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COLLABORATION AND INNOVATION:  
ADAPTING TODAY'S GRID FOR  
TOMORROW'S FUTURE

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## Harnessing global collaboration to tackle technology disruption

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### **Key Words:**

Transformation, disruptive technologies, collaboration

### **Introduction:**

Electric transmission and distribution companies worldwide face disruptive changes to their traditional business models. These transformational changes are driven by the trilemma of meeting stakeholder expectation of reliability, sustainability and price, and enabled by the availability and affordability of new technologies. The pace of change, technology uptake and emergence of new business models vary in different parts of the world due to different history of societal, regulatory and government policy developments.

### **Approach:**

Based on the motto that “an outstanding business should always be prepared for any potential technical revolution at any time”, in 2014 a technical collaboration was set up between State Grid International Development, Singapore Power, AusNet Services and Jemena to comprehensively analyze the potential impact on power grid enterprises brought by distributed energy, energy storage, smart grid and other advanced technologies, in order to fully prepare for the new challenges and explore potential responses and opportunities. This collaboration, known as the Joint Technology Update (JTU) Taskforce, was expanded to include CPFL, a Brazilian electricity distribution company in 2017.

### **Outcome:**

Work in 2015 produced a document called the Joint Technology Update. Based on five objectives (Integration of renewable energies & electric vehicles, cost optimization & productivity Improvement, collecting & turning data into intelligence, cyber security, engaging & creating values for customers), eighteen technology development areas have been identified as the key focus areas. For each technology, global development trends are assessed, approaches taken by the JTU companies are shared and consensus conclusions drawn.

In 2017 a collaborative project is envisaged where each company will contribute their expertise to the development of a technology initiative that will be mutually beneficial.

### **Conclusions:**

Unprecedented changes are forecast, and in fact have already begun, in the global electric power industry.

Industry collaboration and partnering is vital to position energy networks to benefit emerging energy technology investments. For utilities to thrive in this environment, they must develop a deep understanding of these technological developments and acquire the agility to transform their operation to take advantage of these technologies. The combined experience/ expertise of the JTU working group, the geographic coverage of their supply territories makes this initiative highly valuable to a utility navigating through these changes.