

The background features a collage of images including a globe, a red ribbon with the Airtech logo, a composite airplane, a wind turbine, a car, and a helicopter. The Airtech logo is prominently displayed in the top right corner.

AIRTECH

EUROPE Sarl

Print-Tech[®] – Tooling of Tomorrow

**The Airtech tooling production with Dahltram[®]
Large Scale Additive Manufacturing (LSAM)
compounded resins**

Oliver Bottler

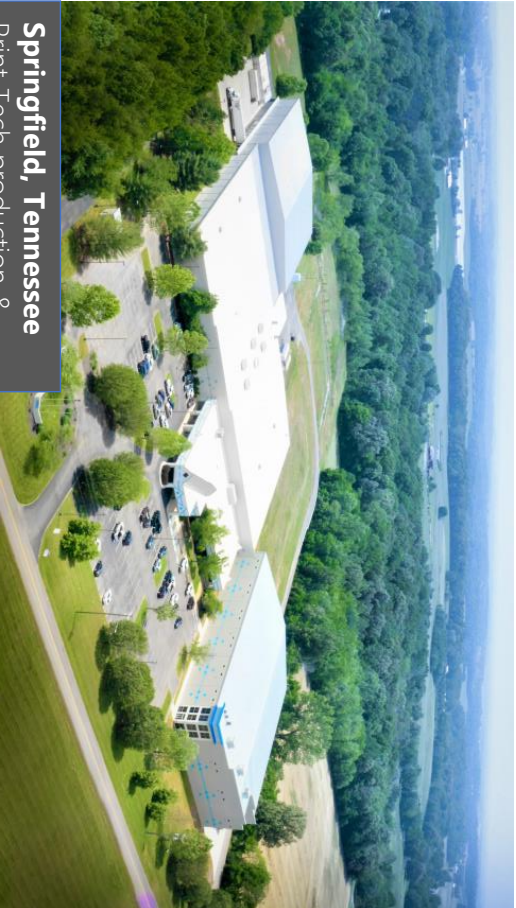
8. Jour Fixe – Composite United West
21st February 2022

AIRTECH

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AM Locations



Springfield, Tennessee
Print-Tech production &
Centre of innovation



Luxembourg, Europe
Print-Tech production &
Centre of innovation





Large Scale Additive Manufacturing

Our Large Scale AM machines

- Length: 12 m
- Width: 3 m
- Vertical and horizontal 3D-print
- High deposition rates
- High accuracy 5 axes CNC machining





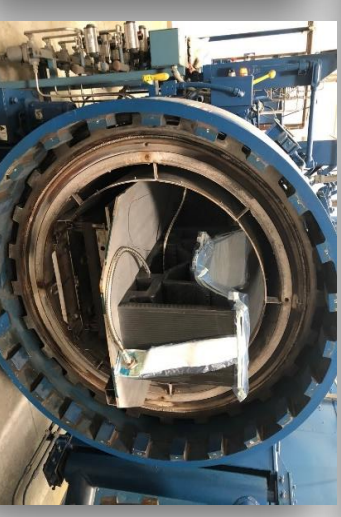
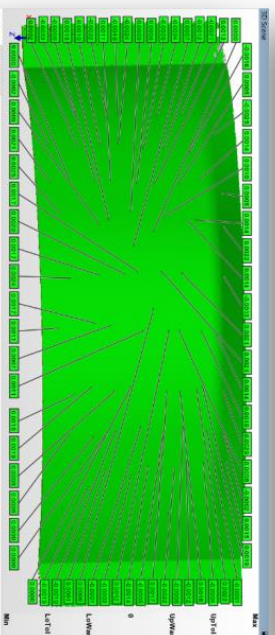
Dahltram LSAM compounded resins

Product	Material type	Max. use temperature	Applications
Dahltram S-150CF	Modified ABS / carbon fiber	95°C	<p>Low temperature applications</p> <p>Rapid prototyping, trim tools, holding fixtures, low temperature master models</p>
Dahltram C-250CF	Modified PC / carbon fiber	135°C	<p>Medium temperature applications</p> <p>Rapid prototyping, trim tools, holding fixtures, low temperature master models, forming tools, medium temperature tools</p>
Dahltram I-350CF	Modified PEI / carbon fiber	204°C	<p>High temperature applications</p> <p>Hot forming tools, Autoclave moulds, Oven moulds, Self heated tools</p>
Dahltram U-360CF (available soon)	Modified PESU / carbon fiber lowest CTE	204°C	<p>High temperature / very high accuracy</p> <p>Hot forming tools, Autoclave moulds, Oven moulds, Self heated tools</p>



Performance demonstration

- Understanding the complete end to end processing
- Printing tools to prove them in use
 - With and without secondary surface coating
 - Annealing trails and validation
 - Long term autoclave cycle testing
 - Dimensional analysis
 - Vacuum Integrity
 - Laminate fabrication with prepreg/autoclave and resin infusion
- Publishing of technical reports on results and being transparent



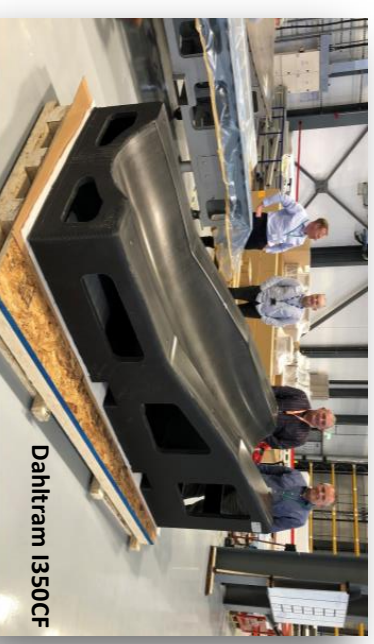


Validation on All Machines

- Validating materials are machine agnostic
 - Working with all machine producers to ensure they understand our materials as well as we do
- Working with machine suppliers to ensure performance
 - Validating this with 3rd party test data
- Establishing of printing parameters for plug and play



Printed on **CEAD** AM Flexbot



Printed on Ingersoll MasterPrint



Working Directly with machine owners

- Working with customers to ensure success
 - Validating of all the materials used in composite fabrication
- Ensure materials are readily available
 - Keeping additive rapid
 - High stock level
- Working with those considering a machine purchase
 - Cooperation with machine suppliers

AIRTECH
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Vacuum sealant tapes

Dahltram® C-250CF Tools

AT-200V	Color	Best Storage	Test Level	Roll Size
Maximum Use Temperature: 200°F (93°C)	White	Synthetic rubber	High Seal	18.0m x 1.02m x 2.28m (59' x 3'4" x 7'6")
Characteristics: For use in vacuum bagging applications with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin.				3.0m x 2.28m x 7.28m (9'9" x 7'6" x 23'10")
65-213	Color	Best Storage	Test Level	Roll Size
Maximum Use Temperature: 200°F (93°C)	Clear	Synthetic rubber	Good Seal	18.0m x 1.02m x 2.28m (59' x 3'4" x 7'6")
Characteristics: For use in vacuum bagging applications with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin. It is suitable for use with 0.075" (0.003") thick resin.				3.0m x 2.28m x 7.28m (9'9" x 7'6" x 23'10")



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Thank you!

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