Chief Executive's review

John E V Rose, Chief Executive

Rolls-Royce has anticipated customer needs in civil aerospace, defence, marine and energy markets and has successfully invested in new products and services to meet these. We are demonstrating innovation in many aspects of our business and have continued to increase efficiency.

Rolls-Royce has created a substantial and balanced business through organic growth and targeted acquisitions. We offer advanced technology products, systems and support to three main customer groups – aerospace, marine and energy.

Our consistent strategy continues to deliver both growth in market share and sound financial performance. The strategy has been based on: identifying customer requirements in our core markets; satisfying these with a comprehensive range of products and services based on advanced technologies; adding value to the customer's business and providing appropriate through-life support.

Rolls-Royce is a technology leader and power systems integrator in global markets. Over recent years we have created a broader-based company by applying technologies and capabilities developed in the aerospace sector to the marine and energy markets. This will establish significant competitive advantage for the company and deliver financial benefit for shareholders.

Order book – firm and announced	£bn
1996	7.7
1997	10.1
1998	12.6
1999	13.2
2000	14.5

Group turnover (restated)	£m
1996	3,887
1997	4,323
1998	4,471
1999	4,634
2000	5,864

We continue to attract risk and revenue sharing partners to our programmes. They provide financial and engineering resource and we value their contribution, which endorses our strategy.

Rolls-Royce has significantly strengthened its position in civil aerospace and is a world leader in marine propulsion systems. We participate in many of the world's key defence aerospace programmes and we anticipate growing success in the energy sector, as a range of new products is introduced.

The integration of our newly acquired commercial marine businesses is progressing well and is achieving its targets. A complementary range of products and services strengthens our presence in both the commercial and naval marine markets.

The common thread linking these separate markets is the application of Rolls-Royce high-technology engineering capability. This ranges from developing engines for the new generation of very large airliners, which will carry over 550 passengers on long-range flights, to using skills and experience from the same technology base to develop gas turbines to generate electricity.

The company now has an improved organisation with shorter lines of communication and a flatter management structure. This organisation enables our business teams to respond more quickly to customer requirements and offer outstanding levels of service.

Our focus on raising efficiency, including the introduction of increasingly sophisticated development and manufacturing processes, has resulted in sales per employee increasing 50 per cent above the level of just five years ago, from a worldwide workforce currently at 43,700 people.

Underlying earnings per share have achieved a compound annual growth rate of 22 per cent over the last five years, while the company has invested more than £3 billion over the same period in new product development and technology acquisition to ensure future success.

Group turnover – per employee (restated)	£000
1996	91
1997	102
1998	107
1999	113
2000	126

Turnover per share	£ per share
1996	2.64
1997	2.92
1998	2.99
1999	3.08
2000	3.76

Underlying earnings per share	pence
1996	12.70
1997	15.16
1998	16.91
1999	19.52
2000	21.63

Civil aerospace

Sales: £3,150 million
Underlying profit: £332 million

Our engines are in service with more than 500 airlines and 2,400 corporate users around the globe. In 2000 we secured a 31 per cent share of engine orders placed and a 27 per cent share of engines delivered. We now supply 38 of the world's top 50 airlines.

Over the next 20 years we believe annual air passenger demand will grow by five per cent per year and air freight by just over six per cent, compared with global economic growth expected to average some three per cent per year. The highest traffic growth will be associated with Asia-Pacific markets, both within the region and to North America and Europe. Of all widebody deliveries over the next 20 years, 41 per cent are expected to be to Asia-Pacific airlines. By contrast, North America dominates demand for narrow-bodied aircraft and is expected to order 4,000 such aircraft over the same period.

Rolls-Royce is well positioned to benefit from this market expansion through its broad product range and international presence.

The Trent family of aero engines is central to our growth over the coming years. This innovative, three-shaft, high-bypass ratio engine is lighter and provides better payload/range and revenue-earning potential than its competitors. The Trent is currently fitted to widebody Airbus Industrie and Boeing aircraft including the twin engined A330 and Boeing 777 and will fly in 2001 for the first time on the long range A340.

In December 2000, Airbus announced the launch of its new A380, which will enter service in 2006 and be powered by four Trent 900 engines. We have secured orders from leading airlines, including Singapore Airlines, Virgin Atlantic and Qantas which established our Trent 900 as the lead engine for the joint certification programme with Airbus. Since 1997, the Trent family has secured a market-leading 57 per cent share of all widebody engine orders.

We are a leading supplier to the fast growing regional and corporate jet markets. The BR700 engine family, developed in Germany, had a particularly successful year with over 200 engines delivered. The BR700 family meets the power requirements of large corporate jets and regional aircraft of 80-130 seats. The engine is fitted to the top of the range Gulfstream and Bombardier corporate jets and powers the Boeing 717 regional aircraft.

International Aero Engines, the multi-national consortium in which Rolls-Royce is a major shareholder, had an outstanding year, winning 59 per cent of the available market for its V2500 engine. Firm orders for a total of 382 V2500 engines were placed for A319, A320, A321 and Airbus Corporate Jetliner aircaft.

We anticipated the growth in potential for turbofans in the regional aircraft market when, in 1995, we purchased the Allison Engine Company and today the AE 3007 is the sole engine for Embraer's fast-selling twin jet RJ 145 series of regional passenger aircraft. In addition, the AE 3007 powers the successful Cessna Citation X. Altogether we delivered 400 of these powerplants during 2000. The successful Williams-Rolls joint venture delivered a total of 203 FJ44 engines in 2000, 160 of them to Cessna for its popular CitationJet range.

Civil aerospace
The Trent 500 is the sole powerplant for the new long-range Airbus A340-500/600, due to enter service in 2002. The aircraft will fly with Trent 500 power for the first time in 2001. (Computer visualisation shows a Trent 500 high-pressure rotor.)

Civil aerospace continued

Customer relations, reliability, service and support are at the heart of our success. Rolls-Royce has created a network of repair and overhaul joint ventures with key airline customers to ensure that our products are maintained to the highest standards. We provide global support to our operators. Last year we reached agreement with Zurich-based SR Technics to create a new maintenance and overhaul company to service Trent aero-engine customers in Europe and Africa. This 50:50 joint venture expands the Rolls-Royce global network for Trent support and complements our presence in Singapore, Hong Kong, the United States and the United Kingdom. In total we have repair and overhaul operations in 17 countries.

Defence
Sales: £1,403 million
Underlying profit: £154 million
The defence market represents a broad area of opportunity, estimated to be worth some £130 billion over the next 20 years. Our extensive portfolio of engines powers aircraft in all of the major military aviation categories, ranging from helicopters to combat aircraft, and transport to trainer aircraft.

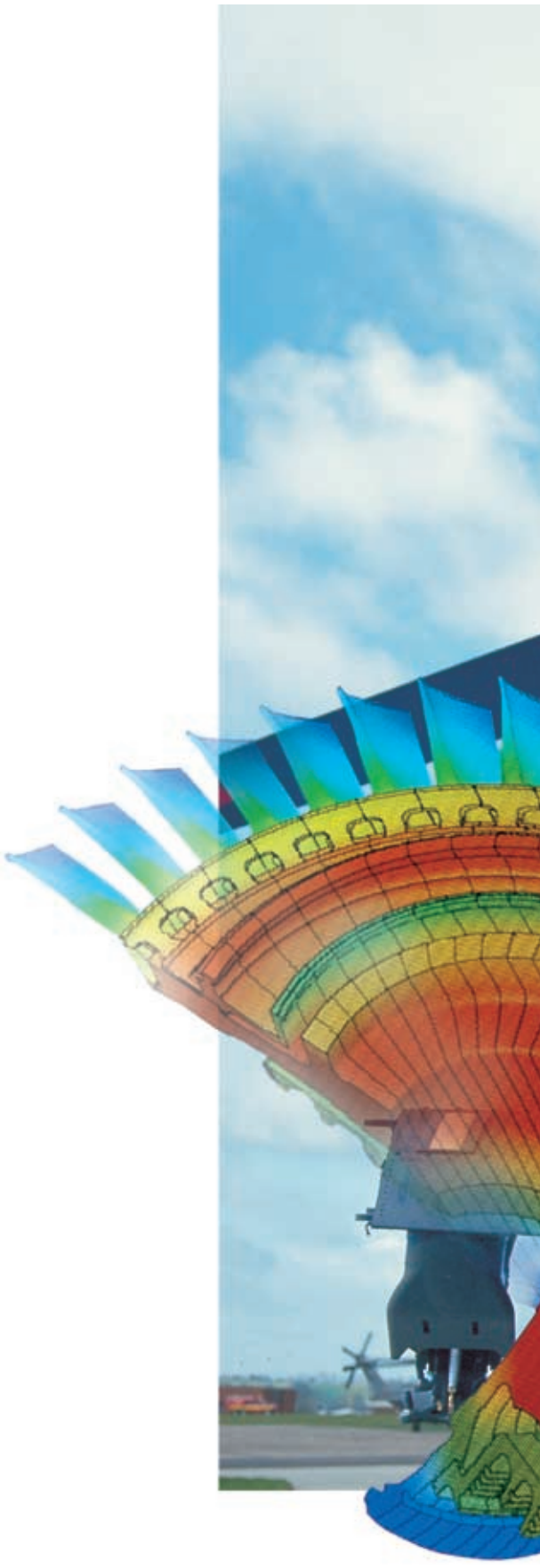
In the year, we passed an important milestone by completing the assembly and test of the first Rolls-Royce production EJ200 engine for Eurofighter. This engine is a collaborative programme in which we have a 36 per cent share. The EJ200 has now made the transition from development to production. Rolls-Royce has a contract to participate in the manufacture of 1,500 engines for 620 aircraft.

We announced our participation in a six-nation, European team to produce the TP400 engine for the new Airbus A400M military transport aircraft. Rolls-Royce will be responsible for the low-pressure compressor and overall integration. The programme calls for up to 225 of the four-engined aircraft. This consolidates our position as a world leader in the transport sector, where we also power the Lockheed Martin C-130 series and Bell Boeing V-22 aircraft.

International cooperation and shared development are features of the defence industry. Rolls-Royce is participating in important programmes with major international partners in a number of key markets. The company's defence operation has become a genuine transatlantic business with three of its four largest programmes sponsored by the US Department of Defense. Among these is the Joint Strike Fighter, a US/UK programme for a new combat aircraft. Rolls-Royce is applying its unique technology and expertise, including short take-off and vertical landing capability, to assist both the Boeing and Lockheed Martin teams working on this project.

Rolls-Royce Turbomeca RTM322 engines have been selected for the NH90 helicopters ordered by Germany, Holland and France. This requirement will be worth an estimated £600 million. We forecast worldwide demand for nearly 4,500 gas turbine powered defence helicopters over the next ten years.

Marine systems
Sales: £751 million
Underlying profit: £67 million
Rolls-Royce has developed a world-leading marine business, serving customers in global commercial and naval markets. Today more than 20,000 commercial and naval vessels use Rolls-Royce equipment and our engines power 400 ships in 30 navies. The marine market has similar characteristics to civil aerospace, where we provide high capital-value products, services and systems, and develop long-term relationships with customers.



Defence
RTM322 engines power the potent AH Mk1 Apache attack helicopter. The British Army Air Corps is to acquire 67 of these aircraft. (Computer visualisation shows an RTM322 high-pressure turbine assembly.)

Marine systems continued

The acquisition of Vickers in 1999 added a range of complementary products and services and expanded our routes to market. These products are market-leading brands in the commercial marine business and include Ulstein, Kamewa and Brown Brothers. These additions to our portfolio, coupled with our diesel and gas turbine propulsion technologies, enable us to offer a complete product and systems capability.

The integration of the commercial marine businesses into Rolls-Royce is proceeding well and is on target. We are now able to act as a full system supplier to both the commercial and naval sectors and this will enable us to grow our share of the global marine market, estimated to be worth some £60 billion over the next 20 years.

This growth will be driven by three factors: re-equipment by navies; a strong recovery in the commercial offshore vessel sector; and our ability to address the whole of the marine market with our comprehensive product range and systems integration capability.

In the naval market, the WR-21 intercooled and recuperated marine gas turbine, developed in partnership with Northrop Grumman Corporation of the US, has been selected for the first three ships of a new fleet of up to 12 Type 45 air defence destroyers for the Royal Navy. The WR-21 is the only advanced cycle marine gas turbine being developed in the world today. The engine can achieve fuel economies of 30 per cent compared with existing systems and has the advantages of smaller size and reduced maintenance.

In the commercial offshore service sector, Rolls-Royce equipment and designs were selected for 53 offshore vessels during 2000 – a record order intake. These vessels represent 70 per cent of all orders placed by the industry over this period. We are beginning to exploit new market opportunities in the cruise and cargo markets where gas turbines are increasingly becoming an attractive option. The Rolls-Royce marine Trent has been selected to power the first of a new generation of cargo vessels called FastShip. These will also employ our Kamewa water jets.

Energy
Sales: £476 million
Underlying loss: £48 million
Rolls-Royce adapts its established aero gas turbines and systems skills to the power generation and oil and gas sectors.

These markets are expected to continue to expand as a result of privatisation, deregulation and the trend towards higher oil and gas prices, which encourage exploration. The potential markets are forecast to be worth $165 billion over the next ten years. About three quarters of this lies in power generation with the remainder in the oil and gas sectors. The company expects to secure a growing share of this business over the next five years.

Our gas turbine and diesel systems are ideally suited to the generation of electrical power. The company has over 100 million hours of operating experience in the energy market with its industrial gas turbines. The industrial RB211, delivering around 30MW of output, and the industrial Trent in the 50MW range, meet a substantial market opportunity.

Marine
Today Rolls-Royce marine equipment is in service on more than 20,000 vessels. (Computer visualisation shows a water jet impeller. Our marine business is now making use of computational fluid dynamics tools initially developed for aerospace.)

Energy continued

The industrial Trent has been developed on a transatlantic basis with around 50 per cent of its components sourced in North America. It is designed to meet the most stringent international emission requirements. The development of environmental combustion systems for the industrial Trent led the company to create a provision of £120 million to meet the expected additional costs. We are confident that our emission control system, which we believe is a world leader, is able to deliver its design specification within this provision. The potential market for the industrial Trent is very significant and we believe the engine will establish itself as one of the most powerful and efficient aero-derived generating sets in the world. Demand for the product is strong with sales expected to reach 30 engines annually within five years.

Rolls-Royce products for the oil and gas market include gas turbines, diesel engines and compressors for oil and gas pumping, compression duties and pipeline applications. Orders in the first quarter of 2001 picked up following the sustained high oil price in 2000 and the resulting increase in exploration. A sustained recovery in oil prices will benefit our sales in 2001 and beyond.

Customer services

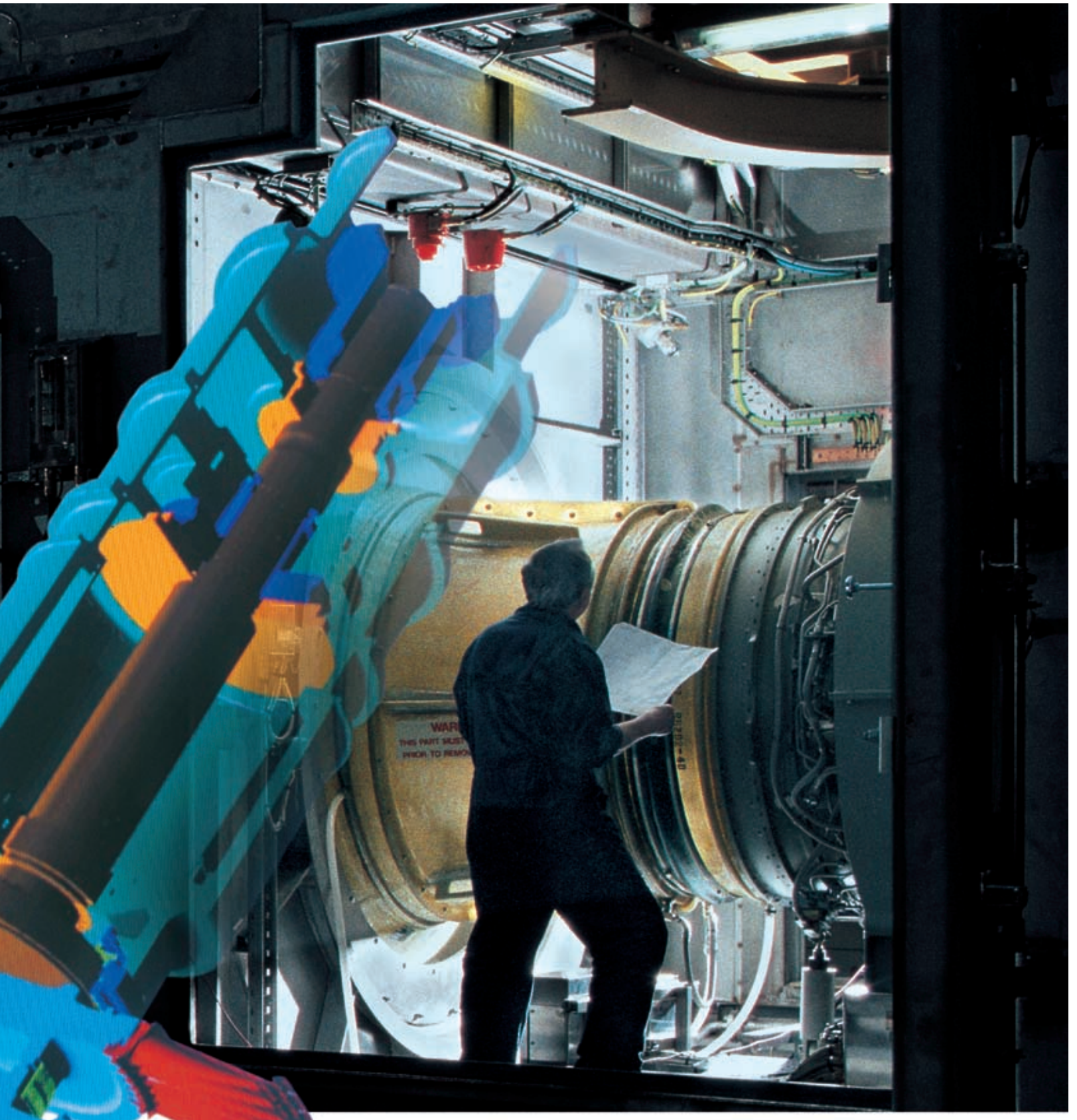
When a Rolls-Royce engine enters service, it marks the start of a customer relationship that may last 25 years or more. This creates the opportunity for provision of additional services to customers. Our ability to provide these in a timely and innovative way allows us to deliver value to both customers and shareholders.

Today we offer an extensive range of services, which accounts for 35 per cent of sales. These include financial and leasing activities, web-based predictive data management products, global repair and overhaul and the sale of parts.

Over the past five years, we have doubled our share of repair and overhaul on our own engines to more than 50 per cent. In the last two years alone we have won more than 200 repair and overhaul contracts in the civil aerospace, defence and energy sectors. An example of our success in the aftermarket was demonstrated by the recent $1 billion agreement with American Airlines to provide comprehensive maintenance support over the next ten years for the RB211 engines on its fleet of more than 100 Boeing 757 aircraft.

We were the first aero-engine company to anticipate the potential for engine leasing and today Rolls-Royce & Partners Finance, our joint venture with GATX Capital, the US-based finance and leasing company, is the world's largest specialist aero gas turbine leasing business. Rolls-Royce has become the market leader of packages such as 'Total Care', which we apply to our broad portfolio of civil engines and support with capabilities such as engine leasing. Rapid expansion of the regional jet market has enhanced the opportunities for this form of customer service.

Pembroke Group, our aircraft leasing joint venture had a successful year and saw its portfolio of owned and managed aircraft grow to 145, including those on order or option, compared to 93 in the previous year. GATX Capital recently became an equal partner with Rolls-Royce in this business, endorsing our approach to the market and strengthening our strategic relationship which dates back to their initial investment in Rolls-Royce & Partners Finance in 1998.



Energy
The industrial RB211 gas generator is highly successful in the oil and gas market producing efficient power on land and offshore. (Computer visualisation shows a sectional view of the rotor from an RT61 power turbine which combines with the RB211 to provide a compact power package set.)

Customer services continued

In the energy market our power development operation, Rolls-Royce Power Ventures, ended the year with 12 power generation projects in operation and four in the late stages of commissioning. Through these projects, we sell electricity to utilities and industries in nine countries on four continents. The projects use a mix of our equipment including the industrial Trent, RB211 and Allen diesel engines. The increase in deregulation of the power sector globally provides greater worldwide potential.

We are developing e-business services for customers, particularly in the area of predictive maintenance. By predicting the behaviour of components in service, we can minimise interruption to operations and maximise the availability of the asset to customers. Through Data Systems & Solutions, our joint venture with Science Applications International Corporation, we have launched a number of products, including: **enginedatacentre.com** supplying customers service data; **aeromanager.com** providing a complete range of facilities for fleet management and **powerplantmanager.com** giving similar information for owners of power generation facilities.

We continue to develop aftermarket activities and see these as fundamental to our overall relationship with customers.

Technology

Research and development is essential in order to acquire the necessary knowledge on which to build future success. We identify key technologies and processes which, while applied initially in just one area of our business, can then be utilised in other applications; we aim to 'create once, use many times'. The core modules of our three-shaft gas turbines and many of our automated design systems exemplify this principle and are in use across all our business sectors having been initially developed for aerospace applications.

We are investing further in advanced electrical systems and diagnostic technologies. These will enable us to offer enhanced reliability and greater flexibility of operation in electrical power – whether in the air, at sea or on land.

The marine business offers excellent opportunities to exploit the gas turbine technology originally developed for aerospace applications. Computational fluid dynamics tools and capabilities, developed for aerospace, are now being applied to marine propulsor design.

The advanced electrical engineering technologies we have developed through our marine systems activities will be applied in the demonstration of the first 'more electric' large civil aero engine in 2003. This technology will deliver increased reliability and efficiency to operators with associated reductions in operating costs.

Artificial intelligence fitted to the health monitoring systems on the Trent 500 is providing real-time information for engine management and maintenance planning, resulting in more reliable operation. This system, developed with Oxford University, is now being evaluated for the Trent industrial and marine powerplants.

We continue to attach a high priority to minimising the environmental impact of our products. Improvement programmes aimed at reducing noise and emissions are being applied across the businesses. A significant part of our long-term research and development programme is centred on sustainable energy technologies, including high-efficiency fuel cell/gas turbine hybrids and the evaluation of alternative fuels for land-based gas turbines.

Technology
The market-leading Trent family of large aero engines is based on an approach of proven technology. Each new member of the family has benefited from the technology developed for predecessors. (Computer visualisation shows turbine components from the Trent 600, designed for Boeing 747 developments.)

Technology continued

The effectiveness of our research and development is underpinned by the involvement of collaborators, partners and suppliers. Increasingly, our key partners are becoming involved in our long-term research programmes, as are universities around the world which work with us on new technologies.

People

Rolls-Royce is fortunate to have extremely talented and dedicated employees. In the UK, the average length of service is approaching 20 years. This is important in an industry where development and production programmes may have lives of more than 50 years and in which the customer relationship with an individual product may be 25 years or more.

We continue to invest in attracting and retaining the people who will ensure the success of the company. Last year we recruited 166 graduate trainees and 144 modern apprentices and there is a comprehensive training structure that allows people to continue to develop skills and capabilities throughout their careers.

Last year, the company invested £27 million in training. In parallel with management programmes, we are building a comprehensive framework for professional development. We currently have 440 employees studying under our Management Development Curriculum, established together with the Open University. We continued to support our customers by providing them with over 3,000 person days of training during last year. We completed construction of new Learning and Development Centres in both the UK and the US.

Within the community the company focuses its efforts in the areas of science and education. We are involved in a range of activities across the education sector including the Government's Education Action Zones. We provide support to specialist language and technology centres. As part of the National Skills Festival we participated in The Skills Show 2000 at the National Exhibition Centre and we played a major part in the 'Careers in Aerospace' initiative at the Farnborough International Airshow.

We create and sponsor University Technology Centres (UTCs) as centres of excellence in research. Working with these universities is an efficient way to progress our own research and development requirements. They also provide the opportunity to identify top quality recruits. There are 19 of these UTCs in the UK located close to our major sites. In addition, we fund a further 60 research projects across North America and Europe.

The company now has 43,700 people in 48 countries with 36 per cent of our employees located outside the UK.

The growing international nature of the company has also had the impact of increasing the number of nationalities employed by Rolls-Royce. This will become one of the strengths of the organisation as we benefit from diverse experience and adopt practices that make us more effective.

Summary

We are a global business supplying international markets which are substantial and offer significant growth prospects. Our international reach allows us to offer customers a comprehensive service wherever they operate.

We continue to invest to get the best results from our people and operations to deliver growth and value for our customers, shareholders and employees.

People
The company has a growing international presence. We now operate in 48 countries, providing comprehensive services for customers. (Computer visualisation shows airflow over a Trent 800 wide-chord fan set.)