



INSTITUTE FOR ADVANCED COMPOSITES MANUFACTURING INNOVATION

IACMI IMPACT IN COLORADO UPDATED 7/31/18

COLORADO MEMBERS

Core Partners:



The Composites Manufacturing Education and Technology Facility (CoMET) at NREL's National Wind Technology Center (NWTC) paves the way for innovative wind turbine components and accelerated manufacturing. The CoMET, located in Boulder, CO, is home to IACMI's Wind Technology Area.

- Wind adds jobs over **9x faster** than overall economy
- 15,000 jobs** added in 2016, bringing the wind industry total to over 102,000 in the U.S.
- Better technology enables new wind turbines to generate **50% more electricity** than those built in 2009 and at **66% lower cost**
- American wind power will support **348,000 wind related jobs**, and will create **\$85 billion in economic activity** by 2020

Source: AMERICAN WIND ENERGY ASSOCIATION

CREATING AN ECOSYSTEM TO DRIVE INNOVATION AND JOB GROWTH



Hundreds Trained in Colorado Workforce Initiatives

Nearly 500 technicians, business owners, students, and professionals representing over 200 companies have been trained during IACMI's hands on workshops held annually at the CoMET facility, with a total estimated short term economic impact of nearly \$600,000 to the state of Colorado.

As seen in **The Denver Post**



IACMI Teamed with Industry to Unveil a Unique Nine-Meter Demonstration Wind Turbine Blade

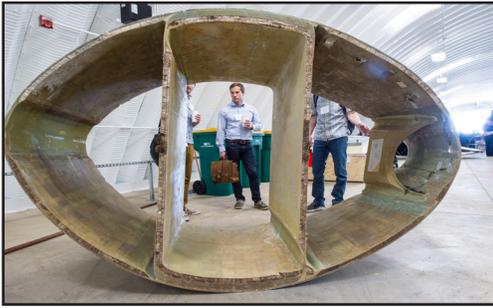
IACMI, along with 11 industry partners, produced a wind blade prototype to display a unique set of technologies to speed production times, reduce manufacturing cost, and provide stronger, more energy-efficient blades for the United States.

As seen in: **Smartbrief | Materials Today | Plastics.com**



Finalist for innovation awards at CAMX and JEC World

INNOVATION PROJECTS R&D VALUE OF \$4M+ IN COLORADO



Thermoplastic Composite Development for Wind Turbine Blades

IACMI is investigating new developments in thermoplastic materials to lower production costs, improve recyclability of wind turbine blades, and expand applicability to components demonstrated at large scale. The long-term impact could reduce costs and improve reliability in composite structures, which allow for process improvements on a larger scale, increasing energy efficiency.

Partners: led by TPI Composites in collaboration with NREL, Johns Manville, Colorado School of Mines, Arkema, Purdue University, University of Tennessee, and Vanderbilt University



Thermoplastic Composite Compressed Gas Storage Tanks

The project provides unique advantages to the storage of compressed natural gas through the use of thermoplastic composite technologies to achieve better durability, weight reduction and recyclability. In comparison to thermoset resins, thermoplastic resins offer improved damage tolerance, recyclability, process repeatability and ease of handling.

Partners: led by DuPont Performance Materials in collaboration with Composites Prototyping Center, Steelhead Composites, University of Dayton Research Institute (UDRI)

8 other innovation projects including Colorado companies have kicked off

IACMI 2018 INTERNSHIP PROGRAM



44 total interns

4 placements in CO

11 states **19** hosts

35 undergraduate interns

8 graduates interns

38% female interns
more than double the national average of women in engineering

*National Science Board: Science & Engineering Indicators 2018



The internship program began in the summer of 2016 with 15 participants and 8 sites and has now graduated over 75 interns from the program. This year, the Colorado interns were hosted at NREL's CoMET facility and Vartega working on projects to increase the recyclability of wind turbine blades.

