

# **CALL FOR TENDERS**

## **5-axis CNC milling machine TP26\_001 – 5 years lease**

This procurement is to be executed in the open procedure according to Article 13 of The Extreme Light Infrastructure ERIC Procurement Rules (“*Rules*”)

(hereinafter the “*Call*”, “*Procurement*” or “*Procurement Procedure*”)

### **Organisation:**

**The Extreme Light Infrastructure ERIC**

with its registered office at

Za Radnicí 835, 252 41 Dolní Břežany, Czech Republic

identification No.: 109 74 938

(hereinafter the “*Organisation*”)

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## 1. Basic data on the Organisation and the Procurement Procedure

### 1.1. Basic data on the Organisation

Organisation	The Extreme Light Infrastructure ERIC
Registered Office:	Za Radnicí 835, 252 41 Dolní Břežany, Czech Republic
Identification No.:	109 74 938
Person authorised to act on behalf of the Organisation:	Allen Weeks, Director General
Contact person:	David Pokorný tel. +420266051208 e-mail: <a href="mailto:david.pokorny@eli-beams.eu">david.pokorny@eli-beams.eu</a>

### 1.2. Procurement Procedure

This Procurement Procedure is solely carried out under the Rules available at <https://eli-laser.eu/procurement/rules/>.

In accordance with Article 13(1) of the Rules any interested supplier may submit a tender.

## 2. Subject-matter of the Procurement

### 2.1. Specification of the subject-matter of the Procurement

The subject-matter of this Procurement is:

**60-month finance lease of a CNC milling machine with transfer of ownership for a final nominal amount of 1 EUR at the end of the term.**

The CNC milling machine to be supplied and relating services to be provided are described in detail in **Annex No. 2 Technical Specification** and further specified in **Annex No. 1 ELI ERIC Terms and Conditions**.

The information and data listed in this Call and its Annexes define the minimum technical and other mandatory requirements of the Organisation. Tenderers are obliged to respect these requirements in their tenders.

### 2.2. Technical specification

Technical specification for the subject-matter of this Procurement is given in **Annex No. 2 Technical Specification**.

The technical parameters stated in **Annex No. 2 Technical Specification** are defined as maximal/minimal requirements, i.e. tenderers are entitled to offer a more advantageous products/solution.

If the technical specification is set by a direct or indirect reference to particular economic operators or products, or patents for inventions, utility models, industrial designs, trademarks or designations of origin, tenderers may offer another equivalent solution. The Organisation reserves the right to ask for the explanation and/or evidence that the proposed solution satisfies in an equivalent manner the requirements defined by the Organisation.

### **2.3. Maximum permissible tender price**

The Organisation sets the **maximum permissible acquisition price of the CNC milling machine** in Art. 4 below. In case any tender exceeds this limit, such tender will be excluded from the Procurement Procedure.

### **2.4. Business conditions**

As **Annex No. 1 ELI ERIC Terms and Conditions** hereto, the Organisation presents its binding set of terms and conditions for the 5 years lasting lease relation.

After the selection of the selected tenderer, the Organisation will negotiate a contract with them that must be fully compliant with the (1) ELI ERIC Terms and Conditions, (2) Technical Specification annexed hereto and with (3) the tender submitted by the tenderer within this Procurement Procedure.

If the selected tenderer does not provide due cooperation to negotiate compliant contract terms the Organisation shall cancel their selection and select another tenderer according to the results of the evaluation process.

### **2.5. Social, ecological and innovative aspects**

The Organisation will award this Procurement in accordance with the principles of socially and environmentally responsible procurement. Socially and environmentally responsible procurement also takes into account the related impacts, especially in the areas of employment, social and labour rights and the environment.

## **3. Requirements for processing the tender price**

Tenderers are required to state **the total tender price in EUR excluding VAT by filling in the table forming Annex No. 5 Price Table** to this Call.

VAT shall be paid in accordance with the applicable legal regulations.

The tenderer shall provide:

- a) the acquisition (purchase) price of the CNC machine,
- b) the amount of advance partial payment,
- c) the nominal annual interest rate (p.a.) used for the financing calculation,
- d) the fixed monthly instalment for a financing period of 60 months.

The monthly instalment must include all costs of the tenderer related to the delivery of the CNC machine, its financing, and its lease for a period of 60 months such as any administrative and handling fees, service and maintenance costs, insurance (other than expressly committed to by the Organisation), etc.

The monthly instalment must remain the same for the entire period of 60 months.

**The maximum permissible acquisition (purchase) price of the CNC machine is 240 000 EUR excl of VAT.**

The total tender price calculated as the sum of the partial advance payment together with 60 monthly instalments is the maximum price that cannot be exceeded and shall include all costs incurred by the tenderer in connection with the performance hereof.

The tender price must also include costs not explicitly specified but about which the tenderer knew or should and could have known considering his professional knowledge, exercising all professional care.

## 4. Evaluation

### 4.1. Evaluation criteria

Tenders shall be evaluated on the basis of best-value-for-money.

The Organisation evaluates the **total tender price in EUR excluding VAT**. The total tender price shall be given in the structure and under the conditions defined in Article 4. hereof, i.e.:

Evaluation criterion: **total tender price = advance partial payment + (60 × the monthly fixed instalment)**.

The Organisation shall evaluate the best-value-for-money solely on the basis of the lowest tender price. The winning tender will be the tender with the lowest tender price.

Tenderers shall not be authorised to make the tender subject to any conditions. Any such conditions or provision of several different values in the tender parts that are subject to the evaluation shall constitute a reason to exclude the tenderer from the Procurement Procedure.

### 4.2. Priority of evaluation

According to Article 27(8) of the Rules, the Organisation shall assess compliance of the tender with this Call upon finalisation of the evaluation of tenders and shall carry out the assessment in relation to the tender of the tenderer recommended for award only.

## 5. Tender processing conditions and requirements

### 5.1. Conditions for the submission of tenders

The Organisation accepts tenders in electronic form only, on the following e-mail address: [tenders@eli-laser.eu](mailto:tenders@eli-laser.eu)

**Tenders shall be submitted no later than April 25<sup>th</sup> 2026 at 3:00 PM.**

Subject-matter of the e-mail with the Quotation shall be marked 'DO NOT OPEN' and the title of the Procurement “**5-axxis CNC milling machine TP26\_001 – 5 years lease**”.

If the subject-matter of the e-mail is properly marked, the Organisation shall not open such e-mail before the end of the period during which the tenders can be submitted.

The tender must be written **in English**.

If the tender is submitted jointly by more tenderers (joint tender), the tenderers shall specify a person in the tender who shall be empowered to represent these tenderers when communicating with the Organisation during the Procurement Procedure.

Tenderers shall submit a tender containing the following documents and parts, whereas the following structure is only recommended:

a) **Cover Tender Note**

The Cover Tender Note shall include the following details: Procurement title, basic identification details of the Organisation and the tenderer (including persons empowered to be involved in further proceedings and stating an enterprise categorisation in accordance with the Recommendation 2003/361/EC), contact e-mail address of the tenderer (for electronic communication with the Organisation during the Procurement Procedure), date and signature of the person authorised to act on behalf of the tenderer.

The tenderer may use **Annex No. 3** hereto.

b) **Identification of the type of CNC machine + description of the technical parameters of the offered machine** that will show that it meets the technical specification set out in **Annex No. 2** hereto.

c) Filled in Price Table forming **Annex No. 5** hereto.

#### **d) Affidavit regarding international sanctions**

Tenderers shall provide a solemn declaration (affidavit) that awarding the contract to them does not represent any violation of international sanctions according to Czech Act No. 69/2006 Coll., on Implementation of International Sanctions, as amended.

Detailed information is provided in Article 8.3. hereof. Tenderers may use **Annex No. 4** hereto.

## **6. Other conditions**

### **6.1. Rights of the Organisation**

The Organisation may request an explanation or supplement to any of the tenders.

Supplementing the tender may not change the tender price or other data relevant to the evaluation.

If the tender contains data or information inconsistent with the Call (as it was submitted, or even after explanation/supplementation), the Organisation is entitled to exclude it.

The Organisation may verify the credibility of the data, documents, samples or models provided by the tenderer and may also acquire them itself.

### **6.2. Explanation of the Procurement documents**

The Organisation shall provide explanation of the Procurement documents based on a tenderer's written request or on its own will. Requests for explanation must be submitted at least 7 working days prior to the deadline for tender submission to the following e-mail address: [david.pokorny@eli-beams.eu](mailto:david.pokorny@eli-beams.eu). The Organisation shall provide explanations without undue delay. The Organisation is not obliged to provide explanations for request that were not submitted within the deadline stipulated in the second sentence of this paragraph.

### **6.3. International sanctions**

The Organisation shall not award the contract if such award would represent any violation of international sanctions according to Czech Act No 69/2006 Coll., on Implementation of International Sanctions, as amended. The Act implements mainly international sanctions adopted based on the membership of the Czech Republic in the United Nations organization and in the European Union (especially the EU Regulation No. 833/2014 concerning restrictive measures in view of Russia's actions destabilising the situation in Ukraine, as amended).

Tenderers shall provide a solemn declaration (affidavit) that awarding the Purchase Contract to them does not represent any violation of international sanctions according to Czech Act No 69/2006 Coll., on Implementation of International Sanctions, as amended.

Should the provided declaration prove untrue or should the declaration not be provided by the tenderer, the Organisation will exclude the tenderer recommended for award based on the evaluation from the Procurement Procedure at any time until the conclusion of the Purchase Contract and may exclude any other tenderers from the Procurement Procedure for that reason.

Should the international sanctions apply on a subcontractor of a tenderer, the Organisation may require the tenderer to replace the subcontractor so identified. Should the tenderer recommended for award based on the evaluation not replace the subcontractor, the Organisation shall exclude the tenderer from the Procurement Procedure at any time until the conclusion of the Purchase Contract.

## **7. Final provisions**


The Organisation does not allow variants of tenders.

The Organisation shall not reimburse the tenderers for the costs incurred in connection with their participation in the Procurement Procedure, even if the Procurement Procedure has been cancelled by the Organisation.

**The list of the annexes:**

- 1. ELI ERIC Terms and Conditions**
- 2. Technical Specification**
- 3. Cover Tender Note**
- 4. Affidavit regarding international sanctions**
- 5. Price Table**

On behalf of the Organisation:



.....  
Allen Weeks, Director General

## Annex 1

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### ELI ERIC Terms and Conditions

#### 1. Structure of the Contract

The CNC machine shall be supplied under a **lease type of contract** with the **lease term of 60 months**. During the lease term, the machine shall remain the property of the supplier (the **Lessor**) and shall be used by the Organisation (the **Lessee**).

The Lessee shall pay **an advanced partial payment plus 60 fixed and equal monthly instalments**.

The advanced partial payment together with the monthly instalments shall include **all costs associated with the supply of the machine, its financing, and the lease for the full term including the required services and maintenance**.

No other payments, fees, or charges shall be payable by the Lessee, except for the final purchase payment specified below.

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#### 2. Fixed Instalments

The monthly instalment shall remain **fixed and unchanged for the entire lease term of 60 months**.

The supplier shall not introduce any additional payments, administrative fees, or similar charges during the lease term.

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#### 3. Ownership During the Lease Term

During the lease term, **ownership of the machine shall remain with the Lessor**.

The Lessor shall ensure that the machine remains **free from any liens, pledges, or other encumbrances** that could affect the Lessee's uninterrupted possession or use of the machine.

The Lessor shall not pledge, encumber, or otherwise grant security over the machine without the **prior written consent of the Lessee**.

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#### 4. Transfer of Ownership

After payment of all **60 monthly instalments**, the Lessee shall acquire ownership of the machine for a **final purchase price of 1 EUR**.

Upon payment of the final instalment and the purchase price of 1 EUR, **ownership of the machine shall automatically transfer to the Lessee**, and the Lessor shall provide any documents reasonably necessary to confirm such transfer.

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#### 5. Early Purchase Right

If:

- the Lessor becomes insolvent, enters bankruptcy, liquidation, restructuring, or similar proceedings,
- the Lessor breaches the contract in a manner that may jeopardize the Lessee's uninterrupted possession or use of the machine, or
- any event occurs that may materially threaten the Lessee's continued possession or use of the machine,

the Lessee shall have the right to **immediately purchase the machine** by paying the **sum of all outstanding unpaid instalments**.

Upon payment of such amount, **ownership of the machine shall automatically transfer to the Lessee.**

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## **6. Possession and Use**

The Lessee shall have the right to **continuous and uninterrupted possession and use of the machine** throughout the lease term, provided that the Lessee complies with the contractual payment obligations.

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## **7. Service Support and Operational Continuity**

The Lessor shall use its **best efforts to ensure that the machine remains fully operable** and that any operational interruptions are minimized. In particular, the Lessor shall comply for all the lease term of 60 months with the **Service & Support requirements specified in Annex No. 2 Technical Specification** hereto.

To support operational continuity, the Lessor shall observe at least the following rules:

### **1. Delivery of Spare Parts**

If a malfunction or operational interruption requires the replacement of a spare part, the Lessor shall ensure that **critical spare parts and wear-and-tear parts are delivered no later than 10 calendar days** from the start of the delivery period that shall start on **the first working day after receiving an order from the Lessee.**

### **2. Measures to Prevent Delays**

In the event of a delay in the delivery of a spare part, the CA has the right to apply a contractual penalty in the amount agreed to in the lease contract for each commenced day of delay, up to an agreed to limit.

### **3. Spare Parts Not Normally in Stock**

If the required spare part is **not normally held in stock or must be custom-manufactured**, the Lessor shall confirm the order in writing and **state the expected delivery lead time.** The proposed lead time shall be **subject to the prior approval of the Lessee.**

## **Allocation of Costs**

All costs associated with the above service support obligations, including **procurement and delivery of spare parts**, shall be **borne by the Lessor**, except for:

- **standard consumables,**
  - costs of repairing defects or damage **caused by the Lessee due to a breach of operational rules,** and
  - **additional spare parts or components requested by the Lessee that are not necessary for the proper operation of the machine.**
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## **8. Insurance**

The Lessee shall insure the machine, at its own cost, against **natural perils and other customary risks**, for at least its replacement value, for the entire duration of the lease.

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## **9. Delayed Payments**

No **contractual penalties, late payment penalties, or similar financial sanctions** shall apply in the event of delayed payment of instalments.

However, the Lessor shall retain the right to **terminate the contract in accordance with applicable law and the contract terms** in the event of a material breach of payment obligations.

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**10. Identification of the Machine**

The machine supplied under the lease shall be clearly identifiable in the contract, including at least **type, model, and serial number**.

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**11. Protection Against Third-Party Claims**

The Lessor shall ensure that the machine remains free of any liens, pledges, security interests, or other third-party rights that could interfere with the Lessee's possession, use, or acquisition of ownership of the machine under the contract.

If any third party asserts rights to the machine that could affect the Lessee's possession, use, or acquisition of ownership, the Lessor shall immediately take all necessary actions at its own expense to remove such claims.

The Lessor shall indemnify the Lessee for any damages or costs arising from such third-party claims.

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**12. Binding Effect on Successors**

The rights and obligations of the Lessor under the contract shall be binding upon any legal successor, assignee, financing institution, or insolvency administrator of the Lessor.

Any transfer of ownership of the machine or assignment of the contract by the Lessor shall not affect the Lessee's rights, including in particular:

- the right to uninterrupted possession and use of the machine,
- the right to purchase the machine under the agreed conditions, and
- the early purchase right described in these terms.

**Technical Specification**

Document classification	<i>PU - Public</i>	ID / Revision	<i>6001119/C</i>
Document Statute	<i>Document Released</i>	Document number	<i>N/A</i>
OBS code	<i>934 – Manufacturing and Prototyping</i>		
Tender code	<i>TP26_001</i>		
Branch	<i>Engineering &amp; Scientific documents (E&amp;S)</i>		
Document type	<i>Specification (SP)</i>		

*[RSD Product Category A]*

## 5-axxis CNC milling machine




### Keywords

n/a

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<i>RSS ID/revision</i>	<i>RSS – Date of Creation</i>	<i>RSS – Date of Last Modification</i>	<i>System Engineer</i>
26001.01	12.12.2025	12.12.2025	David Myslikovjan
26001.02	23.01.2026	23.01.2026	David Myslikovjan
26001.03	13.03.2026	13.03.2026	David Myslikovjan

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<i>Revision History / Change Log</i>				
<i>Change no.</i>	<i>Made by</i>	<i>Date</i>	<i>Change description, Pages, Chapters</i>	<i>Rev.</i>
1	P. Kemény	10.11.2025	Submission of requirements list	A
2	D. Myslikovjan	23.01.2026	RSD version for internal review	B
3	D. Myslikovjan	16.03.2026	RSD release suitable for use in tender documentation	C

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## 1. Introduction

### 1.1. Purpose

This document is a technical specification (hereinafter referred to as RSD; Requirements Specification Document) containing the technical requirements and limiting conditions for the products being procured by the ELI Beamlines research infrastructure in Dolní Břežany. This can lead to the identification of product interfaces with the ELI experimental technology and the ELI Beamlines facility infrastructure. This RSD also acts as a parent document for technical requirements that need to be addressed in lower-level design description documents.

### 1.2. Subject

This RSD contains the technical requirements (functional, performance, design, delivery, and installation), safety and quality requirements for the following products: **5-axis CNC machine** that will be installed in the ELI BL Mechanical workshop (further referred to as “CNC machine”).

The call for tenders issued for the acquisition of the above product bears the internal identification number **TP26\_001**. The CNC machine to be purchased is, by its nature, a catalogue product for which a specific form of RSD document is used - the RSD for Category A products.

The A category of the product is an Off-the-shelf Product without the necessity of modifications and the necessity to be subjected to a verification programme (design review, simulation or testing) for the ELI Beamlines applications by the actual specifications. If the supplier allows a choice of its standardized optional product modifications and/or optional parts (i.e. optional catalogue modifications and/or additional deliveries), the product is also considered a Category A product. All verification activities performed by a supplier shall be executed in accordance with the supplier’s plan for outgoing inspection and tests. Internal Acceptance procedure of the CNC machine is carried out following section 5.2.

### 1.3. Terms, Definitions and Abbreviations

For the purpose of this document, the following abbreviated terms are applied:

Abbreviation	Meaning
CA	Contracting Authority (ELI ERIC)
ELI	Extreme Light Infrastructure
NCR	Nonconformity Report
RSD	Requirements Specification Document
CNC	Computer Numerical Control - automated control of machine tools by a computer

### 1.4. Reference documentation

Ref. number	Title of document/ File name
RD-01	Installation layout
RD-02	00142081/C - Entry conditions for outsourcers

## 2. Functional, Performance and Design requirements

REQ-600101/A

Table 1 below lists the technical parameters and characteristics that shall be met by the requested CNC machine. The full interpretation and explanatory notes to these parameters and characteristics are given by the text part of this RSD.

Table 1 - Required parameters and characteristics of the CNC milling machine

	No.	Parameter description	Unit	Required value
Machine concept	01	Machine type – CNC milling machine with simultaneous 5-axis machining		Yes
	02	Vertical spindle		Yes
	03	Number of simultaneously controlled axes		5
	04	Rigid monolithic construction of the main load-bearing machine components		Yes
	05	Overall dimension X	m	≤ 4
	06	Overall dimension Y	m	≤ 4
	07	Overall dimension Z	m	≤ 3
	08	Transport overall dimension X	m	≤ 4,5
	09	Transport overall dimension Y	m	≤ 3,5
	10	Transport overall dimension Z	m	≤ 3
Axis travel and accuracies	11	Travel range of X axis	mm	≥ 600
	12	Travel range of Y axis	mm	≥ 500
	13	Travel range of Z axis	mm	≥ 450
	14	Travel range of B axis	"	≥ 140
	15	Travel range of C axis	"	≥ 360
	16	Table clamping surface (rectangular or equivalent round)	mm	≥ 600 × 400 mm or round table Ø ≥ 550 mm
	17	Distance from spindle nose to table	mm	≥ 600
	18	Rapid traverse of X axis	m/min	≥ 40
	19	Rapid traverse of Y axis	m/min	≥ 40
	20	Rapid traverse of Z axis	m/min	≥ 40
	21	Rapid traverse of B axis	°/s	≥ 20
	22	Rapid traverse of C axis	°/s	≥ 20
	23	Positioning repeatability of numerically controlled linear axes X, Y, Z (see the REQ-600118/A, REQ-600114/A)	mm	≤ 0,008
	24	Continuous simultaneous machining in five axes		Yes
	25	Table load capacity at 0° tilt	kg	≥ 300

	No.	Parameter description	Unit	Required value	
Spindle	26	Spindle power S1 (continuous duty)	kW	≥ 10	
	27	Spindle power S6 (short-time duty)	kW	≥ 17	
	28	Spindle speed (in supplied configuration)	rpm	≥ 12 000	
	29	Maximum spindle torque S6	Nm	≥ 100	
	30	Spindle torque at duty type S6 15–25% according to IEC 60034-1 (or another duty type according to IEC 60034-1 with a documented equivalence calculation).	Nm	≥ 50	
	31	Tool magazine capacity (see the REQ-600120/A)	pcs	≥ 40	
	32	Tool weight (see the REQ-600120/A)	kg	≥ 6	
	33	Tool diameter (see the REQ-600120/A)	mm	≥ 70	
	34	Tool length (see the REQ-600120/A)	mm	≥ 250	
	35	Through-spindle coolant pressure	bar	≥ 45	
	36	Through-spindle coolant pressure regulation (continuous or stepped)		Yes	
Control System		37	Control system in Czech Language	Yes	
		38	Control System FANUC	Yes	
		39	CNC program memory	GB	≥ 0,5
		40	Program transfer: RS232, Ethernet		Yes
		41	Documentation in CZECH LANGUAGE (see the REQ-600113/A, REQ-600115/A)		Yes
Other requirements		42	Manual handwheel for setup	Yes	
		43	Machine design suitable for continuous multi-shift operation	Yes	
		44	Operational capability without air conditioning (15–40 °C)* *Ambient temperature range (non-air-conditioned environment) where the CNC machine must be capable of safe and continuous operation without damaging the machine, without activating protective emergency modes, or limiting basic operating functions.		Yes
		45	Guaranteed accuracy within 18–25 °C range after thermal stabilization per manufacturer's recommendation		Yes
		46	Fully enclosed working area with safety-interlocked doors		Yes
		47	Training for programmers and operators (see the REQ-600105/A)	day	2+3
		48	Machine working area data model in STEP format		Yes
		49	Chip conveyor		Yes
		50	Renishaw tool probe		Yes
	51	Renishaw workpiece probe		Yes	

	No.	Parameter description	Unit	Required value
Service	52	Start of fault resolution (see the REQ-600108/A, REQ-600109/A)	hour	≤ 24
Spares	52	Ball screws - lead time	day	≤ 10
	53	Spindle - lead time	day	≤ 10
	54	Tilting cradle bearings - lead time	day	≤ 10

REQ-600118/A

The positioning repeatability (of X, Y, Z axes) requirement (see *Table 1, item 23*) of the CNC machine is considered met if the Supplier:

- demonstrates compliance with required value through positioning repeatability measurements according to standard ISO 230-2 (or an equivalent methodology demonstrating repeatability), carried out as part of the type-specific production tests or acceptance tests,
- declares that positioning repeatability measurements according to ISO 230-2 standard (or an equivalent methodology demonstrating repeatability) have been carried out in stabilized operational conditions, in ambient temperature range 18-25°C, following the machine's thermal conditioning according to manufacturer's instructions.

REQ-600120/A

Requirements on tool magazine capacity (see *Table 1, items 31, 32, 33, 34*) must be met without risk of collision:

- In magazine itself,
- During tool(s) exchange,
- During standard machine's operation / movements of machine's axes.

### 3. Delivery and Installation requirements

#### 3.1. Delivery requirements

REQ-600102/A

The transportation of the CNC machine to the final location shall be conducted by the Supplier based on the installation drawing RD-01 supplied by the CA.

#### 3.2. Installation and Training requirements

REQ-600103/A

On-site installation and commissioning of the CNC machine shall be conducted by the Supplier.

REQ-600104/A

The CNC machine shall be connected to the CA's power supply system (400V AC, 50-60 Hz).

REQ-600105/A

The Supplier shall conduct on-site comprehensive training for the CA's personnel given the following minimum scope:

- CNC Programmer's training - 2 days,
- CNC Operator's training - 3 days

REQ-600106/A

If the CNC machine contains firmware or control software, the Supplier shall provide all firmware/software updates released during the warranty period/term of lease at no additional cost. The Supplier shall also inform the CA in writing of any updates that improve performance, reliability, safety, or security. Updates shall be accompanied by release notes, installation instructions, and, if required, on-site installation by qualified personnel.

REQ-600107/A

The Supplier shall prepare and complete a Commissioning Checklist for the CNC machine during installation and before acceptance testing. The checklist shall include, at a minimum:

- Verification of correct installation and mechanical alignment,
- Verification of electrical connections, grounding, and protective devices,
- Confirmation of firmware/software version (if applicable) and installation of the latest updates,
- Functional testing of all operating modes,
- Verification of all safety interlocks and automatic shutdown functions (see REQ-600111/A and REQ-600112/A),
- Measurement of operational parameters and their documentation in the test report or protocol (noise levels, vibrations, temperature, power consumption) - under normal load,
- Initial electrical verification (audit) and report of integration with the CA's power supply systems,
- Confirmation that all supplied documentation, manuals, and training have been delivered in Czech Language.

*NOTE: The completed checklist, signed by both the Supplier's and the CA's representatives, is a part of the acceptance documentation (see REQ-600117/A).*

### 3.3. Service & Support

REQ-600108/A

The Supplier shall ensure responsive technical support during the standard working days, i.e. during the 8:00 – 17:00 range of working hours.

REQ-600109/A

The Supplier shall confirm the CA's fault call/report in the critical event of a malfunction or operational interruption that prevents normal operation of the CNC machine. The Supplier shall start solving the critical problem within 24 hours of a service request from the CA. For non-critical issues, the Supplier shall respond within 3 business days. The Supplier shall ensure the availability of qualified personnel for troubleshooting in both remote and on-site modes.

REQ-600121/A

If the need for a spare part arises during the event described in REQ-600109/A, the Supplier undertakes to deliver critical and wear-and-tear parts within 10 calendar days at the latest.

## 4. Safety requirements

REQ-600110/A

The Supplier shall supply a Declaration of Conformity for each product type. This declaration shall declare compliance in part with:

- Act No. 176/2008 Coll., as amended (2006/42/EC),
- Act No. 118/2016 Coll., as amended (2014/35/EU),
- Act No. 117/2016 Coll., as amended (2014/30/EU),
- the other relevant EU/EC regulations and ISO standards if applicable or required by the relevant regulations.

*NOTE: The compliance of the CNC machine with these obligations shall be demonstrated by the (EU) Declaration of Conformity and the CE marking.*

REQ-600111/A

The CNC machine shall be equipped with safety interlocks and automatic shutdown features that prevent operation under unsafe conditions, including but not limited to:

- supply of compressed air of other than required parameters (specified User Manual – REQ-600113/A)
- loss of electrical power or phase imbalance,
- overheating of internal components.

REQ-600112/A

The safety system (see REQ-600111/A) shall automatically stop the CNC Machine and provide a visual and optionally audible alarm to alert the operator. A manual reset shall be required before restarting the equipment after a shutdown event.

## 5. Quality requirements

### 5.1. General requirements

REQ-600113/A

The Supplier shall provide the detailed User Manual in the Czech Language both for the CNC machine and for its control/programming system. Manuals shall describe:

- transport and handling (including cleaning),
- storage, installation and troubleshooting,
- required parameters of compressed air supply (pressure, cleanliness, humidity)
- safe operation and maintenance procedures,
- writing the machining programs.

REQ-600119/A

The supplier shall provide a declaration of conformity with technical requirements defined herein before and declare completeness of the CNC machine as well.

## REQ-600114/A

The Supplier shall provide the following reports:

- A) reports outlining the results of any testing executed on the CNC machine to confirm specification conformity (see the REQ-600107/A),
- B) positioning repeatability measurement report and a description of the methodology used, enabling direct comparison with ISO 230-2 (see *Table 1, item 23* and the REQ-600118/A).

## REQ-600115/A

Documentation shall be supplied in both the hardcopies (2 pcs) and digital PDF format.

## REQ-600116/A

The Supplier shall have an established non-conformance control process compatible with ISO 9001. The basic application shall contain defining and identifying the non-conformance and its root cause, and defining and managing the corrective actions.

*NOTE: This requirement doesn't require any certification. The details of the process should be consulted with the CA if in doubt or necessary.*

## 5.2. Acceptance

Acceptance will be carried out by the CA on the delivered and installed CNC machine at the ELI Beamlines facility. The basis for acceptance will also be the documentation provided by the Supplier.

In case of a successful acceptance phase (fulfilment of the requirement REQ-600117/A), the CA will provide a signed acceptance protocol to the Supplier. In case of an unsuccessful acceptance stage, the CA will provide a Nonconformity Report to the Supplier and the process in accordance with REQ-600116/A shall be applied.

## REQ-600117/A

The Acceptance phase shall demonstrate the following:

- 1) The CNC machine has been successfully verified by the Supplier, and the results of this process have been documented appropriately in accordance with REQ-600107/A, REQ-600114/A and REQ-600119/A,
- 2) The documentation defined in sections 4 and 5.1 is provided,
- 3) All detected nonconformities have been solved according to REQ-600116/A,
- 4) The CNC machine is free of fabrication errors and it is ready for the intended operational use.

**Technické zadávací parametry: pětiosé CNC frézovací centrum pro simultánní obrábění**

	Číslo	Popis parametru	Jednotka	Požadovaná hodnota
Koncepce stroje	1	Typ stroje – CNC frézka se simultánním pětiosým obráběním		Ano
	2	Vertikální vřeteno		Ano
	3	Počet souvisle řízených os		5
	4	Tuhá monolitická konstrukce hlavních nosných částí stroje		Ano
	5	Vnější rozměr X	m	≤ 4
	6	Vnější rozměr Y	m	≤ 4
	7	Vnější rozměr Z	m	≤ 3
	8	Transportní vnější rozměr X	m	≤ 4,5
	9	Transportní vnější rozměr Y	m	≤ 3,5
	10	Transportní vnější rozměr Z	m	≤ 3
Rozsahy a přesnosti os	11	Rozsah pojezdu osy X	mm	≥ 600
	12	Rozsah pojezdu osy Y	mm	≥ 500
	13	Rozsah pojezdu osy Z	mm	≥ 450
	14	Rozsah pojezdu osy B	°	≥ 140
	15	Rozsah pojezdu osy C	°	≥ 360
	16	Rozměr upínací plochy stolu (obdélníková nebo ekvivalentní kruhová)	mm	≥ 600 × 400 mm nebo kruhová Ø ≥ 550 mm
	17	Vzdálenost od čela vřetene ke stolu	mm	≥ 600
	18	Rychloposuv osy X	m/min	≥ 40
	19	Rychloposuv osy Y	m/min	≥ 40
	20	Rychloposuv osy Z	m/min	≥ 40
21	Rychloposuv osy B	°/s	≥ 20	
22	Rychloposuv osy C	°/s	≥ 20	
23	Opakovatelnost polohování os X, Y, Z dle ISO 230-2 nebo ekvivalentní metodiky prokazující opakovatelnost; dodavatel doloží měřicí protokol a popis metodiky umožňující přímé porovnání s ISO 230-2.	mm	≤ 0,008	
24	Kontinuální simultánní obrábění v pěti osách		Ano	
25	Nosnost upínacího stolu při naklopení 0°	kg	≥ 300	
Vřeteno	26	Výkon vřetena S1 (trvalý provoz)	kW	≥ 10
	27	Výkon vřetena S6 (krátkodobý provoz)	kW	≥ 17
	28	Otáčky vřetene (v konfiguraci dodávky)	ot/min	≥ 12 000
	29	Maximální krouticí moment vřetene S6	Nm	≥ 100
	30	Krouticí moment vřetene při zatěžovacím režimu S6 15–25 % dle IEC 60034-1 (nebo jiný režim dle IEC 60034-1 s doložením výpočtu ekvivalence).	Nm	≥ 50
	31	Počet nástrojů v zásobníku (dle technických požadavků RSD)	ks	≥ 40
	32	Hmotnost nástroje	kg	≥ 6
	33	Průměr nástroje	mm	≥ 70
	34	Délka nástroje	mm	≥ 250
	35	Vnitřní chlazení středem vřetena	bar	≥ 45
36	Regulace tlaku vnitřního chlazení (plynulá nebo stupňová)		Ano	
Řídicí systém	37	Řídicí systém v českém jazyce		Ano
	38	Řídicí systém FANUC		Ano
	39	Paměť pro CNC programy	GB	≥ 0,5
	40	Přenos programu RS232, Ethernet		Ano
	41	Kompletní dokumentace v českém jazyce (dle RSD)		Ano
Ostatní	42	Ruční kolečko pro seřizování		Ano
	43	Konstrukce stroje vhodná pro nepřetržitý vícesměnný provoz		Ano
	44	Funkční provoz bez klimatizace (15–40 °C)		Ano
	45	Garantovaná přesnost v rozsahu 18–25 °C po teplotní stabilizaci stroje dle doporučení výrobce		Ano
	46	Plně uzavřený pracovní prostor s bezpečnostním jištěním dveří		Ano
	47	Zaškolení programátorů a obsluhy	dny	2 + 3
	48	Datový model pracovního prostoru stroje ve formátu STEP		Ano
	49	Dopravník třísek		Ano
	50	Nástrojová sonda Renishaw		Ano
	51	Obrobková sonda Renishaw		Ano
Servis	52	Zahájení řešení poruchy (dle RSD)	hod	≤ 24
Náhradní díly	53	Kuličkové šrouby – dodací lhůta	den	≤ 10
	54	Vřeteno – dodací lhůta	den	≤ 10
	55	Ložiska kolibky – dodací lhůta	den	≤ 10

**Technical Specification Requirements: 5-axis CNC Milling Centre for Simultaneous Machining**

	No.	Parameter description	Unit	Required value
Machine concept	1	Machine type – CNC milling machine with simultaneous 5-axis machining		Yes
	2	Vertical spindle		Yes
	3	Number of simultaneously controlled axes		5
	4	Rigid monolithic construction of the main load-bearing machine components		Yes
	5	Overall dimension X	m	≤ 4
	6	Overall dimension Y	m	≤ 4
	7	Overall dimension Z	m	≤ 3
	8	Transport overall dimension X	m	≤ 4,5
	9	Transport overall dimension Y	m	≤ 3,5
	10	Transport overall dimension Z	m	≤ 3
Axis travels and accuracies	11	Travel range of X axis	mm	≥ 600
	12	Travel range of Y axis	mm	≥ 500
	13	Travel range of Z axis	mm	≥ 450
	14	Travel range of B axis	°	≥ 140
	15	Travel range of C axis	°	≥ 360
	16	Table clamping surface (rectangular or equivalent round)	mm	≥ 600 × 400 mm or round table Ø ≥ 550 mm
	17	Distance from spindle nose to table	mm	≥ 600
	18	Rapid traverse of X axis	m/min	≥ 40
	19	Rapid traverse of Y axis	m/min	≥ 40
	20	Rapid traverse of Z axis	m/min	≥ 40
	21	Rapid traverse of B axis	°/s	≥ 20
	22	Rapid traverse of C axis	°/s	≥ 20
	23	Positioning repeatability of X, Y, Z axes according to ISO 230-2 or an equivalent methodology demonstrating repeatability (see RSD requirements REQ-600118/A, REQ-600114/A)	mm	≤ 0,008
	24	Continuous simultaneous machining in five axes		Yes
	25	Table load capacity at 0° tilt	kg	≥ 300
Spindle	26	Spindle power S1 (continuous duty)	kW	≥ 10
	27	Spindle power S6 (short-time duty)	kW	≥ 17
	28	Spindle speed (in supplied configuration)	rpm	≥ 12 000
	29	Maximum spindle torque S6	Nm	≥ 100
	30	Spindle torque at duty type S6 15–25% according to IEC 60034-1 (or another duty type according to IEC 60034-1 with a documented equivalence calculation).	Nm	≥ 50
	31	Tool magazine capacity (see the RSD requirement REQ-600120/A)	pcs	≥ 40
	32	Tool weight (see the RSD requirement REQ-600120/A)	kg	≥ 6
	33	Tool diameter (see the RSD requirement REQ-600120/A)	mm	≥ 70
	34	Tool length (see the RSD requirement REQ-600120/A)	mm	≥ 250
	35	Through-spindle coolant pressure	bar	≥ 45
	36	Through-spindle coolant pressure regulation (continuous or stepped)		Yes

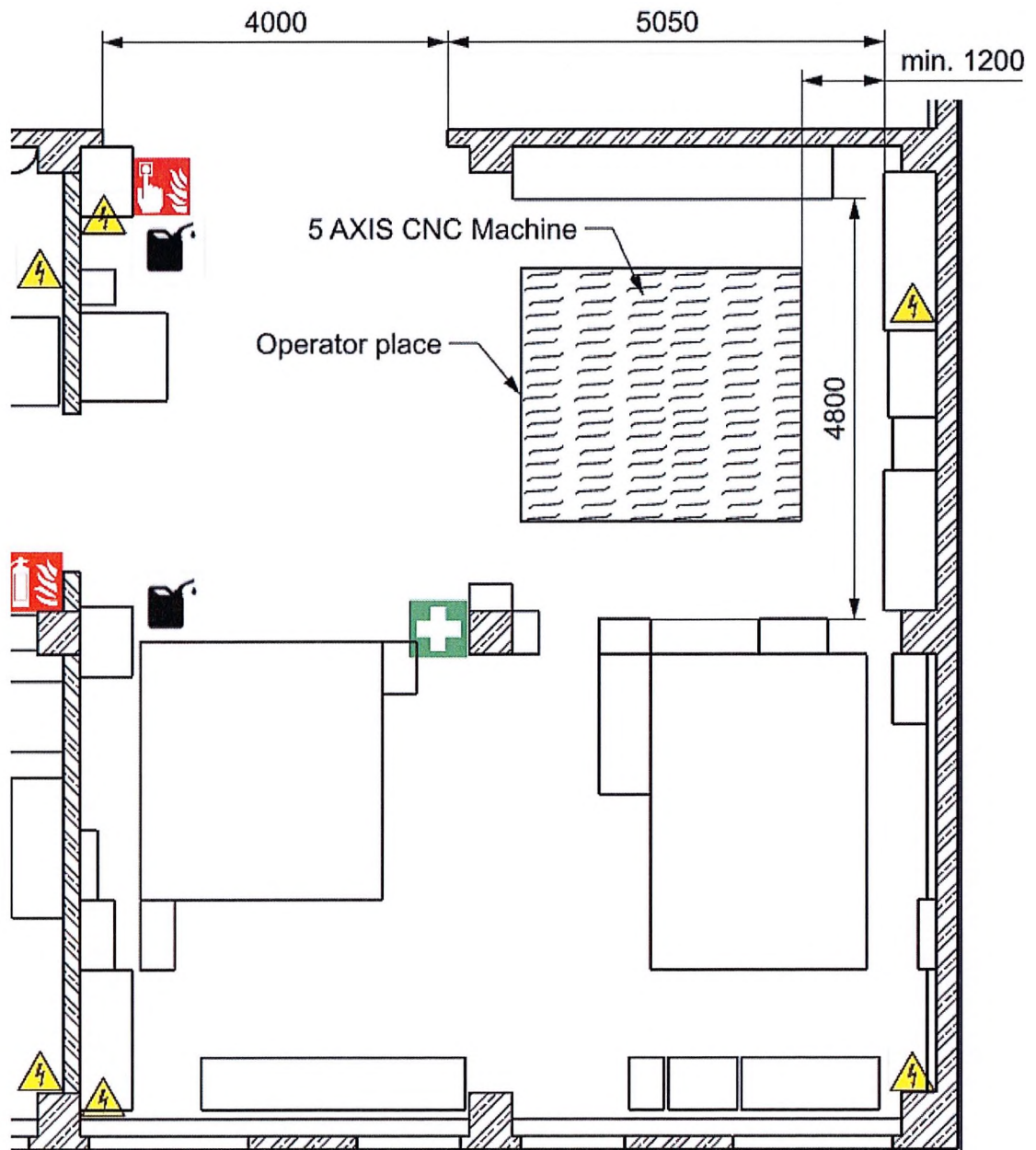
**Technical Specification Requirements: 5-axis CNC Milling Centre for Simultaneous Machining**

	No.	Parameter description	Unit	Required value
Control system	37	Control system in Czech language		Yes
	38	Control system FANUC		Yes
	39	CNC program memory	GB	≥ 0,5
	40	Program transfer: RS232, Ethernet		Yes
	41	Complete documentation in Czech language (see RSD requirements REQ-600113/A, REQ-600115/A)		Yes
Other	42	Manual handwheel for setup		Yes
	43	Machine design suitable for continuous multi-shift operation		Yes
	44	Operational capability without air conditioning (15–40 °C)* *Ambient temperature range (non-air-conditioned environment) where the CNC machine must be capable of safe and continuous operation without damaging the machine, without activating protective emergency modes, or limiting basic operating functions.		Yes
	45	Guaranteed accuracy within 18–25 °C after thermal stabilization per manufacturer's recommendation		Yes
	46	Fully enclosed working area with safety-interlocked doors		Yes
	47	Training for programmers and operators (see the RSD requirement REQ-600105/A)	day	2 + 3
	48	Machine working area data model in STEP format		Yes
	49	Chip conveyor		Yes
	50	Renishaw tool probe		Yes
	51	Renishaw workpiece probe		Yes
Service	52	Start of fault resolution (see RSD requirements REQ-600108/A, REQ-600109/A)	hour	≤ 24
Spare parts	53	Ball screws – lead time	day	≤ 10
	54	Spindle – lead time	day	≤ 10
	55	Tilting cradle bearings – lead time	day	≤ 10

Document classification	PU - Public	ID / Revision	6001119/B
Document Statute	Document Released	Document number	RD-01
OBS code	934 – Manufacturing and Prototyping		

## TP26\_001: 5-axis CNC milling machine

### RD-01 Installation layout



## Annex 3

### Cover Tender Note

Procurement title:

**“5-axxis CNC milling machine TP26\_001 – 5 years lease”**

Organisation	The Extreme Light Infrastructure ERIC
Registered Office:	Za Radnicí 835, 252 41 Dolní Břežany, Czech Republic
Identification No.:	109 74 938
Tax Identification No.:	CZ10974938
Person authorised to act on behalf of the Organisation:	Allen Weeks, Director General

**Tenderer’s Business Name incl. Legal Form:** [to be filled in by tenderer]  
**Registered Office:** [to be filled in by tenderer]  
**Identification No.:** [to be filled in by tenderer]  
**Tax Id. No.:** [to be filled in by tenderer]  
**Small / Medium-sized enterprises (in accordance with the Recommendation 2003/361/EC):** [YES/NO - to be filled in by tenderer]  
**Person authorized to represent the tenderer:** [to be filled in by tenderer]  
**Contact person:** [to be filled in by tenderer]  
**Contact address:** [to be filled in by tenderer]  
**Tel:** [to be filled in by tenderer]  
**E-mail of the Contact person:** [to be filled in by tenderer]

The tenderer hereby fully and without reservations accepts the business and technical conditions stated in the Call for Tenders for the Procurement.

In [to be filled in by tenderer] On [to be filled in by tenderer]

.....  
[Signature - to be filled in by tenderer]  
[Business Name - Authorized Representative to be filled in by tenderer]

**Annex 4**

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**Affidavit regarding international sanctions**

Procurement title:

**“5-axxis CNC milling machine TP26\_001 – 5 years lease”**

**Tenderer’s Business Name incl. Legal Form:** [to be filled in by tenderer]

**Registered Office:** [to be filled in by tenderer]

**Identification No.:** [to be filled in by tenderer]

**Authorized Representative:** [to be filled in by tenderer]

The tenderer hereby solemnly declares that the award of the Public Contract to them does not represent any violation of international sanctions according to Czech Act No. 69/2006 Coll., on Implementation of International Sanctions, as amended.

In [to be filled in by tenderer] On [to be filled in by tenderer]

.....  
[Signature - to be filled in by tenderer]  
[Business Name - Authorized Representative to be filled in by tenderer]

**Price Table**

ANNEX no.: 4

The prices are in € excluding VAT

The bidder shall fill in only the yellow marked cells

<b>CNC milling machine</b>	- €
length of lease	60 months
advance partial payment	- €
interest rate	0%
monthly fixed instalment	- €
total tender price (advance payment plus 60 × the monthly fixed instalment)	- €

acquisition (purchase) price of the machine (maximum 240.000,- EUR)

p.a.

sum of the purchase price of the machine and the price of the financing