

# Grand Challenge for Sustainable Diagnostic Laboratories

## The Challenge

Infectious disease laboratories play a central role in supporting animal health and public health services. However, complex and persistent barriers, both technical and systemic, hinder the sustainable operation of diagnostic laboratories in low- and middle-income countries. Innovation designed to sustain the functions of a diagnostic laboratory safely and securely in low-resource settings would not only reduce risks to global health security but also support agricultural productivity, food security and safety, livelihoods, economic prosperity and animal and human health.



## The Solution

The World Organisation for Animal Health (WOAH), with funding from Global Affairs Canada's Weapons Threat Reduction Program and technical support from The Pirbright Institute, are collaborating with Grand Challenges Canada and their implementation partners at Science for Africa Foundation to explore the application of a Grand Challenge approach to identify innovation that seeks to reinvent the laboratory, making it fit-for-purpose in resource-limited contexts globally.

A Grand Challenge for Sustainable Diagnostic Laboratories will seek to reimagine the physical laboratory infrastructure in order to reduce ongoing operational costs and ensure safe and secure handling of high consequence pathogenic materials, including 'disease X', whilst maintaining core functions of a diagnostic lab in low- and middle-income countries.

### WE SEEK INNOVATION IN

- End-to-end laboratory concepts and design, including those that limit resource-intensive components (energy, clean water and air, waste disposal, equipment maintenance) of current diagnostic laboratories.
- Laboratory operation to meet the functions required for high-consequence pathogens to be handled safely and securely, bridging the need for high-intensity operation in crisis times with standard operations.
- Business models for ownership and utility of laboratory functions sustained by local leadership.

### ROLLING OUT A PHASED APPROACH

Outcomes of the Phase I feasibility study will inform development of a full Grand Challenge for Sustainable Diagnostic Laboratories programme in Phase II where top innovations are considered for potential funding.

## 2023

Jan

Launch of Request for Expressions of Interest for innovative solutions

Feb

Expert review and analysis of eligible Expressions of Interest

Mar

Apr

May

Final report of findings and recommendations

Jun

Fundraising strategy developed  
Decision on Phase II implementation and governance



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