PART A: INFORMATION FOR TENDERER

Name and address of the Contracting Authority:	**DOO "MECOnet", Podgorica – Kralja Nikole br. 301, Podgorica**
Project name:	**ARtificial intelligence platform to prevent Climate change natural hazArds – ARCA**
Project number:	**IPA-ADRION00107**
Title of the tender:	**Supply of IoT Forest Fire Monitoring Sensors**
Reference number:	**IPA-ADRION00107 -ARCA / MCN/PP2**

INSTRUCTIONS TO TENDERERS

1. INFORMATION ON SUBMISSION OF THE TENDERS

Subject of the contract:

The subject of this tender is:

- **Implementation of supply** as indicated in the technical information in the part ''Supply required'' of this document.

Participation:

Participation in this tender procedure is open only to the invited tenderers.

Natural or legal persons are not entitled to participate in this tender procedure or be awarded a contract if they are any of the situations mentioned in Sections 2.4. (EU restrictive measures), 2.6.10.1. (exclusion criteria) or 2.6.10.1.1. (rejection from a procedure) of the Practical Guide[1]. Should they do so, their tender will be considered unsuitable or irregular respectively.

Deadline for submission of the tenders:

The deadline for submission of tenders is **March 2nd, 2026 at 15:00 hours** (local time, Montenegro). Any tender received after this deadline will be automatically rejected.

Content of the tender:

The tender will be submitted in **1 original**.

The tenderers will submit their tenders in English using the:

- **Standard tender submission form and technical+financial offer available in the Part B of the tender dossier**

Address and meanings for submission of the tenders:

Tenders must be submitted by e-mail providing the following information:

- **The address for submitting tenders: MECOnet DOO, meconet.me@gmail.com**

- **Subject of e-mail:**
  - **Supply of IoT Forest Fire Monitoring Sensors, ref no. IPA-ADRION00107 -ARCA / MCN/PP2**

2. TECHNICAL and FINANCIAL INFORMATION

[1] Procurement and Grants for European Union external actions-A Practical Guide, https://ec.europa.eu/europeaid/prag/

The tenderers are required to provide supplies as indicated in chapter ''Required supply'' of this document.

The financial offer must be presented in EUR.

Payments under this contract will be made in the currency of the tender - EUR.

4. ADDITIONAL INFORMATION

Tenderers are bound by their tenders until they have been notified of non-award.

If tenderers have to request additional information during the procedure, they may submit questions in writing to the following address up to **February 24th, 2026 at 15:00 hours** (local time, Montenegro), specifying the reference number and the title of the tender:

Anka Ralević
DOO »MECOnet« Podgorica
E-mail: meconet.me@gmail.com

The Contracting Authority has no obligation to provide clarification after this date. Last date for the Contracting Authority to issue clarification is **February 25th, 2025.**

Tender evaluation session will be organised on **March 3rd 2025,** at MECOnet office, Steva Boljevića L13, st. 6.

Selection criteria

The following selection criteria will be applied to the tenderers. In the case of tenders submitted by a consortium, these selection criteria will be applied to the consortium as a whole.

Technical capacity of tenderer.
The reference period which will be taken into account will be the last three years preceding the submission deadline.

- the tenderer has provided supplies under at least 1 (one) contract in fields related to this contract which was implemented at any moment during the following period: **19/2/2023 - 19/2/2026**

The award criteria: best price for offers providing requested technical specification

The unsuccessful/successful tenderers will be informed of the results of the evaluation procedure in writing. The estimated time of response to the tenderers is 7 days from the deadline for submission of tenders.

The tenderer may submit a tender for one lot, or all of the lots.

SERVICES REQUIRED

1. PROJECT SUMMARY

The primary objective of the project **ARtificial intelligence platform to prevent Climate change natural hazArds (ARCA)** is to create a transnationally applicable platform through pilot initiatives in wooded areas, employing cutting-edge technologies to combat the risks posed by climate change-induced natural hazards. The project relies on advanced algorithms based on Machine Learning (ML) and diverse networks made of Internet of Things (IoT) sensors. These technological components work collaboratively to model specific forests and proactively mitigate the impact of natural hazards such as windstorms, drought, and wildfires. The digital platform comprises wireless sensor networks (WSNs), video cameras, drones, and LiDAR remote sensing, all contributing to a comprehensive forest modeling approach. A key action of the proposal is *"*to promote and encourage the development of transnationally designed innovations (technical and non-technical innovation, including services) through pilot and joint actions contributing to facing societal and environmental challenges like energy efficiency or climate change", through effective monitoring of forest sites located in the eligible areas. By effectively monitoring eligible forest sites, the ARCA infrastructure aims to achieve, among others, the following objectives: 1) Developing AI and machine learning algorithms for continuous monitoring of forest ecosystems and the formulation of climate adaptation scenarios. 2) Implementing a Decision Support System (DSS) for preventing natural hazards, enhancing resilience, and monitoring air quality.

In relation to these project goals, this particular procurement aims to realize the supply of **IoT forest monitoring and fire-detection sensors**, which directly support the establishment and operational deployment of the described digital platform.

The IoT sensors are procured and deployed as a **core and indispensable component** of the ARCA monitoring infrastructure and wireless sensor networks. They enable the continuous, high-frequency collection of environmental and eco-physiological data from forest ecosystems, producing **pre-alarm information** such as indicators related to plant water transport, stem or log moisture content, tree stability, and local microclimatic conditions. These data streams are essential for the early identification of stress conditions associated with drought, windstorms, and increased wildfire risk. In addition to continuous monitoring, the IoT sensors are designed to generate **event-based alarm data** in the presence of risk situations, including measurements of gas concentrations and particulate matter, as well as thermal or flame-related indicators relevant for early fire detection. Through this combined pre-alarm and alarm functionality, the sensors provide the foundational data required for proactive risk assessment, early warning mechanisms, and timely response to natural hazards. The sensor network operates as a **distributed wireless infrastructure**, ensuring reliable transmission of IoT data to centralized data management and processing systems. In line with the project design, the collected data are transmitted to shared data infrastructures for **data lake creation, advanced analysis, and the development of AI and Machine Learning models**, and are integrated with image and video data acquired by cameras and drones. This integration enables comprehensive forest modeling, system validation, and cross-verification of monitoring results. The procured IoT sensors therefore directly contribute to the operational deployment of the ARCA digital platform by securing the continuous and event-driven data flows required to establish an effective **cross-border forest monitoring and natural hazard prevention network**, in close collaboration with other project partners.

2. REQUESTED SUPPLY

The tenderers are required to provide supplies as indicated below. In the tenderer's technical offer, the tenderers will indicate more details on supplies' specification, referring back to the table below.

Item no.	Specifications required	Quantity
Lot 1	**IoT Forest Fire Monitoring Sensors** **General Requirements** • The offered sensors must be **new, unused**, and suitable for **long-term outdoor deployment** in forest environments. • The sensors must be designed for **tree-mounted installation** and intended for **continuous forest monitoring and early fire-risk/fire-event detection**. • The sensors must represent an **integral and non-substitutable component** of the ARCA monitoring infrastructure, forming the core of the **wireless sensor network (WSN)**. • The sensors must be suitable for **high-frequency data acquisition** and **event-based alarm generation**, in accordance with project requirements. • The sensors must support **remote data transmission** to centralized data processing infrastructure. ***Minimum Technical Specifications*** **1. Monitoring Functions – Pre-alarm Data** The sensors must be capable of producing **pre-alarm environmental and eco-physiological data**, including but not limited to: • **Water transport inside the plant (sap flow measurement)**, • **Stem or log moisture content measurement**, • **Tree growth and stability parameters**, • **Microclimatic parameters**, such as air temperature and relative humidity. These parameters must be acquired at **high frequency** and used to support **early risk assessment and fire-risk indicators**, as described in the Project Application. **2. Monitoring Functions – Alarm Data** The sensors must be capable of producing **alarm data** upon the occurrence of a risk event, including: • **Gas concentration measurements**, such as:	**15 pcs**

- CO_2,
- O_3,
- particulate matter (PM2.5, PM10),

- **Flame and/or smoke detection**,
- **Thermal or infrared measurements** relevant for fire detection.

Alarm data must be generated **event-based**, enabling early warning and rapid response mechanisms.

3. Wireless Sensor Network (WSN) Integration

- The sensors must be suitable for **distributed deployment** as part of a **wireless sensor network (WSN)**.
- The sensors must support **wireless data transmission** to a remote system.
- The sensors must enable **regular and reliable data transmission**, forming the basis for system validation activities.
- Data generated by the sensors must be suitable for **integration with image data from cameras** and **data acquired by drones**, as foreseen in project validation activities.

4. Data Management and Processing

- IoT data generated by the sensors must be suitable for transmission to a **centralized data infrastructure**.
- In accordance with the Project Application, sensor data must be compatible with:
  - **data lake creation**, and
  - **advanced data analysis and AI model implementation**, including processing at the Supercomputing Center of the CMCC Foundation.
- Data formats must be suitable for **AI-based post-processing workflows**.

5. Operational Conditions

- Sensors must be designed for **long-term outdoor operation** in forest environments.
- Enclosures must be **weather-resistant** and suitable for exposure to variable environmental conditions.
- Sensors must be suitable for **autonomous operation**, including battery-powered use.

	Warranty and Service Requirements
	• **Minimum 12-month warranty** covering manufacturing defects, with a clear procedure for repair or replacement.
	• **Technical support availability** within the country or region.
	Training Requirements
	• **Basic user instruction**, if required, covering:
	  ○ sensor installation and mounting,
	  ○ system operation,
	  ○ basic troubleshooting.
	• Delivery of **user documentation** in English (or local language, if available).
	Delivery Conditions
	• Delivery shall be completed within **30 calendar days** from contract signing.
	• All equipment must be delivered in **original packaging**, including all necessary accessories and documentation.
	Additional Notes
	• The offer must include **relevant technical datasheets** for the proposed sensors.
	• The tenderer shall provide a **declaration or appropriate evidence of compliance with applicable CE requirements**.
	• The **"or equivalent" principle applies**.	

3. LOCATION AND DURATION

Location for delivery of supply is: **DOO »MECOnet« Podgorica, Steva Boljevića bb, L13, st.6.**

The terms of delivery of the goods shall be *DDP - Delivered Duty Paid*— Incoterms 2010 International Chamber of Commerce

The intended start date is **March 4th 2025** and the period of implementation of the contract will be **30 days from the contract** signature by both parties.

4. REPORTING

n/a

FORMAT OF THE CONTRACT BETWEEN THE CONTRACTOR AND THE CONTRACTING AUTHORITY

PROJECT TITLE: ARtificial intelligence platform to prevent Climate change natural hazArds – ARCA

PROJECT No. IPA-ADRION00107

CONTRACT TITLE: Supply of IoT Forest Fire Monitoring Sensors, Podgorica - Montenegro

REF No: IPA-ADRION00107 -ARCA / MCN/PP2

Concluded between:

DOO "MECOnet"
Podgorica, Kralja Nikole br. 301

(Contracting Authority)

AND

Title
Address of the contractor
Reg.no.

(Contractor)

Article 1: Subject of the contract

The subject of the contract are the supply as indicated in the contractor's offer – ''Part B: Documents to be completed by the tenderer''.

Article 2: Contract value

This contract, established in Euro is a supply contract.

The maximum total contract value for implementation of supply indicated in the Article 1 is ___ EUR (VAT included) / ___ EUR (VAT excluded).

Article 3: Contracting documents

This documents which form the part of this contract are (by the order of precedence):

- Contract agreement
- Contractor's technical/financial offer as provided in the tendering phase - ''Part B: Documents to be completed by tenderer Technical/financial offer''

Article 4: General provisions

The Contractor must comply with publicity and visibility requirements of Interreg ADRION Programme. For more information Contractor is advised to visit official website of the Programme: https://www.adrioninterreg.eu/

Article 5: Deliveries and payments

The Contractor will deliver without reservation the supply indicated in the contractor's offer. The deliveries will be implemented within the indicated dates.
The terms of delivery of the goods shall be *DDP - Delivered Duty Paid*— Incoterms 2010 International Chamber of Commerce

The Contracting Authority will pay to the contractor the supply in the amount indicated in the Article 2 of this contract document. The payments will be issued based on delivered supply and invoice provided.

no		EUR
1	Final paymnet	Amount based on financial offer:
	Total	Amount based on financial offer:

Article 6: Duration of the contract

The duration of the contract is **30 days** from contract signature date.

Article 7: Cancellation of the contract

The contract can be suspended by the Contractor due to one of the following reasons:
- Contracting Authority not fulfilling payment and other obligations

The contract can be terminated by the Contracting Authority due to one of the following reasons:
- The Contractor is in serious breach of the contract, failing to meet contractual obligations
- The Contractor is bankrupted or being wound up, is having its affairs administrated by courts, has entered into arrangements with creditors, has suspended business activities, is the subject of proceedings concerning those matters, or is in any analogous situations arising from a similar situation provided for in national legislation or regulations

Article 8: Resolving of disputes

Any disputes arising out of or relating to this Contract which cannot be settled otherwise shall be referred to the exclusive jurisdiction of court in Montenegro in accordance with the legislation of the state of the Contracting Authority.

Article 9: Other specific conditions applying to the contract

Done in English in two originals, one original for the contracting authority and one original for the contractor.

For the Contractor	**For the Contracting Authority**
Name:	Name:
Title:	Title:
Signature:	Signature:
Date:	Date:

ADMINISTRATIVE - SELECTION COMPLIANCE GRID

Project acronym :	**ARCA**	**Project no:**	**IPA-ADRION00107**
Contract title :	**Supply of IoT Forest Fire Monitoring Sensors**	**REF No:**	**IPA-ADRION00107 -ARCA / MCN/PP2**

Tender envelope number	Tenderer's name	Within deadline? (Y/N)	Eligible nationality? (Y/N)	Tender submission form duly completed? (Y/N)	Language as required ? (Y/N)	Documentation complete? (Y/N)	Other administrative and selection requirements of the tender dossier? (Yes/No/Not applicable)	Overall decision? (Accept / Reject)
1								
2								
3								