

RESEARCH AND DEVELOPMENT FUND PROJECT SPOTLIGHT

REFRIGERATION DEVELOPMENTS AND TESTING LTD (RD&T)

RADIANT COOLING FOR ARID LOCATIONS (RADICAL)

The RADICAL project aims to identify the potential for radiant cooling and define and build the first-stage prototype for further development.

The main aim of the RADICAL project is to manufacture and operate a radiant cooling system that is affordable, robust and can be maintained and repaired locally.

Many developing regions have hot-arid climates, with very high day to night temperature swings. Furthermore, night skies tend to be clear. During clear nights, thermal radiation occurs, causing surfaces to cool rapidly.

Traditionally, thermal radiation during the night has been used to make ice in special shallow ponds. However, the process is labour-intensive, incurs water loss, and can be unhygienic.

This project aims to develop a useful, affordable and self-powered radiant cooling device, based on phase change thermosiphon heat transfer. The only moving component will be the working fluid, which is cheap and commonly available. The device will be low maintenance, as it will only require external cleaning of the heat exchange surfaces.

The RADICAL project is a feasibility study to undertake work to identify the potential for the technology and define and build a first stage prototype. The partners involved are RD&T, Practical Action and ACTS (African Centre for Technology Studies).



AT A GLANCE

R&D Partner

Refrigeration Developments and Testing LTD (RD&T)

Efficiency for Access Funding

£88,564

R&D Funding Unlocked from Refrigeration Developments and Testing LTD (RD&T)

£9,840

Project Location

United Kingdom