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Lowering energy usage and carbon emissions of data centres



The modern digital economy depends on data centres, which are now facing multiple challenges: rising energy costs, stricter regulations on carbon emissions, and the rapid growth of cloud computing.

Spearheading this green revolution are scientists from Nanyang Technological University, Singapore (NTU Singapore) and its spin-off company Red Dot Analytics (RDA), who have successfully collaborated to develop new technologies that lower energy usage and reduce emissions of data centres.

Using NTU-developed green technologies powered by Artificial Intelligence, RDA can [optimise the operations of a data centre, improve its reliability and performance, while lowering energy usage by up to 30 per cent, leading to a significant reduction in electricity bills and affiliated carbon emission.](#)

These solutions were successfully test bedded in collaboration with industry partners such as Alibaba Group and Singapore National Supercomputing Centre (NSCC), and RDA is now working with some of the world's leading data centre operators, such as BDx.

As the premier data centre hub in the region, Singapore has over about 60 data centres occupying about six million square feet of server rack space, accounting for 7 per cent of the country's total electricity consumption in 2020.

An overall reduction in electricity usage by data centres will contribute towards reduced carbon emissions for Singapore, which announced its climate ambitions to net zero emissions by mid-century at the Budget 2022 in March.

These solutions are also timely for new companies who want to set up data centres in Singapore and still meet the stringent criteria to do so.

Just last week, the joint team won a S\$100,000 investment prize as one of the finalists in The Liveability Challenge 2022 by Temasek Foundation.

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