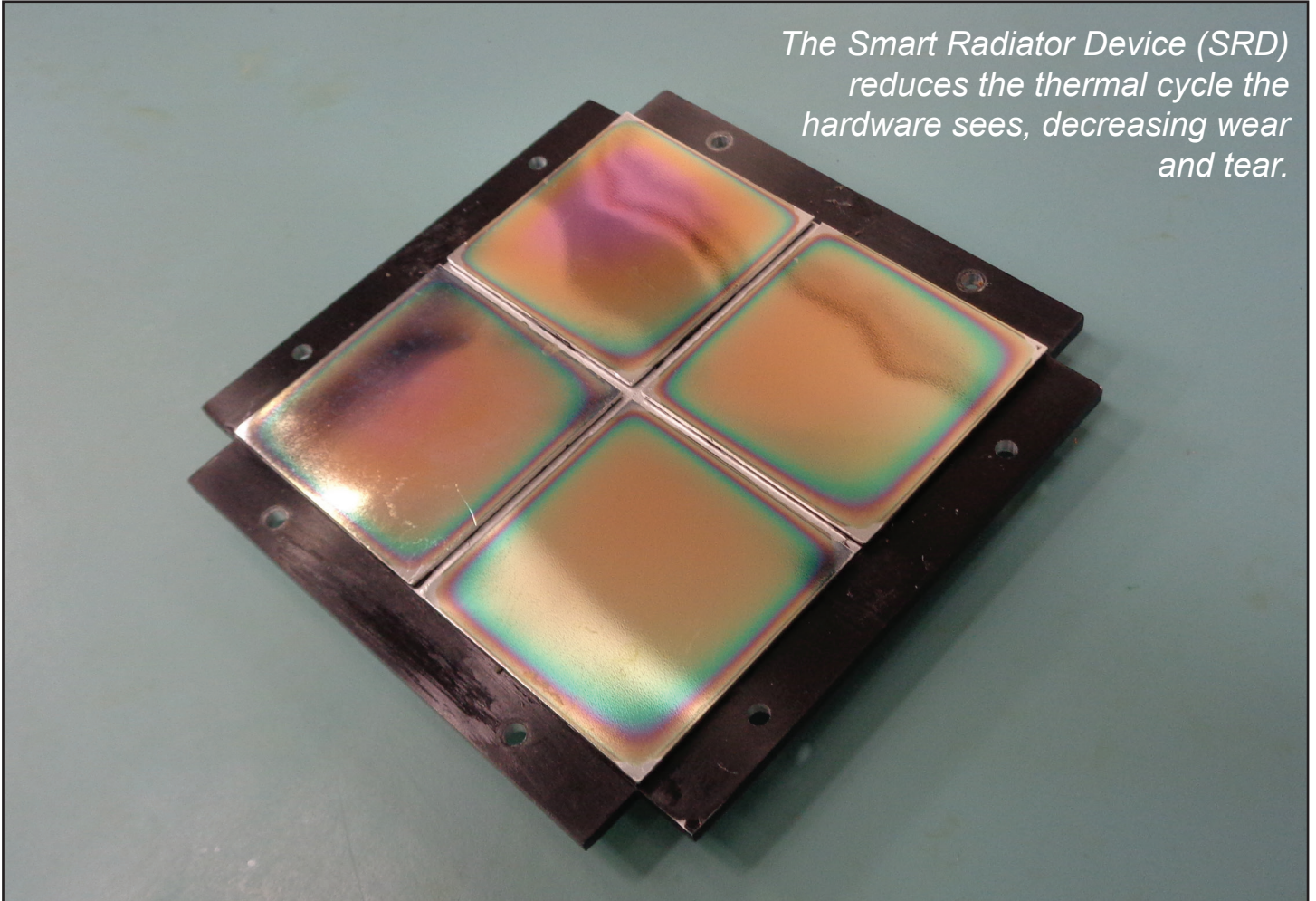
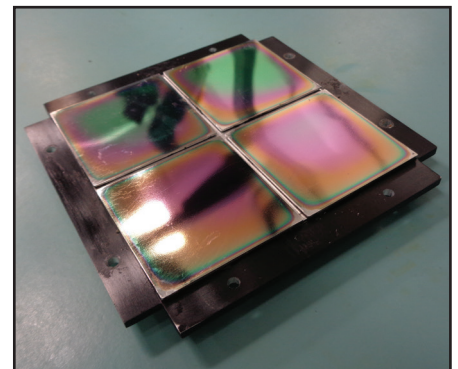
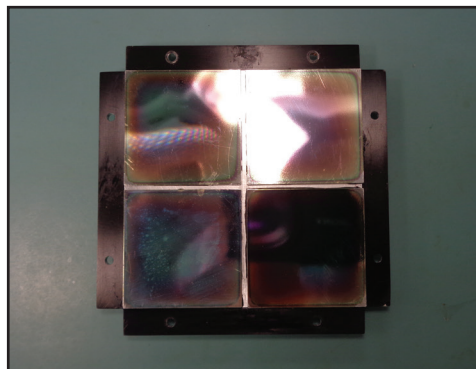
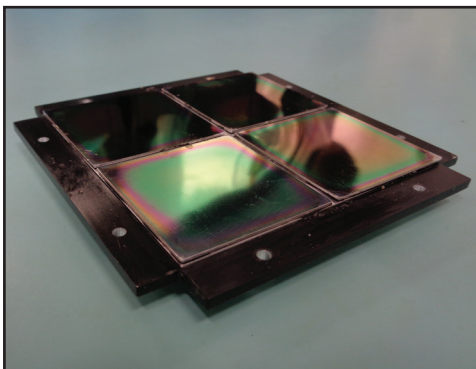


# THERMAL TILE A SMART RADIATOR DEVICE

*The Smart Radiator Device (SRD)  
reduces the thermal cycle the  
hardware sees, decreasing wear  
and tear.*



VARIABLE EMISSIVITY • SCALABLE • PASSIVE CONTROL



## OVERVIEW

The thermal tile is a Smart Radiator Device (SRD) developed by MPBC and Magellan Aerospace. Emissivity varies with temperature. Emissivity values vary between 0.75-0.35 for high and low temperatures. It is manufactured by laser ablation on a 4 x 4 cm aluminum substrate. It is scalable by applying grid of tiles to larger structures.

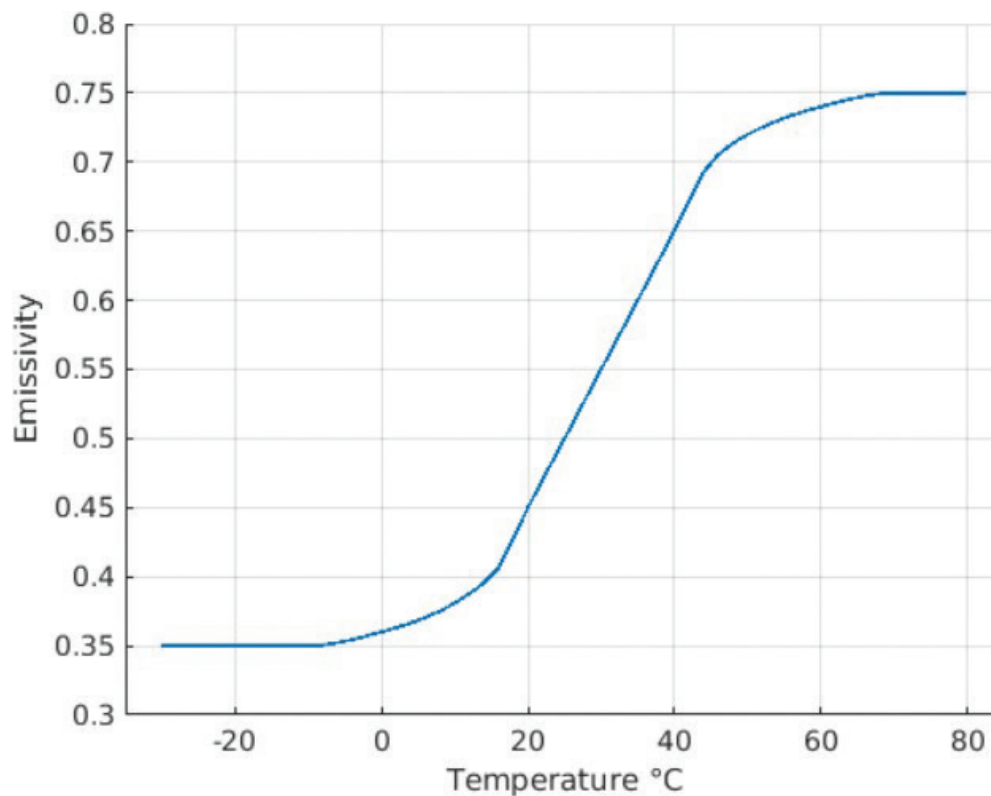
In a LEO case study, the traditional radiator uses 1.5 times as much heater power as the SRD spacecraft.

## THE SRD CAN ALSO REDUCE

- Heater power demand
- Temperature swing
- Battery capacity
- Solar cell area
- Mass

## DEVELOPMENT

- TRL 7
- Accelerated life test, effects of adhesives, humidity, and temperature exposure studied
- Obtained a flight of opportunity on a technology demonstrator CubeSat



## ABOUT MAGELLAN AEROSPACE

Magellan Aerospace is a global aerospace company that provides complex assemblies and systems solutions to aircraft and engine manufacturers, and defence and space agencies worldwide. Magellan designs and manufactures aeroengine and aerostructure assemblies and components for aerospace markets, advanced proprietary products for military and space markets, and provides engine and component repair and overhaul services worldwide. Magellan is a public company whose shares trade on the Toronto Stock Exchange (TSX: MAL), with operating units throughout North America, Europe, and India.

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