Annex No. 1 (English version)

Terms of Reference

"Feasibility Study for the Modernisation of Meteorological Infrastructure in Kenya"
(SAMRS/2026/Z/7)

This is the English version of Annex No. 1 to the Call for Tenders. In case of any discrepancy, the Slovak version of Annex No. 1 prevails.

1) Background and Justification

Kenya faces escalating and increasingly costly climate risks. According to the World Bank, an estimated 70 % of the country's natural disasters are driven by extreme weather events, including droughts and floods. Droughts alone impose economic losses equivalent to approximately 8 % of GDP every five years, and without effective adaptation investment, Kenya's cumulative climate related economic losses could exceed KES 3.1 trillion by 2050.

The Kenya Meteorological Department (KMD), under the Ministry of Environment, Climate Change and Forestry, is the national authority responsible for weather and climate services. KMD's observation network, forecasting systems and data infrastructure are constrained by outdated equipment, limited coverage, human resource gaps and funding shortfalls, limiting the country's ability to provide timely, accurate weather and climate information to key economic sectors (agriculture, aviation, energy, water, health, disaster risk management). Global evidence indicates that investment in hydrometeorological services yields a benefit to cost ratio in the range of 1 : 10 to 1 : 26.

KMD, with the support of Epinician Ltd., has proposed a comprehensive modernisation programme (estimated at over EUR 50 million) and has requested Slovak cooperation in advancing this initiative. The contracting authority cannot currently finance the supply of hardware, but is prepared to finance a preparatory analysis (feasibility study) under its contracting of services instrument, whereby the contracting authority itself selects the service provider through a competitive procedure. This document sets out the subject matter of that contract.

2) Objective of the Assignment

The objective of the assignment is to produce an independent feasibility study (preparatory analysis) of a quality suitable for donor decision making that will:

- assess the technical, institutional and financial feasibility of modernising KMD's meteorological infrastructure and services,
- provide a prioritised and phased investment package, with preliminary technical specifications, that could subsequently be tendered for implementation,
- quantify the expected economic and social returns of the proposed investment,
- recommend a procurement and financing strategy, including possible phasing, joint financing or partnership arrangements, to inform any subsequent financing decision by the contracting authority or other development partners.

3) Scope of Services

3.1 Technical Needs Assessment: review and assessment of KMD's existing observation network, forecasting systems and data infrastructure against the modernisation components identified by KMD and Epinician Ltd., namely: a weather radar network, a lightning detection network, wind shear and microburst detection systems, upper air sounding stations, an automatic weather station (AWS) network, numerical weather prediction (NWP) and climate modelling systems, an integrated forecasting platform, data centres and climate database management systems, an instrument calibration centre, and regional and county level climate information centres.

3.2 Institutional and Capacity Assessment: assessment of KMD's institutional capacity, staffing levels and training needs required to operate, maintain and sustain the proposed modernised infrastructure, including recommendations on capacity building and institutional strengthening measures.

3.3 Economic and Cost Benefit Analysis: economic appraisal of the proposed investment package, including an assessment of expected costs and benefits, drawing on established international benchmarks for hydrometeorological investment returns and Kenya specific climate loss data, to support prioritisation and donor decision making.

3.4 Procurement and Financing Options Analysis: analysis of possible procurement, financing and partnership modalities for implementing the prioritised investment package (e.g. phased tendering, donor joint financing, institutional twinning, private sector participation), with recommendations tailored to the Slovak development cooperation framework and procurement rules.

3.5 Environmental and Social Considerations: a high level screening of environmental and social considerations relevant to the proposed infrastructure investments, sufficient to inform subsequent project preparation.

4) Expected Outputs and Deliverables

The service provider shall submit the following deliverables. Timing is counted from the date of entry into force of the contract.

No	Deliverable	Description	Timing
1	Inception Report	Confirmed methodology, work plan, stakeholder engagement plan and data collection tools.	within 3 weeks
2	Situation and Needs Assessment Report	Assessment of KMD's current observation, forecasting, data management and calibration infrastructure against the modernisation components (radar network, lightning detection, wind shear and microburst detection, upper air sounding, AWS network, NWP and climate modelling systems, data centres, calibration centre, regional climate information centres).	within 8 weeks

No	Deliverable	Description	Timing
3	Draft Technical Specifications and Prioritisation Note	Preliminary technical specifications and a prioritised, phased investment package indicating which components could realistically be tendered first.	within 12 weeks
4	Economic and Cost Benefit Analysis	Cost benefit and economic return analysis of the proposed investment package, referencing established hydromet cost benefit ratios and Kenya specific climate loss data.	within 14 weeks
5	Institutional and Capacity Assessment	Assessment of KMD's institutional, staffing and training needs required to operate and sustain the modernised infrastructure.	within 14 weeks
6	Procurement and Financing Options Note	Recommended procurement routes and financing and partnership options (donor joint financing, phased tendering, twinning arrangements) to inform the contracting authority's subsequent procurement.	within 16 weeks
7	Draft Final Feasibility Report	Consolidated feasibility study incorporating all analyses above, submitted for review and comments.	within 18 weeks
8	Final Feasibility Report	Final report incorporating the comments of the contracting authority and KMD, with an executive summary suitable for donor decision making in English and a summary in Slovak.	within 20 weeks

5) Timeline

The assignment shall be implemented over a period of 20 weeks (approximately 5 months) from the entry into force of the contract, structured as follows:

Phase	Key Activities	Duration
Phase 1: Inception	Desk review, methodology finalisation, stakeholder mapping, kick off meetings with KMD and the Ministry of Environment, Climate Change and Forestry.	weeks 1 to 3
Phase 2: Field Assessment	Mission to Kenya: site visits to KMD headquarters and selected stations, technical audits of existing infrastructure, stakeholder consultations.	weeks 4 to 8
Phase 3: Technical and Economic Analysis	Development of technical specifications, prioritisation, cost benefit analysis and institutional and capacity analysis.	weeks 9 to 14
Phase 4: Procurement and Financing Analysis	Analysis of procurement routes and financing and partnership options, preparation of recommendations for the contracting authority's subsequent procurement.	weeks 15 to 16
Phase 5: Reporting	Draft final report, review period, incorporation of comments, submission of the final feasibility report.	weeks 17 to 20

6) Required Expertise and Team Composition

The assignment shall be delivered by a multidisciplinary team in which all roles set out in the table below are filled. The experience or familiarity required for roles b) to e) is demonstrated by at least one specific project or position listed in the expert's CV. One expert may cover more than one role provided that he or she meets the requirements of each role, however the team shall consist of at least two natural persons. All experts must have a command of English sufficient for professional work and the preparation of deliverables in English. Compliance is demonstrated in accordance with Section 10 of the Call for Tenders.

Role	Responsibilities	Required Qualifications
a) Team Leader and Hydrometeorological Infrastructure Expert	Overall assignment management, technical lead on the assessment of the observation network and forecasting systems.	At least 10 years of professional experience in hydrometeorological infrastructure projects. Prior participation in a donor funded feasibility study is an advantage.
b) Radar and Observation Systems Specialist	Technical assessment of radar, lightning detection, wind shear and AWS components.	Specialist experience with weather radars and automatic observation networks.
c) Economist, Cost Benefit Analyst	Economic analysis, cost benefit analysis, investment prioritisation.	Experience in economic appraisal of infrastructure or climate adaptation projects.
d) Institutional and Capacity Building Expert	Institutional assessment, training needs analysis, sustainability planning.	Experience in public sector institutional strengthening, preferably in meteorological or environmental agencies.
e) Procurement and Development Cooperation Expert	Procurement and financing options analysis aligned with the Slovak development cooperation framework.	Familiarity with Slovak or comparable donor procurement and financing mechanisms.

7) Reporting and Coordination Arrangements

- The service provider reports to the contracting authority (SAMRS) as the client, in coordination with KMD and the Ministry of Environment, Climate Change and Forestry as the primary counterparts in Kenya, and in consultation with Epinician Ltd. as the initiating partner.
- All deliverables shall be submitted in English in electronic format (editable format and .pdf). The final feasibility report shall also contain a summary in Slovak.
- The contracting authority and KMD have a review and comment period of two weeks for the Inception Report, the Situation and Needs Assessment Report and the Draft Final Feasibility Report. The service provider shall incorporate the comments in the subsequent deliverable.
- The service provider shall keep the contracting authority informed of progress by a short email report at least once a month and shall report without delay any circumstances that may affect the scope, quality or timing of the assignment.

- The Final Feasibility Report is handed over on the basis of an acceptance protocol signed by the contracting authority.

8) Location and Logistics

- **Location:** a combination of desk based work at the service provider's premises and at least one mission to Kenya (Nairobi and selected KMD field stations). Language of work: English.
- **Mission:** the Team Leader shall personally take part in the mission to Kenya. In Annex No. 2 the tenderer states the planned number of mission days and the experts taking part.
- **Price:** the offered price covers all costs related to the assignment, including expert fees, the costs of the mission to Kenya (flights, accommodation, subsistence, insurance, visas, local transport, interpretation), data collection and processing, and report production.
- **Cooperation:** the contracting authority, in cooperation with KMD, will facilitate the service provider's access to available data, documentation, facilities and KMD staff to the extent necessary for the assignment. All other arrangements for the mission are the responsibility of the service provider.
- **Security:** the service provider is responsible for the security and insurance of its experts during the mission and shall follow the travel advice of the Ministry of Foreign and European Affairs of the Slovak Republic for Kenya.

9) Ownership of Deliverables and Confidentiality

All deliverables become the property of the contracting authority upon submission. The contracting authority may use and modify them without restriction, share them with KMD, the Ministry, the initiating partner and other development partners, and use them for the preparation of subsequent procurement. The service provider shall keep confidential all data made available by KMD or the contracting authority and use it solely for the purposes of the assignment.

10) Independence and Conflict of Interest

The study shall be prepared independently, impartially and solely in the interest of the contracting authority and the final beneficiary. Neither the service provider nor its experts may be in a conflict of interest, in particular they may not represent the interests of manufacturers or suppliers of the equipment and systems concerned by the modernisation, and they may not tailor the recommendations of the study to specific products or suppliers. In Annex No. 2 the tenderer discloses any business relationships of its own or of its experts with Epinician Ltd. or with suppliers of meteorological systems. Technical specifications shall be formulated as functional and performance requirements allowing for fair competition.