

# The rail engineering service provider

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Consulting, planning, project  
management  
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Rail infrastructure is a complex system in which all the elements must be precisely coordinated. Basler & Hofmann is one of Switzerland's most experienced rail engineering companies. We plan infrastructure facilities as a full service – we are a total system provider.

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## **System provider – track foundations to overhead lines**

At Basler & Hofmann, all the technical and specialist disciplines required for rail infrastructure work together under one roof. Thus, we handle every process and aspect of construction, from the first site inspections through to noise control. Thanks to our broad range of expertise, we are able to solve any additional tasks that arise within a project, such as environmental measures, civil engineering or anti-vibration protection. Our clients benefit from the coordination within our team at every stage of a project, with a central contact person always available for queries and concerns.

Rail engineering expertise:

- Track planning, land survey, specialist civil engineering, embankments, land stabilisation
- Rail and track engineering/slab track
- Drainage systems
- Infrastructure adaptation and construction (roads, bridges, service pipes, underpasses)
- Rail station planning
- Environmental measures, contingency measures, noise and vibration control, land restoration

## **Extensive experience of all rail systems**

We provide services to operators of high-speed lines, conventional standard gauge, narrow gauge, light rail and tramways.

## **Customised services**

We undertake rail traffic projects from the first feasibility studies through all phases of the project to site management.

Our services:

- Expertise and studies
- Overall project management
- Consultancy services
- Planning and development
- Site management
- Commissioning



**1 New railway line, Mattstetten–Rothrist**

Construction of the first Swiss high-speed line.  
Overall project management.

Length: 54 km. Rail engineering construction costs: CHF 220 million.

**2 Südostbahn Degersheim–Brunnadern**

Project and site management for track foundations and superstructure in difficult geological and hydrogeological conditions.

Length: 5.6 km.

Construction costs: CHF 13.5 million.

**3 Gotthard Base Tunnel**

Equipment of the world's longest rail tunnel with slab track and rail technology.

Length: Slab track 56 km, ballasted 17 km.

Track construction costs: CHF 260 million.

**4 Zurich, Dolderbahn**

Complete renovation of rack and pinion railway.  
Installation of two innovative new switch points.

Length: 1.328 m. Construction costs: CHF 3 million.

**5 Glattalbahn, Canton Zurich**

Construction of a new city line in Glattal.

Length: 13.5 km.

Construction costs: CHF 580 million.

**6 Zentralbahn, Lucerne**

Construction of new 2-km line (dual track) with  
1.4 km tunnel and underground stop.

Coordination of all rail engineering work.

Construction costs: CHF 230 million.

**Cover (large picture)**

**Northern access to the Gotthard base tunnel**

High-speed line in the Reuss valley, Canton Uri.

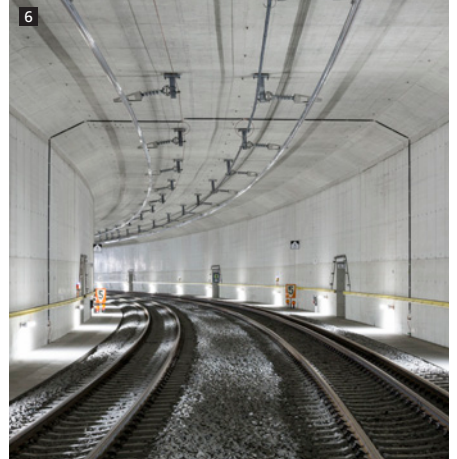
Track construction, including all engineering structure and infrastructure adaptations.

Length: 4.8 km.

Basic structural costs: CHF 260 million.



Photo: Tres Camenzind



# Integrated solutions

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At Basler & Hofmann, our expertise in every aspect of rail infrastructure engineering is embedded in a network of related disciplines. Our specialists in railway construction, traffic planning, civil engineering, tunnelling, and water and environmental engineering work closely together. Our clients benefit from broad-based engineering, planning and consulting services with high-quality environmental standards.

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## Wide-ranging expertise

Basler & Hofmann is an independent engineering, planning and consulting company, fully committed to excellence in construction, infrastructure and environmental protection. We employ experts from more than 30 disciplines. Our experience proves that sustainable solutions often require more than just a single specialist. This is particularly applicable to rail infrastructure projects. Our rail engineering specialists work in teams with professionals from civil engineering, earthworks, road building, bridge and tunnel construction, drainage and environment – to name just a few.

## A reliable partner

Since its establishment in 1963, Basler & Hofmann has grown steadily while retaining its independence as a family-owned business. Today, the group has more than 500 employees. The company has a presence in Switzerland, Germany, Slovakia and Singapore.

## Pioneers in quality and environmental management

In 1994, we were the first engineering company in Switzerland to receive ISO 9001 certification. We also broke new ground with the introduction of our environmental management system in accordance with ISO 14001.

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## Networked within our field

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We are members of SIA (Swiss Society of Engineers and Architects), usic (l'Union suisse des sociétés d'ingénieurs-conseils), Europengineers and Swissrail Industry Association

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## Structural engineering

- Structural design
- Steel engineering
- Structural dynamics
- Façade engineering
- Glass structures

## Civil engineering

- Ground engineering and geotechnics
- Site infrastructure
- Utilities provision
- Special foundation engineering
- Landfill engineering

## Tunnelling

- Cut-and-cover tunnels
- Rail tunnels
- Underground engineering
- Road tunnels
- Gallery construction
- Caverns

## Transportation engineering

- Alignment
- Roads and highways
- Track and railway design
- Bridge design
- Railway technology

## Energy

- Building physics
- Energy efficiency
- Photovoltaics
- Low-energy buildings
- Renewable energy

## Water

- Water pollution control
- Hydraulic engineering
- Flood protections
- Public health engineering
- Water treatment
- Hydropower

## Safety and security

- Risk analysis and safety management
- Prevention of major chemical accidents
- Occupational health and safety
- Seismic design
- Protective asset design
- Biosafety

## Development and management

- Property management
- Site development
- Education building development
- Business process engineering

## Operation and maintenance

- Land surveys
- Site monitoring
- Asset management
- Geographical information systems
- Geodata management
- Technical and environmental due diligence

## Consulting

- Building/Project owner consultant
- Expertise
- Master planning
- Legal services
- Communications consultancy

## Urban transportation

- Planning and urban design
- Railway stations
- Train control systems
- Airports
- Logistics

## Environmental engineering

- Environmental management
- Vibration and noise protection
- Soil and contamination
- Asbestos and building contaminants
- Environmental chemistry
- Environmental technology

## Building services

- Mechanical, electrical and plumbing engineering
- Building integration and controls
- Operational enhancements

## Project teams

Basler & Hofmann provides a specialist technical team for every project. All disciplines necessary to achieve the best solution are represented.



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### Our strengths

- Integrated consultancy and planning from site inspection to noise protection
- All technical and specialist disciplines in one team
- A central contact person for our clients
- Many years of experience and extensive references
- All rail systems from narrow gauge to high-speed lines