



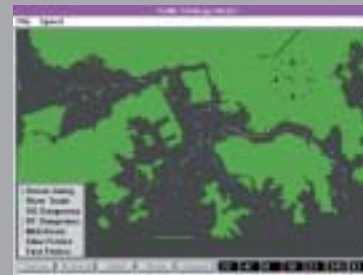
maritime support services



ROYAL HASKONING

thinking in
all dimensions

maritime support services



Clockwise from above: Sheerness Lighting Scheme and Ship Access and Walkway, UK; Marad Study; Posport simulation package; Prestige1.jpg

economic project tools

The right tools and support services can help our clients meet or surpass each project's anticipated rate of return. Royal Haskoning, through Posford Haskoning Ltd. and Haskoning Nederland BV, has a team that combines technical expertise with business acumen, which aids our clients in achieving their goals.

numerical modeling

Development within a potentially hostile marine environment inevitably raises critical design and operational issues. Our suite of numerical models provide cost effective answers by analysing:

- Wave climates and transformation
- Tide and current behaviour

- Sedimentation and sediment transport
- Water quality and thermal plume dispersion

site investigations & land remediation

Our services range from desk studies to the design and supervision of ground investigations and detailed geotechnical analysis. Specialist services include:

- Hydrographic surveys
- Computer modeling of ground water flows
- Water sampling and numerical modeling of water quality investigations
- Chemical analysis and recommendations for contaminated land development
- Preliminary geotechnical site investigations



Clockwise from above: Kamsar, Guinea; ??; Swelly Rock Navigational Aid, Uk.; Belfast Ro Ro, Ireland; Navigational aid?.

from ship navigation to fighting fire

overcoming navigational problems

We have extensive experience in considering navigational problems and providing the optimum degree of cover by fixed aids, taking into account the developments in global positioning systems.

Growing congestion in the waterways of major ports requires a systematic way of quantifying collision risks.

Our software analyses potential ship collisions and quantifies the effects of delaying entry to a port.

We can also model the movements of vessels in confined waterways and when approaching a berth, especially where there are strong currents or cross winds. This is often essential to achieve the best configuration of shipping channels and berths.

mechanical & electrical services

Among our specialist services is the design of lighting schemes that guarantee optimum safety levels in ports with minimum environmental impact. Computer programs optimise lighting schemes that ensure the vision of the pilots is not adversely affected when bringing ships alongside.

Other bespoke design services include:

- Hydraulic systems for ro-ro linkspans
- Desalination and portable water supplies
- Water and fuel bunkering facilities and fire fighting systems, including those for hazardous cargo facilities

Royal Haskoning is an independent, worldwide operating consultancy that has its origins in a firm established in 1881 in the Netherlands. The consultancy now has a staff of 2,300 who together combine a wide range of knowledge and experience. Rooted in a technical background, our consultancy services focus on the broad field of the interaction between people and their environment.

We are committed to working enthusiastically with our clients to achieve sustainable solutions in an increasingly complex society. The expertise and experience of our professionals in a variety of disciplines allow us to consider all technical, logistical, architectural, legal,

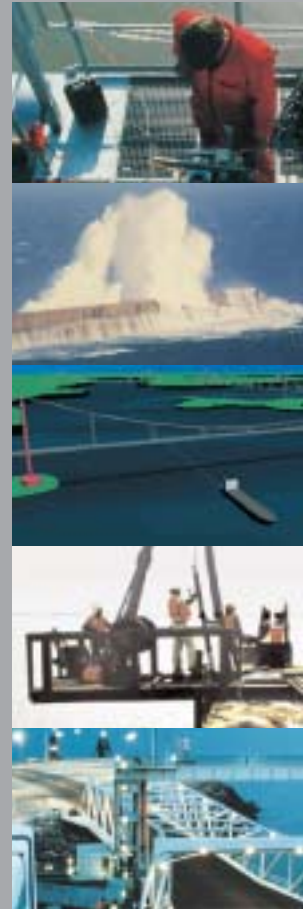
organisational, social, environmental and economic aspects of your project, in order to develop sustainable and practical solutions. Royal Haskoning has subsidiaries and partners throughout the world.

Posford Haskoning is the UK branch of Royal Haskoning. Through our branch and project offices in Europe and overseas, we have access to all major international markets. This way, Royal Haskoning offers multidisciplinary and integrated services locally, based on experience built globally. With our personal service in consultancy, we contribute effectively to the successful planning, design, implementation, commissioning and operation of your projects and programmes.

Royal Haskoning, through Posford Haskoning Ltd and Haskoning Nederland bv, is a member of:

- ACE The Association of Consulting Engineers
- BCB British Consultants Bureau
- PIANC International Navigation Association
- ICHCA International Cargo Handling Co-ordination Association
- CIRIA Construction Industry Research Information Association British Section
- ICID International Commission on Irrigation and Drainage
- IEMA Institute of Environmental and Management Assessment
- FIDIC International Federation of Consulting Engineers

As part of Royal Haskoning, Posford Haskoning Ltd or Haskoning Nederland bv is registered with: African Development Bank, Asian Development Bank, Caribbean Development Bank, European Bank for Reconstruction and Development, European Development Fund, International Development Bank, Islamic Development Bank, Kuwait Fund for Arab Economic Development, Overseas Development Administration, United Nations Development Programme World Bank, and many other Funds and National Authorities.



thinking in all dimensions

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