



**Rolls-Royce**

**The future of nuclear  
is exciting.  
Together we can  
make it happen.**





## A global company.

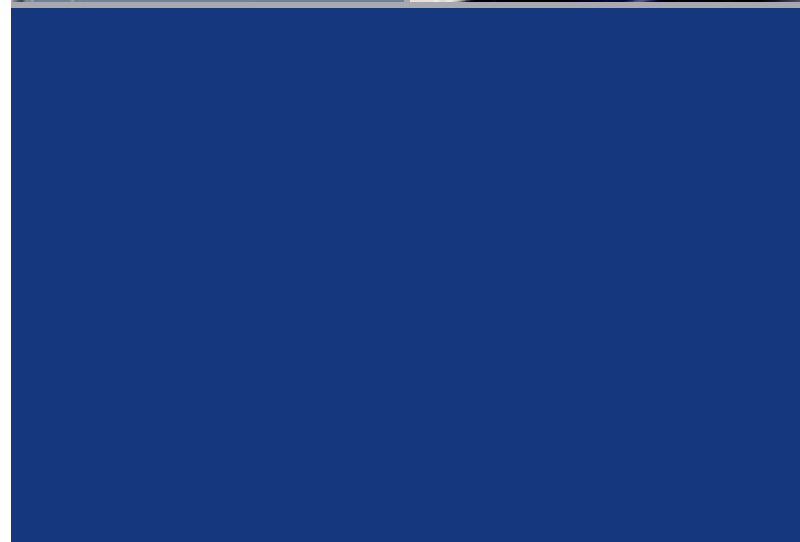
A deep understanding of our customers' needs and a continued investment in technology have enabled us to become a world-leading provider of power systems and services for use on land, at sea and in the air.

With over 38,000 skilled employees in offices, manufacturing and service facilities in 50 countries across the world, we are well placed to support you.

Providing the power for over 600 airlines, 160 armed forces, 2,000 marine customers - including 70 navies - and delivering energy solutions for customers in 120 countries makes Rolls-Royce a truly global and trusted partner.

We have established a worldwide network of 28 University Technology Centres across Europe, Asia and the USA and over the past five years we have invested £4bn in research and development to ensure that we are at the forefront of innovation.

By building on our established strength in the energy markets and with some 2,500 employees in the nuclear business, across Europe and North America, we are well positioned to help our customers succeed in meeting the challenges of an expanding market.



# A nuclear future is nothing without a track record.

The civil nuclear market is undergoing world-wide expansion.

Increasingly, more countries are recognising the importance of nuclear in providing a secure energy supply and in addressing global climate change.

During this time of unprecedented growth, we can help you gain proven expertise in integrated, long-term support solutions and services throughout the reactor life cycle.

For customers in 20 different countries around the world Rolls-Royce is doing just that.

Our know-how covers safety, licensing and environmental activities; plant system and component design; manufacture and supply; in-service support and plant-life extension.

With an extensive certified supply chain, we can help you to minimise risk, control cost and meet the growing challenges of tomorrow's nuclear market.

With our 40-year track record in serving commercial nuclear utilities we look forward to helping you succeed.

**Commissioning and In-Service Support.** \_\_\_\_\_

**Instrumentation and Control.** \_\_\_\_\_

**Mechanical Systems and Component Engineering.** \_\_\_\_\_

Analyse  
Monitor  
Inspect  
Sample  
Repair  
Replace  
Refurbishment  
Ageing Management  
Solution Engineering  
Technical Support

Design  
Manufacture  
Supply  
Install  
Support  
Manage  
Monitor

Analyse  
Design  
Manufacture  
Procure  
Technical Support

**Safety, Licensing and  
Environmental Engineering.**

Authorship  
Analysis  
Assessment  
Review  
Manage

# Safety, licensing and environment.

Providing an in-depth understanding of regulatory and environmental issues.

In every new project there are key areas that have to be addressed.

Preliminary, Pre-Construction and Pre-Operational Safety Reports and Periodic Safety Reviews must be completed.

Hazard and safety assessments, fault screening and ALARP/ALARA\* studies must be undertaken.

And environmental hazard identification and risk assessment is vital.

At every step Rolls-Royce is a trusted partner.

Our proven expertise is in providing robust strategies for dealing with safety and environmental issues, ensuring that all safety case requirements are incorporated in a cost-effective manner.



\*As low as reasonably practicable (ALARP). As low as reasonably achievable. (ALARA).

# World-class mechanical systems and component engineering.

Applied expertise in high quality and cost efficient techniques.

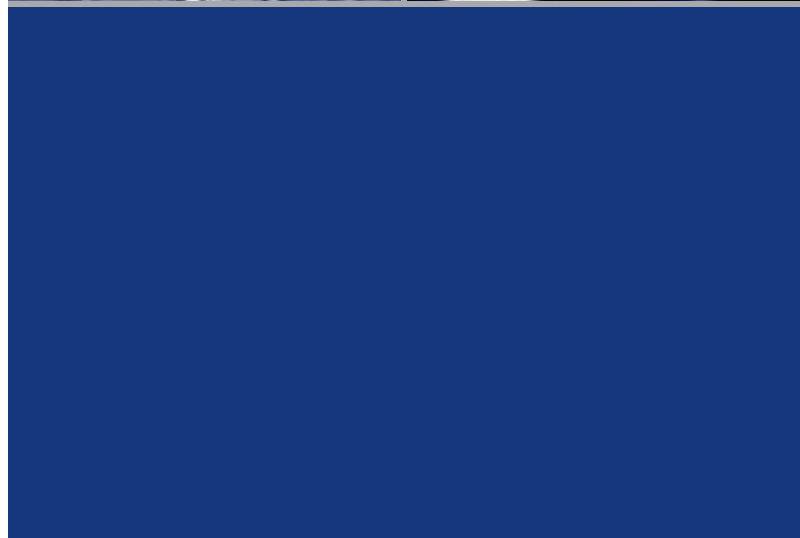
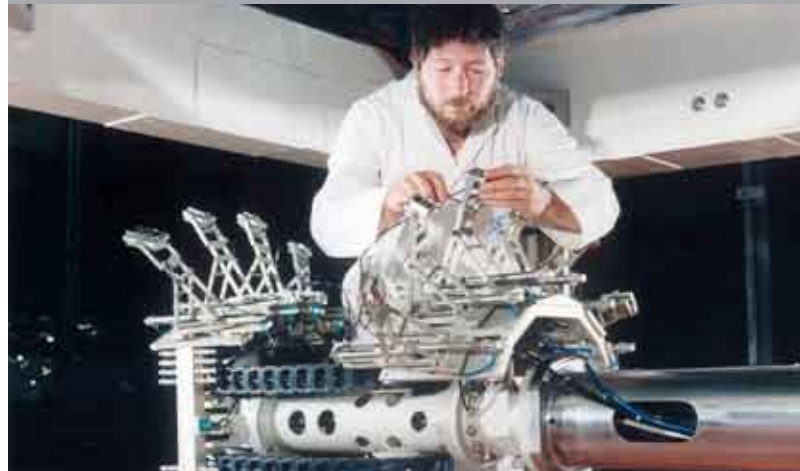
The challenge for customers is to find the highest quality solution at the most sensible cost.

Whether it's for primary and secondary circuit equipment for the Nuclear Steam Supply System (NSSS) or for nuclear valves, reactor pressure valves and steam generators, our experience can prove invaluable.

Our expertise can assist you in three key areas:

- We can build to the original print.
- We can design for manufacture.
- And, we can act as your procurement specialist.

Whichever it is, the solutions will be world-class.



# Leading innovation in instrumentation and control.

The safety systems used by 200 reactor units across 20 countries.

The most important issue for any customer is trust.

In the area of safety and mission-critical instrumentation and control systems, Rolls-Royce has a reputation as a leader and innovator.

For over 40 years we have been involved in designing, manufacturing and re-engineering analogue and digital I&C systems across reactor technologies spanning Pressurised Water Reactor (PWR); Boiling Water Reactor (BWR); Fast Breeder Reactor (FBR); Russian-designed Pressurised Water Reactor (VVER) and Pressurised Heavy Water Reactor (PHWR).

Our solutions have more than 3,000 years of successful operating experience and continue to support extended operational lifetimes.

This track record means customers can have confidence in world-class technology and with the knowledge that it also reduces operational cost.



# Commissioning and in-service support.

## Providing four decades of technical support.

Throughout the lifetime of a nuclear reactor, every customer requires optimal safety and productivity.

Rolls-Royce can be a partner in achieving just that.

Our expertise in monitoring, inspection, ageing management, technical support and analysis has been developed over a period of four decades. Our highly efficient non-destructive materials sampling and in-situ repair techniques have satisfied the most stringent regulatory requirements and supported extended operational lifetimes.

And our advanced in-service inspection and repair techniques allow access to remote and high dose locations. Everything we do is designed with one thing in mind, to solve some of the industry's most complex engineering challenges.



# Manufacturing excellence.

Utilising lean manufacturing techniques and stringent production system principles, Rolls-Royce has gained worldwide recognition for manufacturing excellence.

For our customers, this means reduced lead times and the assured delivery of high quality solutions.

As the industrial lead in six Advanced Manufacturing Research Centres across the UK, USA and Asia, we are at the forefront of manufacturing innovation and technology.

The Nuclear Advanced Manufacturing Research Centre (NAMRC) has been established in the UK to investigate the unique challenges for nuclear manufacturing, including the continuous modernisation of manufacturing processes and techniques, skilled workforce training and development, and supply chain accreditation.



## Quality assurance you can trust.

With in-built flexibility for product design and engineering, our quality programme is structured to provide full and highly visible interaction with inspection bodies across our integrated support services.

We design, procure, manufacture, inspect, test and certify pressure vessels, components and structures, that fully comply with nuclear codes and standards such as ASME III and RCC-M.

Our customers also benefit from processes and procedures which satisfy regulatory requirements and utility design specifications, in the most effective manner.

Our Quality Management System represents a world-class, process based approach that integrates business management and quality for customers. Its robust controls are applied to all supply chain activities across Rolls-Royce.

Therefore, you can be assured of the highest quality products and low risk, cost effective service delivery from a partner you can trust.





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