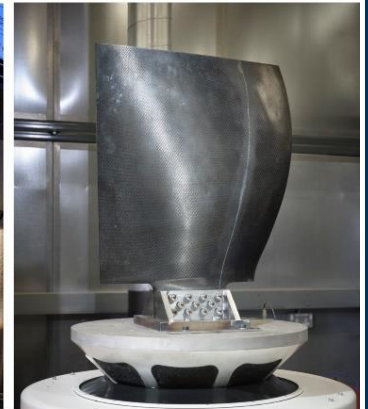
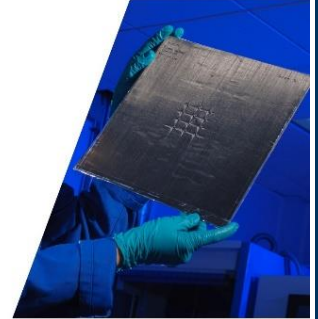


# Brunel Composites Centre (BCC)



# Brunel Composites Centre

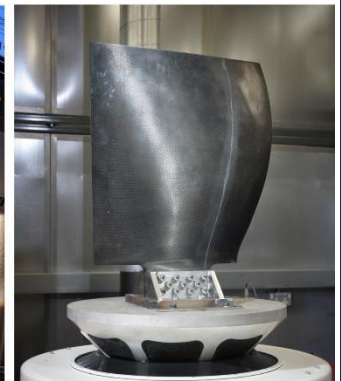
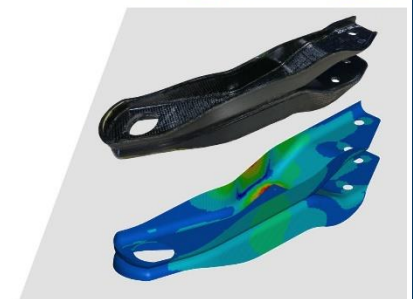
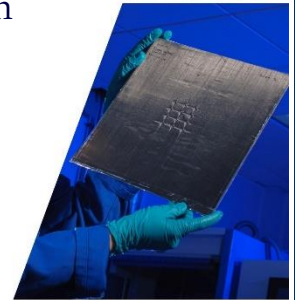
Brunel University London has been highly successful in creating an industrial innovation research resource, named Brunel Composites Centre (BCC), which sits between the knowledge base and industry, supporting partners in industry to transfer academic research into industrial application.

## Objectives:

- Create solutions for better processing and joining of composites
- De-risk innovation in composites for quick industrial adoption
- Establish a world leading reputation in composites and joining

## Core areas:

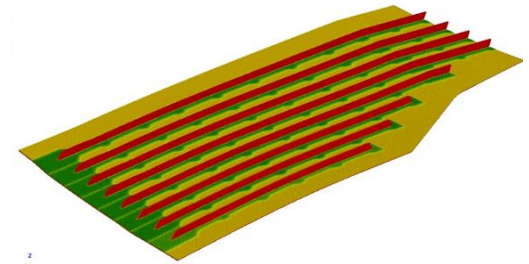
- Composites joining without mechanical fastening
- Developing advanced out-of-autoclave tooling
- Microwave heating in composite production
- Novel processing of composites
- Advanced FEA capabilities
- Composites-metal joints
- Coatings for composites
- Adhesive bonding



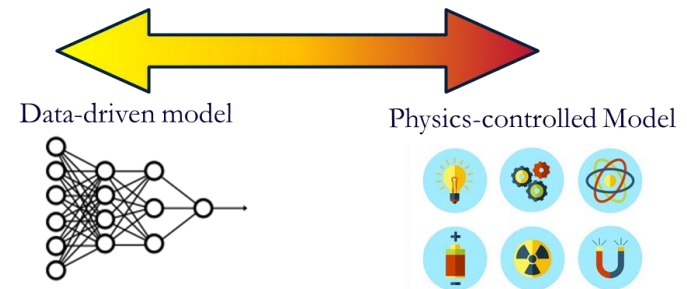
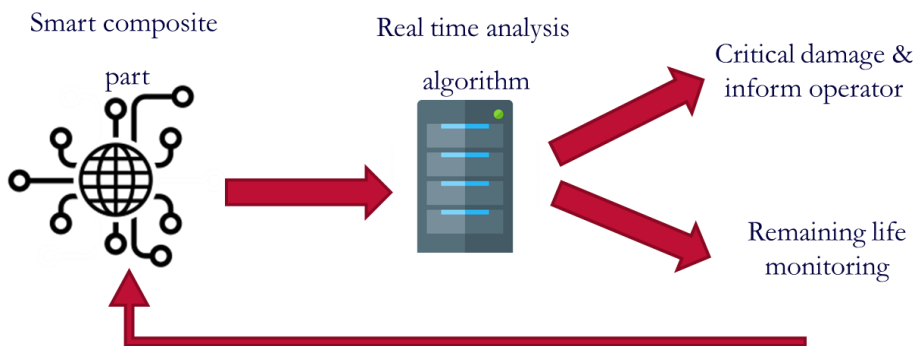
# Current Research Capabilities at BCC



- Multi scale and Multi physics composite FE modelling
- Composite joining processes
- Apps and GUI development for FEA and non-FEA based analysis
- Quality control and inspection for composite material by adopting AI-based algorithms: process optimization for defects prevention, SHM and NDE for defect detection and classification
- Digital tools development for composite monitoring and inspection – Data driven models
- Machine learning applied to composite processes monitoring and optimisation
- Comprehensive composite analysis using Digital twins' aspects



Process simulations



# Thank you

**Dr Mihalis Kazilas**

Director

Brunel Composites Centre

+44 (0) 1223 899152

[mihalis.kazilas@brunel.ac.uk](mailto:mihalis.kazilas@brunel.ac.uk)

**Dr Nithin Jayasree**

Team Leader: Composite Testing & Modelling

Brunel Composites Centre

+44 (0) 1223940448

[nithin.jayasree@brunel.ac.uk](mailto:nithin.jayasree@brunel.ac.uk)