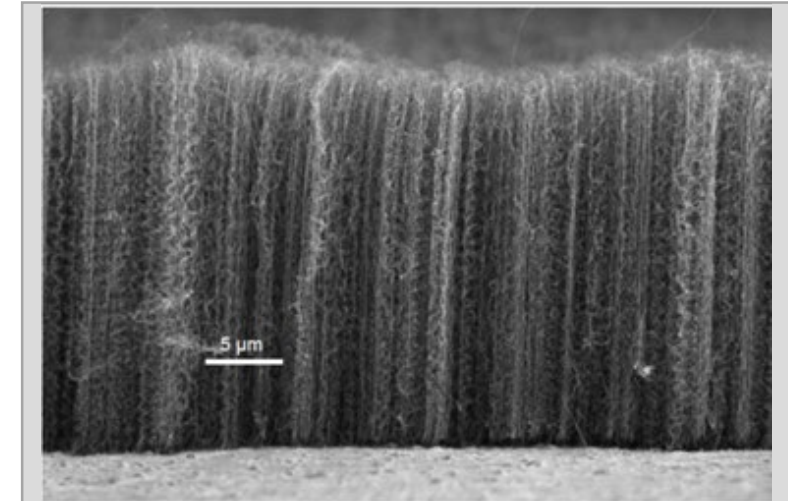


CABLE Conductor Manufacturing Prize



U.S. DEPARTMENT OF ENERGY

Team Name:	<i>UDRI CABLE TEAM</i>
Primary Submitter Name:	Brian P. Rice
City and State:	Dayton, Ohio
Member Names (including partners and affiliates):	Paul Kladitis, Lingchuan Li, Kevin Retz, Chris Venturella: University of Dayton Research Institute
Submission Title:	CNT/Copper Conductors Enabling Urban Air Mobility



Description of Material

- The UDRI CABLE Team conductor is comprised of CNT's grown to optimal length and density to tailor copper conductor conductivity and mechanical properties at commercial scale and affordable cost.

Fabrication Approach

- The UDRI CABLE Team approach toward making CNT-enhanced copper wire exploits commercial processes to coat copper wire with CNT's and then infuse copper into the CNT network via an electroplating process.

Potential Impact

- The CO₂ emitting hydrocarbon fuel consumption offset for a fleet of 1000 e-VTOL per year would be 45,000,000 gallons.
- * based on Robinson R44 helicopter fuel consumption rate