



Australian Government  
Department of Defence  
Science and Technology

DST  
GROUP

Science and Technology for Safeguarding Australia

# Pre-impregnated Composite Electronics: Pregtronics

## Aerospace Pre-Preg materials with added functionality

**Pregtronic materials permit the integration of microwave antennas over large conformal surfaces without any extra manufacturing steps. Simply pull the desired antennas from the roll and laminate in your existing composite tooling.**

Existing aerospace antennas are typically bulky and heavy. DST Group's novel approach to the fabrication of multi-functional structures is fully compatible with existing composite manufacturing techniques. These pregtronic materials can be applied to conformal surfaces to yield multifunctional structures with integrate antenna systems.

### Technology Features

- ▶ Compatible with composite manufacturing techniques.
- ▶ Lightweight and environmentally stable once cured.
- ▶ Large conformal antenna arrays possible.

### Benefits

- ▶ Processed identically to conventional aerospace pre-preg materials.

- ▶ Can be extended to include sensors, passive and active electrical components.
- ▶ Applicable to land, sea and air platforms where composite materials are used.

### Partnership Opportunities

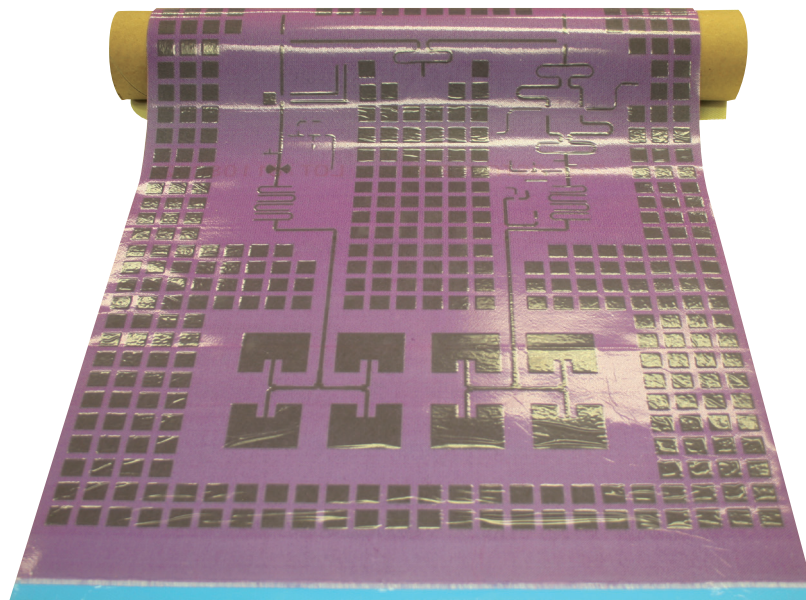
DST is interested in entering into collaborative or commercial arrangements to apply the technology more widely, and for its further development and refinement.

There is scope for:

- ▶ A University partner to investigate the many potential applications ranging from communication antennas, radar arrays and metamaterial coatings.
- ▶ Industry partners to facilitate the manufacture of pregtronic materials and demonstration on a UAV platform.

### For further information contact:

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