Rolls-Royce is a world-leading provider of power systems and services for use on land, at sea and in the air. It operates in four global markets – civil aerospace, defence aerospace, marine and energy – and has established strong positions within programmes that will shape the power-systems market for many years to come.

The success of its products is demonstrated by the company’s rapid and substantial gains in market share. The company now has a total of 54,000 gas turbines in service worldwide and they generate a demand for high-value services throughout their operational lives. Rolls-Royce has a broad customer base comprising 600 airlines, 4,000 corporate and utility aircraft and helicopter operators, 160 armed forces and more than 2,000 marine customers, including 70 navies. The company has energy customers in 120 countries. Rolls-Royce is a technology leader employing around 38,000 people in offices, manufacturing and services facilities in 50 countries.

For Rolls-Royce, materials is a critical area of technology and we use partnerships between our internal research teams, suppliers, and universities to secure a complete, integrated package of materials capability. Our engineering and manufacturing bases around the world also require local materials support teams and groups.

We are keen to encourage young people into engineering, not just in the UK but, as a global company, internationally, so the World Lecture Competition is something we very much support. We do a great deal within world of education to promote science and engineering – with teachers, parents and, of course, with students of all ages, from primary schools right through to universities.

The international perspective of the World Lecture Competition is particularly encouraging. We have strong technology links in Singapore. In the United States we have several thousand employees and well established relationships with a number of key universities and research centres. We also have major repair and overhaul joint ventures in Singapore, Hong Kong and the USA.

Mike Hicks
Chief Technologist, Materials, Rolls-Royce plc
Companhia Brasileira de Metalurgia e Mineração (CBMM) is located in Araxá, in the Brazilian state of Minas Gerais. The company is the world leader in extraction, processing, manufacturing and marketing of niobium products.

The most important application for niobium is as an alloying element to strengthen high-strength-low-alloy steels used to build automobiles, high pressure gas transmission pipelines, ships and bridges. An important secondary role for niobium is to provide creep strength in superalloys operating in the hot section of aircraft gas turbine engines. Niobium is also utilized in stainless steel automobile exhaust systems and in the production of superconducting niobium titanium alloys used for building MRI magnets.

CBMM is the only niobium producer present in all market segments. With subsidiary companies in Europe (CBMM Europe in the Netherlands), in North America (Reference Metals Company in the USA) and in Singapore (CBMM Asia), CBMM dedicates special attention to its customers, wherever they may be around the globe. One of its main objectives is in the development and dissemination of niobium technology throughout the industry.

CBMM has funded research and development projects with its customers and independent institutions to increase the role of niobium in known applications and create new uses for the metal. As part of its program CBMM has supported the work of more than 300 research students in Brazilian Universities as well as in France, UK, Germany, Austria, Japan, USA, Canada, Russia, Ukraine and China.

CBMM has continuously expanded its production capacity in the past few years. Installed capacity to manufacture ferroniobium increased from 45,000 tonnes in 2004 to the current 70,000 tonnes. A further expansion will be concluded in 2008 to reach 90,000 tonnes of ferroniobium.

CBMM is guided by strong sustainable development principles. Landscaping, conservation and ecology have been management concerns from the very beginning. The consolidation of these initiatives into an Environmental Management System enabled CBMM to be the first company in the world to have all its operations ISO 14001 certified. This accomplishment demonstrates the commitment of the management and shareholders to future generations as well as to environmental development, which involves human, social and technological spheres.
Anglo American is a global leader in mining and natural resources, focused on adding value for shareholders, customers, employees and the communities in which the Group operates. The Group owns a well diversified range of high quality assets covering gold, platinum, diamonds, coal, ferrous and base metals and industrial minerals, underpinned by considerable financial strength and technical expertise. Anglo’s businesses are involved in an array of value adding products and services along a pipeline that extends from the initial mining or production of raw materials to the ultimate consumer.

The Student Technical Experience Programme (STEP) is an Anglo American work placement scheme for students studying mining and related disciplines at UK and European Universities. The programme offers internships via practical exposure to actual mining operations and new cultures.

As a participant in STEP, you have the opportunity to:

- Work on a real project / job in a real workplace
- Gain insight into the practical applications of your degree
- Spend 2-3 months working in a new environment
- Meet new people – perhaps from a different culture and language
- Increase your career prospects with valuable work experience for your CV

Opportunities are usually available for students of Mining, Mining Engineering, Metallurgy, Process Engineering, Mechanical Engineering, Chemical Engineering, Quarrying, Geosciences or related disciplines. Placements are typically offered in South Africa, Europe, Australia, South America and Canada. We also support the Federation of European Mining Programmes which offer students the opportunity to study for Masters degrees at a rotation of different universities throughout Europe.

For more details see the FEMP website [www.femp.org](http://www.femp.org)

Please see our website for further details and to apply: [www.angloamerican.co.uk/careers](http://www.angloamerican.co.uk/careers)