Purdue’s cdmHUB is a collaborative web interface platform for hosting and evaluating available composites simulation tools, and for educating people in the use of those tools to:

- Advance composite materials design and manufacturing.
- Certify product performance.
- Simulate manufacturing processes.
- Accelerate development of the composite simulation talent-base.

cdmHUB’s robust browser-based platform shares data and simulation tool developments in real-time while allowing continuous direct interaction with the composites community in a secure environment.

**cdmHUB Goals**

- Advance the certification of composite products by analysis validated by experiments.
- Educate the current and future generations of engineers in the use of composite analysis tools.
- Evaluate composites simulation tools to determine functionality, compatibility and maturity.
- Develop a comprehensive set of simulation tools that connect composites from their birth in manufacturing to their lifetime prediction and accelerate the rate of development by an order of magnitude.
- Work with industry, academia and government to put these tools in the hands of engineers who will design future products that require the performance characteristics composite materials offer.

**Revolution in Composites Design & Manufacturing**

Simulation can provide the foundation for a revolution in composites design and manufacturing. The goal of certifying product manufacturing and performance by simulation is clearly within reach. The development of simulation codes that uniquely describe the phenomena involved in advanced materials manufacturing and performance will provide the building blocks for the construction of an integrated simulation suite to meet these needs.

**Composite Product Certification**

The body of knowledge developed by the National Nuclear Security Administration in Uncertainty Quantification (UQ) can be transferred to the composites field to guide the development of new product certification paradigms, including certification of simulation tools, based on prediction of product manufacture and performance variability.

**Educate the Talent-Base of Users**

**Journal of Composites Simulation**

- Online journal of engineering and scientific papers describing composites simulation.
- Archival journal review standards and knowledge codification.
- “Active” equations, links to simulation codes and databases.
- Author impact enhancement.
- Education and evaluation of tools.
- Composites Simulation Challenges announcements and results.