstations.

Question 4

The Invitation to Tender, paragraph 13.3.1, makes reference to the term BACS. Kindly confirm that the term “BACS system” means the system described in paragraph 1.2 of the document of technical description and that the economic operator must possess experience in the design, procurement, construction and commissioning of the tunnel ventilation control system and of response and smoke extraction scenarios in case of fire in stations or tunnels.

Response 4

Confirmed.

Question 5

Kindly confirm that the project of the procurement of equipment for the modification of the building automation and control systems (BACS) in the Athens Metro Stations and their connection to the AFCS-OASA can be assumed as a similar experience, even if its does not include the design, procurement, construction and commissioning of tunnels ventilation control system and of response and smoke extraction scenarios in case of fire in stations or tunnels.

Response 5

No, it cannot be assumed as a similar experience, due to the fact that the project described in the extension to Kalamaria is much more complex, with local control of multiple E/M systems in stations, crossings, shafts and tunnels, central control at the OCC, communication and data transmission for combined operation between stations, especially in emergencies, and all these must be installed right from the beginning, while the project concerning the AFCS – OASA constitutes a confined modification of an already installed, widely tested and certified system.

Question 6

As regards the minimum preconditions for technical competence, kindly clarify whether by “complete procurement” you mean the successful delivery of the project

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or should the time period of good operation determined by the contract should have elapsed without any problems?

Response 6

“Minimum preconditions for technical competence” means the successful design, installation, testing, commissioning, certification and delivery of the Project.

Question 7

Kindly also provide us clarifications on the following items:

1. The exact type of the IPC and VDU equipment used in OCC WS <A> & respectively, as well as the documents from which the need to install such materials in the extensions derives.
2. The type of the protocol and if it is an open protocol. The term safety protocol is stated in chapter 5.11 of annex CBACS, which was transmitted additionally to the Clarifications Document, as well as in other parts of the documents and is used for communication between the controllers and the central control station.

Response 7

1. The technical characteristics (data sheets) are enclosed herewith.
2. Until the present date, the type of the protocol has not been finalized and shall be given to the Contractor. In addition, it is confirmed that it is an open protocol.