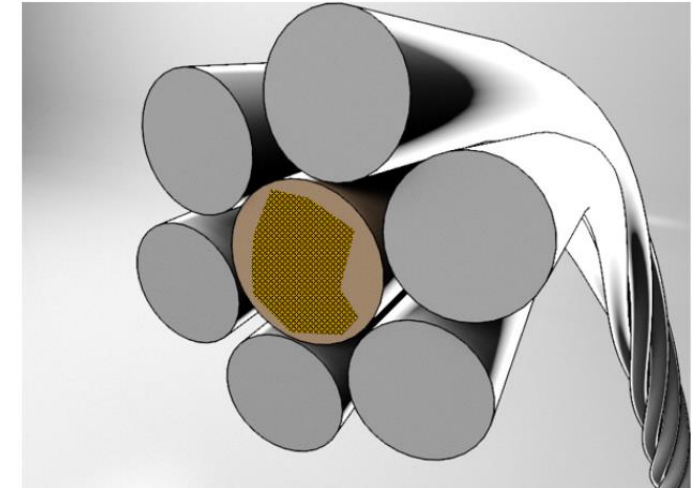


CABLE Conductor Manufacturing Prize



U.S. DEPARTMENT OF ENERGY

Team Name:	<i>UT-Austin</i>
Primary Submitter Name:	Mehran Tehrani
City and State:	Austin / Texas
Member Names (including partners and affiliates):	Mehran Tehrani
Submission Title:	Aluminum Conductor Copper-Composite Reinforced Cables (A3CR) for Overhead Power Lines



Description of Material

- Aluminum wires reinforced with a strong and highly conductive copper-composite instead of the traditional steel reinforcements in ACSR (aluminum conductor steel reinforced)

Fabrication Approach

- Roll-to-roll electrodeposition
- Wire drawing
- Stranding into cables

Potential Impact

- Higher electrical conductivity than ACSR
- Better corrosion resistance
- Higher strength per weight than ACSR
- Lower thermal expansion coefficient than ACSR