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Technology
Facilities Council

RAL Space

 **MIRICO**
Transformational Gas Measurement

 **UNIVERSITY OF
CAMBRIDGE**

**Coventry
University** 

 **ETA**
ENJOY THE AIR

Portable Reference Instrument for Atmospheric Measurements

Thomas Wall and the PRIAM
Consortium SAQN Annual Meeting
2022

Focus on AQ in Nigeria

- Lagos (population ~ 20 million) is a mega-city
- Nigeria has one of the world's largest and most rapidly growing populations
- There is a need for trustworthy AQ measurements in rural and urban settings
- Major oil and gas industry

Ukraine crisis: Can Africa replace Russian gas supplies to Europe?

By Ijeoma Ndukwe
BBC Business

A new sensor for AQ in low-resource regions

- Current AQ monitoring: networks of **low-cost sensors** (LCSs)
- LCSs suffer from **biases** and **drift** – require calibration

- We will develop a new field-deployable sensor for referencing of LCSs
- Based on **STFC sensing technology**:
drift-free, calibration-free,
operates in a **range of weather conditions**

RAL Space Methane Sensor

- Developed by the Spectroscopy Group
- Near-infrared dispersion spectroscopy
- Methane detection sensitivity **6.9 ppb 100 m**
- We will miniaturise and develop **multi-species** detection (CH_4 and CO_2)



PRIAM Consortium



Transformational Gas Measurement

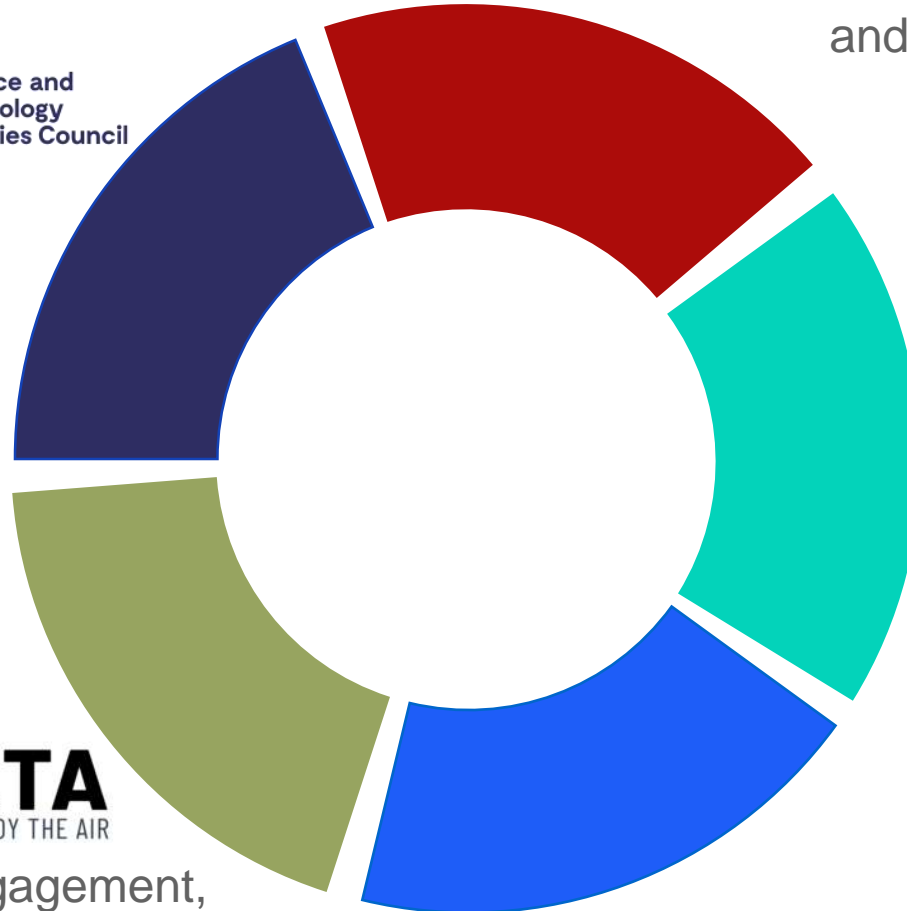
Consult on miniaturization,
and manufacture parts



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Instrument development
and demonstration



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Stakeholder engagement in
Nigeria (LAMATA)



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Stakeholder engagement,
and feed back on data
analytics requirements



Stakeholder engagement in
Nigeria (LASEPA)



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