

Additional Information to Tender Conditions No 1

of the public contract

Eye-tracking Systems

The contracting entity supplies, in compliance with Section 49 (1–3) of the Act No. 137/2006 Coll., on Public Procurement, the economic operators with the additional information relating to tender conditions.

Q&A Regarding the Tender for Eye-tracking Systems

Q1: Tender documents are in English only and they contain vague terminology. To ensure full comprehension, equivalent texts in Czech should be produced. Will the competitors be provided with tender documents written in Czech?

A: English terminology is commonly used in the field in question as well as in most scientific publications on the topic; often, Czech equivalents do not exist. Eye-tracking manufacturers are without exception located outside of the Czech Republic. Thus, providing product specifications in Czech is considered not only problematic, but also unnecessary.

Q2: Product specifications for every item include an OS requirement. It is unclear, however, whether PCs or laptops are also required. Shall PCs be supplied along with every item or is it sufficient for an item to be compatible with a given OS and PC-connectable?

A: It is a standard practice of eye-tracking manufacturers to include in their packages PCs, laptops or tablets which are optimized for their products. The prospective supplier must demonstrate full functionality of each product either by installing it on a Masaryk university-run computer (OS in PCs is Windows, otherwise Windows or Android) or by supplying their own OS-equipped hardware solution. Product specifications always state explicitly whether or not the supply of hardware is part of the requirements. For items 1.1, 1.2 and 2.1, an optimized hardware solution shall be supplied.

Q3: All documents except for the contract are in English. In what language should the quotations be submitted?

A: The quotations are to be submitted in the Czech or English language.

Q4: With respect to the 1.1 item HW specifications, it is not clear whether the requirement for a Corrective Lenses Module implies that a set of corrective lenses should be included in the package. If so, their number and characteristics should be specified.

A: Corrective lenses are a standard component of the Corrective Lenses Module and need of course to be supplied along with the module. The minimum requirements include a set of lenses ranging from + 3.5D to -3.5D in 0.5D increments.

Q5: As regards the 1.1 item SW specifications, it is unclear what sort of semantic analysis is to be performed by the multi-user module; neither is it clear whether the term “multi-user” refers to data processing or user licence. Also, the product specifications include “Cognitive Effort and Workload Module”; yet, no characteristics of the cognitive system are provided. We would like you to provide more details about the item in question, especially with respect to the product characteristics and the number of licences.

A₁: The Semantic Analysis Module enables to conduct data analysis referring to pre-defined parts of the stimulus. These parts represent significant Areas of Interest (AOIs) and they enable a semantic analysis to be conducted at a more generalized level.

A₂: “Multi-user” refers to parallel processing of data from multiple users. The number of licences is included in the specification (!).

A₃: The word “cognitive” refers to mental processes taking place in human brain. The Cognitive Effort and Workload Module uses changes in pupil dilation as an indicator of the amount of cognitive effort invested in a task.

Q6: HW specification pertaining to the 1.2 item gives rise to questions similar to those listed above. A further question arises as to why a 60 Hz system is required for 3D stereoscopic imaging, given that the common practice is to use 120 Hz. Does it mean that a passive 3D projection system is to be supplied? The requirements seem to be fitted for a particular product by a certain manufacturer, filtering out all the competitive products.

A₁: The frequency of 60 Hz is related to eye position recording and *not* to stereoscopic imaging.

A₂: An eye-tracking system is required that will allow for active 3D projection. No other limitations are imposed.

Q7: According to the requirements pertaining to the stereoscopic imaging item, an Optical Head Tracking Module is required along with this item. Shall a camera system be supplied along with this item or not? If the system is to be provided by the client, its characteristics should be included in the specifications as the choice of a system influences the type of markers that can be applied.

A: Camera system is not part of the requirements. The Optical Head Tracking Module must meet the standards of VRPN (Virtual-Reality Peripheral Network) interface, which will ensure compatibility with e.g. Kinect or Qualisys.

Q8: It is unclear from the specifications what Trigger Board is and how it is related to 3D eye/glass tracking. Please explain. The specifications again seem to imply a specific product.

A: A “trigger board/module/function” allows for the synchronization of various signals recorded in parallel with eye movement data. Typical examples include eye-tracking-EEG synchronization and eye-tracking-EKG synchronization. A solution is required that will provide for such synchronization.

Q9: As regards the 1.3 item, is a HMD of the given type (Oculus Rift) to be supplied or is it sufficient to supply an eye-tracking system that will allow for HMD as such?

A: Virtual Reality HMD (e.g. Oculus Rift) will be obtained through a different contract and is therefore not part of this item. In 1.3, a VR HMD-compatible eye-tracking system is required.

Q10: SW specification regarding the 1.3 item includes "complete package"; however, no characteristics are listed. Could you provide more details concerning the SW package?

A: Software specifications are listed in each item description. A complete SW solution or "package" is supposed to include all functions common for a given device. As regards the item in question, the typical functions are the following: replay of recorded data, visualisation of eye position (gaze), event detection (e.g. saccade and fixation detection) and export of processed data. For VR applications a solution is required that will take into consideration the specifics of use in VR.

Q11: As regards the 2.1 item, compatibility with projection is required but the size of projection is not specified. Do we understand it correctly that experimental design will involve small subject-sensor distance and larger (i.e. in metres) subject-projection screen distance?

R: Typically, large-format projection is combined with eye-tracking in the following way: the subject is sitting at a desk with an eye-tracker located at an appropriate distance from the subject's eyes. A projection screen (approx. width 2 metres) on which a stimulus is shown is located at approximately 2 metres' distance from the subject.

The contracting entity supplies, in compliance with Section 49 (4) of the Act No. 137/2006 Coll., on Public Procurement, the economic operators with the additional information relating to tender conditions.

The time limit for the submission of tenders has been extended. The bids may be submitted no later than 8 April 2015, 1 PM (2015 04 08 13:00).

Brno 30 March 2015

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