

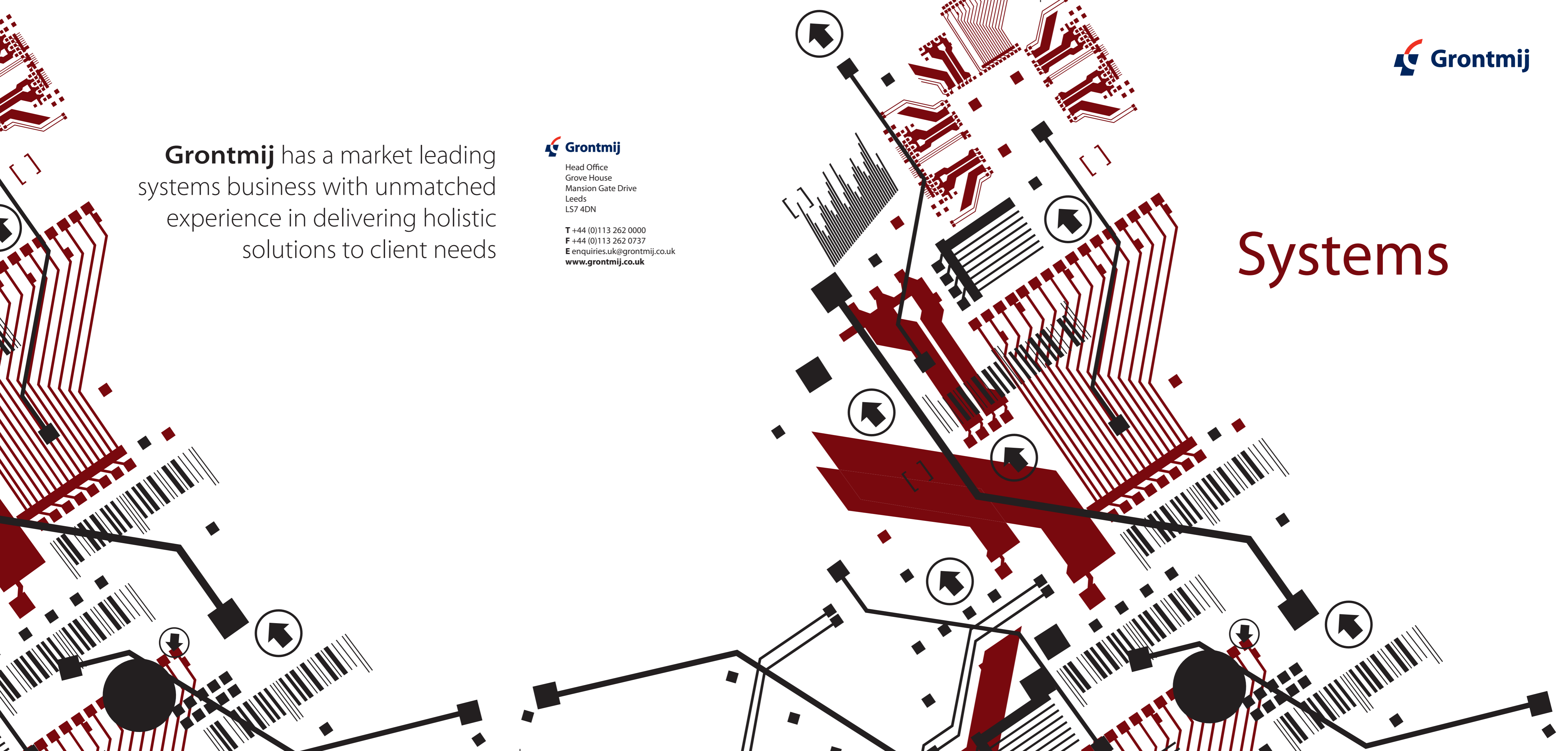
Grontmij has a market leading systems business with unmatched experience in delivering holistic solutions to client needs



Head Office
Grove House
Mansion Gate Drive
Leeds
LS7 4DN

T +44 (0)113 262 0000
F +44 (0)113 262 0737
E enquiries.uk@grontmij.co.uk
www.grontmij.co.uk

Systems



Systems

Over the past 30 years, Grontmij has developed a market leading systems business that provides holistic solutions to the water, transportation, sustainable energy and nuclear decommissioning markets. We provide a broad range of engineering and technology based services centered on real time asset management, automation and control, renewable energy and energy efficiency.

Sustainable solutions using renewable energy

Sustainable solutions using renewable energy

Our holistic approach to energy is aimed at making our clients' development needs more sustainable. At Grontmij we combine systems design with energy management and efficiency, renewable energy and carbon management to provide sustainable energy solution. We offer advice on legislation, grant availability, tax exemptions and the latest commercially viable technologies best suited to our clients' needs.

Two main goals

We are driven by two main goals. These are to ensure our clients:-

- become more efficient in their energy use, so reducing their energy bills, fossil fuel use and carbon footprint;
- increase the proportion of energy that comes from renewable sources, aiming to comply with the 2020 EU targets.

Holistic approach

Our clients increasingly ask us how to use a mix of renewable technologies to achieve the most cost effective and sustainable solution for their sites. Our approach is to start from the perspective of overall sustainability and to look not merely at embedding renewable

technologies but to combine these with long term and real time energy efficiency strategies as twin parts of a sustainable energy solution.

Integrated solutions

Grontmij provides integrated sustainable energy solutions which utilise the knowledge and experience of all of our engineering disciplines. We select the best people for each project from our total team of technical employees in the UK and Ireland to form solutions teams tailored to meet our clients' needs. We have an unrivalled international track record in providing solutions involving:

- Energy efficiency and management
- Bio-energy
- Combined heat and power (including cooling)
- Hydro
- Energy recovery from waste
- Wind
- Solar
- Tidal
- Wave

Transportation

Grontmij is playing an ever more central role in delivering urban and inter-urban transport solutions. The expectation is that various forms of Intelligent Transport Systems (ITS) will be essential in the future for keeping traffic moving. We are experienced in all aspects of delivering ITS systems, road transport capacity and safety-related improvements.

International expertise

Our experience includes acting as the client's technical adviser for the delivery of a national ITS project, specifying the control systems for the longest urban motorway tunnel in Europe, developing free flow road tolling systems and designing the ITS elements of a number of large strategic road schemes.

Water

Within the water industry there is an increasing drive to improve operational efficiency through better management of the dispersed asset base. To achieve this, many companies are reviewing their use of telemetry and its integration with corporate business systems. At Grontmij we are working with many UK water companies in developing and carrying out associated programmes.

Asset replacement

Since telemetry has been used in the water industry for over 30 years, there is an ongoing need to replace data monitoring / field devices due to their obsolescence. This is coupled with the need to monitor additional signals for performance improvement, as well as to log asset condition for regulatory purposes.

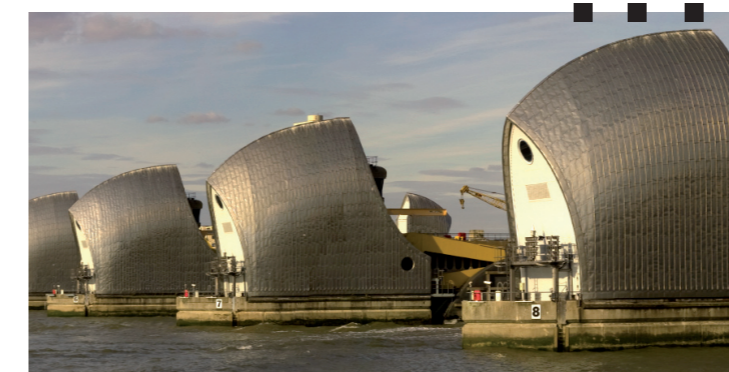
Grontmij has been instrumental in both the first time installation and the subsequent replacement of over 15,000 field devices along with the associated instrumentation and communications, since the early 1980s.

Automation and control

Many of the large treatment works which were automated in the early 1990s are now due for upgrading. This coupled with the drivers to reduce manpower, energy and chemical costs, as well as the need to integrate these work systems into the overall corporate data structure, has created the need to automate numerous strategic works. Grontmij has extensive experience of this from single site systems including some of the largest works in the UK, through to programmes of multiple site upgrades of many hundreds of smaller works.

We work with our clients across a broad range of services including:

- Telemetry - policy and data integration
- Asset management and performance improvement
- Alarm management
- Business process improvement and change management
- Configuration management
- Telemetry - data collection and process monitoring
- Remote asset monitoring policy
- Field device replacement and configuration
- Communications and instrumentation
- Plant control and automation
- SCADA and DCS
- PLCs and communications



Thames Barrier remote site telemetry replacement

Nuclear

Across Europe in the Grontmij group, we have extensive knowledge and experience within the nuclear industry throughout the whole life cycle. We offer services across nuclear power process and systems, drawing from a network of competencies including: radiation, radiology, chemistry, material and safety technology, structural mechanics, electrical and automation engineering. Within the UK, as well as being able to draw upon our group expertise, we have an established track record in the control and instrumentation and engineering validation services.

Risk assessment

Grontmij has provided risk assessments on numerous projects including nuclear waste storage, processing and retrieval and medical radiological equipment production processes.

HAZOP and HAZAN safety analysis

Grontmij's application of techniques and measures for applying HAZOP and HAZAN design analyses is one of a number of systematic and progressive design assurance measures used on safety critical plant design.

Control and instrumentation

Grontmij has extensive experience in engineering and design substantiation within the nuclear industry providing detailed analysis of proposed and existing instrument and control systems including instrument type and frequency of maintenance.

Engineering validation

In the nuclear industry, as in many others, there is a requirement to ensure that all engineering work is appropriate, meets modern standards and is value for money. During engineering validation, we therefore look at all aspects of a task - not just the design.

Mechanical handling expertise for design, decommissioning and validation

Grontmij has provided mechanical handling expertise and analysis on several projects in the nuclear industry. We have helped clients to understand the legislative and regulatory requirements for the handling of radioactive wastes, material and packages and given guidance in the engineering of lifting equipment for nuclear environments.

Nuclear safety case production & safety assessment

Grontmij's highly experienced multidisciplinary team has the necessary skills and competencies required for the development, production and delivery of very high quality safety cases in accordance with modern UK and International standards. We have provided nuclear safety assessments on numerous projects covering civil nuclear waste storage, processing and retrieval, nuclear power reactor de-commissioning and medical nuclear equipment production processes.



Ebeltoft wind farm, Denmark.



Dublin Port Tunnel control centre