

NTU, Rolls-Royce to deepen ties in Phase 2 of corporate lab

Singapore

AS the global aviation sector continues to take off, innovations that will be developed in Singapore aim to make the industry both more efficient and environmentally sustainable.

These include the development of energy storage solutions for hybrid-electric aircraft, which, coupled with the use of other technology, could cut aircraft carbon emissions by as much as 30 per cent, said Rolls-Royce central technology director David Smith.

He added that prototypes of such aircraft will be in the air within a year, with the technology likely to become more commonplace within the next decade.

This is among 29 projects being developed as part of an S\$88 million second phase of a research partnership between the British engineering giant and the Nanyang Technological University (NTU), which was launched on Thursday.

This follows the establishment of a S\$75 million joint corporate laboratory between NTU and Rolls-Royce in 2013, the first such facility under a National Research Foundation scheme and the largest of Rolls-Royce's 29 university technology centres worldwide.

This first phase, which saw 53 research projects in areas such as power electronics and data analytics, also saw the development of several technologies now being used by Rolls-Royce.

These include a virtual engine emulator, which employs artificial intelligence to reduce the design time for large engines and turbines.

NTU president Professor Subra Suresh noted that the five-year first phase not only produced research with practical applications for in-



Mr Heng (third from left), Prof Suresh (third from right) and Mr Smith (right) at the launch on Thursday of Phase 2 of the corporate laboratory. The S\$75m joint lab is the largest of Rolls-Royce's 29 university technology centres worldwide.

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dustry, but also provided internships for 200 undergraduate and 40 PhD students.

According to the International Air Transport Association, total carbon emission of the global aviation industry in 2017 was about 859 million tonnes or about 2 per cent of all carbon emissions worldwide.

Deputy Prime Minister Heng Swee

Keat, who attended Thursday's event, said that with air traffic volume expected to double to 8.2 billion passengers worldwide – half of them will be from the Asia-Pacific – in the next two decades, the challenge will be to accommodate this growth in an environmentally sustainable way.

He noted the five-year second phase of the corporate laboratory represents a joint investment of S\$88 mil-

lion from NTU, Rolls-Royce and the government.

This is an example of the Republic's "commitment to focus on building for the long term" despite the current economic outlook, said Mr Heng, who is also the Finance Minister. "I am heartened that despite the uncertain and volatile economic outlook, there continues to be strong investments in research and innovation."