Proper ground engineering is a prerequisite for improving the performance of designed structures – including roads, railways, bridges, and tunnels – and can significantly reduce life-cycle costs by making use of the latest technology and methods.

Ramboll’s competence within ground engineering comprises a comprehensive range of investigations and design services related to the subsurface. We have extensive expertise, both working in more than 70 countries, and solving any condition anywhere in the world providing the technology and methods needed.

Our services cover all project phases from site investigations, laboratory and in-situ testing to advanced numerical modeling, project implementation, inspection, and waterworks.

SELECTED REFERENCES

- SOLIDIFICATION OF CONTAMINATED SEDIMENTS, VOSIHAVI MARITIME, FINLAND, 2006-2007
  Various methods of stabilisation were implemented in Vosihavi Harbour including the restoration of 500,000 m³ of TSS-contaminated sediments by dredging and mass stabilisation with cement in the Brighton.
- FIELD INVESTIGATIONS, EBBOR, AND GERMANY, 2008-2014
  Geological and geophysical investigations for the Enhancement Field Line between Germany and Denmark. The investigations included marine geological investigations, a comprehensive geophysical boring campaign, laboratory tests, geophysical borehole logging and offshore large scale testing.
- BBC TV PROJECT, LANGLEY PLACE, LONDON, UK, 2001-2010
  Planning and design of basements over 14m deep in central London, next to a Grade I Listed church and within the exclusion zones of London Underground’s Victoria Line tunnel.
- DESIGN FOR TRANSPORT, SP-LINER, DENMARK, 2008-2009
  Geotechnical and environmental investigations and design for the Humber Bridge.

Ramboll is a leading engineering, architectural and consulting firm, employing close to 10,000 experts and with a significant presence in Northern Europe, Russia, India and the Middle East. We constantly strive to achieve inspiring and exacting solutions that make a genuine difference to our customers, the end-users and society as a whole.

www.ramboll.com
MARKET SEGMENTS

Ramboll provides ground engineering services to a broad range of market segments.

Buildings and urban geotechnics

Ramboll provides geotechnical engineering for buildings, roads and public works of all scales, notably for complex, high rise and large scale projects, in all types of locations - from remote and confined sites to greenfields. In urban locations, we have successfully found solutions for projects that involve not only extensive foundation works but also complex digging grids and bundling close to existing structures, major aesthetics as well as urban and transport infrastructure. The hallmark of our success is the ability to deliver solutions for successful projects located on greenfield or complex existing site conditions, including the presence of other structures, sensitive archaeology and transport infrastructure. Consideration of seismic factors is also increasingly part of our international work.

Environmental geotechnics

Ramboll’s knowledge and technological innovation within the soil and ground-water area is based on our experience from investigation, risk assessment and remediation of thousands of impacted sites. Ramboll has all the necessary technical equipment to investigate and record soil and groundwater contamination, including a field laboratory, for measuring chemical concentrations as well as in-situ settings. We perform field investigations, numerical analyses, engineering geology investigations, dam, safety evaluations, rock mass classifications, as well as planning and design of excavation methods, risk support and grouping.

Field investigations

Soil investigations are made by drilling, sampling and mapping, and numerical methods of field investigations are compiled from the geotechnical units across Ramboll. Thus, we have a large amount of sampling devices for the production of soil samples from disturbed and undisturbed samples. We are able to determine soil parameters either by carrying out field measurements or through laboratory tests.

Geophysics and groundwater

Geophysical investigation techniques help us identify geological, geotechnical and hydrogeological parameters from the surface to more than 2000 metres below the ground level on measurements in boreholes, along profiles and on surfaces. Linking the physical conditions of the earth or foundation materials with, for example, drillings and core penetration test data enables us to establish a consistent geotechnical model.

GIS, databases and 3D models

We make extensive use of GIS, databases and digital 3D models in all project stages in order to make efficient use of all available information. This enables us to identify and reduce risks for the benefit of the projects and our customers. GIS and our customers.

Lab services

Ramboll has highly qualified laboratory personnel with extensive experience in carrying out all as well as providing advice to our customers concerning the use of state-of-the-art testing of ground conditions. The quality of the investigations is based on the description of deformation properties of soil and rocks in a clear and coherent manner, with a focus on plan and design, interpretation, risk assessment, and special competencies.

Special competencies

Our experience from projects all over the world enables us to carry out a number of specialised services to our customers. For example, in peat areas, we have learned to master the specialty of mass stabilisation. We have knowledge about land and mining sites, volcanoes, earthquake, geotechnical engineering and know-how of reinforced soil structures.