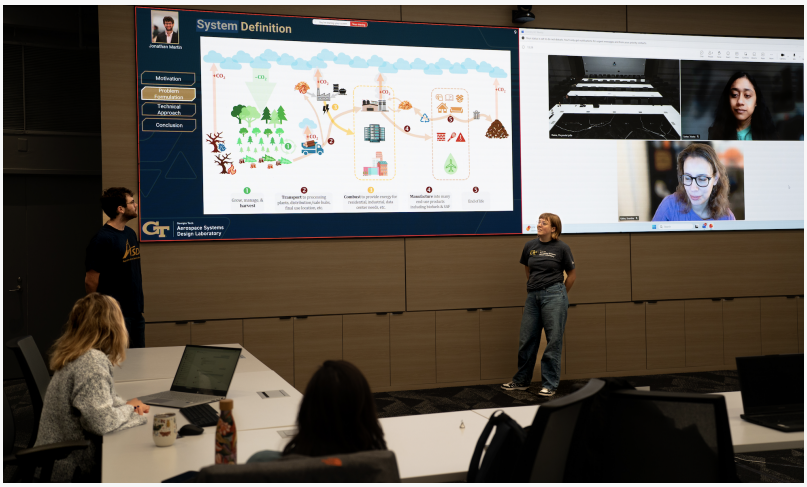
U.S. Endowment and Georgia Tech's Aerospace Systems Design Laboratory Collaborate through Grand Challenge Program

Project seeks to understand social, environmental and economic impacts of paper mill closures while uncovering new opportunities for resilient growth



U.S. Endowment for Forestry & Communities and Georgia Tech's Aerospace Systems Design Laboratory Collaborate through Grand Challenge Program (Photo courtesy of Devesh Murugesan).

GREENVILLE, SC, UNITED STATES, January 9, 2026 /EINPresswire.com/ -- The U.S. Endowment for Forestry and Communities (the Endowment) has announced a new collaboration with the Georgia Institute of Technology. This partnership aims to address the far-reaching social, economic and environmental impacts of pulp and paper mill closures across the United States, particularly in the rural South, where these mills have long served as economic anchors.

The Endowment and Georgia Tech's Aerospace Systems Design Laboratory (ASDL) are developing an integrated decision-making dashboard to help policymakers, community leaders and industry stakeholders quantify the effects of mill closures and identify data-driven pathways to offset them through the sustainable use of forestry residues to produce bioenergy, renewable diesel, and sustainable aviation fuel (SAF).

Over the past decade, nearly 50 paper mills have shut down nationwide, including major facilities in Georgia, South Carolina, Louisiana, Texas and Ohio. These closures have resulted in the loss of thousands of jobs and disrupted local supply chains that once connected family forest owners, loggers, sawmills and manufacturers in tightly interdependent networks. As markets for timber and forestry byproducts contract, landowners face reduced incentives for active management – conditions that can increase the risk of wildfire, invasive species and forest

conversion to other uses.

“Across the Southeast, the closure of major paper mills has disrupted livelihoods, strained local economies and weakened the markets that keep forests healthy,” said Pete Madden, president and CEO of the U.S. Endowment for Forestry and Communities. “By combining the Endowment’s industry expertise with Georgia Tech’s data modeling capabilities, we’re helping communities understand these impacts and uncover new opportunities for resilient growth.”

The Endowment–Georgia Tech collaboration seeks to turn this challenge into opportunity.

Using key performance indicators such as jobs created or retained, capital and operational expenditures (CAPEX and OPEX), energy and SAF output potential, and regional economic metrics, the tool will offer a transparent, quantitative framework for decision-makers to assess the trade-offs and benefits of emerging forest-based industries.

“The forest sector is in a period of transition, and data-driven analysis will be key to ensuring that change supports both people and the planet,” said Dimitri Mavris, ASDL director and Regent’s Professor in the Guggenheim School. “Through this partnership, we’re building a model that not only captures economic realities but also points toward responsible, resilient solutions.”

Ultimately, this effort aims to reimagine the role of forestry residues — once viewed as a byproduct — as a foundation for renewable energy innovation. By aligning rural development, responsible forestry and energy security, the project seeks to chart a path where the decline of traditional industries can give rise to new, regenerative ones.

The effort is part of ASDL’s Grand Challenges program, which gives teams of first-year graduate students a broad, open-ended problem to address. Students must become fluent in their challenge area, learn about the techniques and methods available to assist with problem-solving, and determine the data and scope of modeling required to present results and findings. Examples of previous projects include creating a systems approach to planetary defense, a U.S. Coast Guard integrated deepwater system, and a commercial air transportation system-of-systems probabilistic air travel demand tool.

The Endowment project will be conducted over the course of two academic semesters, concluding with a final presentation in Spring 2026 to ASDL’s External Advisory Board and other sponsors and stakeholders.

About the Aerospace Systems Design Laboratory (ASDL)
ASDL is a leader in the area of systems design and was created in 1992 in response to feedback from companies that universities produced scientists, not engineers. Part of the Daniel Guggenheim School of Aerospace Engineering at the Georgia Institute of Technology, the lab was formed to help support the industrial need for large-scale systems integration. Starting with a handful of students, the lab has grown to more than 50 research faculty and 300 students

organized into seven divisions.

About the U.S. Endowment for Forestry and Communities:
The U.S. Endowment for Forestry and Communities is a not-for-profit public charity collaborating with partners in the public and private sectors to advance systemic, transformative, and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities. To learn more about the Endowment, please visit our website at www.usendowment.org.

Caroline Pope
U.S. Endowment for Forestry and Communities
email us here