



Australian Government  
Department of Defence  
Defence Science and  
Technology Organisation

DSTO Science and Technology for Safeguarding Australia

# Microwave Assisted Thermal Sterilisation (MATS)

## Fresh Australian foods in Defence ration packs

Australian foods have a reputation for being clean, green and nutritious - the foods grown and raised here are world class. Meals which look appealing and taste good will be eaten, ensuring consumers do not miss out on all the nutrients they need.

Fresh, high quality rations enhance morale in the field and also hold the key to a soldier's best performance. Current rations are nutritious, but do not taste like fresh meals.

An exciting new food processing technology – **microwave assisted thermal sterilisation** - promises to provide fresh-like meals which retain sensitive nutritional components, along with great flavour, texture and appearance.

### A food processing innovation

Foods processed using **microwave assisted thermal sterilisation** are heated with a short time and temperature profile, ensuring food safety, but retaining fresh-like appeal and long shelf life.

In conventional food processing the heating is much slower and longer than **microwave assisted thermal sterilisation**. Slow, conventional processing can result in over heating, reducing the food's quality, appeal and likely consumption.

**Microwave assisted thermal sterilisation** uses a 915MHz microwave signal to induce dielectric heating within the packaged food, resulting in a much shorter heating step and less damage to sensitive nutritional components.



### Collaboration – building Australian industry

While **microwave assisted thermal sterilisation** is at the early stages of technology transfer in the USA, both DSTO & the Australian Centre for Food Innovation (CFI) are developing a strong business case for investment in an Australian **microwave assisted thermal sterilisation** pilot plant.

An ideal opportunity exists to be involved as an industry partner in this exciting venture. Collaborative partners will have early access to this emerging technology, plus R&D support to evaluate product prototypes in collaboration with DSTO & the CFI.

### An appetite for innovation?

Please contact DSTO to be part of this collaboration in developing **microwave assisted thermal sterilisation** for Australia in an industrially & economically viable way.

### For further information contact:

**Meredith Mahoney**

A/Deputy Director Strategic Engagement

Phone: (03) 9626 7556

[partnerwithdsto@dsto.defence.gov.au](mailto:partnerwithdsto@dsto.defence.gov.au)

[www.dsto.defence.gov.au](http://www.dsto.defence.gov.au)