

ISSUE 14

ENRICHING THE AVIATION SCENE

Rolls-Royce is a global provider of integrated power systems with operations all over the globe and is known for its reliability and innovation across its four main business sectors – civil aerospace, defence aerospace, marine and energy. Jonathan Asherson, Regional Director, Rolls-Royce Southeast Asia, speaks with *Bridging Skies* about the company's upcoming Seletar Campus and how it is set to enrich Singapore's aviation scene.

Ever since Rolls-Royce ventured into the business of aero-engine manufacturing in the early 1900s, the company has been expanding and breaking new technological ground. With the global aviation market's centre of gravity shifting eastwards, Rolls-Royce sought a strategic location to set up a world-class high-value manufacturing, research and development (R&D) and training facility in Asia. It would capture oncoming growth and meet increasing demand for aircraft parts, technological research and highly skilled talent.

The company decided to set up its new 154,000-square-metre facility in Singapore's Seletar Aerospace Park (SAP), a hub with an expanding aerospace presence. The massive facility will house an aero engine assembly and test facility, a wide chord fan blade (WCFB) manufacturing facility, as well as a Regional Training Centre (RTC) and Advanced Technology Centre (ATC). These represent three of Rolls-Royce's key operational activities outside of the United Kingdom (UK).

What were the driving factors behind Rolls-Royce's decision to set up such a facility in Asia and at the SAP in particular?

The decision to invest S\$700 million in the Rolls-Royce Seletar Campus was largely based on the growth of the Asian market. Asia represents 45 per cent of our total order book, which is worth about S\$120 billion (£60 billion), and this has grown very strongly over the last decade. Asia also accounts for over half of the global market for wide-bodied jet engines and we project an annual demand for some 500 engines from the Trent family by 2012. These figures led to the decision to establish an additional facility in Singapore to meet our order books and be close to the fastest-growing markets.

Another factor is Singapore's strategic location in Asia, which allows us to be nearer to our customers in the region. Moreover, the strong partnership we have with Singapore Airlines

Engineering Company in our two joint ventures at Loyang is enjoying high productivity. Workforce productivity levels and government backing have also been key factors to our success over the last 10 years and we are confident of constant government support as we grow. With these factors in mind, it was clear that Singapore is the perfect place for the Asian Campus.

Can you share what makes the Rolls-Royce Seletar Campus different from other similar aerospace facilities in the region?

The Rolls-Royce Seletar Campus will anchor several operations that are “firsts”. The Trent aero engine facility is the first in Asia to assemble and test large civil engines. Starting with the Trent 900 for the A380, we can produce 250 engines per year. It will be the most modern Rolls-Royce production engine assembly and test facility for large commercial aero engines and the company’s first in Asia.

The WCFB facility will also be the first time we manufacture Rolls-Royce hollow titanium WCFBs outside of the UK, a unique capability and technology which has played a key role in the success of the Trent engine family.

ATC carries out research and technology development activities, covering a broad range of technologies and will seed breakthroughs in several areas, including computational engineering, electrical systems, manufacturing process technology, materials and fuel cells. A future component of the ATC will be a Materials Services Laboratory, which will provide materials assessment, failure analysis and Non-Destructive Testing support for in-service engines in the region.



How has the Asian Campus deepened Rolls-Royce’s partnership with Singapore and what does this mean for the civil aviation scene here?

Rolls-Royce has formed further collaborations with Singapore, particularly through ATC. The kind of activities and research areas we chose to conduct at the ATC were based on the capabilities available in Singapore. These activities will promote and drive aerospace-related R&D in the local research community, increasing the aerospace content of R&D in these institutions.

ATC has signed Research Agreements with the Agency for Science and Technology Research (A*STAR), Nanyang Technological University of Singapore and the National University of Singapore to provide a long-term platform for collaborative research. We are also a Tier 1 partner for R&D initiatives such as the A*STAR Aerospace Programme. These collaborative research activities provide aviation-related challenges to the local research community, thereby increasing their capabilities in this field.

In addition to manufacturing and R&D, the training of aerospace professionals is also becoming increasingly important. How will the Rolls-Royce Seletar Campus contribute to the development of a skilled aviation workforce to meet manpower demands in this time of growth?

Rolls-Royce is anticipating the need for manpower in view of the unprecedented growth in Asia-Pacific's aerospace, marine and energy industries. As the first multi-sector training centre in Asia, which will be located in the Seletar facility, the RTC will provide hands-on, world-class training for Rolls-Royce customers and employees on a range of products and business learning across the Rolls-Royce portfolio. Specifically, the RTC is equipped to deliver a broad spectrum of learning, from IT to management, leadership and technical skills, such as the operation and maintenance of Rolls-Royce products.

Looking forward, in what ways will the operations at the company's Seletar facility help expand Singapore's – and the region's – aerospace industries?

In 2010, we undertook a study on the effect our local activities have had as an engine for economic growth. The research verified that we had a substantially positive impact in many high-value areas that are important to Singapore, such as the development of skills and cutting-edge technology.

The research also showed that Rolls-Royce's activities in Singapore will sustain nearly 25,000 local jobs and contribute more than S\$1.5 billion – approximately 0.5 per cent of gross domestic product – to Singapore's economy by 2015. Our Seletar Campus will create approximately 500 new jobs when fully operational, bringing the number of people employed by Rolls-Royce in Singapore to around 2,000.

Singapore is currently the leading Asian aerospace hub with the greatest number of aerospace Original Equipment Manufacturers present. It has already captured over 20 per cent of Asia-Pacific's Maintenance, Repair and Overhaul market by being a convenient one-stop location for all aircraft maintenance needs. When the Rolls-Royce Seletar Campus is completed, we will assemble and test complex equipment and introduce core technologies to Singapore and the region. The facility will be important from a technology perspective, and we can expect new capability developments in Singapore's aerospace landscape. With this strong foundation and Rolls-Royce's contributions, we believe that Singapore is well positioned to boost her aerospace endeavours.