



Tunnels

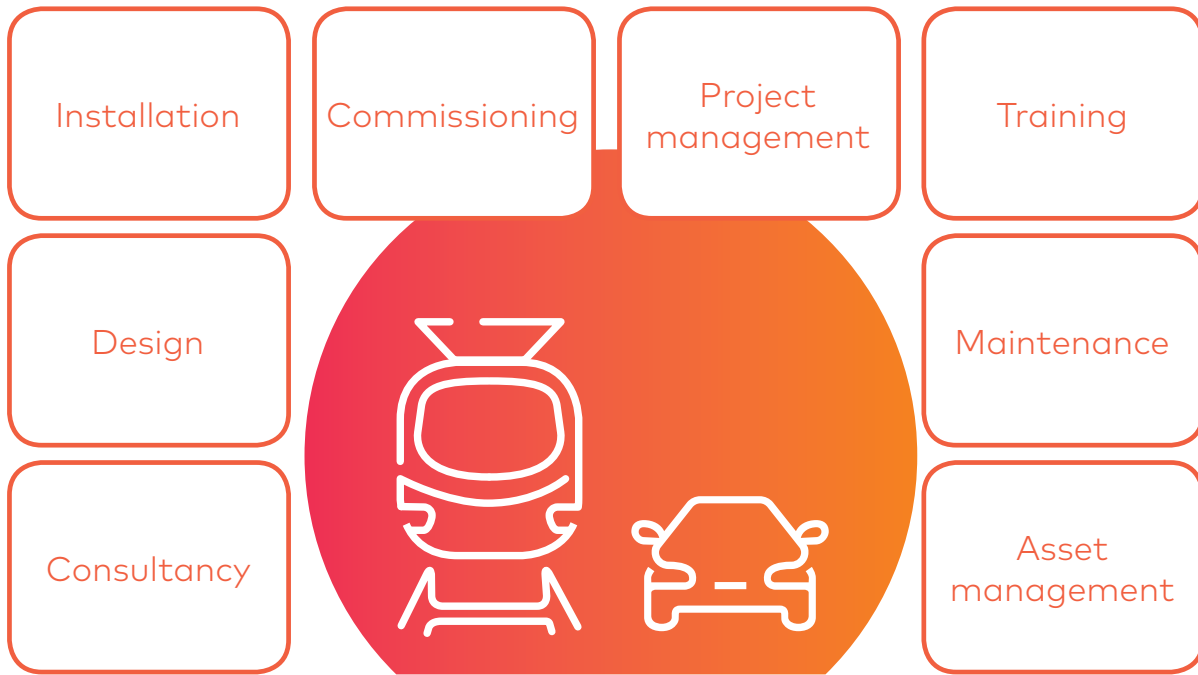


Technical expertise; Experience; A safe pair of hands

Dynniq is your ideal partner for the mechanical and electrical design, build, maintenance and operation of a safe tunnel. By working in close cooperation with our customers, we obtain an understanding of your requirements and translate these into innovative solutions and services. Utilising our many years of experience, comprehensive portfolio of reference projects, manufacturer independence and an integrated multidisciplinary approach, we can provide you with the best solution and performance to meet the demands in all phases of construction.

Utilising our in-house capabilities, Dynniq provides:

- An innovative technical design service
- Provision of plant, systems and equipment
- Control room automation
- Specialist containment, routing and affixing of services and equipment
- Installation, testing and commissioning of electrical and mechanical equipment and systems
- Complex integration and project management
- Maintenance and asset management



Our specialisations include

- Tunnel control systems (including multi-tunnel management systems)
- Ventilation systems
- Integrated control systems
- VMS signage
- Gas monitoring
- Pumping
- Electrical switch rooms
- SCADA systems
- Tunnel mechanical and electrical maintenance
- Fire detection and suppression systems
- People emergency escape systems
- Data and CCTV
- Lighting
- Radio signal extender systems
- Traffic control
- Stand-by, back-up power systems

The integrated tunnel disciplines of Dynniq

Electrical



Almost all installations in tunnels are dependent on electricity, a continuous and stable power supply is therefore crucial for the safety and availability of a tunnel. We have design engineering, installation and maintenance experience, ranging from high-voltage switchgear to medium and low voltage distributions boards. A totally integrated energy management system with additional uninterruptable power supplies and power generators guarantees the continuation of electrical energy, even when the mains electricity supply has failed. The use of a tunnel lighting management system and LED technology improves maintenance, whilst reducing electricity demand.

Mechanical



The air pollution in a tunnel is measured using sensors that control the ventilation system. Fans are also used to remove smoke and heat quickly if there is a fire. Emergency exits, fire extinguish and pump installations are also vital for the safety of the tunnel. Typically mechanical installations have to be designed and built working in close cooperation with the civil contractor.

Traffic



With a long history in traffic, Dynniq brings a broad and specialised approach to tunnel transport systems including:

- Vehicle height detection systems
- Automatic speed detection systems
- Motorway traffic management system
- Traffic Signalling and control
- Hazardous material detection
- Integration to other traffic management, warning and control systems

ICT



Dynniq brings all information together in the Control Centre. From here the Dynniq tunnel control systems can be used to monitor safety and traffic flow continuously, linking to other control systems or tunnels as required. Using CCTV monitoring and the tunnel communication system the operator can control traffic flow and give instructions to people in the tunnel should there be an emergency. All technical installations are connected to the communication network, linking data, voice and video to the Control Centre and other centers or systems as necessary.

An indication of our tunnel projects:

Sodra Lanken (Sweden)

13km – A complex tunnel with four underground intersections: Dynniq provided all tunnel traffic management, SCADA and detection systems.

A2 Koning Willem Alexandertunnel (Maastricht)

2.3km – Dynniq developed and provided the tunnel control and SCADA system.

St Petersburg Dam Tunnel (Russia)

2km – An under sea tunnel: Dynniq designed, installed and commissioned the traffic management, detection, SCADA communications and height detection systems.

Mersey Tunnel (UK)

Dynniq designed, installed and commissioned the automatic incident detection system. Dynniq also maintains the system.

A15 Calandtunnel (The Netherlands)

1.5km – Dynniq provided the complete mechanical and electrical installation, the integrated tunnel control system and maintains the equipment and systems.

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