



## INVITATION TO SUBMIT A BID

for the small size public procurement

### „TP22\_045\_Hexapod for TREX Diffractometer “

(“**Public Procurement**”) that is to be concluded in the procedure according to the Rules for applicants and beneficiaries (“**Rules**”) under the Research, Development and Education Operational Programme.

Name of the contracting authority:	Institute of Physics of Academy of Sciences of the Czech Republic, public research institution
Registered office:	Na Slovance 2, Praha 8, PSČ: 182 21
Identification No.:	68378271
Tax Identification No.:	CZ68378271
Person authorized to act on behalf of the contracting authority:	RNDr. Michael Prouza, Ph.D., director
Contact person:	David Pokorný
Telephone:	00420 601 555 056
E-mail:	<a href="mailto:David.Pokorny@eli-beams.eu">David.Pokorny@eli-beams.eu</a>

(“**Contracting Authority**”)

#### 1. GENERAL INFORMATION

- 1.1 The Contracting Authority does not follow the rules for public procurements set out in the act no. 134/2016 Coll., on public contracts awarding (“**Act**”), because the Public procurement is considered a small size public procurement within the meaning of Section 27 of the Act.
- 1.2 If the Contracting Authority uses references to the Act, it means that the Contracting Authority shall proceed analogically in relation to the Act. However, these links to the Act do not imply that the Public Procurement is awarded in accordance with the Act.

#### 2. PUBLIC PROCUREMENT SPECIFICATION

- 2.1 The subject-matter of the Public Procurement is the production and delivering of **Hexapod for TREX Diffractometer**, in accordance with the technical specification, which forms





annex No. 3 hereto and under the terms and conditions stipulated in the contract, which forms annex No. 2 hereto ("Products").

The bidder shall also include in the bid the description of the offered products so that the Contracting Authority may verify that its technical requirements are met.

**3. THE TIME AND PLACE OF DELIVERY**

3.1 The time of delivery is stipulated in the contract, which forms annex No. 2 hereto.

3.2 The place of delivery is stipulated in the contract, which forms annex No. 2 hereto.

**4. BUSINESS AND PAYMENT TERMS**

4.1 Business and payments terms and conditions are contained in the draft of the contract that forms Annex 2 hereto.

4.2 The signed draft of the contract shall be inserted in the bid. The bidder shall fill in the data that are required (designated with yellow colour). The bidders are not entitled to modify the contract in any way.

4.3 The contract shall be signed and inserted in the bid in the version as is attached to this invitation (or as is officially modified during the award procedure by the Contracting Authority due to additional information/explanation.

4.4 Bidders shall not refer in their bids to their business conditions and terms. If the bidders include their own business terms and conditions in the bid, such terms and conditions shall be irrelevant and the bidder will be requested to conclude the contract as is attached to this invitation.

**5. THE DATE AND PLACE OF THE SUBMISSION OF BIDS**

5.1 Bids must be submitted to the address: **Fyzikální ústav AV ČR, v. v. i. - ELI, DEP. 95 – David Pokorný, Za Radnicí 835, Dolní Břežany, post code: 252 41, Czech Republic, on 18. 11. 2022** until 14:00 at the latest.

5.2 Bids may be supplied by post, courier, or personally to the above mentioned address in working days between 8-15 hours. On the last day of the period for the submission for bids the bids may be submitted until 14:00 o'clock.

**6. ADDITIONAL INFORMATION**

6.1 The supplier is entitled to require in written form explanations regarding the tender conditions from the Contracting Authority. The written request must be received by the Contracting Authority no later than 4 working days before the deadline for submission of bids.

6.2 The Contracting Authority sends explanations regarding the tender condition and possibly related documents no later than 2 working days after receiving written request from the





supplier. If the request from the supplier is not delivered in time and despite this fact the Contracting Authority decides to provide explanations regarding the tender conditions, then the time limit in the preceding sentence does not need to be observed by the Contracting Authority.

- 6.3 The explanations regarding the tender conditions (including the exact wording of the request of the supplier) shall be provided to all suppliers at the same time and sent in the same manner as this invitation.
- 6.4 The Contracting Authority is entitled to provide explanations regarding the tender conditions without prior request. In such cases the Contracting Authority proceeds analogically according to the preceding paragraphs.
- 6.5 The Contracting Authority may modify the tender conditions before the deadline for submission of bids elapses. The modification has to be notified to the suppliers in the same manner as the tender conditions that was the subject of modification. If the Contracting Authority through explanations of the tender conditions makes modification of the tender conditions and the nature of the such modification requires it, the Contracting Authority shall adequately extend the deadline for the submission of bids. In the event such a modifications, which may extend the range of potential bidders, the Contracting Authority will extend the deadline so that the potential bidders have the entire length of the original deadline for the submission of bid.

## 7. EVALUATION CRITERIA

- 7.1 Bids shall be evaluated on the basis of the lowest bid price criterion.

## 8. BID PRICE,

- 8.1 The bidder shall fill in the bid price in the draft of the contract. The bid price shall be given in EUR.



## 9. FORMAL BID REQUIREMENTS

- 9.1 All bids must be submitted in writing in duly sealed envelope designated by the identification data of the bidder. The envelope must be designated by inscription “**DO NOT OPEN**” and by title of the Public Procurement “**TP22\_045\_Hexapod for TREX Diffractometer**”. On the envelope shall be address to which the Contracting Authority may send information regarding the Public Procurement.
- 9.2 The bid shall contain identification data of the bidder. This requirement is fulfilled by filling the cover sheet of the bid, which forms Annex 1 hereto.
- 9.3 The bid must contain the draft of the contract signed by the person authorized to act on behalf of the bidder.





- 9.4 The bid must be submitted in Czech, or English language. This requirement is fulfilled if documents that by its nature cannot be in the required language are at least translated into one of the required languages.
- 9.5 All pages in the bid must be secured against unauthorized manipulation (e.g. bound by string and sealed), so that additional documents cannot be inserted nor any pages removed. The bid must be clearly readable, without any crossed words or other discrepancies.
- 9.6 The bidder must submit a bid in its original (paper) form.
- 9.7 The bidder must also include in the bid a CD-ROM, USB, or other generally used data carrier with an electronic copy of the bid (all paper documents in the bid).
- 9.8 If the bid is submitted jointly by several bidders (joint bid), a contact person authorized to represent all such bidders must be designated in the bid.
- 9.9 The bids must be structured in the following manner:
- a) **Cover sheet (Bid sheet)**  
Bidders shall fill in cover sheet
  - b) **The description of the offered Product – Technical specification**
  - c) **Draft of the contract** signed by the person authorized to act on behalf of the bidder

## 10. FINAL PROVISIONS

- 10.1 The Contracting Authority is entitled to cancel the award procedure anytime prior to the signature of the contract.
- 10.2 The Contracting Authority does not allow alternative bids.
- 10.3 The Contracting Authority is entitled to change or supplement the provisions of this invitation.
- 10.4 The bidders shall bear all their costs connected with their participation in the award procedure initiated by this invitation.
- 10.5 The Contracting Authority reserves the right to publish/ distribute a notice on Public Procurement awarding conclusions in the same way as this Invitation to bid.





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## 11. LIST OF ANNEXES

- a) Annex 1 (Cover sheet)
- b) Annex 2 (Draft of the contract)
- c) Annex 3 (Technical specification)

In Prague on ..... 21. 10. 2022 ..... 2022

.....  
RNDr. Michael Prouza, Ph.D., director





ANNEX 1

COVER SHEET OF THE BID (BID SHEET)

**Public procurement title:** „TP22\_045\_Hexapod for TREX Diffractometer

**Contracting Authority:** Fyzikální ústav AV ČR, v.v.i.

**Registered office:** Na Slovance 2, 182 21 Praha 8

**Registration No.:** 68378271

**Person authorized to act  
on behalf of the bidder:** RNDr. Michael Prouza, Ph.D., director

**Contact person:** David Pokorný, **Telephone:** 00420 601 555 056

**E-mail:** [david.pokorny@eli-beams.eu](mailto:david.pokorny@eli-beams.eu)

**Bidder:** .....

**Registered office:** .....

**Identification No.:** .....

**Person authorized to act  
on behalf of the bidder:** .....

**Contact person:** .....

**Contact address:** .....

**Telephone and e-mail:** .....

The bidder is the payer of VAT: Yes/No\*

\*Cross out, which is not applicable

In \_\_\_\_\_ on \_\_\_\_\_

\_\_\_\_\_  
Company name  
Authorised representative



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## **ANNEX 2**

### **DRAFT OF THE CONTRACT**







## Purchase Contract

entered into pursuant to Section 2079 et seq. of Act No. 89/2012 Coll., the Civil Code (hereinafter the "Civil Code")

### I. CONTRACTUAL PARTIES:

#### 1. Buyer:

**Fyzikální ústav AV ČR, v. v. i.**

*(Institute of Physics of the Czech Academy of Sciences, public research institution)*

with its registered office at Na Slovance 2, ZIP 182 21 Praha 8,

represented by: RNDr. Michael Prouza, Ph.D. - Director

Registered in the register of public research institutions of the Ministry of Education, Youth and Sports of the Czech Republic

Id. No.: 68378271

VAT Id. No.: CZ68378271

(hereinafter the "**Buyer**")

and

#### 2. [REDACTED]

with its registered office at [REDACTED]

represented by: [REDACTED]

Id. No.: [REDACTED]

Registered in [REDACTED]

(Hereinafter the "**Seller**"; the Buyer and the Seller are hereinafter jointly referred to as the "**Parties**" and each of them individually as a "**Party**").

enter, on the present day, month and year, into this Purchase Contract (hereinafter the "**Contract**")

### II. INTRODUCTORY PROVISIONS:

The Seller has been selected as the winner of a public procurement procedure announced by the Buyer for the public contract called "**Hexapod for TREX Diffractometer TP22\_045**" (hereinafter the "**Procurement Procedure**").

The public contract is funded from the Operational Programme Research, Development and Education managed by the Czech Ministry of Education, Youth and Sports.

### III. SUBJECT-MATTER OF THE CONTRACT:

The Seller shall deliver to the Buyer a hexapod and shall provide relating services as specified herein (mainly installation and on-site training) (hereafter the "**Device**") and the Buyer shall take over the



Device and pay the purchase price specified below, all in accordance with the terms and conditions hereof. The Device shall comply with Annex No 1 Requirements Specification Document.

#### **IV. DELIVERY TERMS AND OWNERSHIP TITLE:**

1. The place of delivery is the ELI Beamlines research center, Za Radnicí 835, ZIP 252 41, Dolní Břežany, the Czech Republic.
2. The ownership right to the Device passes to the Buyer upon execution of the Acceptance protocol (as defined below).

#### **V. PURCHASE PRICE AND PAYMENT TERMS**

1. The purchase price for the Device is            EUR without value added tax (hereinafter the "Purchase Price").
2. The value added tax shall be paid by the Buyer in the Czech Republic.
3. The Purchase Price is the maximum price for performing this Contract that cannot be exceeded. The Purchase Price includes all the costs related to the performance of the Contract, including the cost of transport of the Device to the place of delivery, customs (if applicable), installation, on-site training, licenses and fees, development of prices and currency exchange rates etc.
4. The Purchase Price for the Device shall be paid on the basis of a tax document – invoice, to the account of the Seller specified in the invoice. The Seller is entitled to invoice the Purchase Price after acceptance.
5. The invoice shall have only electronic form and shall be submitted to the email address: [efaktury@eli-beams.eu](mailto:efaktury@eli-beams.eu).
6. The invoiced amount is due in thirty (30) days of the date of delivery of the invoice to the Buyer. If the invoice stipulates different due period such period is deemed irrelevant and the period stipulated herein applies. Payment of the invoiced amount means the date of its remitting to the Seller's account. The invoice shall have the form and contents of a tax document according to the applicable legal regulation. The Buyer shall advise in advance the Seller on the proper contents of the invoice.

The invoice shall include the declaration that the provided performance was executed for the purposes of the grant project "Advanced Research Using High Intensity Laser Produced Photons and Particles", reg. number: CZ.02.1.01/0.0/0.0/16\_019/0000789.

Should the invoice not conform to the requirements above, the Buyer is entitled to return it to the Seller for correction. The corrected invoice shall provide new complete due period.

#### **VI. TIME OF PERFORMANCE OF THE CONTRACT:**

The Seller shall deliver the Device to the place of delivery, install it and provide training by **June 20<sup>th</sup> 2023**.

#### **VII. ACCEPTANCE OF THE DEVICE**





1. The Device shall be accepted in the place of delivery installed and training provided on the basis of an acceptance protocol if the Device complies with this Contract. The acceptance protocol shall contain the following information:
  - identification of the Seller
  - identification of the Device
  - the list of defects of the Device, if there are any, and the deadlines for their removal, if the Buyer decides to accept the Device despite having defects
  - the signature of the Buyer(hereinafter the **"Acceptance protocol"**).
2. The Buyer may but is not obliged to accept the Device with defects or deficiencies, especially if the defects or deficiencies do not prevent the Buyer from using the Device for intended use. Should the Buyer accept the Device with defects or deficiencies, the Buyer shall list these in the Acceptance protocol, including the manner and deadline for their removal. Should the Parties not agree on the deadline for the removal of defects or deficiencies in the Acceptance protocol, then these must be removed within 30 days from the date of the acceptance.

#### **VIII. WARRANTY**

1. The Seller hereby provides the warranty of quality for the Device for a period of 24 months.
2. The warranty period shall commence on the date of the execution of the Acceptance protocol. However, if the Device is taken over with defects or deficiencies, the warranty period shall commence on the date of the removal of the last defect or deficiency by the Seller.
3. The Buyer shall raise a claim for removal of a defect of the Device without undue delay after detecting the defect, but not later than on the last day of the warranty period, by means of a written notice to the Seller's email address for claims notification set out herein (hereinafter the **"Warranty claim"**). Warranty claim sent by the Buyer on the last day of the warranty period shall be deemed to have been made in time.
4. In the Warranty claim, the Buyer shall describe the defect and the manner in which the defect is to be removed. The Buyer is entitled to:
  - request the removal of defects by delivery of a new Device or its part, or
  - request that the defect is repaired, or
  - request an appropriate discount on the Purchase Price (typically in case of irremovable defects).The choice among the above specified claims shall be made by the Buyer. However, the Buyer is not entitled to request the delivery of the substitute Device or its part in case of removable defects unless one defect occurs more than twice.
5. The Seller agrees to remove the defects of the Device free of charge.
6. Defects must be removed within the period of four (4) weeks from the date, on which the Warranty claim was notified to the Seller unless the Buyer and the Seller agree on a longer term. The Buyer shall agree on a longer term if the Seller documents that the period of 4 weeks is unfeasible for





reasons not given on the side of the Seller (e.g. the subsuppliers' delivery terms).

7. The Seller shall remove defects of the Device within periods stated in the Contract also in the instances when the Seller does not agree to its liability for such defects. In such cases, the validity of the Warranty claim shall be assessed by an expert, which is to be selected by the Buyer but on which the Seller also must agree. In the event the expert declares the Warranty claim as justified, the Seller shall bear the costs of the expert's assessment. If the Warranty claim is raised unjustly (according to the expert's assessment), the Buyer shall reimburse the Seller all reasonably incurred costs associated with removing the defect.
8. The Parties shall execute a record on removal of the defect, in which they shall confirm that the defect was removed. The warranty period of the Device shall extend by the time that expires from the date of notification of the Warranty claim until the defect is removed if the defect prevented the Buyer from using the Device for intended use.
9. In case the Seller fails to remove the defect within deadlines set out in the Contract, or within other period as may be agreed by the Parties, or in case the Seller refuses to remedy the defect, the Buyer shall be entitled to have the defect removed at his own cost by a third party, and the Seller shall be obliged to compensate the Buyer for all reasonably incurred costs associated with removing the defect within 30 days of the Buyer's request to do so. Under the condition that the repair was professionally done, the scope and length of the warranty remains unaffected by the repair.
10. The warranty shall not cover defects caused by unprofessional handling, non-compliance with the manufacturers' written rules of operation and maintenance of equipment, or those of which the Seller advised the Buyer in writing. The warranty shall also not apply to defects caused by intentional conduct.
11. The email address                      serves as a defect notification address.

#### **IX. CONTRACTUAL PENALTIES**

1. In the event that the Seller is in delay with completion of the contract performance within the term set forth in Art. VI. hereof, the Seller shall pay to the Buyer the contractual penalty in the amount of 0.05% of the Purchase Price without VAT for each, even commenced day of delay.
2. The total amount of the contractual penalty for delay with the delivery of the Device shall not exceed 5 % of the Purchase Price without VAT.
3. In the case where the Seller fails to remove defects within the periods stipulated in the Contract, the Seller shall pay to the Buyer a contractual penalty in the amount of 10 EUR for each defect and for each day of delay.
4. Contractual penalties do not apply in case of documented impacts of the covid\_19 pandemic or of the war in Ukraine on due and timely performance of the Contract by the Seller (e.g. sick employees, delay in subsupplies etc.) where such obstacles could have been overcome only with unreasonable efforts or costs.



5. If the Buyer fails to pay the Purchase Price within the deadlines set out in this Contract, the Buyer shall pay the Seller interest on delay in the amount set forth by the applicable law for each day of delay.
6. The obliged Party must pay any contractual penalties/ interests to the entitled Party not later than within 15 calendar days of the date of receipt of the relevant claim from the entitled party.

#### **X. TERMINATION OF THE CONTRACT, VIS MAJOR**

1. This Contract may be terminated by agreement of the Parties or by withdrawal from the Contract on the grounds stipulated by law or by the Contract.
2. The Buyer is entitled to withdraw from the Contract without any penalty if any of the following events occur:
  - a) the Seller has materially breached the obligations from this Contract, especially i) by being in delay with delivery of the Device for more than 3 months, or ii) the Device is defective and such defect is not removed within 3 months from notifying the Seller of such fact;
  - b) insolvency proceedings are initiated against the Seller's assets,
  - c) should it become apparent that the Seller provided information or documents in the Seller's bid, which are not true and which could have influenced the conclusions of the Procurement Procedure leading to the conclusion of this Contract.
3. The Seller is entitled to withdraw from the Contract in the event of material breach of the Contract by the Buyer, especially by delay with due payment of the Purchase Price longer than 3 months.

##### Vis major circumstances

4. Circumstances constituting vis major shall be constituted by such circumstances / obstacles which arose independently of the will of the obliged Party, and which prevent fulfilment of that Party's obligation, provided that it could not be reasonably expected that the obliged Party could overcome or avert this obstacle or its consequences, and furthermore that such Party could foresee such obstacle when it entered into the respective covenants. Vis major shall not be constituted by obstacles that arose only after the obliged Party was in default with fulfilment of its obligations, or which arose in connection with its economic situation.

Any particular effects or impacts on the Seller or his performance under this Contract of the Covid-19 epidemic or of the war in Ukraine that meet the conditions above will be considered as vis major cases despite the fact of the existence of the epidemic and of the war on the date of the signature of this Contract.

5. Should a situation occur, which a Party could reasonably consider to constitute vis major, and which could affect fulfilment of its obligations hereunder, such Party shall as soon as possible notify the other Party and attempt to continue in its performance hereunder in a reasonable degree. Simultaneously, such Party shall inform the other of any and all its proposals, including alternative modes of performance, however, without consent of the other Party, it shall not proceed to effect such alternative performance.





6. If a situation constituting vis major occurs, the deadlines imposed hereunder shall be extended by the period of the documented duration of the said vis major. The obliged Party shall properly document to the other Party the start and the finish of the vis major period.
7. Both Parties are entitled to terminate this Contract by withdrawal effective upon delivery of a termination notice to the other Party in case of vis major circumstances that last more than 6 months.

#### **XI. REPRESENTATIVES OF THE PARTIES**

1. The Buyer has appointed the following authorised representatives for communication with the Seller in relation to this Contract:

Borislav Angelov, email: [Borislav.Angelov@eli-beams.eu](mailto:Borislav.Angelov@eli-beams.eu), Phone: +42026601568

#### **XII. CHOICE OF LAW**

1. This Contract and all the legal relationships arising out of it shall be governed by the laws of the Czech Republic.
2. Any disputes arising out of this Contract or legal relationships connected with the Contract shall be resolved by the Parties amicably. In the event that a dispute cannot be resolved amicably within sixty (60) days, the dispute shall be resolved by the competent court in the Czech Republic based on an action of any of the Parties.

#### **XIII. SOCIAL, ECOLOGICAL AND INNOVATIVE ASPECTS**

The Buyer aims to conclude contracts with sellers that take into account and implement the principles of social responsibility, ecological sustainability and innovation. Therefore, the Seller shall ensure that:

- a) this Contract is performed only by persons that are employed in accordance with the applicable legal regulations (no illegal or child workers);
- b) while performing this Contract, all applicable health and safety regulations and rules at work place are observed;
- c) all persons performing this Contract are employed under fair and non-discriminatory working conditions;
- d) if presented with different manners of fulfilling this Contract, the Seller shall select the solution/process that is in accordance with the principles governing nature conservation and nature protection, ecological sustainability and ecological waste management; and
- e) if presented with different manners of fulfilling this Contract, the Seller shall select the solution/process that is the most innovative.

#### **XIV. ASSIGNMENT**

1. The Seller shall not be entitled to assign any rights or obligations arising in connection herewith to a third party.
2. The Buyer makes the Seller aware that the Buyer is going with anticipated effect as of 1.1.2023 to transfer the ELI Beamlines research facility (now owned and operated by the Buyer) to the Extreme





Light Infrastructure ERIC (ELI ERIC). The ELI ERIC is a legal person set up under the Regulation (EC) No 723/2009 and it is the future long term owner and operator of the ELI Beamlines facility. The Seller by entering this Contract agrees to the assignment of all rights and obligations from this Contract to ELI ERIC. The Buyer shall inform the Seller on the completed assignment without undue delay and the assignment shall become effective at the moment of its notification to the Seller.

#### **XV. FINAL PROVISIONS**

1. The Contract with all annexes represents the entire and complete agreement between the Buyer and the Seller.
2. In the event that any of the provisions of this contract shall later be shown or determined to be invalid, putative, ineffective or unenforceable, then such invalidity, putativeness, ineffectiveness or unenforceability shall not cause invalidity, putativeness, ineffectiveness or unenforceability of the Contract as a whole. In such event the Parties undertake without undue delay to subsequently clarify any such provision or to replace after mutual agreement such invalid, putative, ineffective or unenforceable provision of the Contract by a new provision, that in the extent permitted by the laws and regulations of the Czech Republic, relates as closely as possible to the intentions of the Parties to the Contract at the time of entering hereto.
3. This Contract is subject to mandatory publication according to the applicable Czech law.
4. This Contract becomes valid as of the day of its execution by the authorised persons of both Parties.
5. This Contract may be changed or supplemented solely in writing.
6. This Contract is executed and signed only electronically.
7. The following Annex forms an integral part of the Contract:  
Annex No. 1: Requirements Specifications Document (RSD) and
8. The Parties, manifesting their consent with the entire the Contract, affix their signatures below.

In   
Seller:

In   
Buyer:

\_\_\_\_\_  
Name: \_\_\_\_\_  
Position: \_\_\_\_\_

\_\_\_\_\_  
Name: RNDr. Michael Prouza, Ph.D.  
Position: Director



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#### **Annex 1 Requirements Specifications Document**

*Annex No X to the Invitation to submit a bid issued within this Procurement Procedure (Technical specification) shall be attached here before conclusion of the Contract with the selected bidder.*



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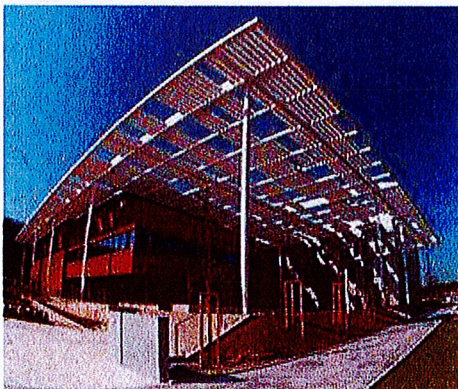
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### **ANNEX 3**

### **TECHNICAL SPECIFICATION**





<b>Confidentiality Level</b>	<i>BL - Restricted for internal use</i>	<b>TC ID / Revision</b>	00350317/C
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	<b>Position</b>	<b>Name</b>	
<b>Responsible person</b>	Senior Scientist	Borislav Angelov	
<b>Prepared by</b>	Senior Scientist	Borislav Angelov	





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<b><i>Reviewed By</i></b>			
<i>Name (Reviewer)</i>	<i>Position</i>	<i>Date</i>	<i>Signature</i>
Adam Pokorný	Group Leader of Installations	<u>Via TC</u>	
Zdeněk Svoboda	Technical Specialist	<u>Via TC</u>	
Veronika Olšovcová	Group Leader of Safety	NOTICE	
Viktor Fedosov	Group Leader of Quality&Planning	NOTICE	
Radek Toman	Legal Group Leader	Via e-mail	
Jack Naylor	Group leader of Laser Control Systems	Via e-mail	

<b><i>Approved by</i></b>			
<i>Name (Approver)</i>	<i>Position</i>	<i>Date</i>	<i>Signature</i>
Jakob Andreasson On behalf of M. Přeček	Head of department of Structural Dynamics	<u>Via TC</u>	

<b><i>Revision History / Change Log</i></b>				
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1	B. Angelov	30.08.2022	RSD draft	A
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## 1. Introduction

### 1.1. Purpose

This Requirements Specification Document (RSD) lists the technical requirements and constraints on the Hexapod for the diffraction station as part of Adonis experimental program at the ELI Beamlines facility.

### 1.2. Scope

The RSD contains functional, performance and design, delivery, safety and quality requirements for the product **Hexapod for the TREX Diffractometer**. This product is intended for use at the TREX Diffractometer in the E1 experimental hall of the ELI Beamlines facility registered in the PBS software under the code **E.E1.HXRS.XROM.1** and under the tender number **TP22\_045**.

This Product is a **product Category A** according to the ELI Beamlines RSD categories. Category A is a product is an "Off-the-shelf" product without customization.

### 1.3. Terms, Definitions and Abbreviations

For the purpose of this document, the following abbreviations are applied:

Abbreviation	Meaning
CA	Contracting Authority
E1	Experimental hall 1
ELI	Extreme Light Infrastructure
PBS	Product Breakdown Structure
RSD	Requirements Specification Document
TREX	TREX Diffractometer

## 2. Functional, Performance and Design requirements

REQ-035005/A

The Hexapod shall have the following technical parameters:

- Maximum load capacity (base plate horizontal): at least 28 kg
- Rotation range in  $\theta X$ ,  $\theta Y$ ,  $\theta Z$ : at least  $\pm 8^\circ$
- Translation range in X, Y, Z axis: at least 20 mm
- Maximum height (home position): 320 mm or less.
- 6 active axes: X, Y, Z,  $\theta X$ ,  $\theta Y$ ,  $\theta Z$
- Integrated sensor: encoder.
- Data transmission cable length from the hexapod to its controller: at least 7 m.
- Working position: upside-down orientation
- Ability to work in any orientation and withstand both push and pull loads.





### 3. Control system requirements

REQ-035059/A

The Hexapod shall be controlled via ELI beamlines computer through the Transmission Control Protocol/Internet protocol (TCP/IP) or the User Datagram Protocol/Internet protocol (UDP/IP).

REQ-035060/A

The Hexapod controller shall have the possibility to be programmed with Python 3.

### 4. Transportation and Installation requirements

REQ-035006/A

All elements of the hexapod shall be delivered in protective package preventing damage and contamination. The package shall have a minimum of two plies separate clean packaging.

REQ-035007/A

Transportation and Installation of the Product shall be conducted by the Supplier.

*NOTE 1: The bid price will be considered by the CA as the final price, including transportation cost.*

*NOTE 2: The transportation and Installation procedures shall be discussed and reviewed by the CA and shall compliant with the CA's installation regulations.*

REQ-035008/A

All participants to the installations shall undertake a lecture by the CA regarding safety, cleanliness, protection of the environment and working methods before starting their activities on the premises.

REQ-035009/A

The Supplier shall allow supervision of the activities related to the transportation and installation by the CA.

*NOTE: No acts of supervision mean that the CA assumes additional liability of any kind exceeding its liabilities according to the contract.*

### 5. Safety Requirements

REQ-035010/A

The Supplier shall declare the fulfilling of requirements of EU Directive 2014/35/EU (applied in Czech republic as Act No. 118/2016 Coll.) by the Declaration of Conformity or any other equivalent document.





## 6. Quality Requirements

### 6.1. Documentation and data control

REQ-035011/A

The Supplier shall supply the following relevant manufacturing documents:

- Technical documentation (safety, operation, maintenance, installation instructions and drawings)
- Output control report

REQ-035012/A

The Supplier shall use following data formats:

- \*.dat; \*.JPG; \*.PDF/A; \*.HTML
- CAD 2D: \*.dwg
- CAD 3D: \*.stp; \*.ste; \*.step or other 3D CAD formats agreed with the CA
- text processors \*.doc, \*.docx, OpenDocument Format
- spreadsheet processors \*.xls, \*.xlsx, OpenDocument Format
- presentations \*.ppt, \*.pptx; OpenDocument Format

### 6.2. Specific Quality Requirements

REQ-035013/A

The unit system of the mounting holes, sizes and layout shall be SI base units (metric) or other units are derived from them.

REQ-035014/A

Supplier shall provide basic training at ELI premises on how to operate the Product. This training shall take place after the successful acceptance of the product.

*NOTE: Minimal duration of the training shall be 2 working days with possibility for further training by skype or another convenient way.*

### 6.3. Non-Conformance Control System

REQ-035015/A

The Supplier shall have a non-conformance process compatible with ISO 9001:2015 established. The basic application shall contain activities: defining and identifying of non-conformance, defining and identifying the root cause and defining and managing the corrective actions.

*NOTE: This requirement doesn't require any kind of certification. If not sure if fulfilled, the details of process should be consulted with the CA.*





## 6.4. Acceptance

The Acceptance phase demonstrates the following:

- Final delivered and installed product has been successfully verified by the Supplier and this process has been documented in an appropriate way (see REQ-035007/A and REQ-035011/A);
- All detected non-conformities have been solved in accordance with REQ-035015/A;
- Final product is free of fabrication errors and is ready for the intended operational use.

REQ-035016/A

In the acceptance stage, the verification process shall be carried out by the Supplier and the CA on the delivered and installed final product.

REQ-035017/A

In case of successful acceptance phase the CA shall provide to the Supplier signed acceptance protocol.

REQ-035018/A

In case of unsuccessful acceptance stage the CA shall provide to the Supplier Non-Conformance Report (NCR) and non-conformance control process shall be applied (see REQ-035015/A).

