COMPOSITE INTEGRATION

An Industrial Context for Flow Processes in Composite Materials.

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Wednesday 1st July 2026 | Session 5b.

17th International Conference on Flow Processes in Composite Materials
30 June - 2 July 2026 | The University of Sheffield, UK

An Industrial Context for Flow Processes in Composite Materials.

1. A quick introduction to CI.
2. A brief industrial context *(you know this)*.
3. Case studies.
4. A closing challenge.

1. A quick introduction to CI.

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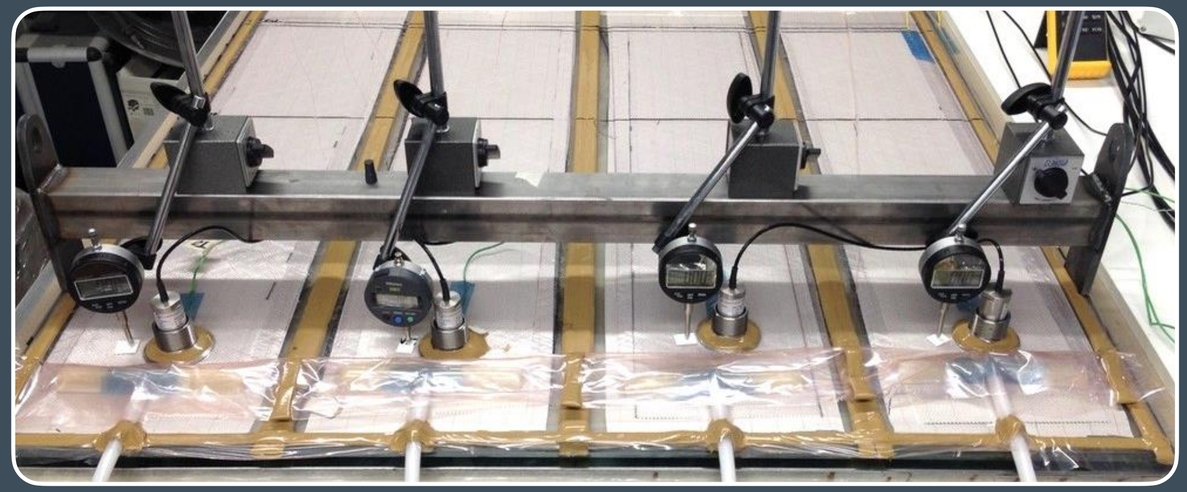

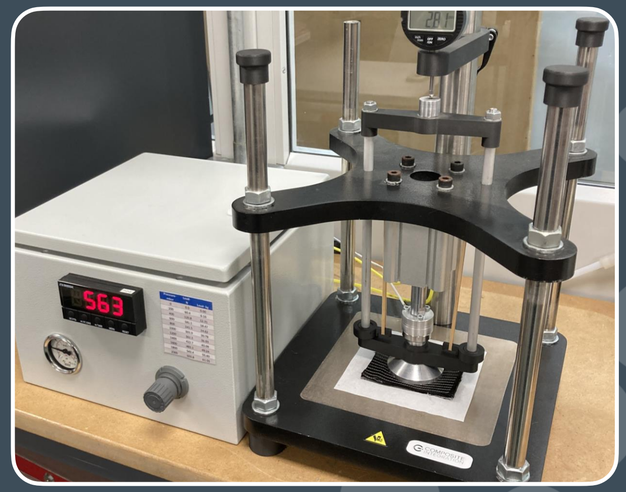

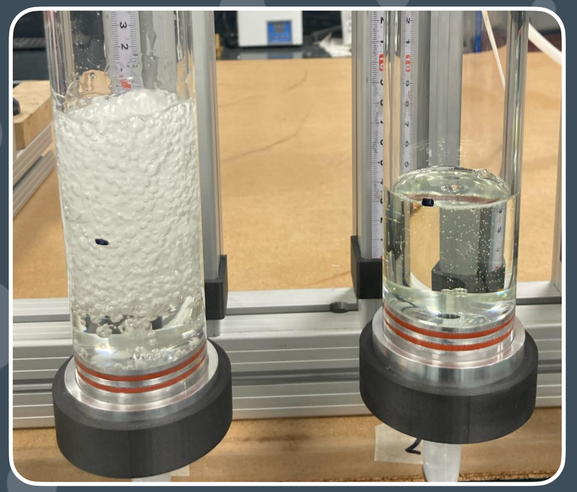

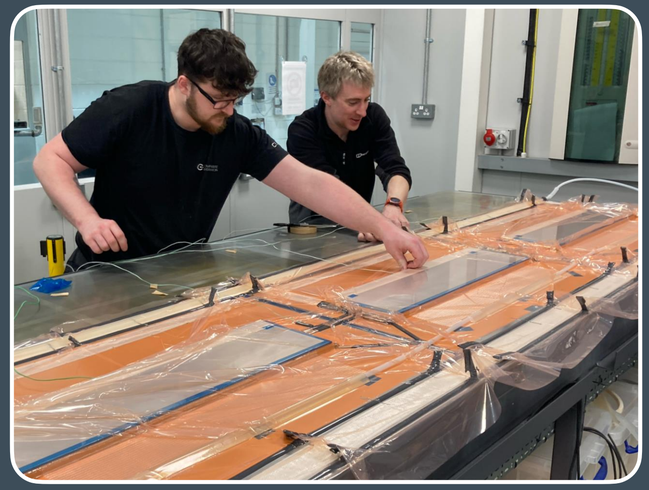

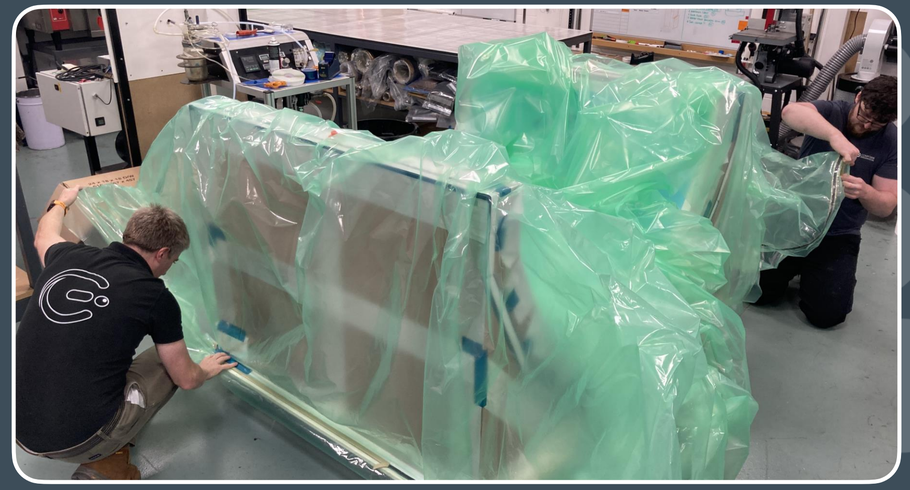

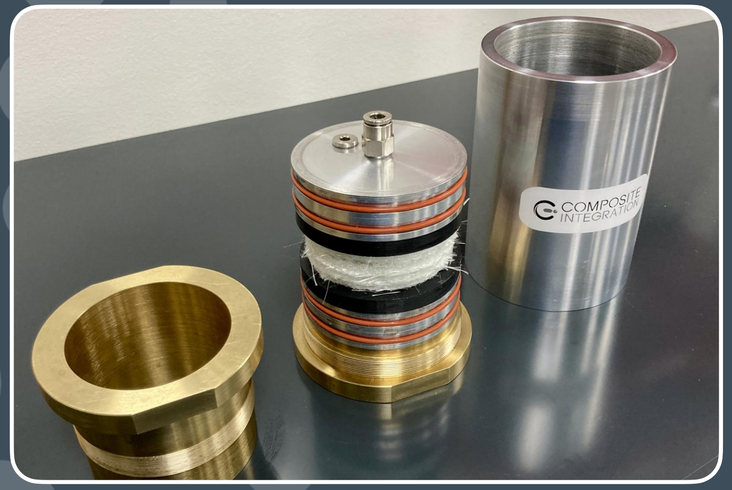

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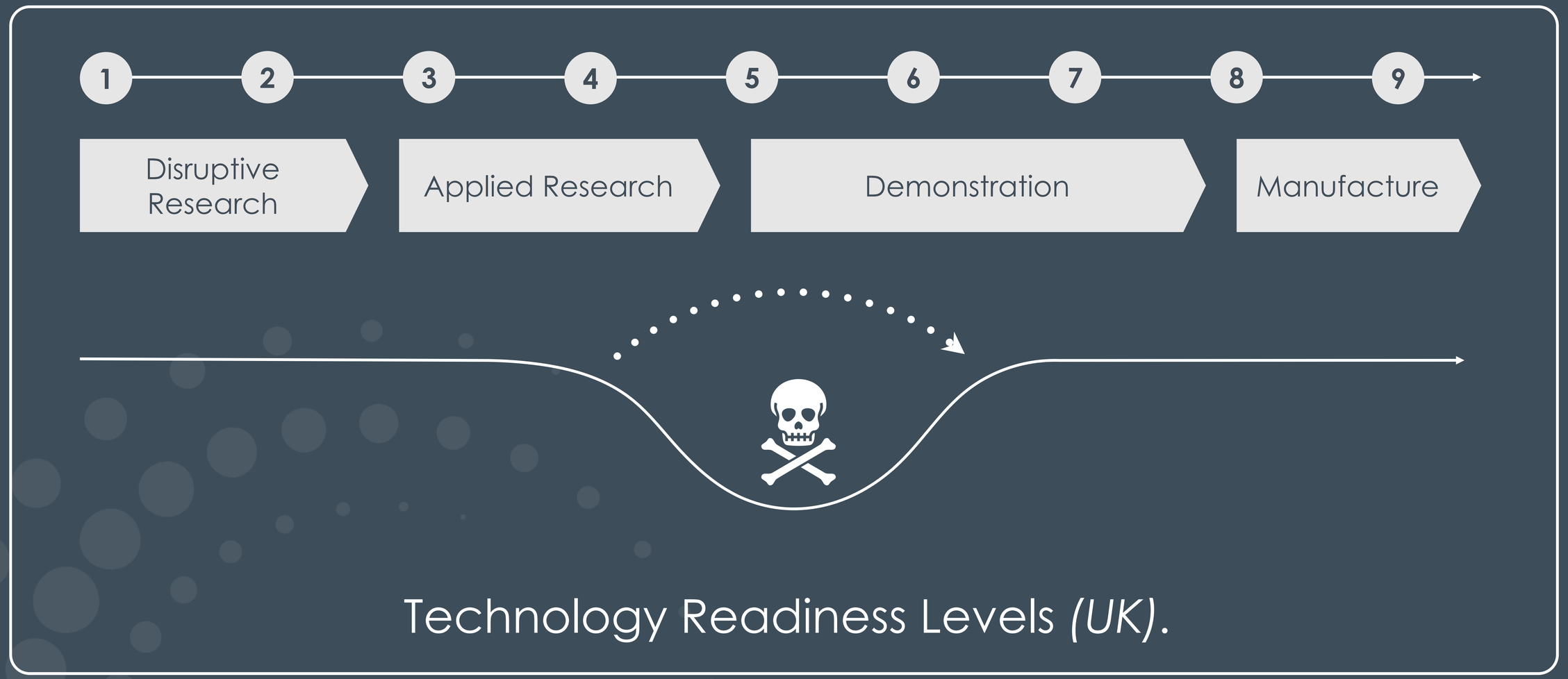


Technology Readiness Levels *(UK)*.

Wind

Quality on bigger blades is critical…

Aerospace

Rate, 2k verification…

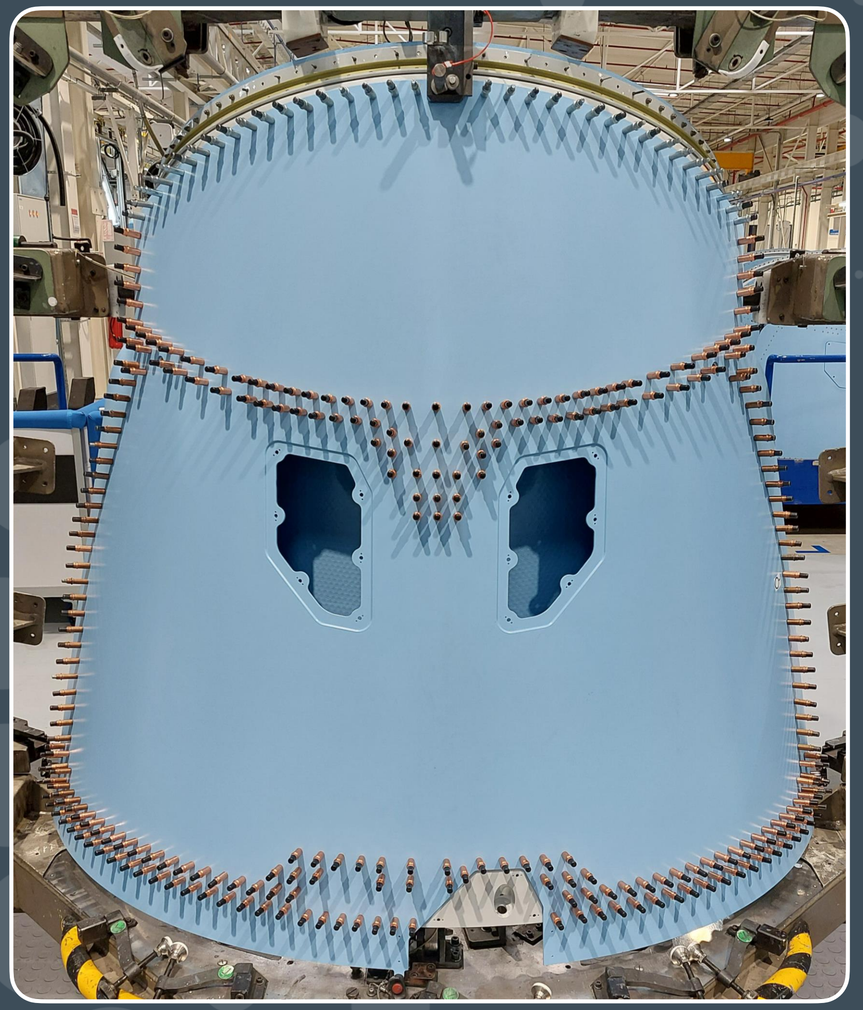
Marine

Consistency, cost & waste…

Quality, Rate, Sustainability & Cost

3. Case study – **Aerospace: Thrust Reverser Door…**

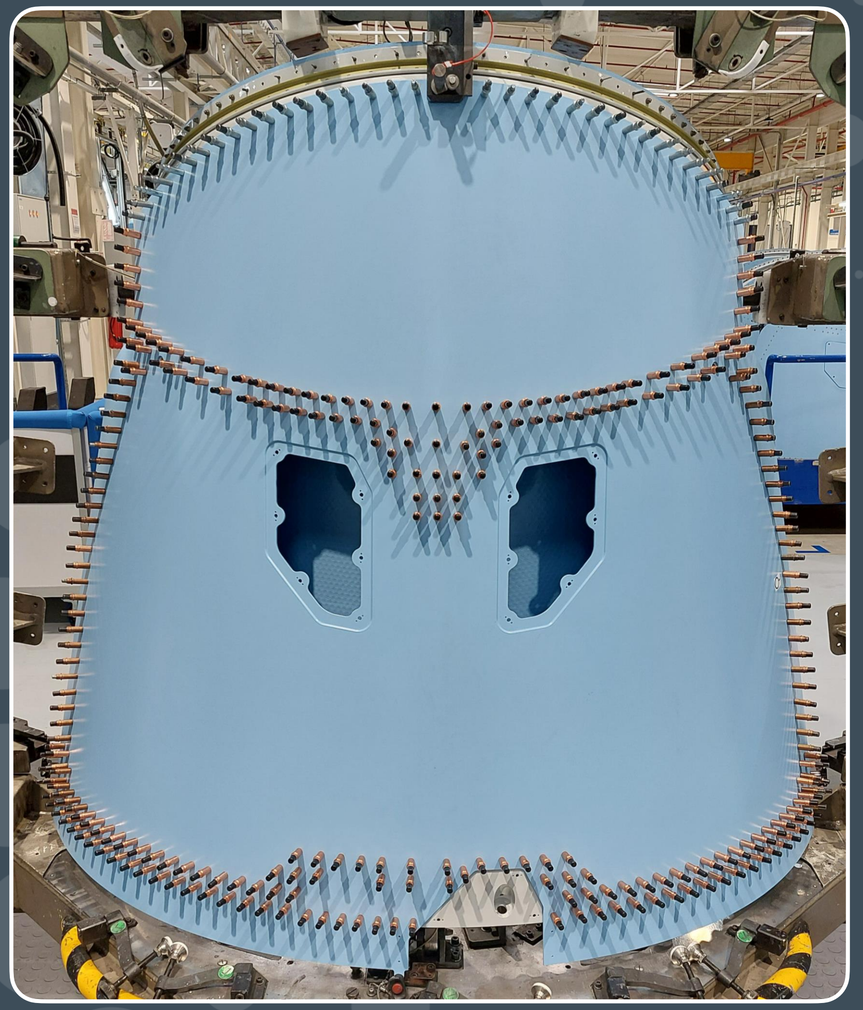
With Safran Nacelles



Infused RTM6 vs.
Autoclaved Pre-preg

- *reduced layup time*
- *5% weight saving*
- *60% reduction in carbon footprint*
- *flawless quality*

3. Case study – **Aerospace: Thrust Reverser Door…**

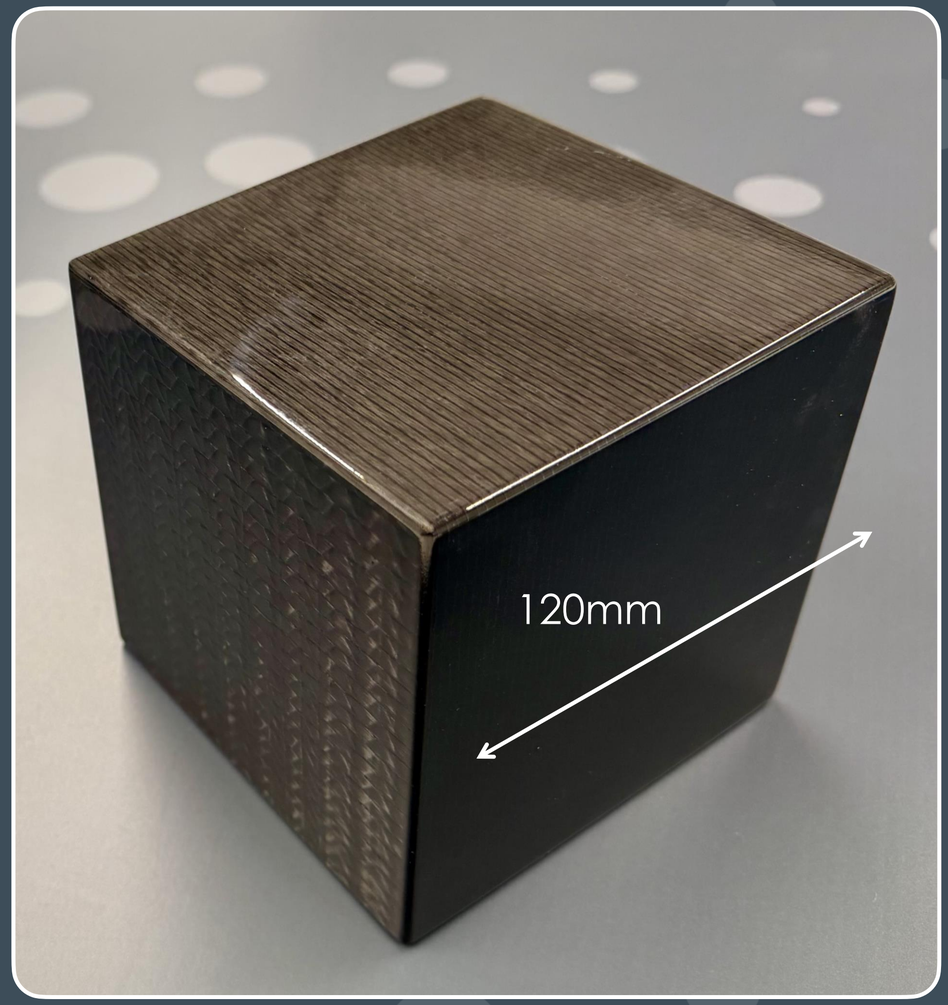


Key challenges.

- *repeatability*
- *industrialisation*
- *vacuum housekeeping*

3. Case study – **Marine.**

Structural Spar Cap/Appendage.



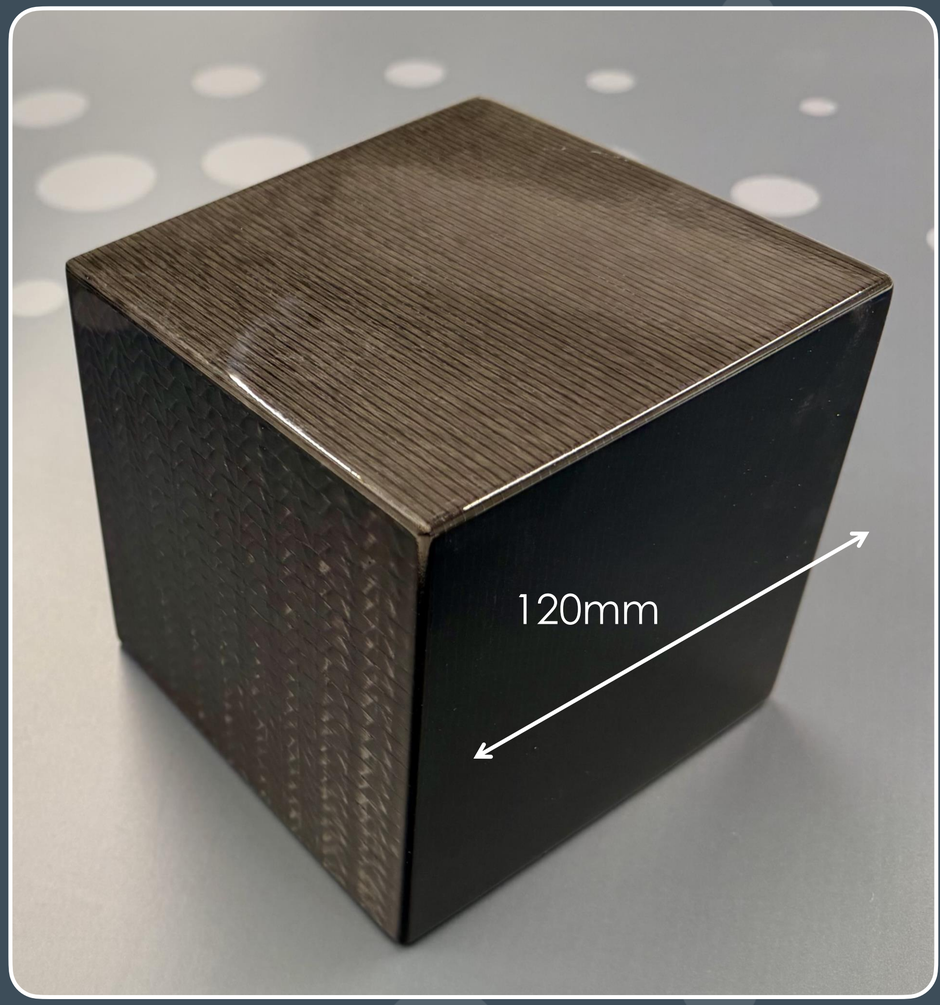
Epoxy Resin Infusion.

- *mostly UD*
- *controlled vf*
- *virtually void free*
- *c240 plies*
- *Gurit Prime 37*

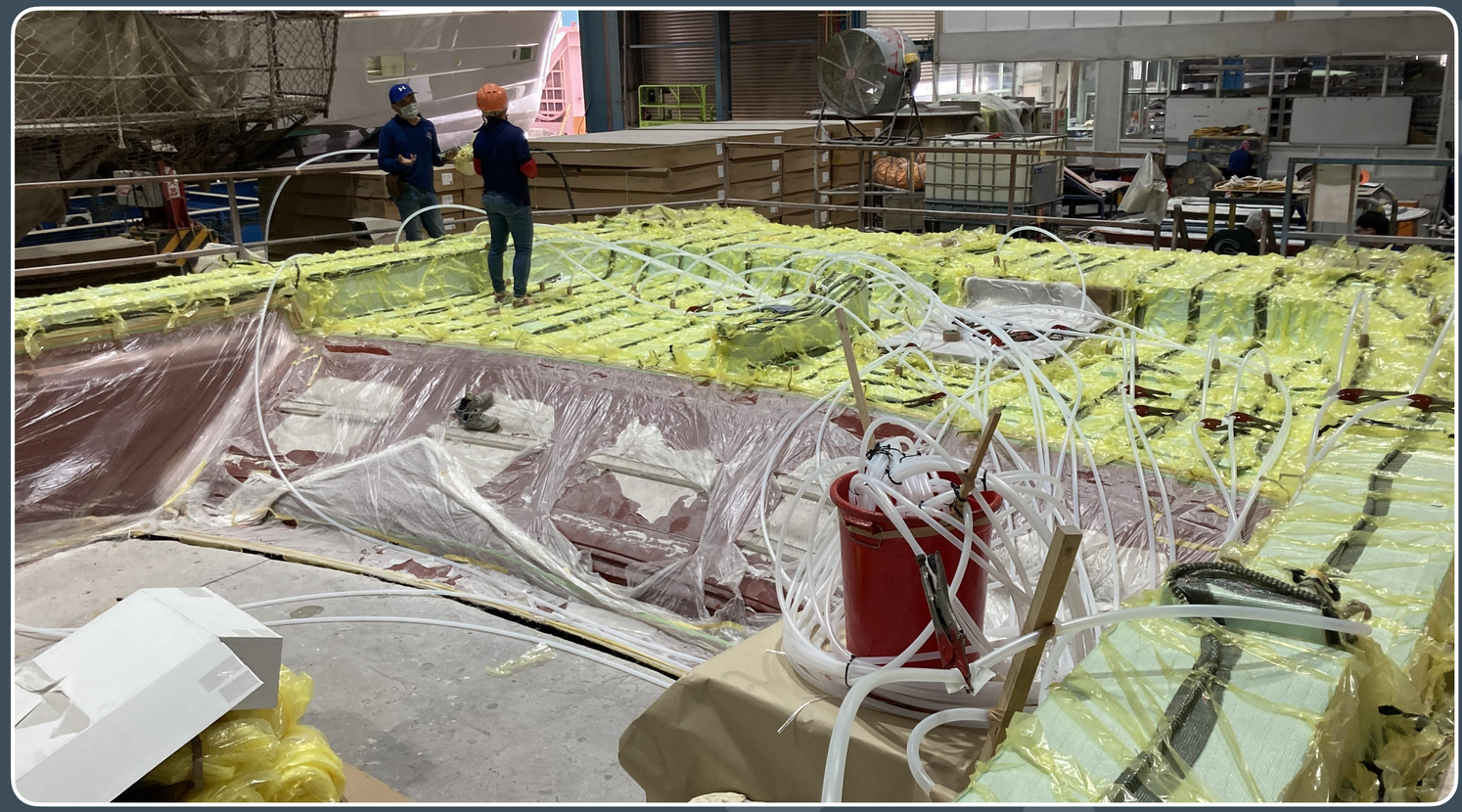
3. Case study – **Marine.**

Key challenges.

- *minimising voids*
- *permeability of UD*
- *good infusion strategy*



3. Case study – **Marine.**



Key challenge *– work to your strengths…*

AL40 c2002

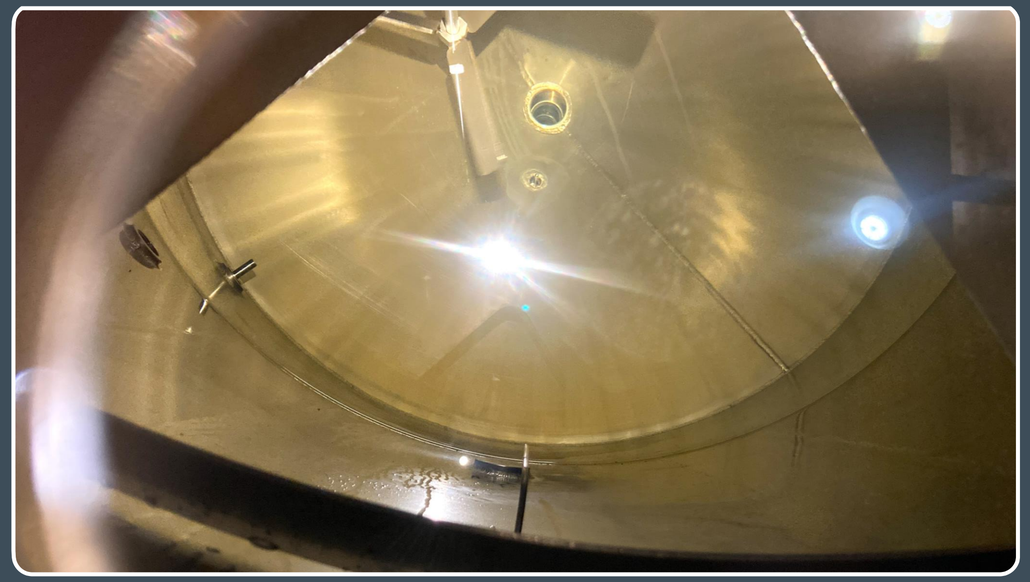
AL40
c2002

3. Case study – **Wind.**

Vestas v236 mould

Vestas v164 layup

3. Case study – **Wind.**

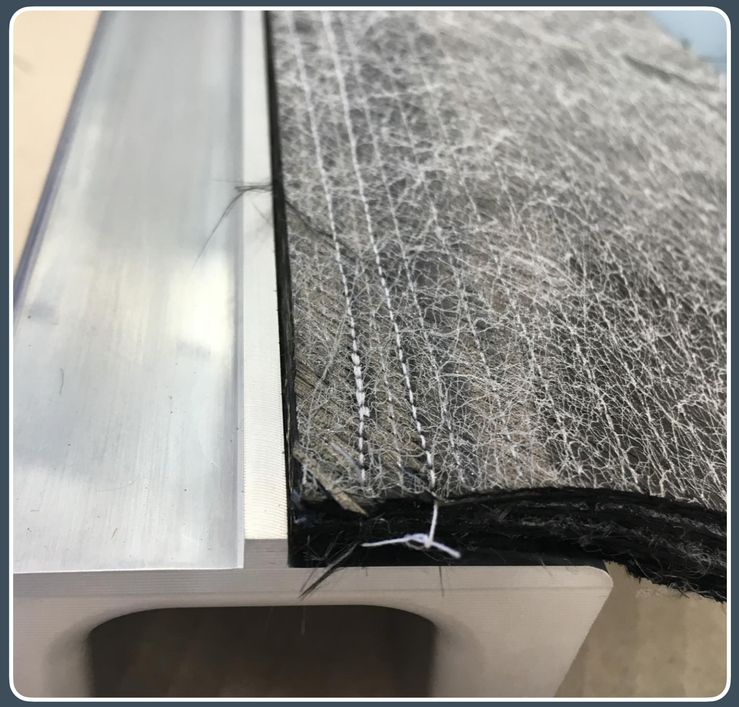


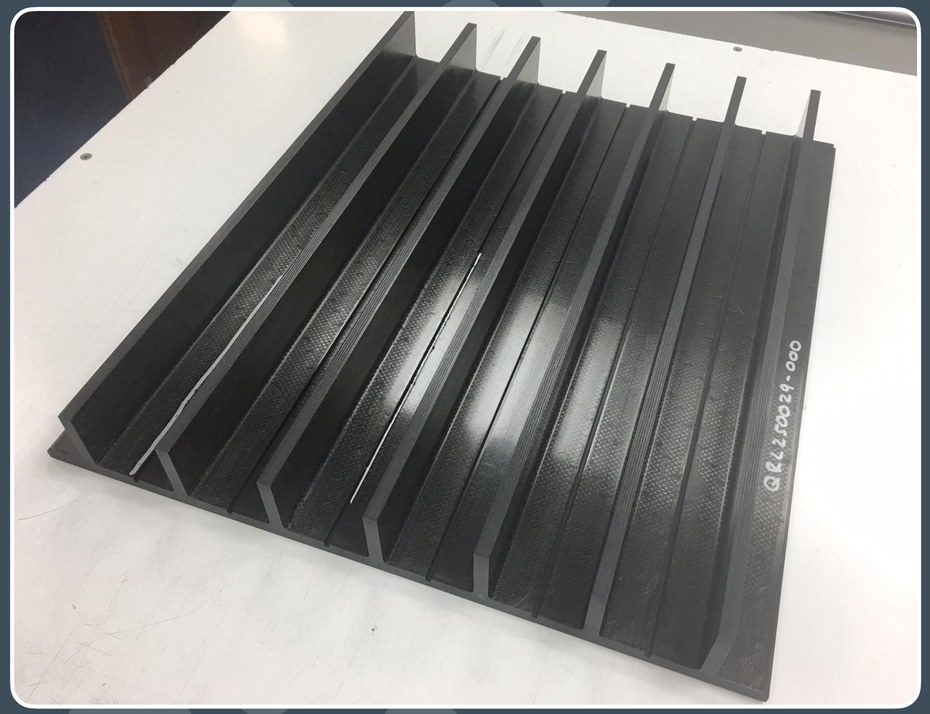
Direct Infusion

- *precise pressure control*
- *epoxy*
- *30kg per min*
- *degassed & measured*

4. A closing challenge…

“you can make an aerospace quality composite in your garage”





4. A closing challenge…

more **complete** understanding

takes **time**

decisions made on **partial** understanding

required **next** week

Quality, Rate, Sustainability & Cost

4. A closing challenge…

Science doesn't need to be perfect to make (almost) perfect parts…

We do need to build long term partnerships…