

## Leading the way

### High precision tunnel orientation and surveying services

Based on the GYROMAT series, DMT offers one-stop tunnel surveying services with a world-class surveying team and expertise from more than 3800 successful gyro campaigns. We have been involved in underground mining and tunnel projects around the world, such as the Eurotunnel, Brenner Base Tunnel, Gotthard Base Tunnel and major metro and infrastructure projects.

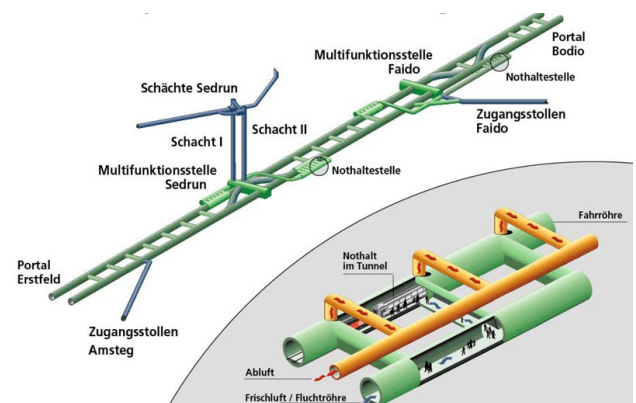
#### Securing your tunnel investment – with experience, precision, and trust.

Our clients benefit from many years of experience in surveying services and a confident hand in developing our own surveying instruments. Our highly qualified team is ready to assist you in solving and executing even the most complicated surveying tasks.

#### Our Services

- Highest accuracy directional measurements for tunnel orientation - check surveys
- Set up, review and refinement of geodetic project networks with high-precision terrestrial and satellite surveying
- Consulting, design and development of concepts for complex measurement tasks - accuracy simulations and forecasts

We are also qualified to handle complex tasks and procedures around special underground surveying. For example, we can calculate the complete reorientation of mines linked to the surface survey network by high-precision transfer of coordinates, dimensions and orientation from the base network through mine shafts of any depth.



DMT tunnel gyro orientation and surveying services

## Your advantages

- Highest precision using the worlds best Gyro equipment and unprecedented knowledge in gyro- and engineering surveying
- High reliability based on long time experience in international mining projects
- Minimal disturbance of business operations thanks to fast mobilization, logistics and on-site data acquisition
- Optimum on-site safety due well-trained experts with long-lasting experience and proven track record
- Securing your tunnel projects related investments

## Our equipment, references and international experience is unprecedented

Our services in the field of tunnel construction and pipe driving cover 3D grid surveys, independent control measurements with our high-precision gyroscopes DMT Gyromat 3000/5000 and geodetic adjustment using recognized network adjustment programs. Having more than 50 Leica GNSS/GPS geo-systems and 10 gyro-measuring systems at our disposal, we are always able to deliver the most modern equipment suitable for your needs and guarantee the high quality of measuring expected by regularly maintaining and carefully calibrating the devices.



Establishment of a primary grid using high-precision GNSS measurements

## Projects

**Ceneri Base Tunnel (CH):** 5 campaigns for gyroscopic surveying in four tunnel drives

**Brenner Base Tunnel (AT / IT):** 27 completed and several upcoming campaigns for gyroscopic surveying

**London Power Tunnel – LPT-II (GB):** check of the survey control network, 18 gyro campaigns in two tunnel drives

**Strategic Tunnel Enhancement Programme – STEP (UAE):** Tunnel check survey, data processing and evaluation

**Abu Hamour Southern Outfall Tunnel and Doha Metro (QATAR):** Tunnel check survey and data processing

**Minera Media Luna (MEX):** Orientation of an ore mine: establishment of a new primary grid using high-precision GNSS measurements, gyroscopic check survey incl. terrestrial measurements, data processing and evaluation

**Inner Doha Resewerage Implementation Strategy (IDRIS, QATAR):** Tunnel check survey and data processing

Tunnel gyro orientation and surveying – selected projects

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