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ROLLS-ROYCE INSTALLS WORLD'S MOST POWERFUL MARINE GAS TURBINE INTO NEW AIRCRAFT CARRIER

Rolls-Royce, the global power systems company, has this week successfully completed the installation of the first MT30 gas turbine into the Royal Navy's new aircraft carrier *HMS Queen Elizabeth*, at Babcock's Rosyth shipyard in Scotland.

The MT30, at 36 megawatts (around 50,000 horsepower), is the world's most powerful marine gas turbine. Two MT30s will be installed in each ship and will provide two thirds of the 109 megawatts needed to power the 65,000 tonne ships – enough energy to power a town the size of Swindon.

The MT30s are installed as part of a Gas Turbine Alternator (GTA) which also includes an alternator and gas turbine enclosure, weighing a total of 120 tonnes.

Tony Wood, Rolls-Royce, President - Marine said: *"The successful installation of the first MT30 marks a significant milestone in the Queen Elizabeth class programme. Rolls-Royce has a long and proud history of delivering excellent marine gas turbine technology to the Royal Navy. We are extremely pleased to be part of this programme working alongside our many partners in delivering sophisticated power and propulsion systems for these magnificent ships."*

Jim Bennett, Thales's Power & Propulsion Director for the Aircraft Carrier Alliance, said: *"The Power & Propulsion Sub-Alliance is immensely proud of this significant milestone in the QEC project. It has been the culmination of many years of hard work to ensure the timely delivery of this first complete MT30 gas turbine alternator, which along with its twin will deliver around two thirds of the electrical power generated onboard HMS Queen Elizabeth. Congratulations to all involved, this is British engineering at its best!"*

Tony Graham, Head of Capital Ships at the Ministry of Defence, said: *"The successful achievement of this major milestone has brought the biggest grin to my face since Christmas Day. To have successfully lifted the most powerful engine in the Royal Navy onto the biggest ship ever built for the Royal Navy using the biggest capacity gantry crane*

in Europe is an important event in the construction of the Queen Elizabeth. Everyone involved should take huge pride in their contribution to this national endeavour.”

The installation involved the lifting of the MT30 gas turbine and associated ancillary equipment - housed in a steel package known as the gas turbine enclosure - onto the ship structure. With the enclosure in place, the large alternator, which is driven by the gas turbine to produce electrical power, was then hoisted into place.

Key facts:

- The MT30 gas turbine is derived from the Rolls-Royce Trent 800 aero engine which powers the Boeing 777 aircraft, with around 80 per cent of the parts being the same.
- The MT30 currently powers the US Navy’s Freedom Class variant of the Littoral Combat Ship, will power their new DDG-1000 destroyers and was recently selected for the Republic of Korea Navy’s new FFXII frigate.
- Modular production of the MT30 begins on the same production line as the Rolls-Royce Trent aero engines in Derby, before the modules are assembled into the marine configuration, and put through a rigorous test and certification programme at the Rolls-Royce facility in Bristol.
- The power generated will meet the aircraft carrier’s demand for energy, which includes the propulsion motors, weapons and navigation systems as well as the entire low voltage requirements for lighting and power sockets.
- The four GTA packages (two per ship) are assembled by Cullums Detuners of Derbyshire. Due to the size, the alternator and gas turbine enclosure are shipped to Rosyth separately.

Notes to Editors:

1. Rolls-Royce is a world-leading provider of power systems and services for use on land, at sea and in the air, and has established a strong position in global markets - civil aerospace, defence aerospace, marine and energy.
2. As a result of this strategy, Rolls-Royce has a broad customer base comprising more than 500 airlines, 4,000 corporate and utility aircraft and helicopter operators, 160 armed forces, more than 4,000 marine customers, including 70 navies, and energy customers in more than 80 countries.

3. Annual underlying revenue was £11.3 billion in 2011, of which more than half came from the provision of services. The firm and announced order book stood at £60.1 billion at 30 June 2012, providing visibility of future levels of activity.
4. Rolls-Royce employs over 40,000 people in offices, manufacturing and service facilities in over 50 countries. Over 11,000 of these employees are engineers.
5. In 2011, Rolls-Royce invested £908 million on research and development, two thirds of which had the objective of further improving the environmental performance of its products, in particular reducing emissions.
6. Rolls-Royce supports a global network of 28 University Technology Centres, which connect the company's engineers with the forefront of scientific research.
7. The Group has a strong commitment to apprentice and graduate recruitment and to further developing employee skills.

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