Energy Grid of the Future & Innovation

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The Energy Grid Today
Different customers have different needs and expectations
New Grid Realities in the Near Future

The Integrated Grid

- Micro Turbines
- Residential Rooftop Solar
- Connected Homes

Transmission

Distribution

- Utility-scale Solar
- Wind
- Grid Storage
- Grid Operations
- EV Charging
- Commercial Rooftop Solar

Customers

Demand Response

Source: EPRl
Getting creative at the ‘Hub’

- Rotation of interested employees
- Thinking ‘outside the box’
  - Push back on ‘the way we’ve always done things’
  - Vision of the future and what are the ‘no regret’ things we can start doing today and what are the strategic things we can start preparing for?
- What does a customer centric business do vs ‘the way we’ve always done things’?
- What services are our customers expressing interest in?
- What services do we think they might have an interest in and how do we test that idea?
- What are other states doing?
- How do we further test good ideas and move them to a proposal for stakeholder discussions and possible Public Service Commission filing?
Recent Activities

- **Generation**
  - Solar partnerships
  - Callaway dry cask storage facility
  - Acceleration of wind and solar energy resources
- **Transmission**
  - Volt VAR optimization
- **Distribution**
  - T&D pole sensors
  - Smart switches
  - Advanced metering
- **Other initiatives**
  - Ameren Accelerator
  - Energy storage
  - Renewable Choice Program
  - Broader implementation of electrification
Ameren Accelerator (supports cutting-edge technology)

- blossom: is a way for two parties to exchange anything of value using simple digital agreements set by user-defined rules.

- Hyperion Sensors: has developed a fiber-optic sensor for use with high-voltage equipment, allowing them to become "intelligent."

- Omega Grid: is market software that removes the revenue risk of distributed generation of utilities, encourages energy investment by property owners and enables access to lower rates for everyone.

- Rebate Bus: is a platform for utility programs to deliver instant incentives online.

- SensrTrx: is an industrial analytics application focused on using industrial data to improve uptime, performance and reliability of manufacturing and industrial systems.

- Switched Source: provides equipment solutions for electric-distribution companies to make the grid more resilient and efficient, while supporting the integration of more distributed generation.

- WIFIPLUG: smart plug learns routines to make life easier and help consumers save money on energy bills.