

**RESEARCH AND DEVELOPMENT FUND
PROJECT SPOTLIGHT**

PHASE CHANGE MATERIAL PRODUCTS LTD

SUST-FRIDGE: A NOVEL REFRIGERATOR UNIT FOR DEVELOPING COUNTRIES

This project will combat food loss post-harvest by developing Sust-Fridge, an innovative refrigerator which keeps produce cool for an extended period of time. This is for customers living in off- and weak-grid settings.

Food spoilage is a significant problem in most African countries. Half of all food in Sub-Saharan Africa is lost post-harvest or before it reaches markets. Ineffective cooling technologies in hot climates are the primary reason for this loss.

Phase Change Materials Products Ltd aims to develop a novel refrigeration unit, which be used for food or medicine. The Sust-Fridge will be designed to achieve the desired temperature in off- and weak-grid settings. This will be done by incorporating a phase change material (PCM) inside the refrigerated chamber, as well as a micro-compressor and a highly efficient condenser unit. By introducing PCM into the system, the Sust-Fridge will maintain low temperatures for an additional 10–18 hours.

By minimising food loss post-harvest, farmers can sell more produce in the market, allowing them to become more productive. This can help foster economic growth and boost farmers' savings, which would ultimately have a positive impact for local communities.



AT A GLANCE

R&D Partner

Phase Change Material Products Ltd

Efficiency for Access Funding

£139,890

R&D Funding Unlocked from Phase Change Material Products Ltd

£59,953

Project Location

United Kingdom

