



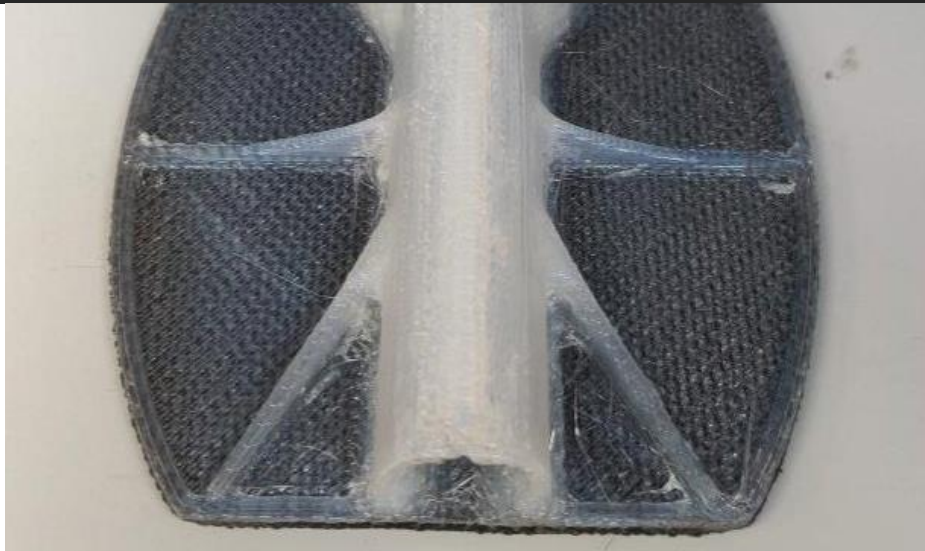
# NovaUCD

## Technology Licensing Opportunity



### 3D Desktop Composite

*A system for joining 3D printed polymer /composite layers to the surface of fibre composite materials*



#### Opportunity

Composite overmoulding is a process of moulding polymer features to the surface of composite materials using an injection moulding system. These specialised systems are costly and require a bespoke steel/aluminium mould be made for each design.

This invention comprises a novel method of joining of 3D printed polymer /composite layers to the surface of fibre composite materials, resulting in a new process we have coined over-printing.

#### Technology Overview

The system can print various polymers directly onto the surface of a composite panel. It requires no moulds and can be cost effective for a single production run. In addition, this process can use multiple polymers simultaneously to maximise the performance of the part, whereas conventional moulding is limited to a single polymer per moulding cycle.

The bond strengths have been shown to reach 6Mpa in adhesion testing (ASTM 4541), and up to 44Mpa in Interlaminar shear strength (ASTM 2344).

#### Key Features/Advantages:

Enables single batch production at lower cost than conventional overmoulding techniques.

**Low Capital Cost:** Does not require injection moulding equipment

**Speed:** Allows rapid prototyping and manufacturing without the need for moulds

**Optimised Materials:** Can design the composite / 3D printed components to take advantage of their combined materials properties

#### Value Proposition:

Low cost way to build small scale batches of high performance materials, with bond strength that match industry norms.

#### Markets:

Aerospace and automotive  
R&D design centers

#### Lead Inventors:

Dr Andrew Dickson and Prof Denis Dowling

#### IP Status/Publication:

Trade-secret



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