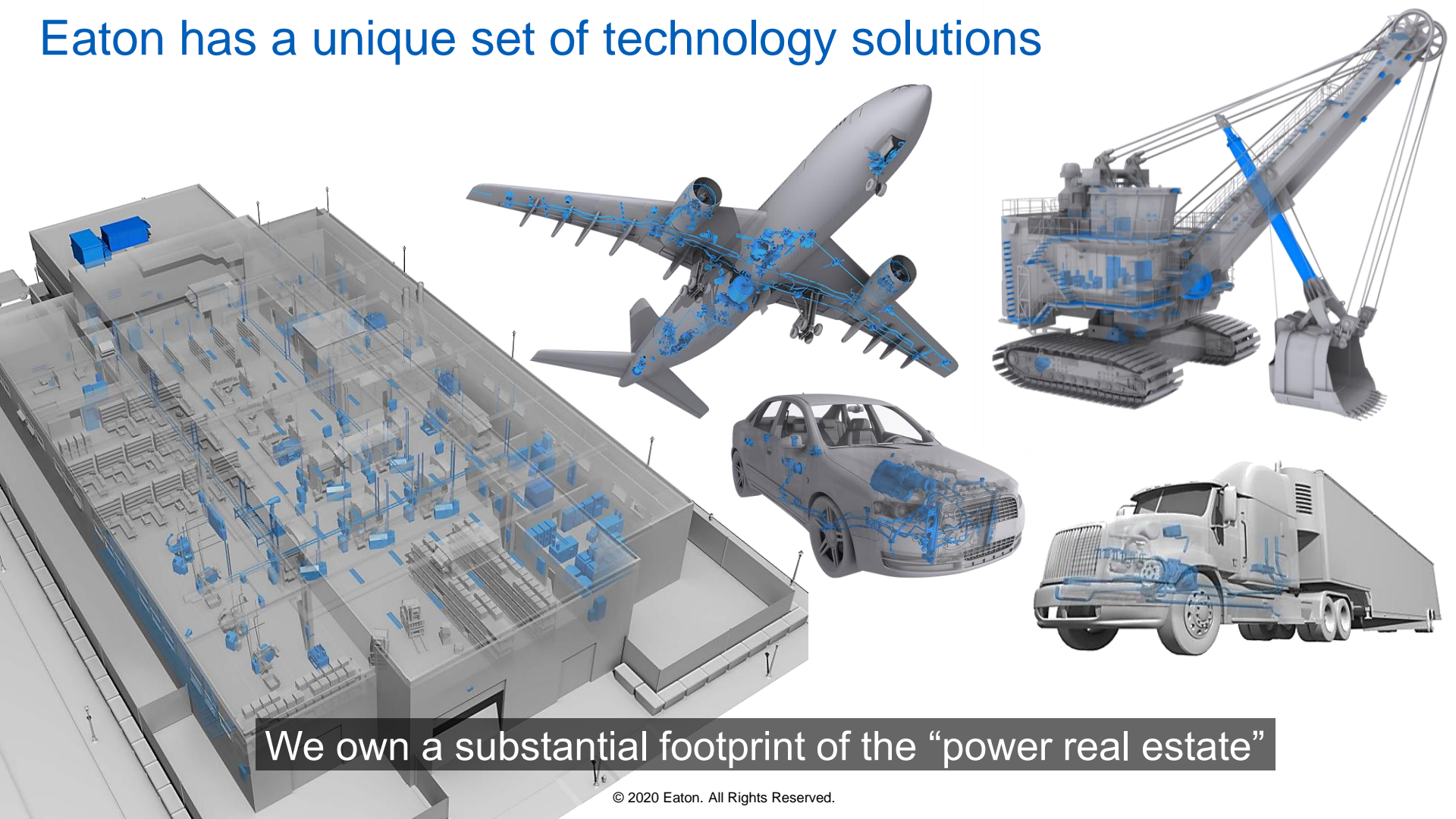




Energy Efficiency Means Business in Your District

Chris Hess – Vice President of Public Affairs
January 29, 2020

Eaton has a unique set of technology solutions



We own a substantial footprint of the “power real estate”

Eaton is investing to drive innovation

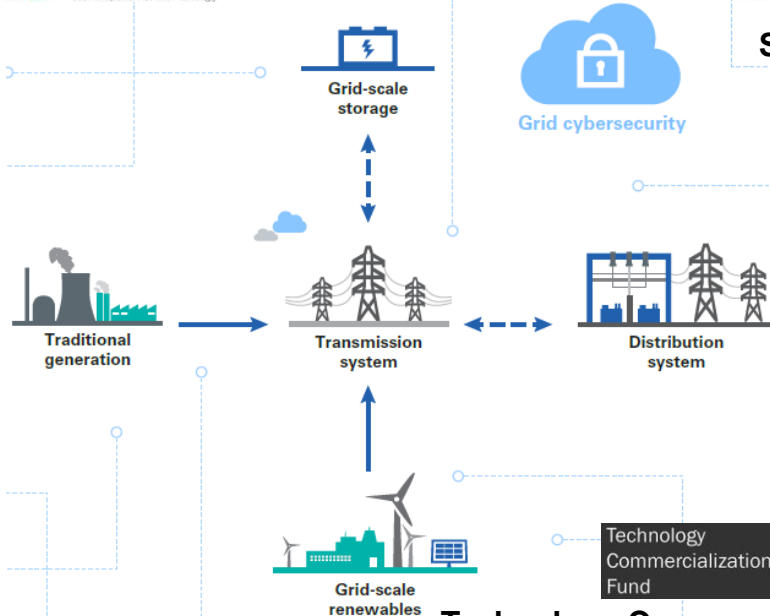
- Intelligent, connected and autonomous
- Electrification and blended power
- Resilient, safe and efficient power distribution
- Additive manufacturing

EERE is making important investments that broadly create energy efficiency and jobs



Grid Modernization Lab Consortium

Important cross-cutting programs



Technology Commercialization Fund (TCF)

Cybersecurity, energy storage, fleet charging



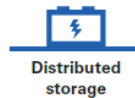
SOLAR ENERGY TECHNOLOGIES OFFICE
U.S. Department Of Energy

Solar energy technology office

Behind the meter solar



Residential



Distributed storage

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

VEHICLE TECHNOLOGIES OFFICE

Vehicle Technologies Office

Extreme Fast charging



EVs



Commercial



Industrial



Data centers



Microgrids

U.S. DEPARTMENT OF **ENERGY** | Energy Efficiency & Renewable Energy

ADVANCED MANUFACTURING OFFICE

Advanced Manufacturing Office

Next generation electric machines



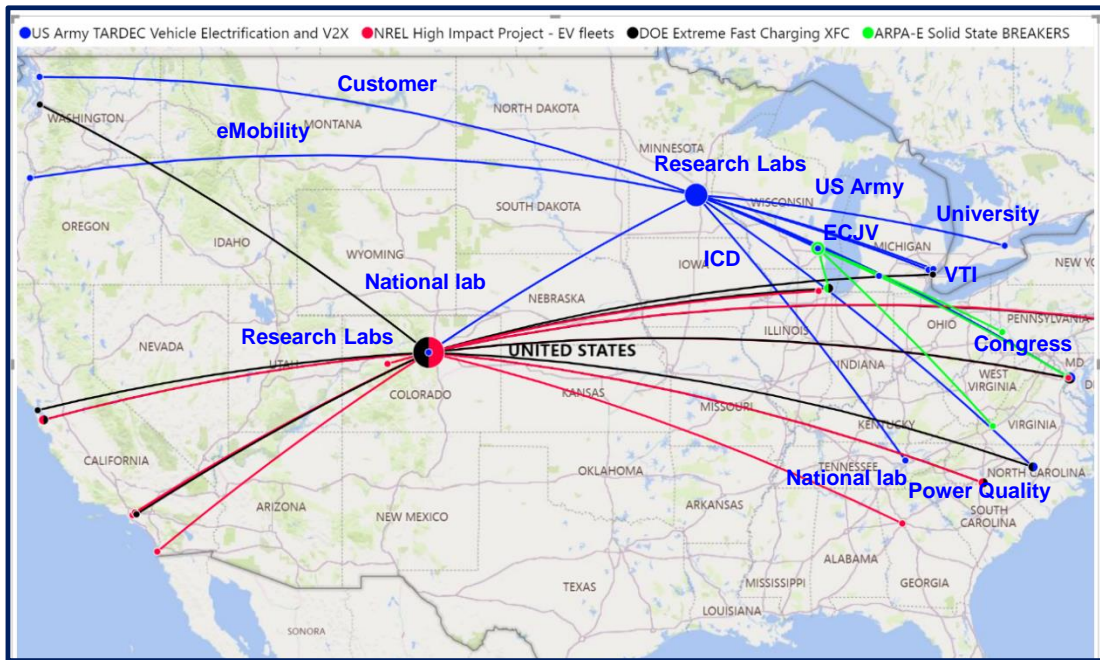
Powering Business Worldwide

Dept of Energy EERE enables unique partnerships

This collaboration only occurs on government programs

Partnership flow map for four different government programs

Partnering with Dept of Energy, customers, universities and national labs.



Partnering on DOE Solar program

Maximizing use of behind the meter solar energy



Partnering on joint DOD/ DOD program

Solving challenges in vehicle electrification for commercial and military applications



EERE and Eaton Vehicle Group impact

Simultaneous efficiency and low emissions for commercial vehicles

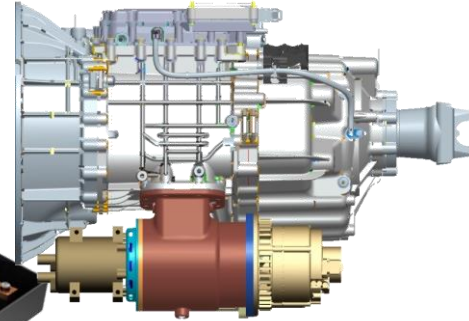


EV transmissions for MD/HD

- 50% EV powertrain weight reduction
- 70% electric motor reduction
- 20% increased EV range



High Voltage Flexible Power Distribution



HD 48V Mild Hybrid

- 8% fuel reduction
- 20% lower NOx

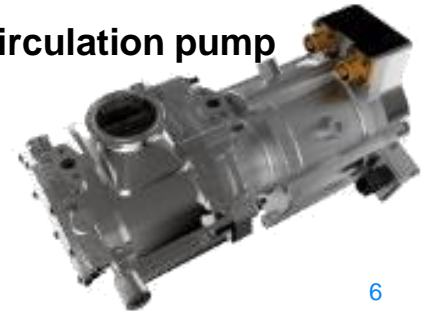
SUPERTRUCK

NREL High Impact Project: Schoolbus Charging Services



Exhaust Gas Recirculation pump

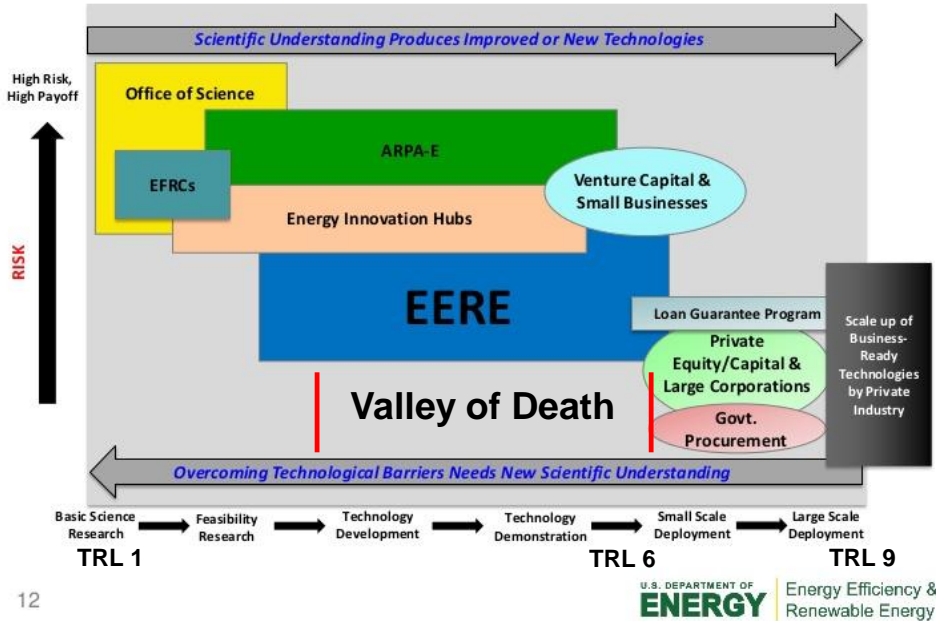
- 3% fuel reduction
- 10% lower NOx



Corporations rely on DOE to help mitigate risks

Fill knowledge and funding gaps through TRL6 demonstration

EERE Guiding Principles: Leveraging Technology Investments



12

From DOE 2013 EERE Congressional Budget Request, Henry Kelly, Feb 14, 2012

- Asset-heavy energy technology companies focus RDT&E investment on commercialization TRL 7-9.
- EERE and OE currently address the “valley of death” in TRL 4-6 and “pull” technology into mature industries.
- Customers in energy technologies (grid, vehicles) require real-world demonstration before making investments & commitments.
- Commercial firms create partnerships through DOE that would otherwise not occur to explore high risk areas and demo new technologies.
- EERE/OE and ARPA-E are fundamental to research and commercialization of technology.