Invitation to participate to a public procurement process of equipments

Programme co-funded by the European Union funds (ERDF, IPA, ENI)

PROJECT TITLE
Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management

ACRONYM
SIMONA

PROJECT CODE
DTP2-092-2.1

PROJECT DURATION
1st June 2018 to 21st November 2021, 36 months

DATE AND PLACE OF PREPARATION
Baia Mare, 05/08/2021

BENEFICIARY: PP8: RO-TUCN, TECHNICAL UNIVERSITY OF CLUJ NAPOCA, NORTH UNIVERSITY CENTER OF BAIA MARE

For further information on the project, partnership and the Danube Transnational Programme:
www.interreg-danube.eu/simona

Dear Lady/Sir

1. In the INTERREG Danube Programme programme co-funded by the European Union (ERDF, IPA, ENI), named "Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management", code: DTP2-092-2.1, according to Budget Line 4, it is necessary to acquire the following equipments:

   a. Area Velocity Flow Module Isco 2150 type or equivalent
   b. Ponsel Nephelometric Turbidity sensor using RS485 MODBUS digital communication or equivalent

2. For this reason, you are invited to send your price offer and participate to the equipment acquisition process as a tender, according to the "bid-at-three" rule described in the INTERREG Programme rules described in the ANNEX - ELIGIBILITY OF PROJECT EXPENDITURES, for any of the equipments or both, with the characteristics described the folowing table, by completing the documents annexed to this invitation.

No.	Name	Needed specifications
1.	Area Velocity Flow Module Isco 2150 type or equivalent	The system's main characteristics: - Continuous wave Doppler technology to measure mean velocity - Digital electronics, so the analog level is digitized in the sensor itself, to overcome electromagnetic interference - Factory-calibrated probe for 10-foot (3 meter) span at different temperatures - Powered by alkaline or lead-acid batteries for use in the field - Highly efficient power management to extend battery life up to 15 months at 15-minute data storage intervals - Rugged, submersible enclosure to meet NEMA 4X, 6P (IP68) environmental specs - Chemically resistant epoxy-encapsulated sensor to withstands abuse, resist oil and grease fouling, and eliminating the need for frequent cleaning - Replaceable high-capacity internal desiccant cartridge and hydrophobic filter to protect sensor reference from water entry and internal moisture - Pressure transducer vent system to automatically compensate for atmospheric pressure changes to maintain accuracy

		- quick-connect sensor that can be easily removed and interchanged in the field without requiring recalibration - modules that can be networked by stacking and/or extension cables - coonecting cables The Flow Module will have the following characteristics: - Weight: 2.0 lb (0.9 kg) - Materials of construction: High-impact polystyrene, stainless steel - Temperature Range: -40° to 140° F (-40° to 60° C) operating and storage - Power Required: 12 VDC nominal (7.0 to 16.6 VDC), 100 mA typical, 1 mA standby - Program Memory: Non-volatile programmable flash, that can be updated using PC without opening enclosure, which retains user program after updating. - Flow Rate Conversions: Up to 2 independent level-to-area conversions and/or level-to-flow rate conversions. - Level-to-Area Conversions: Channel Shapes - round, U-shaped, rectangular, trapezoidal, elliptical, with silt correction. - Data Points - Up to 50 level-area points. - Level-to-Flow Conversions: Most common weirs and flumes; Manning Formula; Data Points (up to 50 level-flow points); 2-term polynomial equation - Total Flow Calculations: Up to 2 independent, net, positive or negative, based on either flow rate conversion - Data Storage: Non-volatile flash; retains stored data during program updates. Capacity 395,000 bytes (up to 79,000 readings, equal to over 270 days of level and velocity readings at 15-minute intervals, plus total flow, and input voltage readings at 24-hour intervals) - Data Types: Level, velocity, flow rate 1, flow rate 2, total flow 1, total flow 2, input voltage, temperature - Storage Mode: Rollover; 5 bytes per reading. - Storage Interval: 15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours - Storage rate variable based on level, velocity, flow rate, total flow, or input voltage - Data Retrieval: Serial connection to PC or optional 2101 Field Wizard module; optional modules for spread spectrum radio; land-line or cellular modem; 1xRTT. Modbus and 4-20 mA analog availability. - Multi-module networking: Up to four Flow Modules, stacked and/or remotely connected. Max distance between modules 3300 ft (1000 m). - Serial Communication Speed: 38,400 bps

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		The Area Velocity Sensor will have the following characteristics: - Level Measurement: Method - Submerged pressure transducer mounted in the flow stream - Transducer Type - Differential linear integrated circuit pressure transducer - Range (standard) 0.033 to 10 ft (0.010 to 3.05 m); (optional) up to 30 ft (9.15 m). - Maximum Allowable Level 34 ft (10.5 m) - Accuracy ±0.01 ft from 0.033 to 10 ft, (±0.003 m from 0.01 to 3.05 m,) - Long-Term Stability ±0.023 ft/yr (±0.007 m/yr) - Compensated Range 32° to 122°F (0° to 50°C) - Velocity Measurement: Method - Doppler ultrasonic, frequency 500 kHz - Typical Minimum Depth 0.08 ft (25 mm) - Range -5 to +20 ft/s (-1.5 to +6.1 m/s) - Accuracy (in water with uniform velocity profile, speed of sound = 4850 ft/s, for indicated velocity range: ±0.1 ft/s from -5 to 5 ft/s (±0.03 m/s from -1.5 to +1.5 m/s) ±2% of reading from 5 to 20 ft/s (1.5 to 6.1 m/s) - Temperature Measurement: Accuracy ±3.6° F (±2° C)
2.	Ponsel Nephelometric Turbidity sensor using RS485 MODBUS digital communication or equivalent	The Nephelometric Turbidity Sensor will have the following characteristics: - Measuring principle based on IR nephelometry 850nm. The sensor can be calibrated with a formazine standard solution - Will integrate a low-cost optical technology, with a very few maintenances and no consumables - can be connected to any types of transmitters, display units, controllers, or data loggers with Modbus RS-485 or SDI-12 inputs - All data concerning calibration, history, users, and measures to be directly treated within the NTU sensor and transmitted via RS-485 or SDI-12 - Compact, robust, and light, so that the PVC sensor allows a handheld or fixed unit application - Measure principle: Diffusion IR at 90° - Measure ranges 5 to 4000 NTU in 5 ranges: • 5 – 50 NTU • 5 – 200 NTU • 5 – 1000 NTU • 5 – 4000 NTU • AUTOMATIC 0 to 4500 mg/L

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		- Calibration: Range 0-500 mg/L according to NF EN 872, Range >500 mg/L according to NF T 90 105 2 - Resolution: 0,01 to 1 NTU - mg/L - Accuracy: < 5% of the reading - Working temperature: 0°C to + 50°C - Measure of temperature: Via CTN - Stocking temperature: -10°C to + 60°C - Signal interface Modbus RS-485 (standard) and SDI-12 (option) - Maximum refreshing time: < 1 second - Sensor power-supply: 5 to 12 volts - Electric consumption Standby: 40 µA - Average RS485 (1 measure/seconde): 820 µA - Average SDI12 (1 measure/seconde): 4,2 mA - Current pulse: 500 mA - Imensions: Diameter: 27 mm; length: 170 mm - Weight 300 g (sensor + cable 3 meters) - Material PVC, DELRIN, Quartz, PMMA, Polyamide - Maximum pressure: 5 bars - Connection 9 armoured connectors, polyurethane jacket, waterproof Fisher connector - Degree of protection: IP68

3. Any participating tender can submit a single bid for any of the equipments mentioned in Paragraph 2 separatelly.

4. The interested tenders will transmit a written price offer through e-mail or by regular mail.

5. Your offer will be forwarded to us according to the given shipping conditions and will be transmitted to:

a. Our address:

Technical University of Cluj Napoca,
North Universiry Center of Baia Mare,
Department of Acquisitions,
Contact person: Elvis TRELLA – Head of Department of Acquisitions
str. Dr. V. Babes., Nr. 62/A.
Zip-code: 430083,
Baia Mare,
Maramures,
Romania

b. Email: *elvis.trella@yahoo.com*

c. Tel: +40.743.086.817

6. The price offers are accepted to be transmitted in written form or by e-mail to the address mentioned in Paragraph 5.

7. Deadline to receive the price offers to the addresses mentioned in Paragraph 5 is **20 august 2021, 12:00AM, Eastern European Summer Time.** Any offer received after the deadline will be rejected.

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8. The offered price must include all shipment costs and any addidtional cost to the destination address: **Technical University of Cluj Napoca, North Universiry Center of Baia Mare, str. Dr. V. Babes. Nr. 62/A, Zip-code: 430083, Baia Mare, Maramures, Romania**

9. The offer will be expressed in **EURO** with separately indicated VAT (if applicable).

10. Valability of the offer: Your offer must be valable for at least **30 days** from the deposition deadline mentioned at Paragraph 5.

11. Clarification of tenders: evidence must be transmitted that the tenderer is qualified to perform the requested services, containing complete name of the tender, address, activity domain (e.g. registry of the company that proves it is authorized to perform the activity for which the offer is made, in accordance with national legislation)

12. Evaluatuion and granting the contract: Only offers transmitted by qualified tenders which meet the technical and quality characteristics described in Paragraph 2 will be considered in price comparison. The contract will be granted to the firm that **fulfills all requested technical and quality specifications** and **offeres the lowest evaluated total price, without exceeding our budget allocated for each equipment**, without VAT, for each equipment separately.

13. Please transmit us a written confirmation of receiving this Invitation to participate to a public procurement process of equipments, mentioning that you will or will not make an offer.

Hread of Department of Acquisitions
Eng. Elvis TRELLA

Project Manager
Prof.dr. Gheorghe DAMIAN

Project TechnicalManager
dr. Zsolt SZAKACS

Project Communication Manager
dr. Daniel NASUI

ANNEX 1.

TERMS AND CONDITIONS OF DELIVERY[1]

Equipment acquisition

Project: Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management, DTP2-092-2.1

Beneficiarry: PP8: Ro-TUCN, Technical University of Cluj Napoca, North University center of Baia Mare

Bidder:_____

1. **Price offer** [to be completed by the Bidder]

Nb. (1)	**Equipment name** (2)	**Quant.** (3)	**Unit price without VAT** (4)	**Total value excluding VAT** (5=3*4)	**VAT** (6=5* %TVA)	**Total value including VAT** (7=5+6)
1	Area Velocity Flow Module Isco 2150 type or equivalent	1				
	TOTAL					

2. **Fixed price:** The price indicated above is fermly fixed and cannot be changed during the execution of the contract.

3. **Delivery schedule:** Delivery is made within _____ weeks from the signing of the Contract / Order Note, to the indicated address, according to the following schedule: [to be completed by the Bidder]

[1] The Annex Terms and Conditions of Delivery is the form in which the Beneficiary will complete the conditions under which he wishes to receive the goods (Point 3 - delivery period, point 7A - Required Technical Specifications).
The bidders fill in the form with their bid - point 1, point 3 and point 7B - and return it signed to the Beneficiary, if they accept the delivery conditions requested by the Beneficiary.

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Nb.	Equipment name	Quant.	Delivery deadlines
1	Area Velocity Flow Module Isco 2150 type or equivalent	1	

4. **The payment** of the invoice will be made in **EURO**, 100% upon the actual delivery of the products to the indicated address, based on the Supplier's invoice and the receipt report, according to the Delivery Schedule.

5. **Warranty:** The offered goods will be covered by a warranty of at least 12 months from the date of delivery to the Beneficiary. Please mention the warranty period and warranty terms in detail.

6. **Packing instructions:** The supplier will ensure the packaging of the products to prevent their damage or deterioration during transport to the indicated address.

7. **Technical specifications:**

A. Needed technical specifications	B. Offered technical specifications
Equipment 1: Area Velocity Flow Module Isco 2150 type or equivalent	
The system's main characteristics: - Continuous wave Doppler technology to measure mean velocity - Digital electronics, so the analog level is digitized in the sensor itself, to overcome electromagnetic interference - Factory-calibrated probe for 10-foot (3 meter) span at different temperatures - Powered by alkaline or lead-acid batteries in field use - Highly efficient power management to extend battery life up to 15 months at 15-minute data storage intervals - Rugged, submersible enclosure to meet NEMA 4X, 6P (IP68) environmental specs	

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- Chemically resistant epoxy-encapsulated sensor to withstands abuse, resist oil and grease fouling, and eliminating the need for frequent cleaning - Replaceable high-capacity internal desiccant cartridge and hydrophobic filter to protect sensor reference from water entry and internal moisture - Pressure transducer vent system to automatically compensate for atmospheric pressure changes to maintain accuracy - quick-connect sensor that can be easily removed and interchanged in the field without requiring recalibration - modules that can be networked by stacking and/or extension cables The Flow Module will have the following characteristics: - Weight: 2.0 lb (0.9 kg) - Materials of construction: High-impact polystyrene, stainless steel - Temperature Range: -40° to 140° F (-40° to 60° C) operating and storage - Power Required: 12 VDC nominal (7.0 to 16.6 VDC), 100 mA typical, 1 mA standby - Program Memory: Non-volatile programmable flash; that can be updated using PC without opening enclosure; retains user program after updating. - Flow Rate Conversions: Up to 2 independent level-to-area conversions and/or level-to-flow rate conversions. - Level-to-Area Conversions: Channel Shapes - round, U-shaped, rectangular, trapezoidal, elliptical, with silt correction; - Data Points - Up to 50 level-area points. - Level-to-Flow Conversions: Most common weirs and flumes; Manning Formula; Data Points (up to 50 level-flow points); 2-term polynomial equation - Total Flow Calculations: Up to 2 independents, net, positive or negative, based on either flow rate conversion - Data Storage: Non-volatile flash; retains stored data during program updates. Capacity 395,000 bytes (up to 79,000 readings, equal	

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to over 270 days of level and velocity readings at 15-minute intervals, plus total flow, and input voltage readings at 24-hour intervals) - Data Types: Level, velocity, flow rate 1, flow rate 2, total flow 1, total flow 2, input voltage, temperature - Storage Mode: Rollover; 5 bytes per reading. - Storage Interval: 15 or 30 seconds; 1, 2, 5, 15, or 30 minutes; or 1, 2, 4, 12, or 24 hours - Storage rate variable based on level, velocity, flow rate, total flow, or input voltage - Data Retrieval: Serial connection to PC or optional 2101 Field Wizard module; optional modules for spread spectrum radio; land-line or cellular modem; 1xRTT. Modbus and 4-20 mA analog available. - Multi-module networking: Up to four Flow Modules, stacked and/or remotely connected. Max distance between modules 3300 ft (1000 m). - Serial Communication Speed: 38,400 bps The Area Velocity Sensor will have the following characteristics: - Level Measurement: Method - Submerged pressure transducer mounted in the flow stream - Transducer Type - Differential linear integrated circuit pressure transducer - Range (standard) 0.033 to 10 ft (0.010 to 3.05 m); (optional) up to 30 ft (9.15 m). - Maximum Allowable Level 34 ft (10.5 m) - Accuracy ±0.01 ft from 0.033 to 10 ft, (±0.003 m from 0.01 to 3.05 m,) - Long-Term Stability ±0.023 ft/yr (±0.007 m/yr) - Compensated Range 32° to 122°F (0° to 50°C) - Velocity Measurement: Method - Doppler ultrasonic, frequency 500 kHz - Typical Minimum Depth 0.08 ft (25 mm) - Range -5 to +20 ft/s (-1.5 to +6.1 m/s) - Accuracy (in water with uniform velocity profile, speed of sound = 4850 ft/s, for indicated velocity range: ±0.1 ft/s from -5 to	

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5 ft/s (±0.03 m/s from -1.5 to +1.5 m/s) ±2% of reading from 5 to 20 ft/s (1.5 to 6.1 m/s) - Temperature Measurement: Accuracy ±3.6° F (±2° C)	

Validity of the offer (to be filled in by the bidder): _____ days from the deadline for submission

NAME OF THE BIDDER _____

Authorized signature _____

Place:

Date:

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ANNEX 2.

TERMS AND CONDITIONS OF DELIVERY[2]

Equipment acquisition

Project: Sediment-quality Information, Monitoring and Assessment System to support transnational cooperation for joint Danube Basin water management, DTP2-092-2.1

Beneficiarry: PP8: RO-TUCN, TECHNICAL UNIVERSITY OF CLUJ NAPOCA, NORTH UNIVERSITY CENTER OF BAIA MARE

Bidder:_____

1. **Price offer** [to be completed by the Bidder]

Nb. (1)	**Equipment name** (2)	**Quant.** (3)	**Unit price without VAT** (4)	**Total value excluding VAT** (5=3*4)	**VAT** (6=5*%TVA)	**Total value including VAT** (7=5+6)
1	Ponsel Nephelometric Turbidity sensor using RS485 MODBUS digital communication or equivalent	1				
	TOTAL					

2. **Fixed price:** The price indicated above is fixed and cannot be changed during the execution of the contract.

3. **Delivery schedule:** Delivery is made within _____ weeks from the signing of the Contract / Order Note, to the indicated address, according to the following schedule: [to be completed by the Bidder]

[2] The Annex Terms and Conditions of Delivery is the form in which the Beneficiary will complete the conditions under which he wishes to receive the goods (Point 3 - delivery period, point 7A - Required Technical Specifications).
The bidders fill in the form with their bid - point 1, point 3 and point 7B - and return it signed to the Beneficiary, if they accept the delivery conditions requested by the Beneficiary.

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Nb.	Equipment name	Quant.	Delivery deadlines
1	Ponsel Nephelometric Turbidity sensor using RS485 MODBUS digital communication or equivalent	1	

4. **The payment** of the invoice will be made in **EURO**, 100% upon the actual delivery of the products to the indicated address, based on the Supplier's invoice and the receipt report, according to the Delivery Schedule.

5. **Warranty:** The offered goods will be covered by a warranty of at least 12 months from the date of delivery to the Beneficiary. Please mention the warranty period and warranty terms in detail.

6. **Packing instructions:** The supplier will ensure the packaging of the products to prevent their damage or deterioration during transport to the indicated address.

7. **Technical specifications:**

A. Needed technical specifications	B. Offered technical specifications
Equipment 2: Ponsel Nephelometric Turbidity sensor using RS485 MODBUS digital communication or equivalent	
The Nephelometric Turbidity Sensor will have the following characteristics: - Measuring principle based on IR nephelometry 850nm. The sensor can be calibrated with a formazine standard solution - Will integrate a low-cost optical technology, with a very few maintenances and no consumables - can be connected to any types of transmitters, display units, controllers, or data loggers with Modbus RS-485 or SDI-12 inputs - All data concerning calibration, history, users, and measures to be directly treated within the NTU sensor and transmitted via RS-485 or SDI-12 - Compact, robust, and light, so that the PVC sensor allows a handheld or fixed unit ap-plication - Measure principle: Diffusion IR at 90°	

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- Measure ranges 5 to 4000 NTU in 5 ranges: • 5 – 50 NTU • 5 – 200 NTU • 5 – 1000 NTU • 5 – 4000 NTU • AUTOMATIC 0 to 4500 mg/L - Calibration: Range 0-500 mg/L according to NF EN 872, Range >500 mg/L according to NF T 90 105 2 - Resolution: 0,01 to 1 NTU - mg/L - Accuracy: < 5% of the reading - Working temperature: 0°C to + 50°C - Measure of temperature: Via CTN - Stocking temperature: -10°C to + 60°C - Signal interface Modbus RS-485 (standard) and SDI-12 (option) - Maximum refreshing time: < 1 second - Sensor power-supply: 5 to 12 volts - Electric consumption Standby: 40 µA - Average RS485 (1 measure/second): 820 µA - Average SDI12 (1 measure/second): 4,2 mA - Current pulse: 500 mA - Dimensions: Diameter: 27 mm; length: 170 mm - Weight 300 g (sensor + cable 3 meters) - Material PVC, DELRIN, Quartz, PMMA, Polyamide - Maximum pressure: 5 bars - Connection 9 armored connectors, polyurethane jacket, bare-wires or waterproof Fish-er connector - Degree of protection: IP68	

Validity of the offer (to be filled in by the bidder): _____ days from the deadline for submission

NAME OF THE BIDDER _____

Authorized signature _____

Place:

Date:

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