CONTAINERISED DESICCANT-BASED MOBILE ATMOSPHERIC WATER GENERATOR

THE UNIVERSITY OF NEWCASTLE AUSTRALIA

Our project aims at advancing the development of a desiccant-based containerised atmospheric water generator (AWG) unit with a nominal capacity of 4,000 litres per day for adoption by the Australian Defence Force as standard field equipment for forward operating bases (e.g. battalion headquarters or combat brigade units), field hospitals and similar assets.

COMPETITIVE ADVANTAGE

- Relies on ambient moisture as a source of water, waste heat from gensets as a source of thermal energy, and naturally occurring minerals as desiccants
- Ability to produce drinking water from air even at very low absolute humidity levels (typically at levels greater than five grams per metre cube); it is therefore deployable almost anywhere around the globe (except Antarctica, where the absolute humidity is zero)
- Low energy footprint, given the unit relies on waste heat
- Lightweight, compact and mobile

SUCCESSFUL APPLICATIONS OF RESEARCH

- Field trials of a containerised AWG unit under realistic conditions
- Implementation of the project outcomes into the design of the future field equipment for Australian Defence Force combat units

PARTNERS

- Hunter Water Corporation
- Southern Green Gas Ltd

IMPACT

- The outcome of this project will enable the Australian Defence Force, particularly the Australian Army, to overcome some of the logistical challenges associated with transporting large quantities of drinking water to the forward operating bases or relying on desalination of locally sourced water

CAPABILITIES AND FACILITIES

- Fluid mechanics/fluid dynamics laboratories
- Several small-scale AWG prototypes

MORE INFORMATION

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