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,

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.

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

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

ID No.: 68378271

Tax ID No.: CZ68378271

(hereinafter the “**Buyer**”)

and

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

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

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

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

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

Account No.: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/\_\_\_\_\_\_

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

Tax ID No.: \_\_\_\_\_\_\_\_\_\_\_\_ (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 public research institution whose primary activity is scientific research in the area of physics, especially elementary particles physics, condensed systems, plasma and optics.
   2. The Buyer wishes to acquire the subject of performance hereof (the Probe Station) in order to ensure that he will be able to measure the electrical properties of the required number of strip silicon sensors during the production phase of ATLAS ITk project.
   3. 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 **“Probe Station – repeated procurement procedure”** (hereinafter the “**Procurement Procedure**”).
   4. 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 the Seller’s participation in the Procurement Procedure, provided that the Seller complies with all qualification requirements, as the confirmation of the fact that the Seller is 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 Buyer is not in connection to the subject of this Contract an entrepreneur and also that the subject of this Contract is not related to any business activities of the Buyer.
  4. 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 the invoicing), is essential for the Buyer. If the Seller fails to meet contractual requirements, it may incur damage of the Buyer.
  5. 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 on the part of the Buyer 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 Probe Station (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 following activities form an integral part of the performance to be provided by the Seller:
     1. Formulation of conditions which must be met at the place of Buyer in order to install the Equipment;
     2. Transport of the Equipment incl. all accessories specified in Annexes 1 and 2 of the Contract to the site, un-packaging and control thereof;
     3. Installation of the Equipment including connection to installation infrastructure at the site;
     4. Execution of the acceptance tests;
     5. Delivery of instructions and operating and repair manuals to the Equipment in Czech or English language to the Buyer, in electronic and hardcopy (printed) versions;
     6. Training of operators at the site (at least two-day training of 2 operators);
     7. Free-of-charge warranty service including service inspections;
     8. Provision of technical support in the form of consultations.
  2. The subject of performance (Equipment) is specified in detail in Annexes No. 1 and No. 2 hereto.
  3. The Seller shall be liable for the Equipment and related services to be in full compliance with this Contract, its Annexes, the submitted bid 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.
  4. The delivered Equipment and all its parts and accessories must be brand new and unused.

1. **PERFORMANCE PERIOD**
   1. The Seller undertakes to manufacture, deliver, install and handover the Equipment to the Buyer within 20 weeks of the conclusion of this Contract.
   2. The performance period shall be extended for a period during which the Seller could not perform due to obstacles on the part of the Buyer.
2. **PURCHASE PRICE, INVOICING, PAYMENTS** 
   1. The purchase price is based on the Seller’s submitted bid and amounts to \_\_\_\_\_\_\_\_ CZK (in words: \_\_\_\_\_\_\_\_\_\_\_) (TO BE FILLED IN BY THE BIDDER) excluding VAT (hereinafter the **“Price”**). VAT shall be paid by the Buyer and settled in accordance with the valid Czech regulation.
   2. The Price represents the maximum binding offer by the Seller and 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 handover, and including all other costs of expenses that may arise in connection with creation of an intellectual property and its protection.
   3. The Parties agreed that the Price shall be invoiced after the handover protocol in accordance with Section 10.4 will have been signed. In case the Equipment will be delivered with minor defects and / or unfinished work, the Price shall be invoiced after removal of these minor defects and / or unfinished work.
   4. The invoice issued by the Seller as a tax document 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,
      6. scope of the performance (including the reference to this Contract),
      7. the date of the issue of the tax document,
      8. the date of the fulfilment 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,

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](mailto:efaktury@fzu.cz). All issued invoices shall comply with any international double taxation agreements, if applicable.
  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**
   1. The ownership right to the Equipment shall pass to the Buyer by handover. Handover shall be understood as delivery and acceptance of the Equipment duly confirmed by Parties on the Handover Protocol.
2. **PLACE OF DELIVERY OF THE EQUIPMENT**
   1. The place of delivery and handover of the Equipment shall be the room No. 036 in the main building of the Ústav teorie informace a automatizace AV ČR, v. v. i. (Institute of Information Theory and Automation AS CR), at Pod Vodárenskou věží 4, 182 08 Praha 8, Czech Republic.
3. **PREPAREDNESS OF THE PLACE OF DELIVERY**
   1. The Seller shall notify the Buyer in writing of the exact date of installation of the Equipment at least 28 days prior to such date, ensuring that the deadline for the performance hereunder is maintained.
   2. The Buyer shall be obliged to allow the Seller, once the deadline set forth in Section 8.1 hereof expires, to install the Equipment at the place of performance.
4. **COOPERATION OF THE PARTIES**
   1. The Seller undertakes to notify the Buyer of any obstacles on his part, which may negatively influence proper and timely delivery of the Equipment.
   2. The Buyer shall be entitled to receive information on the progress with the Equipment manufacture.
5. **DELIVERY, INSTALLATION, HANDOVER AND ACCEPTANCE**
   1. The Seller shall transport the Equipment at his own cost to the place of 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 serial numbers,
      3. Description of executed acceptance tests: type of test, duration, achieved parameters,
      4. List of technical documentation including the manuals,
      5. Confirmation on training, its participants and extent,
      6. Eventually reservation of the Buyer regarding minor defects and unfinished work including the manner and deadline for their removal,
      7. Date of signature of the Equipment Handover Protocol.
   5. Handover of the Equipment does not release the Seller from liability for damage caused by product defects.
   6. The Buyer shall not be obliged to accept Equipment, which would show defects or unfinished work and which would otherwise not form a barrier, on their own or in connection with other defects, to using 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 defects or unfinished work, the Seller and the Buyer shall list these defects or unfinished work 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 any defects shall be removed / rectified within 14 days from the handover of the Equipment.
6. **TECHNICAL ASSISTANCE – CONSULTATIONS**
   1. The Seller shall be obliged to provide to the Buyer free-of-charge technical assistance by phone or e-mail relating to the subject-matter hereof during the entire term of the warranty period. The Seller undertakes to provide to the Buyer paid consultations and technical assistance relating to the subject-matter hereof also after the warranty period expires.
7. **REPRESENTATIVES, NOTICES:**
   1. The Seller authorized the following representatives to communicate with the Buyer in all matters relating to the Equipment delivery:

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

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

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

* 1. The Buyer authorized the following representatives to communicate with the Seller:

xxxxxxxxxxxxxxxxxxx

e-mail: xxxxxxxxxxxxxxxxxxx

tel. xxxxxxxxxxxxxxxxxxx

* 1. 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](mailto:epodatelna@fzu.cz) in case of the Buyer and to …….@...... (TO BE FILLED IN BY THE BIDDER) in case of the Seller.
  2. In all technical and expert matters (discussions on the Equipment testing and demonstration, 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 12.1 and 12.2.

1. **TERMINATION**
   1. 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 handover longer than 4 weeks after the date pursuant to Section 4.1 hereof.
      2. Technical parameters or other conditions required in the technical specification defined in Annex No. 1 and 2 hereto and in the relevant valid technical standards will not be achieved by the Equipment at acceptance.
      3. Facts emerge bearing evidence that the Seller will not be able to deliver the Equipment.
      4. The Seller will not meet the qualification criteria within the Procurement Procedure
   2. The Seller is entitled to withdraw from the Contract in the event of the Buyer being in default with the payment for more than 2 months with the exception of the cases when the Buyer refused invoice due to defect on the delivered Equipment or due to breach of the Contract by the Seller.
   3. 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.
2. **INSURANCE**
   1. The Seller undertakes to insure the Equipment against all risks, in the amount of the Price of the Equipment 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.
   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 his 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). The warranty term shall commence on the day following the date of signing of the Handover Protocol pursuant to Section 10.4 hereof. In case the Buyer accepted the Equipment with defects or unfinished work the warranty term shall commence on the day following the date of removal of the defects or unfinished work. The warranty does not cover consumable things.
   2. Should the Buyer discover a defect, he shall notify the Seller to rectify such defect using the email address …….@...... (TO BE FILLED IN BY THE BIDDER). The Seller is obliged to notify the Buyer without delay about any change of this email address. The Seller shall be obliged to review any warranty claim within 7 business days from receipt and to propose solution, unless agreed otherwise by the Parties.
   3. During the warranty period the Seller shall be obliged to rectify any claimed defects within 14 business 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.
   4. During the warranty period any and all costs associated with defect rectification / repair including transport and travel expenses shall be always borne by the Seller.
   5. 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**”)containing confirmations of both Parties that the Equipment was duly repaired and is defect-free.
   6. The repaired portion of the Equipment shall be subject to a new warranty term in accordance with Section 15.1, which commences to run on the day following the date when the Repair Protocol was executed.
   7. The Seller declares that he shall ensure post-warranty [out-of-warranty] service for the period of 10 years after the warranty term expires; the service terms shall be identical with provisions of Sections 15.2 and 15.3.
   8. The Seller undertakes to provide the Buyer with updates of the software controlling the Equipment for the entire term of warranty service.
4. **CONTRACTUAL PENALTIES**
   1. The Buyer shall be entitled to claim a contractual penalty against the Seller in the amount of 0,05 % of the Price for each commenced day of delay with the delivery pursuant to Section 4.1 hereof with a possible grace period of 10 days.
   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 rectifying of claimed defects.
   3. The Buyer shall be entitled to claim a contractual penalty against the Seller in the amount of 30 % of the Price, in case it will subsequently take advantage of the opportunity to withdraw from the Contract pursuant to Section 13.1.1 and 13.1.2.
   4. 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 0.05 % of the owed amount for each commenced day of delay with the payment.
   5. All contractual penalties shall be payable within 30 days from the date claimed.
   6. Payment of the contractual penalty does not prejudice the rights of the Parties to claim damages.
5. **DISPUTES**
   1. 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.
6. **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 the Act No. 89/2012 Coll., the Civil Code, as amended.
   2. In the event that any of the provisions of this Contract shall later be shown or determined to be invalid, ineffective or unenforceable, then such invalidity, ineffectiveness or unenforceability shall not cause invalidity, 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 replace after mutual agreement such invalid, 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 creation hereof.
   3. 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.
   4. This Contract is drawn up in three (3) counterparts, each of which is deemed to be the original. The Buyer shall receive two (2) counterparts, the Seller shall receive one (1) counterpart.
   5. 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 are not considered trade secrets under § 504 of the Civil Code and grant permission for their use and disclosure without setting any additional conditions.
   6. The Parties agree that the Buyer shall ensure the publication of the Contract in the Contract Register in accordance with CRA.
   7. This Contract becomes effective as of the day of its publication in the Contract Register.
   8. The following Annexes form an integral part of the Contract:

Annex No. 1: Technical specification on the subject of performance (the Bidder shall fill in all blue fields in columns “Complies YES/NO” and “N”)

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

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

|  |  |
| --- | --- |
| In Prague on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | In \_\_\_\_\_\_\_\_\_\_ on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
|  |  |
| For the Buyer: | For the Seller: |
|  |  |
|  |  |
|  |  |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| RNDr. Michael Prouza, Ph.D. | \_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Director | \_\_\_\_\_\_\_\_\_\_\_\_\_ (TO BE FILLED IN BY THE BIDDER) |

**Annex No. 1**

**Technical specification on the subject of performance as defined by the Buyer**

Seller shall fill in all the blue fields in the following table of Technical specifications. Blue fields in column “Complies YES/NO” shall be filled either with YES, or NO. Blue fields in column “N” shall be filled by value of parameter corresponding to column “Equipment surpassing the minimum specification”; values of the parameter are expected to lie within the limits shown in column “Expected range of parameter”. Wherever appropriate, the Seller may add explanatory remarks below the Table referring to the Item reference number from the last column.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Item ref.** | **Minimum required Probe Station equipment** | **Complies YES/NO** | **Equipment surpassing the minimum requirements** | **Expected range of parameter N** | **N** | **Formula for weighted partial score** |
| **Vibration isolation table** | | | | | | |
| **1.1** | Vibration isolation table as a support for the probe station |  |  |  |  |  |
| **Fully programmable moving chuck stage** | | | | | | |
| **2.1** | XY travel > 200 mm x 200 mm |  |  |  |  |  |
| **2.2** | XY movement accuracy <= 3.0 um |  |  |  |  |  |
| **2.3** | XY movement repeatability <= 2 um |  |  |  |  |  |
| **2.4** | Z travel >= 5.0 mm |  |  |  |  |  |
| **2.5** | Z movement accuracy <= 2.0 um |  |  |  |  |  |
| **2.6** | Z movement repeatability <= 2.0 um |  |  |  |  |  |
| **2.7** | Theta travel +- 5.0° |  |  |  |  |  |
| **2.8** | Highly accurate theta movement to allow precise alignment |  |  |  |  |  |
| **Round chuck** | | | | | | |
| **3.1** | 200 mm Au plated low leakage/noise triaxial round chuck |  |  |  |  |  |
| **3.2** |  |  | 300 mm Au plated low leakage/noise triaxial round chuck | N = 0/1 |  | N\*2000 |
| **3.3** | Chuck noise <= 50 fA at 10 V and 25°C |  |  |  |  |  |
| **3.4** | Chuck noise <= 5 pA at 3 kV and 25°C |  |  |  |  |  |
| **3.5** | Minimum voltage range between 0 V and 3kV |  |  |  |  |  |
| **3.6** | System planarity <= 40 um at 25°C |  |  |  |  |  |
| **3.7** | Presence of vacuum lines in the chuck for fixing of tested samples |  |  |  |  |  |
| **3.8** | Possibility of ultra-low noise and frost-free cold and warm measurements (-50°C ... +200°C) |  |  |  |  |  |
| **3.9** |  |  | Possibility of ultra-low noise and frost-free cold and warm measurements (Tmin °C ... Tmax °C) | N = N1 + N2 = (Tmin + 50)/(-10) + (Tmax – 200)/50 where N1 > 0 and N2 > 0 |  | N\*100 |
| **Environmental chamber** | | | | | | |
| **4.1** | Complete light enclosure |  |  |  |  |  |
| **4.2** | EMI shielding |  |  |  |  |  |
| **4.3** | System for easy wafer/sample loading |  |  |  |  |  |
| **4.4** | Top hat of the environmental chamber allowing access of at least 8 probes |  |  |  |  |  |
| **4.5** | System for distribution of gaseous nitrogen or dry air to the environmental chamber |  |  |  |  |  |
| **4.6** | Frost free probing for temperatures between (-50 °C … +200 °C) |  |  |  |  |  |
| **4.7** |  |  | Frost free probing for temperatures between (Tmin °C … Tmax °C) | N = N1 + N2 = (Tmin + 50)/(-10) + (Tmax – 200)/50 where N1 > 0 and N2 > 0 |  | N\*100 |
| **Thermal system** | | | | | | |
| **5.1** | Air-cooling technology |  |  |  |  |  |
| **5.2** | Thermal system providing temperature range on the chuck between (-50 °C … +200 °C) |  |  |  |  |  |
| **5.3** |  |  | Thermal system providing temperature range on the chuck between (Tmin °C … Tmax °C) | N = N1 + N2 = (Tmin + 50)/(-10) + (Tmax – 200)/50 where N1 > 0 and N2 > 0 |  | N\*100 |
| **5.4** | Temperature uniformity on the chuck <= 0.5 °C at 25 °C |  |  |  |  |  |
| **5.5** | Temperature stability on the chuck <= 0.5 °C at 25 °C |  |  |  |  |  |
| **Digital microscope system** | | | | | | |
| **6.1** | Optical bridge with manual XYZ movement |  |  |  |  |  |
| **6.2** |  |  | Optical bridge with motorized XYZ movement | N=0/1 |  | N\*50 |
| **6.3** | Microscope system compatible with Probe Station control system |  |  |  |  |  |
| **6.4** | Automatic focusing system |  |  |  |  |  |
| **6.5** | Sample navigation system using pattern recognition methods |  |  |  |  |  |
| **6.6** | Objective, 10x |  |  |  |  |  |
| **Probe positioners** | | | | | | |
| **7.1** | 7 manual probe positioners with magnetic or vacuum base |  |  |  |  |  |
| **7.2** |  |  | 7 motorized probe positioners with magnetic or vacuum base | 0 <= N <= 7 |  | N\*100 |
| **7.3** | Travel range in XYZ axes > 10 mm |  |  |  |  |  |
| **7.4** | Resolution <= 1 um |  |  |  |  |  |
| **Probes compatible with selected probe positioners** | | | | | | |
| **8.1** | Minimal electrical current to be measured: 10 pA |  |  |  |  |  |
| **8.2** | Maximal resistivity to be measured: several hundreds of GOhms |  |  |  |  |  |
| **8.3** | Typical capacitance to be measured: 0.1 pF |  |  |  |  |  |
| **8.4** | 1 probe and needle need to be able to work with the voltage of 1.1 kV |  |  |  |  |  |
| **8.5** | 6 probes and needles need to be able to work with the voltage up to 200 V |  |  |  |  |  |
| **Probe needles** | | | | | | |
| **9.1** | Needles with tip size of 7 um – 50 pieces |  |  |  |  |  |
| **9.2** | Needles with tip size of 12 um – 50 pieces |  |  |  |  |  |
| **9.3** | Needles with tip size of 25 um – 50 pieces |  |  |  |  |  |
| **9.4** | Needle material required is tungsten |  |  |  |  |  |
| **Probe card holder** | | | | | | |
| **10.1** |  |  | Probe card holder with manual adjustment system with maximal voltage applied to one card pin of 200 V | N = 0/1 |  | N\*1000 |
| **10.2** |  |  | Probe card holder with motorized adjustment system maximal voltage applied to one card pin of 200 V | N = 0/1 |  | N\*2000 |
| **PCs, screens** | | | | | | |
| **11.1** | Control PC + 2 LED screens (1 screen for control software + 1 screen for microscope digital output) |  |  |  |  |  |
| **Communication ports** | | | | | | |
| **12.1** | GPIB (for communication between Probe Station and external device) |  |  |  |  |  |
| **Control software, LabVIEW drivers** | | | | | | |
| **13.1** | Software for complete control of the Probe Station including programmable and automatic movement of chuck stages, compatible with microscope system (pattern recognition, alignment, etc.) |  |  |  |  |  |
| **13.2** | LabVIEW drivers for the Probe Station control system (for the possibility to include the Probe Station control into more complex custom made LabVIEW codes) |  |  |  |  |  |
| **Special probe which is able to move together with the chuck** | | | | | | |
| **14.1** | 1 probe that is moving together with the chuck and permanently contacting one particular contact pad located on the top surface of the tested sample to the ground, this contact needs to be kept especially during the long “strip-by-strip” measurements when the HV of 1 kV is applied through the chuck to the back plane of the tested sample and chuck with the sample is moving |  |  |  |  |  |
| **14.2** | This special probe needs to fit into the environmental chamber to enable cold or warm measurements |  |  |  |  |  |

**Annex No. 2**

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

(the Bidder shall present in his bid)