Purchase Contract

 (hereafter the “**Contract”**)

1. **CONTRACTUAL PARTIES**
	1. **Fyzikální ústav AV ČR, v. v. i.,**

with seat: Na Slovance 1999/2, 182 21 Praha 8, Czech Republic

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

Tax ID No.: CZ68378271

Bank: UniCredit Bank Czech Republic and Slovakia, a.s.

Account No. IBAN: CZ3127000000002106535627; SWIFT (BIC): BACXCZPP

(hereinafter the “**Buyer**”)

and

* 1. **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,**

with seat: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

represented by: \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_,

registered in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

ID No.: \_\_\_\_\_\_\_\_\_\_\_\_

Tax ID No.: \_\_\_\_\_\_\_\_\_\_\_\_

Bank: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Account No. IBAN: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; SWIFT (BIC): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (TO BE FILLED IN BY THE BIDDER)

(hereinafter the “**Seller**”),

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

1. **FUNDAMENTAL PROVISIONS**
	1. The Buyer is a beneficiary of the subsidy project Reg. No. CZ.01.1.02/0.0/0.0/20\_330/0023431 entitled **"Brain 4 Industry - Innovation centre"** (hereinafter referred to as the **"Project"**), within the framework of the Operational Programme Enterprise and Innovation for Competitiveness (hereinafter referred to as **"OP EIC"**). In order to successfully implement the Project, it is necessary to purchase the subject of performance according to this Contract (as defined below).
	2. The subject of performance under this Contract is mainly financed from the subsidy of the Project for which it is intended.
	3. The Buyer wishes to acquire the subject of performance hereof in order to create three-dimensional metal and polymer objects from a CAD model or a digital 3D model.
	4. The Seller was selected as the winner of a public procurement procedure announced by the Buyer in accordance with Act No. 134/2016 Coll., on Public Procurement, as amended (hereinafter the **“Act”**), for the public contract called **“System of equipment for additive manufacturing using the SLM and SLS technologies”** (hereinafter the “**Procurement Procedure**”).
	5. The documentation necessary for the execution of the subject of performance hereof consist of
		1. **Technical specifications** of the subject of performance hereof attached as **Annex No. 1** hereto**.**
		2. The Seller´s bid submitted within the Procurement Procedure in its parts which describe the subject of performance in technical detail (hereinafter the “**Sellers’s Bid**”); the Sellers’s Bid forms **Annex No. 2** to this Contract and is an integral part hereof.

In the event of a conflict between the Contract’s Annexes, the technical specification / requirement of the higher level / quality shall prevail.

* 1. The Seller declares that he has all the professional prerequisites required for the supply of the subject of performance under this Contract, is authorised to supply the subject of performance and there exist no obstacles on the part of the Seller that would prevent him from supplying the subject of this Contract to the Buyer.
	2. The Seller acknowledges that the Buyer considers him capable of providing performance under the Contract with such knowledge, diligence and care that is associated and expected of the Seller’s profession, and that the Seller’s potential performance lacking such professional care would give rise to corresponding liability on the Seller’s part. The Seller is prohibited from misusing his qualities as the expert or his economic position in order to create or exploit dependency of the weaker Party or to establish an unjustified imbalance in the mutual rights and obligation of the Parties.
	3. The Seller acknowledges that the production and delivery of the subject of performance within the specified time and of the specified quality, as shown in Annexes No. 1 and 2 of this Contract (including invoicing), is essential for the Buyer. If the Seller does not fulfil the contractual requirements, the Buyer may incur damages.
	4. The Parties declare that they shall maintain confidentiality with respect to all facts and information, which they learn in connection herewith and / or during performance hereunder, and whose disclosure could cause damage to either Party. Confidentiality provisions do not prejudice obligations arising from valid legislation.
1. **SUBJECT-MATTER OF THE CONTRACT**
	1. The subject of this Contract is the obligation on the part of the Seller to deliver and transfer into the Buyer’s ownership:

the **System of equipment for additive manufacturing using the SLM and SLS technologies**

(hereafter the **“Equipment”**)

and the Buyer undertakes to take delivery of the Equipment and to pay to the Seller the agreed upon price.

* 1. The Equipment consists of
		1. a Selective Laser Melting printer with accessories,
		2. a Selective Laser Sintering printer with accessories,
		3. common accessories of both printers

and is specified in detail in Annexes No. 1 and No. 2 hereto.

* 1. The following activities form an integral part of the performance to be provided by the Seller:
		1. Formulation of conditions which are recommended to be met at the place of Buyer in order to install the Equipment and submission of a list containing all these conditions;
		2. Transport of the Equipment incl. all accessories specified in Annexes 1 and 2 of the Contract to the place of delivery, un-packaging and control thereof;
		3. Installation of the Equipment and all components necessary to operate the Equipment including connection to installation infrastructure at the site;
		4. Execution of the acceptance tests:
* Operation of the Equipment within specification given in Annex No. 2 hereto, eventually other technical documents pertaining to the Equipment;
* Manufacture of a test print with parameters according to Annex No. 4 of this Contract, using both technologies.
	+ 1. Delivery of detailed instructions and manuals for operation and maintenance, including list of spare parts, electrical connection schemes, etc. - all in Czech or English language, in electronic or hardcopy (printed) versions;
		2. Training of operators at the site (at least 2 full days of training of 3 operators for each technology);
		3. Free-of-charge warranty service during the warranty term;
		4. Provision of free technical support in the form of consultations, e.g. regarding fine tuning of the Equipment. The Seller shall provide the Buyer with this free support even after the warranty expires.
	1. The Seller shall be liable for the Equipment and related services to be in full compliance with this Contract, its Annexes and all valid legal regulation, technical and quality standards and that the Buyer will be able to use the Equipment for the defined purpose. In case of any conflict between applicable standards it is understood that the stricter standard or its part shall always apply.
	2. The delivered Equipment and all its parts and accessories must be brand new and unused.
1. **PERFORMANCE PERIOD**
	1. The Seller undertakes to deliver and hand over the Equipment to the Buyer within **4 months** of the conclusion of the Contract.
	2. The Seller is obliged to notify the Buyer of the date of delivery and installation of the Equipment at least 2 weeks in advance. This term is subject to the consent of the Buyer.
	3. The performance period shall be extended by a period during which the Seller could not perform due to obstacles on the part of the Buyer.
	4. In the event that, due to obstacles on the part of the Buyer, it is not possible to deliver and hand over the Equipment on the agreed date or within the period according to Section 4.1, the Seller is not entitled to claim payment of any additional costs against the Buyer.
2. **PURCHASE PRICE, INVOICING, PAYMENTS**
	1. The purchase price is based on the Seller’s submitted bid and amounts to **\_\_\_\_\_\_\_\_ EUR** (in words: \_\_\_\_\_\_\_\_\_\_\_) (TO BE FILLED IN BY THE BIDDER - maximum is 650.000,- EUR)excluding VAT (hereinafter the **“Price”**). VAT shall be settled in accordance with the valid Czech regulation.
	2. The Price includes any and all performance provided by the Seller in connection with meeting the Buyer’s requirements for the proper and complete delivery of the Equipment hereunder, as well as all costs that the Seller may incur in connection with the delivery, installation and testing of the Equipment upon handover, and including all other costs or expenses that may arise in connection with creation of an intellectual property and its protection.
	3. The Parties agreed that the Seller shall be entitled to invoice the Price as follows:
		1. The Seller is entitled to issue an advance invoice corresponding to 30 % of the Price excluding VAT after the conclusion of the Contract.
		2. The Seller is entitled to invoice the rest of the Price after the handover protocol in accordance with Section 10.4 (hereinafter the **“Handover Protocol”**) will have been signed. In case the Equipment will be delivered with minor defects, the Price shall be invoiced after removal of these minor defects.
	4. All invoices issued by the Seller must contain all information required by the applicable laws of the Czech Republic. Invoices issued by the Seller in accordance with this Contract shall contain in particular following information:
		1. name and registered office of the Buyer,
		2. tax identification number of the Buyer,
		3. name and registered office of the Seller,
		4. tax identification number of the Seller,
		5. registration number of the tax document (invoice),
		6. scope of the performance (including the reference to this Contract),
		7. the date of the issue of the tax document (invoice),
		8. the date of the conclusion of the Contract,
		9. purchase Price,
		10. registration number of this Contract, which the Buyer shall communicate to the Seller based on Seller’s request before the issuance of the invoice,
		11. information that the Equipment is supplied for the purposes of the "Brain 4 Industry - Innovation centre" project, Reg. No. CZ.01.1.02/0.0/0.0/20\_330/0023431

and must comply with the double taxation agreements, if applicable.

* 1. The Buyer prefers electronic invoicing with the invoices being delivered to efaktury@fzu.cz.
	2. Invoices shall be payable within thirty (30) days of the date of their delivery to the Buyer. Payment of the invoiced amount means the date of its remittance to the Seller’s account.
	3. If an invoice is not issued in conformity with the payment terms stipulated by the Contract or if it does not comply with the requirements stipulated by law, the Buyer shall be entitled to return the invoice to the Seller as incomplete, or incorrectly issued, for correction or issue of a new invoice, as appropriate, within five (5) business days of the date of its delivery to the Buyer. In such a case, the Buyer shall not be in delay with the payment of the Price or part thereof and the Seller shall issue a corrected invoice with a new and identical maturity period commencing on the date of delivery of the corrected or newly issued invoice to the Buyer.
	4. The Buyer shall be entitled to unilaterally set off any of his payments against any receivables claimed by the Seller due to:
		1. damages caused by the Seller,
		2. contractual penalties.
	5. The Seller shall not be entitled to set off any of his receivables against any part of the Buyer’s receivable hereunder.
1. **OWNERSHIP TITLE**

The ownership right to the Equipment shall pass to the Buyer by delivery.

1. **PLACE OF DELIVERY** **AND HANDOVER**

The place of delivery and handover of the Equipment shall be rooms in the 1st above-ground floor and 1st underground floor of the “Brain 4 Industry” building of the Institute of Physics of the Czech Academy of Sciences at Za Radnicí street, Dolní Břežany, Czech Republic.

1. **NOTIFICATION OF DELIVERY**
	1. The Seller shall notify the Buyer in writing of the exact date of delivery of the Equipment in advance and in the manner according to Section 4.2, ensuring that the deadline for the performance hereunder is maintained.
	2. The Seller is obliged to notify the Buyer of the unsatisfactory state of readiness of the place of delivery and installation, if possible.
2. **COOPERATION OF THE PARTIES**

The Seller undertakes to notify the Buyer of any obstacles on his part, which may negatively influence proper and timely delivery and/or handover of the Equipment.

1. **DELIVERY, INSTALLATION, HANDOVER AND ACCEPTANCE**
	1. The Seller shall transport the Equipment at his own cost to the place of delivery and handover. If the shipment is intact, the Buyer shall issue delivery note for the Seller.
	2. The Seller shall perform and document the installation of the Equipment and launch experimental tests in order to verify whether the Equipment is functional and meets the technical requirements of Annexes No. 1 and 2 hereof.
	3. Handover procedure includes handover of any and all technical documentation pertaining to the Equipment, user manuals and certificate of compliance of the Equipment and all its parts and accessories with approved standards.
	4. The handover procedure shall be completed by handover of the Equipment confirmed by the Handover Protocol containing specifications of all performed tests. The Handover Protocol shall contain the following mandatory information:
		1. Information about the Seller, the Buyer and any subcontractors;
		2. Description of the Equipment including description of all components and their serial / production numbers;
		3. Description of executed tests according to Section 3.3.4 of the Contract and their results;
		4. List of technical documentation including the manuals;
		5. Confirmation of the training, including a list of participants and information on its extent;
		6. Eventually reservation of the Buyer regarding minor defects including the manner and deadline for their removal and
		7. Date of signature of the Handover Protocol.
	5. Handover of the Equipment does not release the Seller from liability for damage caused by its defects.
	6. The Buyer shall not be obliged to accept Equipment, which would show defects (even those that do not - on their own or in connection with other defects - constitute an obstacle to the use of the Equipment). In this case, the Buyer shall issue a record containing the reason for his refusal to accept the Equipment.
	7. Should the Buyer not exercise his right not to accept the Equipment with a defect, the Seller and the Buyer shall list all defects found in the Handover Protocol, including the manner and deadline for their removal. Should the Parties not be able to agree in the Handover Protocol on the deadline for removal of the defects, it shall be understood that all above shall be removed / rectified within 10 days from the handover of the Equipment.
2. **REPRESENTATIVES, NOTICES**
	1. The Seller authorized the following representatives to communicate with the Buyer in all matters relating to the Equipment delivery and handover:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

e-mail: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

tel. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (TO BE FILLED IN BY THE BIDDER)

* 1. The Buyer authorized the following representatives to communicate with the Seller in all matters relating to the Equipment delivery and handover:

xxxxxxxxxxxxxxxx
e-mail: xxxxxxxxxxxxxxxx
tel. (+420) xxxxxxxxxxxxxxxx

* 1. The representatives according to Sections 11.1 and 11.2 can be changed by a unilateral written declaration of the Party delivered to the other Party.
	2. All notifications to be made between the Parties hereunder must be made out in writing and delivered to the other Party by hand (with confirmed receipt) or by registered post (to the Buyer’s or Seller’s address), or in some other form of registered post or electronic delivery incorporating electronic signature (qualified certificate) to epodatelna@fzu.cz in case of the Buyer and to …….@...... (TO BE FILLED IN BY THE BIDDER) in case of the Seller.
	3. In all technical and expert matters (discussions on the Equipment testing, notification of the need to provide warranty or post-warranty service, technical assistance etc.), electronic communication between technical representatives of the Parties will be acceptable using e-mail addresses defined in Sections 11.1 and 11.2.
1. **TERMINATION**
	1. This Contract may be terminated early by agreement of the Parties or withdrawal from the Contract on the grounds stipulated by law or in the Contract.
	2. The Buyer is entitled to withdraw from the Contract without any penalty from the Seller in any of the following events:
		1. The Seller is in delay with the delivery of the Equipment longer than 2 weeks after the date pursuant to Section 4.1 hereof.
		2. The seller is more than 2 weeks in delay with the removal of Equipment defects listed in the list of detected defects of the Handover Protocol according to Section 10.7.
		3. The technical parameters or other conditions set out in the technical specifications defined in Annexes 1 and 2 to this Contract and in the relevant applicable technical standards will not be met by the Equipment at handover.
		4. Facts emerge bearing evidence that the Seller will not be able to deliver the Equipment.
		5. The Seller has breached the obligations specified within the conditions of the Procurement Procedure, in particular the obligations arising from the affidavit which forms Annex No. 3 to this contract.
	3. The Seller is entitled to withdraw from the Contract in the event of the Buyer being in default with the payment for more than 1 month with the exception of the cases when the Buyer refused an invoice due to defect on the delivered Equipment or due to breach of the Contract by the Seller.
	4. Withdrawal from the Contract becomes effective on the day the written notification to that effect is delivered to the other Party. The Party which had received performance from the other Party prior to such withdrawal shall duly return such performance.
	5. In the event of early termination of the Contract, the Seller is obliged to ensure the removal of the Equipment from the place of performance within 30 days from the date on which withdrawal from the Contract became effective. The removal of the Equipment must be preceded by the return of the advance payment according to Section 5.3.1 (or any already paid part of the Price) to the Buyer’s account. The Buyer will provide the Seller with the necessary cooperation similar to the cooperation during the installation of the Equipment. The cost of removal shall be paid by the Party which caused the premature termination of the Contract by breaching it.
2. **INSURANCE**
	1. The Seller undertakes to insure the Equipment against all risks, in the amount of the Price for the entire period commencing when transport of the Equipment starts until duly handed over to the Buyer. In case of breach of this obligation, the Seller shall be liable to the Buyer for any damage that may arise in connection thereof.
	2. The Seller is liable for the damage that he has caused. The Seller is also liable for damage caused by third parties undertaken to carry out performance or its part under this Contract.
3. **WARRANTY TERMS**
	1. The Seller shall provide warranty for the quality of the Equipment for a period of **\_\_\_\_ months** (TO BE FILLED IN BY THE BIDDER – minimum is 12 months).
	2. The warranty period shall commence on the day following the date of signing of the Handover Protocol pursuant to Section 10.4 hereof. The warranty does not cover consumable parts. Consumable parts for the purposes of the Contract are understood as items contained within the Equipment, which are consumed at regular intervals during the normal use of the Equipment, i.e. parts which have a defined typical lifetime, that does not exceed the warranty period provided the Equipment is used with normal frequency.
	3. The Seller undertakes to provide free Equipment service through authorized technicians and free regular service inspection at the place of handover of the Equipment to the extent specified by the Equipment manufacturer and by the Contract for the entire warranty period according to this Contract, including repairs, delivery of spare parts, transport and work of an authorized service technician.
	4. Should the Buyer discover a defect, he shall notify the Seller to rectify such defect using the e-mail address: …….@...... (TO BE FILLED IN BY THE BIDDER). The Seller is obliged to notify the Buyer without delay about any change of this e-mail address. The Seller shall be obliged to review any warranty claim within 48 hours (within business days) from its receipt and to propose solution. In case the nature of the claimed defect requires to be dealt with by a qualified technician, such person must be sent and must appear at the place of delivery and handover of the Equipment within 7 business days from receipt of the above-mentioned warranty claim. All the above remains in effect unless agreed otherwise by the Parties.
	5. During the warranty period, the Seller shall be obliged to rectify any claimed defects within 30 days from receipt of the Buyer’s notification. In cases of unusual defects, the Seller shall be obliged to rectify the defect in the period corresponding to the nature of the defect and to define the deadline for the handover of the rectified Equipment.
	6. During the warranty period, any and all costs associated with defect rectification / repair including transport and travel expenses of the Seller shall be always borne by the Seller.
	7. The repaired Equipment shall be handed over by the Seller to the Buyer on the basis of a protocol confirming removal of the defect (hereinafter the “**Repair Protocol**”). If the Equipment is delivered duly repaired and defect-free, the Buyer will confirm the Repair Protocol.
	8. The repaired portion of the Equipment shall be subject to a new warranty term in accordance with Section 14.1 which commences to run on the day following the date when the Repair Protocol was executed.
	9. The Seller declares that he shall ensure paid post-warranty [out-of-warranty] service for the period of 7 years after the expiration of the warranty; the service terms shall be identical to those of Sections 14.4 and 14.5.
	10. The Seller undertakes to provide the Buyer with updates of the software controlling the Equipment for the entire term of warranty. The Seller undertakes to provide the Buyer with these updates even after the expiry of the warranty, at least until the expiry of 10 years from the date of handover of the Equipment according to Section 10.4,
		1. free of charge in the case of updates that are necessary for the reliable operation of the Equipment and
		2. at a price not exceeding the usual price in the case of updates that would add new functions.
	11. If the Equipment (or its part according to Section 3.2.1 or 3.2.2) has defects, due to which it cannot be demonstrably used in full for more than 60 days (period of defects) during six or less consecutive months of the warranty period, the Seller is obliged to deliver new Equipment (or its part) without defects within 120 days from the date on which the Buyer sent a written notice, unless the Parties agree otherwise.
4. **CONTRACTUAL PENALTIES**
	1. The Buyer shall have the right to a penalty in the amount of 0.05 % of the Price for each commenced day of delay with the performance pursuant to Section 4.1 hereof.
	2. The Buyer shall have the right to a penalty in the amount of 0.05 % of the Price for each commenced day of delay with the performance pursuant to Section 14.4 hereof and with rectifying of defects claimed within the warranty period pursuant to Section 14.5 and 14.11 hereof.
	3. In case of default in payment of any due receivables (monetary debt) under the Contract, the defaulting Buyer or Seller (the debtor) shall be obliged to pay a contractual penalty in the amount of 0.1 % of the owed amount for each commenced day of delay with the payment.
	4. Contractual penalties are payable within 30 days of notification demanding payment thereof.
	5. Payment of the contractual penalty does not prejudice the rights of the Parties to claim damages.
	6. Payment of any contractual penalty cannot be demanded if the breach of the contractual obligation causes force majeure.
5. **DISPUTES**

Any and all disputes arising out of this Contract, or the legal relationships connected with the Contract shall be resolved by the Parties by mutual negotiations. In the event that any dispute cannot be resolved by negotiations within sixty (60) days, the dispute shall be resolved by the competent court in the Czech Republic based on application of any of the Parties; the court having jurisdiction will be the court where the seat of the Buyer is located. Disputes shall be resolved exclusively by the law of the Czech Republic.

1. **ACCEPTANCE OF THE PROJECT RULES**

The Seller, using all necessary professional care, shall cooperate during financial inspections carried out in accordance with Act No. 320/2001 Coll., on Financial Inspections, as amended, or during other financial inspections carried out by any auditing entities (particularly by the Managing Authority of the OP EIC) and shall allow access also to those portions of the bid submitted within the Procurement Procedure, the Contract and related documents which may be protected by special legal regulation, given that all requirements set forth by legal regulation with respect to the manner of executing such inspections will have been observed.

1. **FINAL PROVISIONS**
	1. This Contract represents the entire agreement between the Buyer and the Seller. The relationships between the Parties not regulated in this Contract shall be governed by Czech law, in particular by the Act No. 89/2012 Coll., the Civil Code, as amended (hereinafter the **“Civil Code”**).
	2. This Contract may be changed or supplemented solely by means of numbered amendments in writing, furnished with the details of time and place and signed by duly authorised representatives of the Parties. The Parties expressly reject modifications to the Contract in any other manner.
	3. The Parties expressly agree that the Contract as a whole, including all attachments and data on the Parties, subject-matter of the Contract, numerical designation of this Contract, the Price and the date of the Contract conclusion, will be published in accordance with Act No. 340/2015 Coll. on special conditions for the effectiveness of some contracts, publication of these contracts and Contract Register, as amended (hereinafter the “**CRA**”). The Parties hereby declare that all information contained in the Contract and its Annexes is not considered trade secrets under § 504 of the Civil Code and grant permission for their use and disclosure without setting any additional conditions.
	4. The Parties agree that the Buyer shall ensure the publication of the Contract in the Contract Register in accordance with CRA.
	5. This Contract becomes effective as of the day of its publication in the Contract Register.
	6. The following Annexes form an integral part of the Contract:

Annex No. 1: Technical specification on the subject of performance (In the table Tab. 1, the Bidder shall fill in the columns “Description and specification of the Equipment offered by the Seller” and “Complies YES / NO” and in the table Tab. 2, the Bidder shall indicate values in the “Value” column)

Annex No. 2: Technical description of the Equipment as presented in Seller’s bid (Bidder shall present in his bid)

Annex No. 3: Affidavit according to § 6 paragraph 4 of the Act No. 134/2016 Coll.

Annex No. 4: Test print parameters

* 1. The Parties, manifesting their consent with the entire contents of this Contract, attach their signature hereunder.

In Prague

For the Buyer:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

RNDr. Michael Prouza, Ph.D.

Director

In \_\_\_\_\_\_\_\_\_\_

For the Seller:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_ (TO BE FILLED IN BY THE BIDDER)

**Annex No. 1 - Technical specification on the subject of performance**

**Tab. 1 - The Equipment must meet the technical conditions and include components listed in this table.**

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Description and minimum specification of the Equipment as defined by the Buyer | Description and specification of the Equipment offered by the Seller | Complies YES/NO |
|  | 1. **SLM printing equipment**
 |  |  |
| 1‍ | ***3D printing equipment using the following technology:***Selective Laser Melting – SLM – joining of powder material using a laser beam as a source of heat |  |  |
| 2 | ***Materials supported:**** reactive metallic materials
* non-reactive metallic materials
 |  |  |
|  | ***Required technology components and accessories*** |  |  |
| 3 | PRINTER* fully open machine parameters with the possibility of editing and developing new parameter sets and new materials
* print volume of at least 35 000 cm3
* printing platform dimensions: X ≥ 300 mm

 Y ≥ 300 mm* laser scanning speed: ≥ 12 m/s
* laser power: ≥ 450 W
* number of lasers: min. 2
* all lasers with full print area coverage
* laser type: fiber infrared laser
* laser beam diameter must reach at least one of the following values: 55±15 μm or 90±20 μm
* printing chamber heating: min. 180 °C
* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
* two-way communication for reading live data from the printer and remote adjustment of process parameters such as chamber temperature, working gas flow, laser power, laser speed etc.
* camera for remote control of the build process
 |  |  |
| 4 | DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER* vibration-based sieving
* support for sieves with a hole diameter of 63±15 μm
* support for sieves with different hole diameters
 |  |  |
| 5 | COOLING SYSTEM* for cooling of the production system
* with sufficient performance for the SLM technology
 |  |  |
| 6 | PERIPHERALS* industrial vacuum cleaner
* device for moving material and technology components around the workplace with an integrated battery for propulsion
 |  |  |
| 7 | CONSUMABLES* consumables required for the operation of the technology at least for a period of 6 months of continuous operation (filters, etc.)
 |  |  |
| 8 | SOFTWARE* software for processing STL data
* software for preparation and remote transfer of print data to the printer
* software / tool for the preparation of parameter sets for the development of printing parameters for new materials
* site license for all software supplied (SW can be installed on an unlimited number of computers, as long as they're at the Buyer's location) for the entire warranty period
* free updates of the supplied software for the entire warranty period
 |  |  |
| 9 | PROTECTIVE EQUIPMENT* protective equipment for 2 persons (respiratory protection, eye protection, skin protection)
 |  |  |
|  | 1. **SLS printing equipment**
 |  |  |
| 10 | ***3D printing equipment using the following technology:***Selective Laser Sintering – SLS – joining of powder material using a laser beam as a source of heat |  |  |
| 11 | ***Materials supported*** *(without the need to use material from a specific manufacturer):** Polyamide 12
* Polyamide 11
* TPU (Thermoplastic polyurethane)
 |  |  |
|  | ***Required technology components and accessories*** |  |  |
| 12 | PRINTER* fully open machine parameters with the possibility of editing and developing new parameter sets and new materials
* print volume of at least 19 000 cm3
* printing platform dimensions: X ≥ 200 mm

 Y ≥ 200 mm* laser scanning speed: ≥ 10 m/s
* laser type: fiber laser
* laser beam diameter must reach at least one of the following values:

70±15 μm, 90±20 μm or 110±20 μm* printing chamber heating: min. 250 °C
* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
* two-way communication for reading live data from the printer and remote adjustment of process parameters such as chamber temperature, working gas flow, laser power, laser speed etc.
* camera for remote control of the construction process
 |  |  |
| 13 | CHAMBER FOR REMOVING EXCESS POWDER* removing excess powder from printed parts using compressed air and hand tools (e.g. brushes)
* chamber must be dustproof
 |  |  |
| ‍14 | AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER* separate machine or built-in feature into another machine of SLS printing equipment
* vibration-based sieving
* collecting the used powder for re-using
 |  |  |
| 15 | DEVICE FOR BLENDING USED AND VIRGIN POWDER* blending volume at least 40 kg per one run
 |  |  |
| 16 | COOLING SYSTEM* for cooling of the production system
* with sufficient performance for the SLS technology
 |  |  |
| 17 | PERIPHERALS* industrial vacuum cleaner
* device for moving material and technology components around the workplace with an integrated battery for propulsion
 |  |  |
| 18 | CONSUMABLES* consumables required for the operation of the technology at least for a period of 6 months of continuous operation (filters, etc.)
 |  |  |
| 19 | SOFTWARE* software for processing STL data
* software for preparation and remote transfer of print data to the printer
* software / tool for the preparation of parameter sets for the development of printing parameters for new materials
* site license for all software supplied (SW can be installed on an unlimited number of computers, as long as they're at the Buyer's location) for the period of the warranty
* free updates of the supplied software for the period of the warranty
 |  |  |
| 20 | PROTECTIVE EQUIPMENT* protective equipment for 2 persons (respiratory protection, eye protection, skin protection)
 |  |  |
|  | 1. **Common accessories**
 |  |  |
| 21 | NITROGEN GENERATOR* generation of nitrogen from the atmosphere in an adequate quality
* with sufficient performance for both technologies (SLM and SLS) running simultaneously
 |  |  |

(Bidders shall fill in the columns “Description and specification of the Equipment offered by the Seller” and “Complies YES / NO”.)

**Tab. 2 – Data on the evaluation criterion “Technical characteristics of the bid”**

|  |  |  |
| --- | --- | --- |
| **No.** | **Feature** | **Value** |
| **I.** | SLM TECHNOLOGY PRINTERThe diameter of the laser beam for SLM technology can be variably changed (within the interval, it must be possible to set at least **one** of the diameters according to the specification in row no. 3 of table Tab. 1 above) |  |
| **II.** | SLS TECHNOLOGY PRINTERThe diameter of the laser beam for SLS technology can be variably changed (within the interval, it must be possible to set at least **two** of the diameters according to the specification in row no. 12 of table Tab. 1 above) |  |
| **III.** | DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLM TECHNOLOGY* ultrasonic breaking of clusters of powder particles
 |  |
| **IV.** | DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLM TECHNOLOGY* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
* two-way communication for reading live data from the device such as the amount of processed powder, remaining time, status of the overflow container, etc.
 |  |
| **V.** | AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLS TECHNOLOGY* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
 |  |
| **VI.** | equipment for heat treatment of printed parts FOR THE SLM TECHNOLOGY* accommodates the volume of the full printing area
* full temperature control up to 1300 °C with controllable cooling
 |  |
| **VII.** | equipment for heat treatment of printed parts FOR THE SLM TECHNOLOGY* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
* two-way communication for reading live data from the furnace with the possibility of remote adjustment of process parameters such as chamber temperature, heating speed, etc.
 |  |
| **VIII.** | COOLING SYSTEM FOR THE SLM TECHNOLOGY* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
 |  |
| **IX.** | COOLING SYSTEM FOR THE SLS TECHNOLOGY* communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485
* industrial communication protocol support: OPC UA
 |  |
| **X.** | SOFTWARE FOR THE SLM TECHNOLOGY* software for monitoring and analyzing the printing process and for controlling powder application
 |  |
| **XI.** | SOFTWARE FOR THE SLM TECHNOLOGY* postprocessor for Materialize Magics software (Buyer has a license for Materialize Magics software and has it installed on employees' computers)
 |  |
| **XII.** | SOFTWARE FOR THE SLS TECHNOLOGY* software for monitoring and analyzing the printing process and for controlling powder application
 |  |
| **XIII.** | SOFTWARE FOR THE SLS TECHNOLOGY* postprocessor for Materialize Magics software (Buyer has a license for Materialize Magics software and has it installed on employees' computers)
 |  |

(Bidders shall indicate “YES” or “NO” in the “Value” column.)

**Annex No. 2**

**The Seller’s bid in the extent it describes technical parameters of the Equipment**

(Bidder shall present in his bid)

**Annex No. 3**

**Affidavit according to § 6 paragraph 4 of the Act No. 134/2016 Coll.**

(to be attached before the conclusion of the Contract)

**Annex No. 4**

**Test print parameters (for both SLM and SLS technology)**

* size 120x120x60 mm (XYZ)
* elements that the printout must contain:
	+ - * internal thread M5x0.8 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* internal thread M6x1 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* internal thread M8x1.25 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* internal thread M10x1.5 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* external thread M5x0.8 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* external thread M6x1 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* external thread M8x1.25 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* external thread M10x1.5 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
			* pins with a diameter of 0.25; 0.5; 1.5; 3 mm and a height of 15 mm
			* ribs with a wall thickness of 0.25; 0.5; 1; 1.5; 2; 3 mm and a height of 15 mm
			* gradually tapering ribs in the direction of the Z axis with a base of 0.25; 0.5; 1; 1.5; 2; 3 mm and a height of 15 mm
			* thin-walled structure, e.g. the so-called GYROID structure
			* a free overhang successively forming an angle of 40°, 30°, 20° and 10° with the XY plane

Data for printing (in .stl format) is available and can be provided.

(The data for the test print in .stl format form Annex No. 7 of the Tender Documentation of the Procurement Procedure.)