

SP Group embarking on S\$30 million in research education initiatives with NTU Singapore

- S\$20 million set aside for a new joint lab and research programmes to develop solutions to enhance the resilience of national electricity grid

- S\$10 million contribution from SP Group to groom next-generation experts in energy sector

SP Group (SP) will be embarking on S\$30 million in research and education initiatives with Nanyang Technological University,

Singapore (NTU Singapore), to enhance the resilience of Singapore's electricity network, reliability and efficiency of supply to consumers, and nurture experts for the energy sector. The collaboration will see the establishment of the SP Group-NTU Joint Laboratory to explore energy-related projects in the areas of asset management and network operations. Located at NTU Smart Campus, the new joint lab will house 60 researchers, 85 undergraduate and postgraduate students, and serve as a training platform for SP's engineers.

Through the joint lab, which SP is setting aside S\$20 million to fund, new research topics identified which will support SP's vision to develop solutions for the Energy Grid of the future. In addition, SP is contributing S\$10 million to NTU to set up two endowment funds at the lab to support and groom next-generation experts in Singapore's energy sector.

The SP Group Professorship Fund will support two outstanding faculty members in their research and scholarship. The SP Group Presidential Postdoctoral Fellowship Fund will boost early-career scientists' and engineers' research in energy and power systems. The recipients from both endowment funds will contribute to the research being done at the Lab.

"Singapore has one of the most reliable electricity networks globally. We must continue to invest and grow our local capabilities to prepare for the future. This collaboration between NTU and SP Group will boost our network resilience and develop innovative solutions that will serve Singapore's energy needs," said Dr Tan See Leng, Second Minister for Trade and Industry.

The Lab's research will focus on four key thrusts, namely:

- Failure analysis and detection of equipment degradation, at the component level;
- Enhancing condition monitoring techniques to detect anomalies and pre-empt equipment failure;
- Assessment and modelling of key equipment to optimise asset performance and useful life;
- Enhancing system planning to optimise renewal, maintenance and operation of the grid.

The Lab will conduct studies on equipment components and materials to gauge the equipment degradation and lifespan. This helps to optimise equipment maintenance and replacement to achieve network reliability in a cost- and operationally-effective manner.

Researchers from SP Group and NTU will design and develop a unique scalable system – first in the world – that can detect and pre-empt equipment fault by sensing electrical anomalies within power distribution substations.

The research will leverage artificial intelligence (AI) and machine learning to conduct real-time monitoring and perform trend analysis to predict future network problems before they appear.

The Lab will also develop new intellectual property and commercially viable innovations that will benefit the wider energy industry.

Mr Stanley Huang, Group Chief Executive Officer at SP Group said: "SP Group is focused on upholding a reliable and efficient supply of electricity to consumers in Singapore. Together, we look forward to developing first-in-class, innovative ways to strengthen our network through asset renewal and maintenance practices. In creating a sustainable network for future generations, we are committed to building a strong pipeline of engineering leaders for the energy sector." NTU President Professor Subra Suresh said: "We are delighted that SP Group has selected us as their partner in both research and education. While the research collaboration leverages advanced technologies such as artificial intelligence and machine learning to enhance the resilience and efficiency of Singapore's power grid, the endowment funds invest in the future of outstanding talent for the energy sector by supporting our young researchers and faculty members. Our partnerships with industry play a critical role in translating our vision of the NTU Smart Campus initiative into reality, harnessing digital and tech-enabled solutions for the benefit of society and the sustainable use of our resources."

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