

UD-CCM Collaborates with Hennecke GmbH to Install HP-RTM Processing System

UD-CCM is collaborating with Hennecke GmbH to install a High-Pressure Resin Transfer Molding (HP-RTM) processing system to manufacture ultra-lightweight and high-performance composite structures using fast reacting epoxy, polyurethane or thermoplastic resins. The system will be capable of traditional HP-RTM, Compression RTM and Wet Compression Moulding. The system will be installed at the Center's Application & Technology Transfer Laboratory (ATTL). The 24,000 sq. ft. off-campus facility is fully ITAR compliant and provides for sub-component and full-scale part manufacturing and prototyping to demonstrate production processes at rate and quality.

Hennecke's HP-RTM system will reduce long processing times associated with classical RTM methods to less than 60 seconds, enabling UD-CCM to demonstrate significant advantages in terms of economic efficiency and product quality. Additional equipment for preforming, automation and associated process variations will be integrated. The system will be placed next to a 1000 ton press and pultrusion equipment for joint development programs.

This collaboration will result in the first open-access HP-RTM workcell in the United States allowing for:

- Industry sponsored programs
 - Materials Development (resins, core, preforms, etc.)
 - Prototyping
 - Small to medium production runs
- Academic partnering
- Government programs

UD-CCM has a long history in liquid molding simulation and fabrication. As an Office of Naval Research Center of Excellence established in 1997 under the leadership of Professors Suresh Advani and Jack Gillespie, UD-CCM has received more than \$13.5M government investment in automation, sensing and control, modeling and characterization of LCM processes. "This foundation and expertise will be leveraged to create unique HP-RTM solutions for automotive, aerospace, and sporting good applications," says UD-CCM Director Jack Gillespie.

Dirk Heider, UD-CCM, Assistant Director for Technology says, "This system creates new unique capability to produce high-performance, complex geometry parts at automotive rates and will support UD-CCM's on-going large programs such as our DOE door and DARPA feedstock programs."

Dan Rozelman, Hennecke Inc., Composites and Advanced Applications Sales Manager says, "Hennecke GmbH and Hennecke Inc. (Pittsburgh, PA) are excited to be collaborating with UD-CCM and its partners. HP-RTM is well established in Europe and Asia. Now the North American market will have access to this light-weighting technology through the UD-CCM."



About Hennecke GmbH

For 70 years, Hennecke has been developing and designing high-class machine and systems technology as well as process technology for polyurethane processing. Thanks to intensive research and development work, Hennecke is able to offer innovative systems and technologies with highly economic and ecological benefits tailored to meet their customers' requirements in a wide range of applications. Today, there is hardly any polyurethane-based product idea that cannot be realized by Hennecke.

Hennecke 
Polyurethane Technology

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