



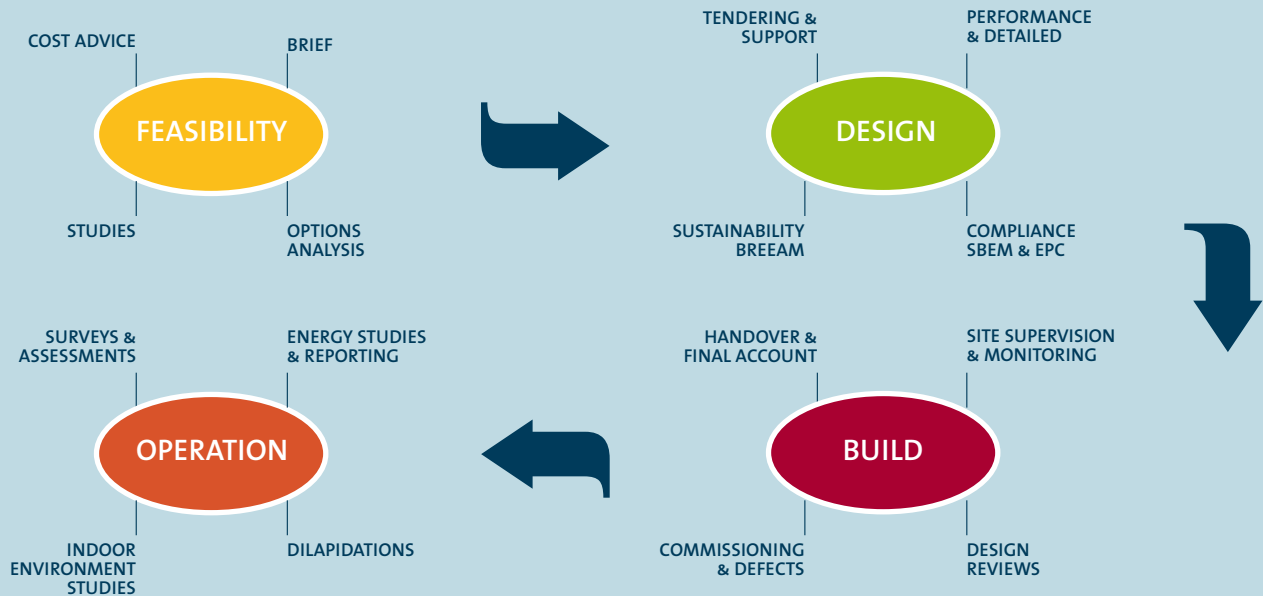
M&E Building Services & Sustainability

our unique capability is your solution



ROYAL HASKONING

Your buildings solution



Our integrated approach

Royal Haskoning is an independent, internationally renowned engineering and environmental consultancy with in-depth experience of providing building services for our clients. We provide services to support you at all stages of the project lifecycle, from the feasibility or concept stage, through detail design and ultimately to project completion.

Our design and construction experts work hand in hand with our environmental specialists to create **environmentally sound** solutions for building designs and their infrastructure. Our multi-disciplinary approach ensures environmental factors such as carbon emissions and energy usage are built into your development from the outset.

This approach not only benefits the environment – it also improves your own profile, making you more attractive to customers as part of a greener supply chain and also a more attractive employer.

The scope of the services we offer includes:

- Strategic advice and site selection
- Cost advice
- Building services design
- Sustainable and low energy solutions
- Site infrastructure
- Sustainability appraisal
- Environmental impact assessment
- BREEAM assessment
- CEEQUAL
- Energy performance certificates

Whatever the size and purpose of your building project, whether for private or public sector, we have the right people with the skills to help you make appropriate decisions at every stage of the building life cycle.

Our capability and experience allows Royal Haskoning to support clients at each stage of a project from early feasibility through to completion.

Sustainable and Low Energy Building Design



Our expertise – your sustainable solution

We have developed a range of techniques for achieving sustainable solutions in an increasingly complex society. The expertise and experience of our professionals enable us to consider many aspects of a project.

Passive building solutions, using natural factors such as the site and location of the development, the prevailing climate, natural ventilation and the benefit of solar orientation, are increasingly being used to deliver all or some of a building's environment and to reduce its energy usage.

We use **dynamic simulation modelling** to test these solutions and for example to demonstrate the effectiveness of the natural ventilation during the critical summer months with a view to ultimately achieving compliance with Approved Document **Part L of the Building Regulations**. This modelling can also be used at an early stage of new build projects to assist in the positioning and orientation of buildings to limit solar heat gains. In addition this can identify the potential for utilising natural light in the positioning of windows and can determine the requirements for solar shading during the development stages of project design.

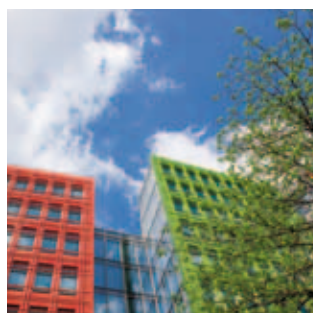
The **Building Research Establishment Environmental Assessment Method (BREEAM)**, is currently the world's leading and most widely used environmental assessment method for buildings. We are fully licensed to provide initial, pre-construction and post-construction BREEAM assessments. Our service is tailored to your requirements, covering new build, major refurbishment and fit-out only assessments for industrial, commercial and public sector related buildings.

Energy Performance Certificates (EPCs) are required for most non-domestic buildings following the construction, sale, rent or modification of property. Our Low Carbon Consultants and Energy Assessors have extensive experience of evaluating the energy performance of buildings and of providing viable and cost effective energy saving measures.



The **Civil Engineering Environmental Quality Assessment (CEEQUAL)** is the award scheme for improving sustainability in civil engineering and the public realm. It assesses project performance across 12 areas of environmental and social concern, and highlights the major impacts of civil engineering developments on their neighbours, the environment, the earth's resources and quality of life.

Royal Haskoning's fully licensed CEEQUAL assessors provide guidance across the range of available awards and offer both pre-assessments and full assessments.



Industrial and Manufacturing



Our design, your whole life solution

Whether a project involves some early feasibility work related to an infrastructure upgrade, or a complete detail design solution for a new facility building, we have the in-house expertise to provide this.

We have experience of upgrading and reconfiguring existing facilities as well as preparing innovative designs for brand new buildings. In all cases we maintain a commercial focus on providing economically viable designs and minimising the whole life investment. We also help our clients to comply with the ever-changing demands of new legislation, such as the requirements for reducing engine emissions in the auto industry by providing solutions to support their research and development activities.

Our experience of industrial and manufacturing buildings includes:

- Automotive industry
- Test cells & laboratories
- Food packaging, storage & manufacturing areas
- Ship repair facilities (maritime developments)
- Training facilities
- Distribution centres



Commercial and Mixed Use



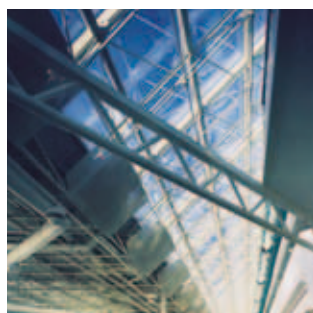
Our knowledge, your sustainable development

As always we offer extensive practical expertise in mechanical and electrical engineering in this sector, but we aim to go much further than this. We recognise how important it is to provide environments where people will enjoy living and working, and build these factors into our designs from the outset.

Sustainability plays a key role in these environments and we can provide an early assessment of the BREEAM requirements, evaluation of low carbon solutions, cost benefit analysis through to the provision of performance or detail design work.

We have been involved in many key commercial and mixed use development projects, including:

- Speculative office developments
- Retail parks and business parks
- Office refurbishment and relocation
- Headquarter buildings
- Public realm projects



Education



Our engineering expertise, your learning environment

Our engineers aim to enhance the learning experience by integrating all the functional, technical and environmental aspects of design to provide a comfortable environment for students. We have an excellent track record for providing sustainable solutions for different types of educational buildings including schools, colleges and universities.

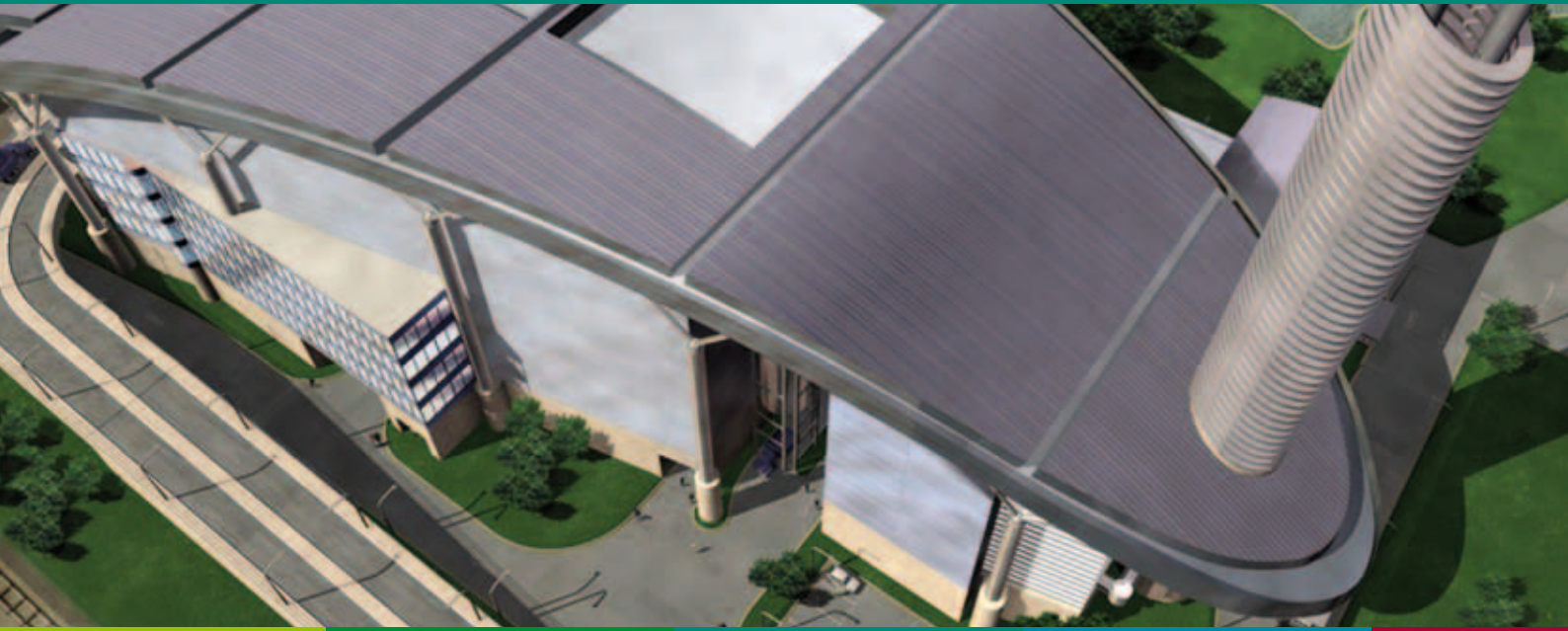
In many cases we **upgrade and improve older facilities** to meet 21st century requirements. For example, remodelling existing classroom areas to create up to date facilities such as music studios and science laboratories. We can help you meet the combination of challenges posed by the many regulations that govern the design of modern educational buildings, such as BREEAM, the DfES Building Bulletin framework for school buildings, and local planning requirements.

Our experience ranges from early involvement in providing conceptual design, substantiated by dynamic simulation modelling data, through to providing economical detail solutions for installations by mechanical and electrical contractors

Quote (from Hazeley School, Milton Keynes):

“A major requirement of the contract was to work within specific regulations for modern sustainable buildings. These included BREEAM, which emphasises high indoor quality, good natural daylight, occupant control and low ambient noise levels; the appropriate DfES Building Bulletin framework, which sets out guidelines for design in secondary school buildings; and the local authority’s planning regulations. To comply, our design needed to include sustainable solutions for the provision of heating, cooling, ventilation, domestic water, power supplies and lighting systems.”

Energy and Waste



Our experience, your green credentials

We have in-depth experience and expertise in the energy and waste sectors. Our strong reputation for designing and managing energy from waste developments is based on successful projects we have delivered for facility operators, process providers and EPC (engineer, procure and construct) contractors alike. These appointments often involve early BREEAM or CEEQUAL assessments to establish the green credentials of the facilities.

We have also delivered a number of feasibility studies for large sites, with a view to incorporating future green energy sources such as solar energy into existing energy infrastructures. Creating a culture of energy efficiency from a legacy of inefficient and outdated equipment is one of the more satisfying challenges in this area of work.

Our experience in this sector includes:

- Energy from waste facilities
- Material recycling facilities
- Mechanical biological treatment facilities
- Future green energy sources for MOD bases
- Combined heating and power (CHP) installations interlinked with district heating



Health



Our sector knowledge, your health facility

A significant number of our engineers have delivered building services solutions for a wide range of facilities within the health sector.

From working on some of the largest PFI projects - including acute hospitals, mental health units and small clinic developments - we have gained a deep understanding of NHS procedures, standards and the various procurement routes, including traditional, Procure 21 (21+) and PFI. We are an approved mechanical and electrical engineering consultant by the NHS Estates Business Agency.

In addition to providing you with a body of knowledge and experience relating specifically to the health sector, we also prepare economically viable designs to match the available financial resources, without compromising either energy efficiency or the environmental requirements for patient recovery and welfare.

Our range of experience includes:

- Input at outline business case stage
- Technical advisory duties on behalf of the Trust
- Concept and scheme design for tender processes
- Detail design for contractors



Heritage



Our bespoke service, your historic building

Heritage buildings vary tremendously and our services are tailored to match the nature and circumstances of the building in question.

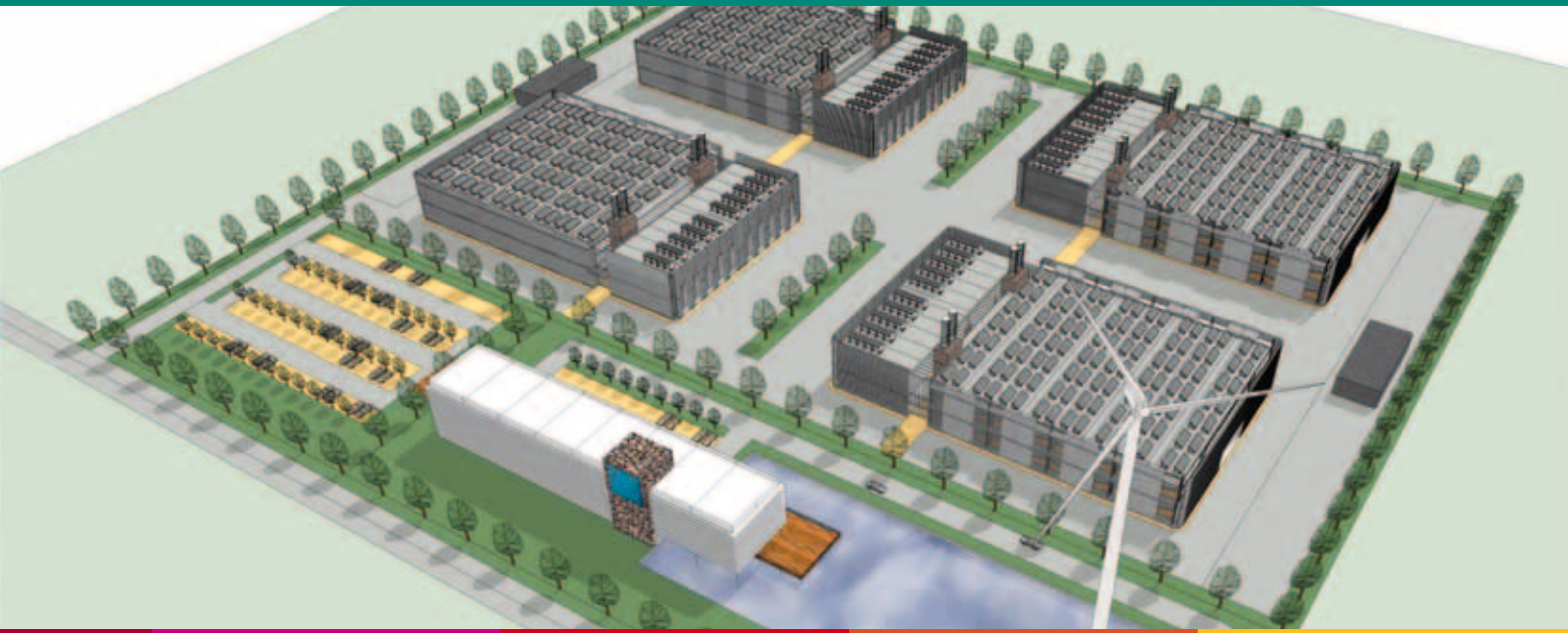
We have an extensive track record of providing sustainable building services solutions, often incorporating sustainable materials for heritage and other related buildings and organisations. These include buildings as varied as museums, visitor centres, listed buildings, glass houses and RNLI lifeboat and lifeguard stations.

The services we have provided for clients include:

- Renewable energy feasibility studies
- Condition surveys and recommendations
- Concept design for upgrading buildings
- Detail design for installation



Hi-Tech Facilities



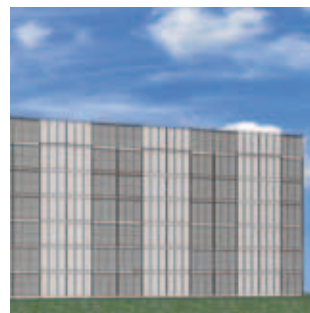
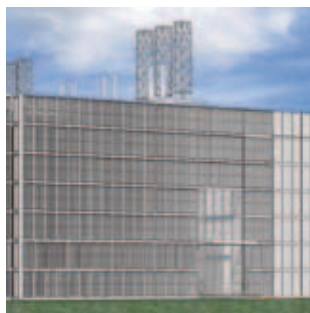
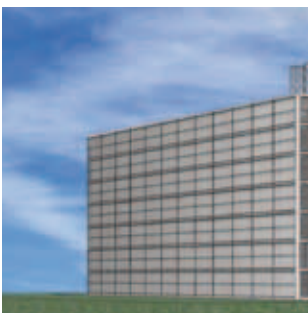
Our specialist knowledge, your reduced energy usage

Our engineers provide reliable expertise and understanding of the complexity and multi-service requirements that are associated with many hi-tech facility type buildings.

One of the main challenges posed by these facilities is the high demand for energy caused by the process and the need for controlled environments. Through use of our innovative designs, we can help you achieve energy efficient and sustainable outcomes. For example, efficiencies can be achieved by recycling energy generated in one part of the facility for use in another.

We have successfully delivered many different types of hi-tech facilities, including:

- Clean rooms
- Data centres
- Laboratories
- Electronic facilities
- Pharmaceutical facilities



With its headquarters in the Netherlands, Royal Haskoning has 57 offices worldwide, housing 3,900 employees. We offer a personal, effective and local consultancy service, whilst utilising a comprehensive range of experience, knowledge and skills acquired through worldwide activity. Our expertise reaches every corner of the globe, covering Europe, Africa, Asia, South America, the Caribbean and the Middle East.

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Get in touch

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