



## PROCUREMENT DOCUMENTATION

Technical university of Liberec (hereinafter „Contracting authority“), hereby invites economic operators to submit a tender in the following above-threshold procedure pursuant to Section 3 b) and Section 56 of Act No. 134/2016 Coll., on Public Procurement, as amended (hereinafter referred to as the "ZZVZ").

<b>Name of public contract:</b>	<b>154_Ve_ERDF_FM 033_Systém řízení polohy - dvoučlánekové kyvadlo/Position control system - double pendulum</b>
<b>Int. no. of public contract:</b>	20/9615/154
<b>Name of program:</b>	Operational Program Research, Development and Education
<b>Project title:</b>	The Educational Infrastructure of the TUL to Raise the Relevance, Quality and Advancement of Education in the Age of Industry 4.0
<b>Registration number:</b>	CZ.02.2.67/0.0/0.0/16_016/0002553
<b>Contracting authority:</b>	<b>Technická univerzita v Liberci/Technical university of Liberec</b> Address: Studentská 1402/2, 461 17 Liberec I-Staré Město Reg. no.: 46747885; DIČ: CZ46747885
<b>Represented by:</b>	doc. RNDr. Miroslav Brzezina, CSc., rector
<b>Contact person:</b>	RNDr. Ivana Večeřová; tel.: +420 485 353 044; e-mail: <a href="mailto:zakazky@tul.cz">zakazky@tul.cz</a>
<b>Profile of the contracting authority E-ZAK:</b>	<a href="https://zakazky.tul.cz">https://zakazky.tul.cz</a>

The procurement documentation is published in full in electronic form on the profile of the contracting authority <https://zakazky.tul.cz> for the entire duration of the contract.





## 1 Preamble

This tender documentation is processed in accordance with Section 28 (1b) of ZZVZ and is a set of documents, information and requirements of the contracting authority defining the details necessary for the preparation and submission of tenders of the participants (hereinafter referred to as the "participant" or "participants") to the above mentioned public contract awarded

At the same time, the contracting authority points out the fact that the tender documentation is a summary of the contracting authority's requirements and not a summary of all the requirements resulting from the generally applicable legal norms to which the tender documentation refers as they are generally known. Therefore, the participant must always comply with the requirements contained in the tender documentation but also with the provisions of the generally binding legal norms, in particular the ZZVZ.

The contracting authority also warns the participants that the contracting authority is obliged to follow the conditions set out in the individual grants, which may be stricter than ZZVZ or other generally applicable standards.

The Participant acknowledges that the Contracting Authority is obliged to comply with the requirements for publicity of EU structural funds programs, namely in all relevant documents relating to the given procedure, i.e. especially in the procurement documentation, in the contract and other documents related to the procurement procedure in question.

The contracting authority is fully aware that it is responsible for the accuracy and completeness of the award criteria. At the same time, however, in order to avoid subsequent requirements of the selected economic operator on impermissible requirements or changes to the contract, the contracting authority requests the participants, after studying the tender documentation along with its annexes, within the deadline for submitting a request for explaining the tender documentation, to ask the contracting authority relevant questions and give comments in relation to the technical specification and the tender documentation.

If any discrepancies in these documents are identified, the participants will also be able to provide their questions and comments to the contracting authority even after the deadline for submitting a request for explaining the tender documentation. By this measure, the contracting authority monitors the possibility of correcting, supplementing or otherwise modifying the possible discrepancies found in the tender documentation before the expiry of the deadline for submission of tenders in accordance with the provisions of Section 6 of the ZZVZ. Participants are therefore advised in their own interest to check that their tender price includes all its integral parts (transport, installation, training, commissioning, technical documentation, etc.) when determining the tender price in relation to its completeness and its subsequent non-exceeding.

The contracting authority points out that the contracting authority must exclude from the procurement procedure a participant that is a joint-stock company or has a legal form similar to a joint-stock company and has issued other than exclusively booked shares according to § 48 of ZZVZ. If the selected economic operator has its registered office abroad and is a joint-stock company or has a legal form similar to a joint-stock company, the contracting authority shall require it to submit an affirmation in writing within a reasonable time limit showing which persons are holders of shares whose aggregate nominal value exceeds 10 % of the registered capital of the participant, and indicating the source on which the information on the amount of the share of shareholders is based; this request shall be considered a request under § 46 of ZZVZ. Abovementioned does not apply to a participant that is a joint-stock company whose shares in the aggregate nominal value of 100 % are owned by the state (i.e. Czech Republic), a municipality or a region.

No person other than the contracting authority participated in the processing of the tender conditions. The tender documentation does not contain information that would be the result of a preliminary market consultation in the sense of Section 33 ZZVZ.





## 2 Subject of the public contract

**Type of public contract:** Public supply contract.

**CPV code:** 38810000-6

**Subject of the Public Contract:**

**Complex position control mechanical laboratory device with 3 degree of freedom**

Position control system - double pendulum ..... 1 pc

- The task must be designed so that students can get acquainted with the control of electromechanical systems and those that are unstable in the open-loop
- The task must allow the implementation of feedback control loops for position control, there must be a possibility to implement a control algorithm on an external device, mainly on a PC in software Matlab R2020a and Simulink
- The mechanical structure of the task should be as follows: a trolley placed on a bar with the possibility of controlled positioning within the available path, a free hinge on the trolley, which is replaceable, single-link pendulum by min. length 30 cm and double-link by min. length 50 cm (both included)
- The system has to be modular. The trolley and/or the pendulum have to be changeable.
- Sensor equipment: measuring the position of the trolley with min. resolution 2 mm, measuring the angle of the first part of the pendulum with min. resolution 4096 / rev., measuring the angle of the second part of the pendulum with min. resolution 4096 / rev.
- The system must be delivered including the necessary converters and measuring cards (PCIe or USB) so that it can be controlled from the Matlab R2020a and Simulink environment

**Other requirements:**

- Power voltage 220-240 V/50 Hz or 24 VDC.
- Warranty: 12 months
- Transport to the Purchaser's seat
- Technical documentation
- Certificate of conformity
- The laboratory system must be accompanied by a detailed curriculum in Czech or English language. This curriculum will explain all aspects of the laboratory system and it will enable its immediate use in teaching. In particular, this curriculum should contain a detailed description of the laboratory system structure and of the control experiments that can be performed.
- The offer must include at least a sample of this curriculum including complete content pages and samples of the text from individual chapters covering at least 15% of the full text. If this curriculum or its sample is available at the supplier's web, it is sufficient to provide a link. Expected minimal length of the curriculum is 15 pages with standard font size including figures.
- The supplier must be able to prove that the system offered is really designed and tuned for the purposes of university education i.e. it must be a turnkey solution that can be immediately used in laboratory classes without further preparatory works like system identification, writing teaching materials for students that will use the system etc. It must also be clear that parameters of trolley, pendulums and sensors are well designed to work





together and it does not happen that just a small fraction of the ranges of actuators or sensors would be used during experiments. This can be proved by one of the following ways:

- a) video showing experiments with the system (link is sufficient if available at the suppliers web or youtube)
- b) Reference to universities or similar establishments that are already using the system and willing to report their experience
- c) Schematic diagram of the system with parameters of the individual components and derived mathematical model in form of a system of differential equations with numerical values of parameters corresponding to the used components. The purpose of the model is to allow the purchaser to perform simulation and decide whether the system is designed correctly. In this case the supplier guarantees that the system supplied will really behave according to this model.

At least one of these methods of demonstrating the required characteristics must be part of the offer.

### 3 Estimated value

**Maximum allowed value of the public contract (excluding VAT): 705 000,00 CZK**

The offer exceeding the maximum allowed value of individual items of the public contract do not meet the award criteria and the contracting authority will exclude a participant from a procurement procedure according to § 48 (2) a) of ZZVZ.

If the tender price should be in a foreign currency (i. e. other than CZK) the tender price shall be converted in CZK for the purposes of tender assessment and evaluation. The exchange rate determined by the Czech National Bank (Česká národní banka) as of the commencement date of the simplified below-threshold procedure, i.e. on the date of sending a contract notice for publication in the manner specified in Section 212 ZZVZ. The date of commencement of the procurement procedure is indicated on the contracting authority's E-ZAK profile.

### 4 The method of defining the tender price

The participant is obliged to include the tender price in the tender and in the following structure:

- price excluding VAT,
- VAT (optional),
- price including VAT (optional)

Tender price must include **all costs of performance of the public contract** and **must be set as maximal and must not be exceeded**.

Tender price must also be determined with taking into account the development of prices in the relevant market, including the development of the exchange rate of the Czech currency to the foreign currencies until the fulfillment of the subject of the public contract.

### 5 Time limit and address for receipt of tenders

**Time limit for receipt of tenders:**

**A tender can be submitted until 2<sup>nd</sup> October 2020 to 10:00.**





### Tenders must be submitted:

In electronic form via electronic tool E-ZAK (website <https://zakazky.tul.cz/>) only

To submit a tender, it is necessary to make a registration in the electronic tool E-ZAK at link <https://zakazky.tul.cz/registrace.html?lang=en> or in the electronic tool FEN at link <https://fen.cz/#/registrace>. It is always necessary to perform a subsequent verification of the participant's account via the FEN tool. Verification is performed either electronically, which requires an electronic signature based on a qualified certificate, or by sending a printed application by post to the address of the registered office of the FEN operator (Spojené nástroje elektronické s.r.o., náměstí Před Bateriemi 18, 162 00 Praha 6 – Střešovice). It is also required to submit an excerpt from the Register of Companies or a certificate of incorporation if the entity (applicant for registration) is registered in it, or an extract from another similar register. In the case of registration of a foreign contractor, the operator requires the submission of an officially certified translation of all parts of the application into the Czech language. Detailed instructions for registering and verifying your account can be found on the FEN website, also in English, at link <https://sites.google.com/fen.cz/napovedafen-en>.

## 6 Opening of tenders

As only electronic tenders will be submitted in the procedure, there is no public opening of tenders.

## 7 Time and place of performance of the public contract

**Delivery term:** 120 days from the date on which the Contract enters into force.

**Place of delivery:** Technická univerzita v Liberci/Technical university of Liberec, FM, Hálkova 6, 461 17 Liberec, Czech Republic.

## 8 Qualification requirements

In accordance with the ZZVZ, the contracting authority shall establish the following qualification requirements:

- a) Basic qualification in respect of Section 74 ZZVZ
- b) Professional qualification in respect of Section 77 (1) ZZVZ

The participant may, in accordance with Section 86 (2) ZZVZ, **replace** the documents required below proving his qualification **by the Affirmation (see Annex 1)**.

**Before the contract is concluded, the contracting authority shall always request the selected economic operator to submit the originals or certified copies of the qualification documents (see C.2.), unless they have already been submitted during the procurement procedure.**

### A. Basic qualification

#### (1) An economic operator shall not be qualified if it

- a) was convicted by final judgement in the country of its registered seat of a crime specified in Annex No. 3 to ZZVZ or another similar crime pursuant to the law of the country of its registered office in the past five years preceding the commencement of the procurement procedure; expunged convictions are disregarded,





- b) has outstanding tax arrears registered in tax records in the Czech Republic or in the country of its registered office,
- c) has outstanding arrears in respect of payments and penalties of public health insurance in the Czech Republic or in the country of its registered office,
- d) has outstanding arrears in respect of payments and penalties of social security contributions and contribution to the national employment policy in the Czech Republic or in the country of its registered office,
- e) is in liquidation, has been declared insolvent, in respect of whom the receivership has been imposed under another legal regulation or it is in a similar situation pursuant to the law of the country of its registered office.

(2) If the economic operator is a legal person, both this legal person and every member of its governing body shall meet the condition specified in paragraph a) of subsection (1). Where a legal person is a member of the governing body of the economic operator, the condition specified in paragraph a) of subsection (1) shall be met by

- a) this legal person,
- b) every member of the governing body of this legal person, and
- c) the person representing this legal person in the governing body of the economic operator.

(3) If a participant in the procurement procedure is a branch of a business of

- a) a foreign legal person, the condition specified in paragraph a) of subsection (1) shall be met by this legal person as well as the head of the branch,
- b) a Czech legal person, the condition specified in paragraph a) of subsection (1) shall be met by the persons referred to in subsection (2) as well as the head of the branch.

## B. Professional qualification

The economic operator shall prove its professional qualification in relation to the Czech Republic by submitting a copy of an entry in the Commercial Register or other similar records provided that registration in such records is required pursuant to another legal regulation.

## C. Summary

According to the abovementioned conditions, the participant must prove the fulfillment of qualification requirements either:

1. Affirmation (Annex no. 1) which replaces the qualification documents  
or
2. the following documents:
  - a) a copy of an entry in the Criminal Records in respect of Section 74 (1) a) ZZVZ,
  - b) a confirmation from a relevant tax office in respect of Section 74 (1) b) ZZVZ ((issued under the law of the country in which the economic operator has its seat and issued by ),
  - c) a written affirmation regarding excise duty in respect of Section 74 (1) b) ZZVZ,
  - d) a written affirmation in respect of Section 74 (1) c) ZZVZ,
  - e) a confirmation from a relevant regional social security administration in respect of Section 74 (1) d) ZZVZ,
  - f) a copy of an entry in the Commercial Register, or a written affirmation in the event that the economic operator is not incorporated in the Commercial Register, in respect of Section 74 (1) e) ZZVZ,
  - g) a copy of an entry in the **domestic or Czech** Commercial Register or other similar records provided that registration in such records is required pursuant to another legal regulation, in respect of Section 77 (1) ZZVZ,
  - h) or eventually other required documents if the economic operators participates in the







procurement procedure jointly or proves qualification through other persons, if it is a foreign participant, if it is registered in the List of Approved Economic Operators or if it has a certificate from the System of Certified Economic Operators.

## D. Common provisions governing qualification

### I. The List of Approved Economic Operators and the System of Certified Economic Operators

Participants registered in the List of Approved Economic operators (Section 226 and following of ZZVZ) can prove the fulfillment of qualification requirements with the extract from the List provided that on the last day on which the basic qualification or professional qualification is to be proved, the extract is not older than three months.

Participants who were issued certificates under the System of Certified Economic Operators (Section 233 and following of ZZVZ) can prove the fulfillment of qualification requirements or their certain part by submitting a valid certificate to the extent recorded in the certificate.

### II. Proving of qualification obtained abroad

Where qualification has been obtained abroad, it shall be proved by documents issued under the law of the country in which it has been obtained. This document shall be submitted along with its translation into Czech language. A document in Slovak language and a certificate of education in Latin language shall be submitted without a translation. Where pursuant to the relevant legal order the required document is not issued, it may be substituted by an affirmation.

This affirmation must declare the absence of the required document in accordance with the relevant legislation and its own declaration of fulfillment of the requirements that would otherwise have been proved by the relevant document (e.g. a declaration of absence of a criminal record Register and the fact that the economic operator was not punished).

### III. Qualification in the case of joint participation of economic operators

In the case of joint participation of economic operators, the basic and professional qualifications pursuant to Section 77 (1) ZZVZ (a copy of an entry in the Commercial Register) shall be proved by each economic operator separately.

### IV. The Validity and the form of the qualification documents

The documents demonstrating basic qualification under Section 74 ZZVZ and professional qualification under Section 77 (1) ZZVZ shall demonstrate the fulfilment of the required qualification criterion not later than three months before the date of the commencement of the procurement procedure. The economic operator shall submit copies of the relevant documents.

## 9 Other requirements for the tender, Tender language

1. **Tenders must be submitted only in electronic form** via electronic tool E-ZAK (website <https://zakazky.tul.cz/>)

2. **Tender language**

The tender must be submitted in **English or in Czech language**.

Annex P1 - affirmation is bilingual (Czech and English)

Annex P2 – contract is bilingual (Czech and English), contractor has to fill in the text boxes in **both languages**.





### 3. **The tender must include:**

- A. **Affirmation of the fulfillment of qualification criteria (Annex no. 1)** or the documents demonstrating fulfillment of basic qualification under Section 74 ZZVZ and professional qualification under Section 77 ZZVZ,
- B. **Contract (Annex no. 2)**
- C. **Description of the subject** of the public contract (technical specification demonstrating compliance with the requirements of the contracting authority) including the tender price.
- D. **A sample of the curriculum** including complete content pages and samples of the text from individual chapters covering at least 15% of the full text. If this curriculum or its sample is available at the supplier's web or similar, it is sufficient to provide a link.
- E. Demonstration of the required properties of the equipment according to Article 1 Subject of the contract item a), b) or c)
  - a) video showing experiments with the system (link is sufficient if available at the suppliers web or youtube or similar website)
  - b) Reference to universities or similar establishments that are already using the system and willing to report their experience
  - c) Schematic diagram of the system with parameters of the individual components and derived mathematical model in form of a system of differential equations with numerical values of parameters corresponding to the used components. The purpose of the model is to allow the purchaser to perform simulation and decide whether the system is designed correctly.

### **Variants will be not accepted.**

The economic operator may submit in the procurement procedure only one tender. The economic operator which has submitted a tender in the procurement procedure shall not be at the same time a person through which another economic operator proves qualification in the same procurement procedure. The contracting authority shall exclude a participant which has submitted several tenders either separately or together with other economic operators or a participant which has submitted a tender and is at the same time a person through which another economic operator proves qualification in the same procurement procedure.

## **10 Technical specification**

Technical specification means requirements for the properties of the subject of the public contract. The technical specification is listed above in the specification of the subject of the public contract.

## **11 Business and payment conditions**

### **Business and payment conditions:**

Business and payment conditions are included in contract proposal (annex P2).

### **Contract proposal:**

The participant has to fill in the text boxes **in both languages** in accordance with his tender and attach to the tender. **The participant is not entitled to change any of the contract's provisions.**







## 12 Explanation of tender documentation

Requests for an explanation of tender documentation must be received in writing to the address: via e-mail [zakazky@tul.cz](mailto:zakazky@tul.cz) or via electronic tool E-ZAK (<https://zakazky.tul.cz/>) or.

The request must be received by the contracting authority no later than **8 labour days** before the deadline for submission of tenders. If the contracting authority provides an explanation upon a request that has not been delivered in time, it is not obliged to observe the time limits under subsection 98 (1) ZZVZ.

The contracting authority may explain the tender documentation without an economic operator's request.

## 13 Evaluation criteria

Tenders will be evaluated on the basis of their economic advantageousness.

The contracting authority shall evaluate the economic advantageousness of tenders **on the basis of the lowest tender price** (excluding VAT).

In order to conclude a contract, the contracting authority will select the participant whose tender has been evaluated as the most economically advantageous on the basis of the lowest tender price (excluding VAT).

## 14 Award period

The contracting authority does not set an **award period**.

## 15 Conditions for the selection of the economic operator and the conclusion of a contract

- In accordance with Section 122 (3) ZZVZ, the contracting authority will send the the selected economic operator a request for submission of:
  - electronic originals of the documents proving the qualification.
- If it is required to submit an electronic original of a document that the selected economic operator has only in paper form, an authorized conversion of that document shall be carried out. (Authorized conversion - complete conversion of a paper document into a document contained in a data message or data file in a manner ensuring compliance of the content of these documents and attaching a conversion clause. More information can be found at <http://www.czechpoint.cz/> )

*(Electronic original means an electronic document bearing the relevant electronic signature of the authority / person who issued the document)*

## 16 Other conditions and reserved rights of the contracting authority

- The contracting authority is entitled to set aside the award procedure before signing the contract in cases defined in Section 127 ZZVZ.
- Costs of drawing-up a tender will not be reimbursed by the contracting authority. Submitted tenders will not be returned.





- The Contracting Authority may, in accordance with the ZZVZ, assess the fulfillment of the conditions for participation in the procurement procedure before the evaluation of tenders or only after the evaluation of tenders.
- This Contract concluding within the framework of the public contract shall become effective as of the date of its publication in the Register of Contracts.
- The contracting authority points out that according to Section 122 (5) of the ZZVZ the selected economic operator is obliged (if it is a legal entity and if it is not possible to find data on the beneficial owner from the Evidence of Beneficial Owners according to Section 122 (4) ZZVZ) as a condition for the conclusion of the contract to:
  - a) provide **identification data of all persons** that are its beneficial owners pursuant to the Act on Selected Measures against Money Laundering and Financing of Terrorism,
  - b) provide **documents** that demonstrate the relation of all persons under paragraph a) to the economic operator; such documents include, but are not limited to,
    - a copy of an entry in the Commercial Register or other similar records,
    - a list of shareholders,
    - a decision made by the governing body regarding payment of a share in profit,
    - a memorandum of association, charter or code of rules.

In Liberec 19th August 2020

On behalf of the contracting authority: RNDr. Ivana Večeřová

*Annex P1 - Affirmation on basic and professional qualification criteria*

*Annex P2 – Contract proposal*

