



PURCHASE CONTRACT

Entered into Pursuant to the Civil Code, Act no. 89/2012, Coll., section 2079 et sequentes and section 2358 et sequentes, as amended, and the Copyright Act, Act no. 121/2000, Coll., as amended

Contracting Parties:

University of West Bohemia in Pilsen

Address: Univerzitní 8, 306 14 Plzeň, Czech Republic
ID no.: 49777513
Tax ID no.: CZ49777513
Person authorized to act
on behalf of the Purchaser: Doc. Ing. František Vávra, CSc.,
Dean of the Faculty of Applied Sciences,
authorized to act on behalf of University of West
Bohemia

Bank: Komerční banka a.s., Plzeň-město

Account no.: 4811530257/0100

On one part as the Purchaser (hereinafter referred to as "the Purchaser")
and

COMEF Scientific & Research Equipment

Registered office: COMEF Aparatura Naukowo-Badawcza
ID no.: 6340080768
Tax ID no.: PL6340080768
Acting through/represented by: Andrzej Wiśniewski – an owner of COMEF
Registered in: Central Register and Information
of Economic Activity of the Republic of Poland
Bank: Bank PKOBP S.A. ROK/Katowice, Poland
Account no.: BIC BPKOPLPW
IBAN: PL18 1020 2313 0000 3102 0114 8386

On the other part as the Seller (hereinafter referred to as "the Seller")

Entered into this Purchase Contract (hereinafter referred to as the "Contract") on the hereinbelow day, month and year:

I. Introduction

1. This Purchase Contract is entered into based on the result of the Public Tender entitled **“Delivery of a High-Resolution Analytical Scanning Electron Microscope including a Sample Preparation Equipment for the NTIS Project”** (hereinafter referred to as “the Public Contract”). The Purchaser, as the Contracting Authority) selected the offer submitted by the Seller as the best bid.
2. The Seller confirms that they have become fully acquainted with the scope and nature of the thing that is subject of the purchase and relates to the subject matter of the Public Contract, and that they are aware of all technical, qualitative and other conditions and have the capacities and expertise needed to deliver the Contract.
3. The Seller explicitly confirms that they have studied all the Purchaser's documents and instructions received by the date of execution of this Contract as well as instructions contained in the requirements that the Purchaser defined for the Public Contract, that the Seller has found these requirements to be appropriate, that the purchase price and the method of the Contract delivery contain and take into consideration all the above specified conditions and circumstances

II. Object of Sale

1. Pursuant to the terms and conditions of this Contract, the Seller undertakes to supply 1 (one) analytical scanning electron microscope operating in the high vacuum mode, including an energy-dispersive detector, wavelength-dispersive spectrometer, modular cathodoluminescence system enabling the spectral analysis of the cathodoluminescence effect, a sample preparation system using the “ion-milling” method, a system for decontamination of organic elements on the sample surface, a sample preparation system for the TEM (Transmission Electron Microscope) applications and sample preparation by sputter coating, and the related software and hardware products (hereinafter also referred to as “the object of sale” or “the Equipment”). The object of sale is specified in Annex no. 1 to this Contract, “Equipment Technical Parameters and Related Obligations of the Seller”.
2. The object of sale must be delivered in the agreed quantity, quality and design to the agreed place in the agreed time. The supplied object of sale must be also suitable and fully employable for the agreed purpose of its use as specified in this Contract, and in terms of its use not specifically described in this Contract, it must be suitable and fully employable for the purpose it is usually used for. The Seller undertakes to comply with other related obligations under this Contract and transfer the ownership right to the object of sale on the Purchaser.
3. Delivery of the Equipment to its place of delivery, its installation and assembly, calibration and commissioning including testing of its flawless operation, delivery of drawings indicating the location and connection of the Equipment to the existing infrastructure, delivery of technical documents and user manuals (either in Czech or English language, in hard or electronic copies), demonstration of all the required functions and parameters

are integral parts of the Contract delivery. The Equipment must be equipped with relevant full-fledged software including the licenses specified in Annex no. 1 to the Contract (in order to provide for the SW and HW compatibility).

4. Once the Equipment is duly delivered and commissioned, the Seller will provide to the service personnel of the Purchaser a basic training – a 40-hour training agenda designed for 3 (three) members of staff (the agenda will include operation of the Equipment, all its components and software). Due to the complexity of the Equipment operation, the Seller will provide free of charge additional training of the service personnel operating the Equipment in the place of delivery of the Contract three months after the official delivery and acceptance of the delivery, this 20-hour training will be provided to 3 (three) members of staff.
5. The object of sale will be new, fully functional, and complete and will be equipped with full-fledged software enabling its proper use.
6. The Purchaser undertakes to accept the delivered object of sale and to pay to the Seller the price stipulated in this Contract under the conditions specified herein.

III. Price and Payment Conditions

1. The purchase price results from the price bid submitted by the Seller calculated for the purposes of the Public Tender.
2. The purchase price will be paid by the Purchaser to the Seller in several payments via Documentary Letter of Credit opened by the Purchaser – that the Seller will be advised of – upon delivery and acceptance of partial deliveries specified in this Contract.
3. The total purchase price for the entire object of sale is EUR 1 086 000,00 in words: one million eighty six thousand EUR excluding VAT (hereinafter referred to as “the Purchase Price”).
4. In accordance with the VAT Act no. 235/2004, Coll., as amended, the Purchase Price is determined excluding VAT; the VAT may be added to the Purchase Price and the Purchaser will be obliged to pay the VAT, or declare or return in any form pursuant to the VAT Act no. 235/2004, Coll., applicable on the date of taxable supply.
5. The Purchase Price will be determined as the highest acceptable, maximum price that cannot be exceeded, it will include all fees and all additional costs incurred in connection with the performance of the delivery (i.e. transportation and warehouse charges, costs of the approval process, required testing, declaration of properties or conformity¹, certificates and attests, transfer of rights, insurance and possible taxes and charges that the Seller may be obliged to pay in any form according to any applicable laws valid abroad etc.). The Seller is not entitled to charge any other amounts for the performance of the herein Contract.
6. The Purchase Price will be paid by the Purchaser as follows:

The Purchaser will open a Documentary Letter of Credit (L/C) for import for the Seller and the total Purchase Price will be paid for the benefit of the Seller in four (4) instalments.

¹ Pursuant to the Regulation of the European Parliament and of the Council no. 305/2011.

The Seller will cooperate with the Purchaser as necessary to open the Letter of Credit. The Documentary Letter of Credit for import will be open based on a Request to Open a Letter of Credit containing the following conditions:

Purchaser's bank (issuing bank): Komerční banka, a.s., ID: 453117054,
address: Na Příkopě 33, postal code 114 07
Praha, Czech Republic

Seller's bank (advising bank): PKO Bank Polski S.A. address : ul. Damrota 23,
postal code 40-022 Katowice, Poland

Letter of Credit amount: The total Purchase Price

Currency: EUR (Euro)

Letter of Credit date: Without undue delay, no later than 20 days after
the Contract is signed with the Seller

Type of payment: Upon presentation

Subcontracts: Permitted

The total Purchase Price will be paid in four (4) instalments by means of the Documentary Letter of Credit:

1. 30% of the total purchase price following the submission of the complete technical documentation for the raster electron microscope to the Purchaser by the Seller based on the following documents:
 - Invoice (one original and one additional copy);
 - One original copy of a document confirming delivery and acceptance of the technical documents for the microscope signed by authorised representatives of both Contracting Parties. This document will be marked as "Partial Acceptance Protocol no. 1".
2. 30% of the total Purchase Price following a functional test of the raster electron microscope after it is delivered to the Purchaser based on the following documents:
 - Invoice (one original and one additional copy);
 - One original copy of a document certifying the functional test of the microscope signed by authorised representatives of both Contracting Parties. This document will be marked as "Partial Acceptance Protocol no. 2".
3. 30% of the total Purchase Price following a functional test of the entire Equipment after it is delivered to the Purchaser based on the following documents:
 - Invoice (one original and one additional copy);
 - One original copy of a document certifying the functional test of the entire Equipment signed by authorised representatives of both Contracting Parties. This document will be marked as "Partial Acceptance Protocol no. 3".

4. 10 % of the total purchase price following the due delivery of the Equipment and proper assembly of the Equipment supplied by the Seller, commissioning of the Equipment including demonstration of all the required functions and parameters, and basic training of the employees/staff members of the Purchaser that will operate the Equipment to the extent detailed in the Tender Dossier based on the following documents:
- Invoice (one original and one additional copy);
 - One original copy of the Acceptance Protocol signed by authorised representatives of the two Contracting Parties. This document will be marked "Final Acceptance Protocol". The Final Acceptance Protocol will be issued independently on the provision of the free of charge training of the Purchaser's staff pursuant to article II.4 herein.

The Letter of Credit will be valid for seven (7) months from the date when the Contract is signed with the Seller. The costs associated with opening of the Letter of Credit (costs of the bank opening the Letter of Credit) will be paid by the Purchaser (applicant). Costs not associated with the bank opening the Letter of Credit will be paid by the Seller (beneficiary).

7. A tax document – the invoice must contain all elements of a proper accounting and tax document pursuant to the relevant legislation, namely – yet not exclusively – of the Value Added Tax Act no. 235/2004, Coll., as amended. The Purchaser will be entitled to return an invoice missing the relevant elements to the Seller to be amended before its due date, and the Purchaser will not be in delay with the payment in such a case. The payment period will start again after the duly amended or corrected invoice is sent to the Purchaser.

IV. Place of Delivery and Acceptance of the Equipment

1. The Seller undertakes to deliver the object of sale (including its assembly, commissioning, service personnel training etc.) over to the place of delivery, i.e. University of West Bohemia in Pilsen, Univerzitní 22, Plzeň, Czech Republic, during the working hours of the Purchaser – between 8:00 a.m. and 4:00 p.m., unless stipulated otherwise by the Contracting Parties.
2. The Final Acceptance Protocol will be made out to certify the delivery and acceptance of the object of sale, i.e. the delivery of the object of sale (including its assembly, commissioning, service personnel training etc.), the Protocol will be signed by authorized representatives of both Contracting Parties. The Purchaser will not be obliged to accept any object of Sale demonstrating any defect or unfinished parts. Together with the object of sale, the Seller is also obliged to provide to the Purchaser documents needed for the proper hand-over and subsequent operation of the object of sale, and the delivery of these documents is a condition for the object of sale to be accepted by the Purchaser.

V. Term of Delivery

1. The Seller undertakes to start delivering the object of sale on the effective date of the Contract and duly complete the delivery of the object of sale within six (6) months after the effective date of the Contract at the latest.

VI. Transfer of Ownership Title and the Risk of Damage of the Object of Sale

1. The ownership title to the object of sale is transferred to the Purchaser on the day the object of sale is duly delivered by the Seller and accepted and its acceptance is certified by the signed Final Acceptance Protocol. The risk of damage of the object of sale is also transferred to the Purchaser at the same time.

VII. Guarantee

1. The Seller provides to the Purchaser a quality guarantee for the object of sale delivered pursuant to this Contract, the guarantee period will be 24 months.
2. The guarantee period starts on the day the object of sale is duly delivered by the Seller and accepted by signing the Final Acceptance Protocol.
3. The Purchaser is obliged to inform the Seller, by phone or in writing at the following address of the Seller: COMEF Aparatura Naukowo-Badawcza, Gdańska 2,40-719 Katowice, Poland, phone +48 32 203 41 49 or +48 32 203 58 23, fax ext.30, e-mail: comef@comef.com.pl of any defects as soon as they are identified. Claims mailed by the Purchaser on the last day of the guarantee period will also be considered duly raised claims.
4. The Seller undertakes to carry out guarantee repairs without undue delay and free of charge no later than 5 (five) calendar days after a claim is raised by the Purchaser, unless stipulated otherwise by the Contracting Parties. If the nature of the defect permits, the Seller will be obliged to remove the defect in the place of delivery. If this is not possible, the Seller will remove the defect in the Seller's facility.
5. The Seller will carry out the guarantee repairs free of charge and without delay depending on the nature of the Equipment defect, no later than 30 calendar days after the claim is raised, unless stipulated otherwise by the Contracting Parties.
6. In this respect the Seller acknowledges that the work to remove the defects may start on business days between 8:00 a.m. and 4:00 p.m., unless stipulated otherwise by the Contracting Parties.
7. The Contracting Parties will certify removal of the claimed defect by a protocol certifying the removal of the defect. The guarantee period will be extended by the period lapsed between the date of the guarantee claim and the day of defect removal.

VIII. Licensing Provisions

1. The Seller grants to the Purchaser a non-exclusive license without any time and territorial limits together with the software delivered as part of the object of sale as specified in Annex no. 1 to this Contract. The compensation for the granted licenses is included in the Purchase Price specified in Article III herein.
2. The Seller guarantees that the delivered object of sale is not subject to any rights of third parties that would prevent signing of this Contract and proper use of the object of sale by the Purchaser, in particular the industrial property rights.
3. The Seller declares that it is authorized to enter into this Contract and that there are no limitations imposed by third parties, natural or legal persons. The Seller declares that the object of sale including the delivered software are not subject to any rights of third parties pursuant to the Copyright Act no. 121/2000, Coll., as amended, or any other regulations. Should the rights of the Purchaser under this Contract be limited by a third party, or should a third party prevent the Purchaser from proper exercise of these rights, the Seller undertakes to immediately prevent such behaviour at its own expense and to compensate the Purchaser for incurred damage (material and non-material).

IX. Termination of the Contract

1. This Contract can be terminated:
 - a) By a written agreement of the Contracting Parties;
 - b) By withdrawal from the Contract for reasons stipulated in the Contract or specified by the law.
2. A Contracting Party may terminate this Contract for a gross violation of the Contract by the other Party. In particular, the following will be considered a gross violation of this Contract:
 - a) The Purchaser's failure to pay the Purchase Price in accordance with this Contract within 60 days after the due date of a relevant invoice;
 - b) The Seller's failure to duly deliver the object of sale (or its part) on the agreed date entitling the Seller to the payment of the purchase price (or its part) based on a relevant invoice;
 - c) The Seller's failure to supply object of sale possessing the properties declared by the Seller in this Contract or properties arising from this Contract;
 - d) The Seller's failure to provide correct information or documents indicative of the actual situation in the Bid submitted to the Public Tender, which have or could have affected the result of the Tender.
3. Should one of the Parties fail to comply with other contractual conditions (such as proper performance of guarantee repairs), the other Party will be entitled to terminate the Contract, if the defaulting Party fails to meet its obligations during extended reasonable period granted to the Party for the purpose.
4. A Party must withdraw from the Contract in writing without undue delay after learning of the violation.

5. Should a Party withdraw from the Contract, the Contracting Parties will be obliged to settle their obligations and receivables as specified by the law or in the Contract within 30 days of the effective date of the withdrawal, or by a stipulated date.
6. Should the Purchaser terminate the Contract for a gross violation of the contractual obligation by the Seller, the Seller will be obliged to pay to the Purchaser possible incurred damage (material and non-material).

X. Penal Obligations

1. Should the Seller fail to meet its Contractual obligation, in particular, should the Seller be in default with the delivery of the object of sale (incl. its assembly, commissioning, service personnel training etc.), i.e. should the Seller fail to deliver the object of sale (or its part) by the stipulated date, the Seller will be obliged to pay to the Purchaser a contractual penalty of 0.05% of the total Purchase Price for every started day of such delay.
2. Should the Seller fail to meet the specified (or otherwise stipulated) term for the performance of the guarantee repair, the Seller will be obliged to pay to the Purchaser a contractual penalty of 0.05% of the total Purchase Price for each individual failure for every day of the delay.
3. Should the Seller be in delay with the start of removal of the defects reported by the Purchaser, the Seller will be obliged to pay to the Purchaser a contractual penalty of 0.05% of the total Purchase Price for each individual failure and for every started day of the delay.
4. The obliged Party must settle the contractual sanction (contractual penalty) to the entitled Party within 15 calendar days of receipt of the relevant calculation submitted by the other Contracting Party at the latest.
5. Payment of the contractual penalties in accordance with this Contract does not prejudice the Contracting Party's right to claim damages (material and non-material) caused by the other Party's failure to meet its obligation giving rise to the penalty.
6. The Purchaser will be entitled to offset any contractual penalty due from the Seller against invoiced amounts.

XI. Other Provisions

1. The Seller acknowledges that, pursuant to the Financial Control in Public Administration Act no. 320/2001, Coll., section 2 (e), as amended, the Seller is a person obliged to cooperate in exercising financial control. A controlling body of the Operational Programme RDI will be authorized to perform an audit and access those parts of the bid, Contract and relating documents that are subject to protection according to special legal regulations (such as trade secrets, proprietary information) for a period of three years after the operational programme is closed, provided that the requirements defined by the law (for example, the State Control Act no. 552/1991, Coll., Section 11 (c) and (d) and Section 12, subsection 2 (f), as amended) are met. The controlling body of the

Operational Programme RDI is similarly authorized to perform an audit at the Seller's subcontractors (see Annex no. 2 to the Guidelines for OP RDI Applicants and Beneficiaries: <http://www.msmt.cz/strukturalni-fondy/spolecne-prilohy-prirucek-pro-zadatele-a-prijemce-op-vavpi-3>).

2. The Seller will be obliged to properly maintain all documents relating to the execution of the object of sale (including accounting books) for at least three years after the OP RDI project is closed, i.e. at least until 2021. During the same time period, the Seller will be obliged to provide requested information and documents to the agents of bodies authorized to audit projects performed under OP RDI and will be obliged to create conditions for these personnel to be able to carry out the audit of the project implementation and cooperate in the audit.

XII. Communication

1. All communication or other acts of the Contracting Parties pursuant to this Contract will be addressed to the hereinbelow representatives of the Contracting Parties either in Czech or in English language.
2. Should this Contract require a written statement by the Parties to communicate or act, the notice will be sent via provider of postal services to the address of the relevant Contracting Party to the attention of the herein specified representative of the Contracting Party.
3. Should this Contract require a certain statement or act of the Contracting Parties to be made in writing by a certain deadline, such deadline will be met, if the statement or act will be delivered electronically to the e-mail of the representative of the other Contracting Party in accordance with the Contract, if the statement or information about the act is sent consequently via provider of postal services to the address of the relevant Contracting Party within three business days.
4. Representatives of the Parties

The Seller declares that the following person was authorized to act in his/her name in the matters relating to the performance of this Contract:

Name: Michał Wilczak
E-mail: michal@comef.com.pl
Phone: +48 601488377

The Purchaser declares that the following person was authorized to act in his/her name in the matters relating to the performance of this Contract:

Name: Ing. Radomír Čerstvý
E-mail: cerstvy@kfy.zcu.cz
Phone: +420 377 632 227

5. These representatives, however, have no authority to sign any amendments to the Contract.

XIII. Closing Provisions

1. This Contract is governed by the Czech law. Matters not expressly stipulated in the Contract are governed by the relevant provisions of the Civil Code, Act no. 89/2012, Coll., as amended. Any disputes arising from this Contract or relating to this Contract will be resolved by a Czech court of the relevant jurisdiction in the place of registered address of the Purchaser.
2. This Contract is made out in four identical copies, each of which is valid as original. Each of the Contracting Parties will receive two identical copies.
3. This Contract may only be altered or amended by written amendments numbered in ascending uninterrupted order and signed by both Contracting Parties.
4. This Contract becomes valid and effective on the date it is entered into, i.e. on the date it is signed by authorized representatives of both Contracting Parties.
5. Should any of the Parties be unable to duly perform the Contract due to a reason on its part, the Party will be obliged to inform the other Party about the fact without undue delay and initiate a discussion between representatives of the Purchaser and the Seller.
6. Annexes to the Contract form its integral part:

Annex no. 1: Equipment Technical Parameters

Annex no. 2: Authorization of the Dean of the Faculty of Applied Sciences of University of West Bohemia in Pilsen to Act on Behalf of the Public University

7. The Contracting Parties declare that they have read the Contract before signing, and agree with its content; in witness thereof both Contracting Parties attach their signatures.

In Pilsen date 23rd May, 2014

In Pilsen date June 5, 2014


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On behalf of the Seller
Andrzej Wiśniewski
an owner of COMEF


.....

On behalf of the Purchaser
Doc. Ing. František Vávra, CSc.,
Dean of the Faculty of Applied Sciences
authorized to act on behalf of the
University

Andrzej Wiśniewski
właściciel firmy
COMEF

Aparatura Naukowo - Badawcza
40-719 Katowice, ul. Gdańska 2
Regon : P-270214335



Annex no. 1 to the Purchase Contract

Equipment Technical Parameters

1. Scanning electron microscope (FE-SEM) operating in the high vacuum mode:

- Electron gun with ZrO/W Schottky emitter with a guaranteed service life of at least 6,000 hours with potential guarantee of this service life without additional costs in the bid price;
- Electron beam stability better than 1% for at least 8 hours;
- Image resolution:
 - SE (Secondary Electrons) mode at 30 kV – at least 1.0 nm;
 - SE mode (at 1 kV) – at least 1.6 nm;
 - BSE (Backscattered Electrons) mode at 30 kV – at least 3.0 nm;
 - TE (Transmitted Electrons) – at least 1.0 nm;
- Zoom range – at least 25 to 800 000 times for standard 127 x 95 mm photograph;
- The accelerating voltage range – at least from 0.1 to 30 kV (with maximum 0.1 kV steps)
- Electron beam 1 pA – 200 nA (at 15 kV) and more than 300 nA (at 30 kV);
- Independent regulation of the accelerating voltage and sensor current;
- Automatic functions:
 - Automatic focus;
 - Automatic stigmation regulation;
- Detectors:
 - Out-lens SE detector;
 - In-lens SE detector;
 - Draw-out semiconductor BSE detector with at least 4 segments;
 - Draw-out detector of transmitted electrons (TE) with display in both the bright (BF) and dark (DF) fields;
- Ability of a simultaneous scanning of SE and BSE, and SE and TE images at all accelerating voltages;
- System reducing potential contamination of the electron optics coming from the sample – cold trap;
- Field of view of at least 4 mm at 25 times zoom;
- Table for samples – eucentric-type with motorization in 5 axes in the range of:
 - X-axis at least 100 mm
 - Y-axis at least 100 mm
 - Z-axis at least 35 mm
 - Rotation 360°
 - Tilt at least from -3° to 70°;
- Sample replacement prechamber with the following minimum dimensions – diameter of 150 mm and height of 25 mm;
- Fully automated vacuum pumping system;
- Vacuum of at least 10^{-4} Pa shall be maintained in the sample chamber using turbomolecular pump with a rotor laid in magnetic bearings, and oil-free primary air pump;

- Vacuum of at least 10^{-7} Pa shall be maintained in the electron gun using an ion pump;
- Objective lens aperture adjustable into several positions with an easy and simple replacement during functional electron beam flow;
- Infrared camera enabling monitoring of processes inside the sample chamber;
- Faraday cup for current measurement through the sample;
- Ability to observe and store images larger than 15 Mpixels in the TIFF, BMP and JPG formats;
- Ability to obtain 3D images and quantitative topographic data about the sample surface without having to tilt it;
- Control of all SEM parameters using a computer system with the required software (at least one license), at least 24" flat screen, DVD-RW drive, USB interface and a network card.

2. Energy-Dispersive Detector (EDS):

- EDS hardware and software fully integrated with SEM (EDS and SEM control using one mouse and a keyboard);
- Detector usage with nitrogen-free cooling (SDD "Silicon Drift Detector" technology);
- Detector surface area of at least 30 mm²;
- Resolution at least 129 eV (for the K α Mn line);
- Element detection starting from beryllium (Be) and heavier elements;
- Upload speed higher than 300,000 cps ("counts stored per second");
- Equipped control computer system with software (at least one licence) supporting the EDS spectrometer, data analysis and recording, and providing at least:
 - X-ray spectrum scanning (both quantitative and qualitative);
 - At certain point;
 - On the surface of the whole displayed area or area selected by the operator;
 - Along any selected line;
 - Determination of element composition for elements selected by the operator in a certain area (at least 25 elements simultaneously);
 - Complete spectrum scan for each display point (pixel) in the selected area on the selected surface with resolution of at least 1024x1024 pixels;
 - Electron reflection registration;
 - Automatic and manual quantitative analysis (with automatic line identification);
 - Background modelling;
 - Quantitative analysis;
 - Nonstandard analysis;
 - PROZA and ZAF correction systems and matrix correction for thin sections of the TEM;
 - Set of standards (at least 50 standards of metals and minerals).

3. Wavelength-dispersive spectrometer (WDS):

- Highly sensitive system with energy range of at least 160 eV to 12 keV;

- Automatic WDS setting using information from EDS;
 - Automatic WDS calibration;
 - Full WDS integration into a software application working with EDS, including automatic WDS validation of the EDS peak identification.
- 4. EBSD (Electron Backscatter Diffraction) system – shall consist of the following parts:**
- Specialized CCD (charge-coupled device) camera for image scanning with resolution of at least 640x480 pixels and indexing speed more than 600 fps;
 - Interface for connection to SEM enabling SEM control from the EBSD system;
 - The system must enable simultaneous scanning of the EBSD and EDS maps (spectral quantitative maps containing complete x-ray spectrum for each pixel);
 - Phosphorus screen for EBSD image recording;
 - Software (at least one licence) enabling:
 - Scanning of electron and EBSD images;
 - Control of all detector parameters (integration, "pixel binning")
 - Automatic indexing using the Hough transform;
 - OIM mapping type;
 - Possibility to present EBSD data in Euler space (ODF, MODF);
 - Possibility to analyse multiple-phase materials (at least 4 phases);
 - Grain boundary mapping with their reconstruction possibility;
 - Phase identification (together with the EDS analysis);
 - Presentation of the analysed phase results.
- 5. The EDS, WDS and EBSD systems shall be made by one manufacturer and use the same software platform**
- 6. Modular cathodoluminescence (CL), enabling a spectral analysis of the cathodoluminescence effect:**
- Achromatic parabolic mirror operating in the minimal range of 200 to 2000 nm, including:
 - Motorized mechanism for the mirror draw-in/out the SEM tube;
 - Exact positioning system in three axes (X-Y-Z);
 - Flanges for the microscope installation;
 - Working distance 15 mm at maximum;
 - Digital system for the electron beam control;
 - Spectral analysis ability – monochromator with focal length of at least 120 mm located outside the microscope and equipped with:
 - At least two diffraction gratings;
 - At least one output for a detector;
 - Motorized carousel with filters;
 - Necessary junction optical module connecting the CL signal to the monochromator using fibre optic;
 - PMT detector with the range of at least 200 to 850 nm;
 - System control software enabling the operator to obtain monochromatic CL images (maps) with at least one licence.
 - Adapter for the CL installation onto the microscope chamber;

- Must enable future addition of other types of spectrographs and detectors for the hyperspectral measurement.
- 7. Modular source of X-ray radiation with multi-capillary optics for SEM/EDS:**
- X-ray source with micro focusing and the maximum focal spot size of 65 μm ;
 - Capillary optics and installation adapter for the microscope chamber;
 - Control electronics and power supply source;
 - Software for the operating parameter setting and the X-ray source screen control with one licence;
 - Software for the spectrum processing and evaluation, and the qualitative and quantitative sample analyses with at least one licence;
 - Adapter for the installation of the modular source of X-ray radiation onto the microscope chamber.
- 8. Sample preparation system using the “ion-milling” method:**
- Argon ion source;
 - Type with three electrodes;
 - Accelerating voltage at least from 0 to 6 kV;
 - Discharge current at least from 0 to 500 μA ;
 - Minimum sample size – diameter 50 mm, height 25 mm;
 - Sample tilt in the range of 0 to 90°;
 - Argon flow control using a mass flow meter;
 - Module for sample cross-section treatment;
 - Integrated optical microscope for process state observation;
 - Table for sample compatible with the SEM chamber for easier sample transport.
- 9. System for decontamination of organic elements on the sample surface:**
- Independent system for sample decontamination using UV radiation and ozone or a similar solution integrated in the microscope chamber;
 - Table for sample compatible with the chamber of the scanning microscope for easy sample transport in case an independent decontamination system is used;
 - Possibility of sample insertion in vacuum in case an independent decontamination system is used.
- 10. Sample preparation system for the TEM applications:**
- Sample preparation for the TEM applications (thin sections) using argon ions;
 - Ion beam energy control by changing the accelerating voltage from 0.1 to 8.0 kV;
 - Sample table rotation control adjustable from 1 to 6 revolutions per minute;
 - Sample holder compatible with the sample holder in the TEM microscope;
 - Built-in microscope with the zoom function – zoom for process state observation;
 - Sample size at least 2 mm in diameter;
 - Oil-free vacuum pumping system.
- 11. System for sample preparation by sputter coating:**
- Sputter coating with carbon and metal (Au);
 - Automatic or manual control;

- Pumping using a turbomolecular pump;
- Digital setting of power and sputter coating time;
- Monitor for the sputtered layer thickness monitoring;
- Set of consumables.

Information concerning the evaluation sub-criterion 2) as specified in the Seller's Bid must be identical with information specified on the Tender Cover Page, see Annex no. 2 to the Tender Dossier based on which the Purchase Contract is being concluded:


Sub-criterion	Unit of measure	Proposed Value ²
Substrate height for insertion into the vacuum prechamber for sample replacement (mm)	mm	29
Segment number of the draw-out BSE (Back-scattered Electron) detector for optimal 3D display of the sample surface structure without having to tilt it	Number of segments	5
Location of an anti-contamination cold trap in the objective lens for maximum reduction of the microscope optics contamination	-	In the objective lens
Number of possible apertures for the sample image optimization in the TE (Transmitted Electrons) mode in the bright field (BF)	Number of possible apertures	3
Simultaneous display in the bright (BF) and dark (DF) fields during STEM	-	YES
Number of regulation steps for the gradual suppression of the SE signal component contribution with the sample being displayed using signals from SE only, mixture of SE and LA-BSE or LA-BSE and HA-BSE	Number of steps	100

² The Bidder will specify parameters of the equipment (in the yellow highlighted fields) in the requested units of measure and will delete what does not apply.

The maximum number of displayed points of the SEM image in the microscope SW	Mpixels	19,6
Phase identification during EDS data acquisition	-	YES
Utilization of a sealed xenon counter with a window made of a light element used in WDS for calibration requirement minimizing	-	YES
Simultaneous EDS and EBSD map acquisition with full resolution	-	YES
Unlimited number of licences for the EDS and EBSD software	-	YES

The Seller expressly declares that the Equipment representing the object of sale meets the above-specified technical parameters and functions and is identical with the Bid submitted by the Seller to the Public Tender preceding signing of the Purchase Contract.

Date 23rd May, 2014



On behalf of the Seller
 Andrzej Wiśniewski
 an owner of COMEF

Andrzej Wiśniewski
 właściciel firmy
COMEF
Aparatura Naukowo - Badawcza
 40-719 Katowice, ul. Gdańska 2
 Regon : P-270214335



POVĚŘENÍ

(v souladu se zák. č. 262/2006 Sb.; zákoník práce, ve znění pozdějších předpisů, zák. č. 111/1998 Sb., o vysokých školách, ve znění pozdějších předpisů; zák. č. 137/2006 Sb., o veřejných zakázkách, ve znění pozdějších předpisů)

Západočeská univerzita v Plzni, IČO: 49777513, se sídlem Plzeň, ul. Univerzitní 8/2732, PSČ: 306 14, jednající doc. PaedDr. Ilonou Mauritzovou, Ph.D., rektorkou, tímto

p o v ě ř u j e

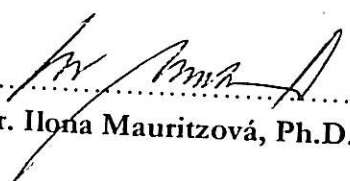
v souladu (i) s Rozhodnutím rektora č. 25R/2012 - Organizačním řádem Západočeské univerzity v Plzni ze dne 28.08.2012, ZCU 028615/2012, (ii) se zák. č. 111/1998 Sb., o vysokých školách; (iii) Statutem Západočeské univerzity v Plzni ze dne 20.12.2012 a (iv) zák. č. 111/1998 Sb., o vysokých školách, ve znění pozdějších předpisů,

ke dni 1. 8. 2013

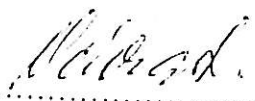
jméno: FRANTIŠEK příjmení: VÁVRA narozen dne: 22. dubna 1949, bytem: Alej Svobody 52, 323 00 Plzeň, funkce: děkan Fakulty aplikovaných věd, zaměstnanec Západočeské univerzity v Plzni, zejména k:

- zajištění všech úkonů souvisejících s organizací, koordinací a výkonem činností při zadávání veřejných zakázek ve smyslu zák. č. 137/2006 Sb., o veřejných zakázkách, ve znění pozdějších předpisů, v rámci Operačního programu Výzkum a vývoj pro inovace, projekt NTIS, CTPVV;
- k podpisu všech právních úkonů souvisejících se zadáváním veřejných zakázek ve smyslu zák. č. 137/2006 Sb., o veřejných zakázkách, ve znění pozdějších předpisů, v rámci Operačního programu Výzkum a vývoj pro inovace, projekt NTIS, CTPVV.

V Plzni, dne 17. července 2013


.....
doc. PaedDr. Ilona Mauritzová, Ph.D., rektorka ZČU

Uvedené pověření přijímám:


.....
doc. Ing. František Vávra, CSc., děkan FAV

