SINGAPORE POWER CENTRE OF EXCELLENCE COMMENCES COLLABORATION WITH 5 INDUSTRY PARTNERS
Projects will draw on S$30 million programme set up by SP and EDB

Singapore, 12 August 2016 – Singapore Power Centre of Excellence (SP CoE), an initiative supported by the Economic Development Board (EDB), commenced collaborations with 5 industry players to drive research and development of next-generation energy network technologies. The collaborations are part of the Singapore Power Energy Advanced Research and Development (SPEAR) programme, which is the CoE's flagship programme.

2.   The partnerships will draw approximately S$10 million – one-third of the overall S$30 million programme, which was launched in April 2015 to promote the development, pilot and integration of cutting-edge solutions and technologies in Singapore's energy infrastructure network.

3.   The projects and partnerships are as follows:
- Grid Sensing with 3M
- Substation Digitalisation with GE's Grid Solutions business
- Smart Energy Management Platform with IJENKO
- Energy Network Health Analytics with NEC and Space-Time Insight
- Big Data Analytics with OMNETRIC Group

4.   Mr Brandon Chia, Head, SP CoE, said, "SP CoE is committed to driving research and innovation that translates into a future-ready national grid. This marks a significant milestone for the CoE as we begin our first partnerships with industry players to collaborate on developing and implementing next-generation solutions and technologies that will build up the resilience and reliability of our network. This brings us closer to providing sustainable solutions in meeting the evolving customer needs of the future."

5.   Mr Goh Chee Kiong, Executive Director, Cleantech, Singapore Economic Development Board, said, "Through the Singapore Power CoE and its flagship SPEAR programme, Singapore is well positioned to become a reference model for smarter grids through the piloting of next-generation technologies to enhance Singapore's core grid network, integrate renewables and improve demand-side consumer applications. The Singapore Power living lab platform will also catalyse demand-led innovation, and anchor new investments and capabilities from the energy industry."

6.   When completed by 2021, the projects are expected to strengthen the resilience, reliability and efficiency of Singapore's energy network, supporting SP's objective in building a future-ready network to enhance the economy and the quality of life. Projects such as Grid

Sensing and Energy Network Health Analytics will provide cutting-edge monitoring systems, predictive alerts and risk assessment analysis in accurate, real-time alerts. These will allow SP to further enhance our electricity supply reliability and reduce electrical disruptions to customers by anticipating and solving network incidents before they occur.

7.   While strengthening the capabilities of our grid currently, the Substation Digitalisation project will deliver sustainable benefits. When implemented, this will relieve network constraints by accelerating renewable connections, providing customers with a greater choice in distributed energy sources (i.e. renewable energy) when connected to the network.

8.   The Smart Energy Management Platform and Big Data Analytics projects will pilot applications that enable SP to analyse data to gain customer insights thus enhancing our understanding of end-user behaviour, in order to develop solutions that will help SP better engage our customers during service provision and help them better manage their energy consumption. More information about the various projects can be found in Annex A.

9.   For more enquires on SP CoE and its projects, please contact COE@singaporepower.com.sg.

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About Singapore Power

Singapore Power Group (SP) is a leading energy utility group in the Asia Pacific. It owns and operates electricity and gas transmission and distribution businesses in Singapore and Australia, and district cooling businesses in Singapore and China.

More than 1.4 million industrial, commercial and residential customers in Singapore benefit from SP's world-class transmission, distribution and market support services. The networks in Singapore are amongst the most reliable and cost-effective worldwide. For more information, please visit www.singaporepower.com.sg.

About SP Centre of Excellence

The SP Centre of Excellence (CoE) is an initiative by Singapore Power (SP) to drive the innovation and commercialisation of next-generation energy network technologies for greater reliability and efficiency of Singapore's energy network infrastructure. Supported by the Singapore Economic Development Board, the CoE aims to establish SP as a thought leader in the utility industry forefront and build future-ready energy networks and resource capabilities, to stay ahead of global trends such as the drive for smarter and greener performance, to sustainably meet the evolving customer needs of the future.

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SP CoE, SPEAR Projects

1. **Grid Sensing with 3M**
   This project provides the technologies and capabilities to better monitor, understand and control the low-voltage distribution network. This will facilitate our customers' ability to "plug and play" distributed energy sources in the future to maximise the usage of sustainable but intermittent sources, such as solar and wind. Through the implementation of Grid Sensing, we can improve access to sustainable but intermittent energy sources.

2. **Substation Digitalisation with GE Grid Solutions**
   This project will bring us closer to achieving a full digitalisation of the Singapore electricity network by creating a single platform that integrates our existing technology and new intelligent electronic devices. This allows different devices to interoperate and communicate with each other to maximise efficiency of routing energy resources. When implemented, this will relieve network constraints by accelerating renewable connections, providing customers with a greater choice in distributed energy sources (i.e. renewable energy) when connected to the network.

3. **Smart Energy Management with IJENKO**
   This project will provide a platform to better understand our customers' usage of electricity, paving the way to provide greater value to our customers. For example, through this technology, we can obtain information to provide our customers with practical advice in real time to help them increase energy efficiency and to achieve cost savings.

4. **Energy Network Health Analytics with NEC and Space-Time Insight**
   The solution derived from this project will help us optimise asset deployment and maintenance. It will offer the capability to analyse and predict when we need to reinforce and maintain our assets before they fail, thereby minimising disruption and inconvenience to our customers.

5. **Big Data Analytics with OMNETRIC Group**
   This project offers analytical insight for operations by providing action alerts when sensing potential damage to our underground assets at worksites, thereby preventing voltage dips or supply interruption to our customers. Besides implementing for operations, this project works on analysis to help us understand our customers better, allowing us to tailor the most appropriate communication mode to engage our customers, leading to an enhanced customer experience.