

## **Fact Sheet: Smart grid technology research at Colorado State University**

- The Grid Simulation Laboratory within the Engines and Energy Conversion Laboratory has the world's only megawatt-scale physical grid simulation capability.
- The lab addresses the implementation of wind energy within the electric grid largely through a collaboration with Spiraе Inc., a privately held company based in Fort Collins.
- Colorado State is testing "smart grids," which are new ways to connect electrical generators and users to increase the efficiency and reliability of the electrical grid in large, complex distributed power systems. Smart grids will help reduce the U.S. electric grid's vulnerability to blackouts and potential attacks.
- Distributed power refers to generating electricity from many small sources close to where it's needed - such as a microturbine generator in a commercial business park or in solar panels in a residential neighborhood. The closer it is, the smaller the transmission losses and the more energy - and money - saved.
- The Spiraе partnership is largely funded by a large European utility company. The partnership will develop grid stabilization techniques that ultimately will allow higher usage of wind energy in Denmark, which already uses a higher percentage of wind power than any other country in the world.