

Underground and submarine cables

Providing leading expertise worldwide

Mott MacDonald is a global management, engineering and development consultancy with a strong engineering base. With annual revenue of £1 billion, we combine the skills of over 14,000 staff with a strong presence in 140 countries. Mott MacDonald has extensive engineering and project management expertise in complete cable projects and cable installations up to 400kV.

Underground cable projects

Mott MacDonald's experience in this area extends to all types of cable available, recommending the most appropriate for each scheme and the use of cable tunnels in urban areas. The Mott MacDonald Group possesses internationally renowned tunnel expertise based on global experience, so is able to undertake the design of all civil works.

Our cable engineering services include route selection, preparation of technical specifications, tendering, checking of contractor's designs and inspection at manufacturer's works. We also supervise installation at site and commissioning.

We've worked on many complex cabling projects and have particular expertise in optioneering the best cabling solutions to and between substations in congested city areas.

Submarine cable projects

Utilising the results of sub-sea surveys, Mott MacDonald provides feasibility studies, route selection and preparation of technical specifications.

Taking into account location, currents and local fishing or other commercial shipping activity, we can decide whether the cable should be buried in a trench, cut into the seabed or laid on the seabed and covered with protective material. Our services also include inspection of the cable during manufacture and supervision of installation at site.



Underground cable works.



Offshore cable laying equipment.



We are skilled in all types of cables and associated tunnelling.

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Environmental issues

Environmental aspects have to be taken into account on all significant cable installations.

Mott MacDonald was commissioned to conduct the route options assessment and environmental impact assessment (EIA) for a 132kV supply circuit in Hong Kong. The project comprised 4km of underground cables, a 3km cable tunnel and 2.3km of submarine cables. We also delivered engineering assessments and a full EIA for the construction of the cables, including the tunnel and submarine sections.

Recent projects include:

- **Cable tunnels, UK** Civil engineering of major cable tunnels, including the Dartford cable tunnel under the River Thames.
- **150kV submarine cable, Bali** We installed 26km of 150kV double-circuit, 12km of single core 150kV submarine cables and associated equipment in Indonesia.
- **Cable rating and voltages, Isle of Man** Planning stage studies to examine and optimise cable rating and voltages.
- **Land cable laying, Europe and the Middle East** Cable installations from 33kV up to 400kV, using a variety of cable laying methods.
- **400kV cable options, Hong Kong** We carried out an assessment looking at the practical lay aspects and the wider system and regulatory implications of connecting Hong Kong island to the mainland.

Cable laying equipment aboard a ship.



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