

# RAILWAY

STRATEGIES

## Investing in the future

*Steve Montgomery talks about ScotRail's current investment programme*



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# Good contacts

Rail electrification experts **Furrer+Frey** continue to deliver overhead contact lines that meet the market's latest challenges

**E**stablished in 1923, around the same time as the electrification of Switzerland's railways, Furrer+Frey has been at the forefront of this market since its inception. To date, the company has made a significant contribution to the development of rail electrification through its overhead contact line systems. Modern track systems alone are not enough to cope with increasing tractive power and more frequently scheduled trains, meaning that major demands are placed on the loading capacity and the service life of contact line systems. Furrer+Frey is committed to developing overhead contact line systems and processes that meet these challenges.

### Technically driven

Founded by Emil Furrer in partnership with Arnold Frey, today Furrer+Frey remains a family firm under the ownership of third-generation family member Beat Furrer. Under Beat's management, Furrer+Frey undertook its first export contract in South Korea in 1988, and since then has grown into a global business with clients from Australia and the US to Norway and South Africa. Commenting on some of the contributing factors behind this growth, Beat says: "We are a very technically driven company, with a workforce of approximately 140 employees – half of whom are skilled engineers and the other half qualified contact line fitters. As the 100 per cent owner of the business, I am able to respond quickly to client requests and make decisions, due to the short lines of communication between myself and the rest of the business."



*Matterhorn Gotthard Bahn, Gornergrat, Switzerland*

### Infield experts

From first contract with a client through to fault repair, Furrer+Frey acts as a complete solution provider for overhead contact line systems. As well as in-house design and engineering capabilities, Furrer+Frey has its own fleet of drills, cranes and hydraulic platforms to carry out construction and maintenance services. The company has also developed a dynamic catenary measurement car for use in measurement works. Once the overhead contact line installation has been completed, Furrer+Frey liaises with local authorities to commission and certify the system for operational use.

The mountainous geography of Furrer+Frey's home market of Switzerland poses its own unique challenges on the development of the

rail industry. As a result railway lines within the country run at a maximum speed of up to 200 kilometres per hour (km/h), and Furrer+Frey has specifically engineered overhead contact systems to support these specifications. With the pressures of climate and temperature also well catered for, Furrer+Frey is turning its attention to reducing the number of different components within an overhead line system, and in turn lowering manufacturing costs.

One of the most important developments in Furrer+Frey's portfolio has been its overhead conductor rail, which was first launched in 1984. Although this concept has been present in the market since 1890, all competitive systems suffered from weaknesses in terms of component quality or current conduction. One of the major advantages of the Furrer+Frey



*DB, main station, Berlin, Germany*



*NR, Great Eastern, gantry portal, UK*

conductor rail is the fact that it can be built into existing contact line sections, providing a smooth transition of the contact wire from catenary system to conductor rail. Whilst the system was initially developed for the confined space of tunnels where the use of conventional overhead catenary contact lines is impractical, due to its great reliability and wide range of possible applications the Furrer+Frey overhead conductor rail is today found on bascule, swing and lift bridges, depots, workshops, and construction sites.

### Commercial applications

Furrer+Frey's other core products are the FL 200 and FL 260 overhead contact line systems. Utilising components developed from corrosion-resistant materials, the FL 200 and FL 260 offer substantial benefits as for speeds of up to 200km/h no additional support in the form of stitch wires is required. To date these well-proven systems have been installed on the lines of eight railway companies in Switzerland. In 2007, Furrer+Frey successfully won the tender for a major overhead contact line (system design, allocation design and material procurement) contract on the Great Eastern line with Network Rail in UK. Using the FL 200 and FL 260 systems as a base, Furrer+Frey developed a new easy-to-install overhead contact line system – the FL 200-GEFF – for use in this project.

Beat highlights some of the other key contracts Furrer+Frey is currently undertaking: "We have a new contract with a client in South Korea who we worked with in 1988,



*BLS, Kehrsatz, FL 200, Switzerland*

1989 and 1992 on the installation of overhead contact line systems. This client has recently extended one of their rail lines by an additional 20 kilometres and has chosen Furrer+Frey to implement the overhead contact line system to support this. We have also gained some interest from a French rail operator on a major contract for the conversion of overhead contact lines from three kilovolts (kV) direct current to 25kV alternating current."

### Investing in the future

Certainly, Furrer+Frey's long experience in the rail electrification market has served

the company well when looking to secure contracts. Despite the economic downturn, Furrer+Frey's greatest challenge is to continue to secure qualified engineers to meet demand for its services. Globally there is a lack of knowledge within the overhead contact line industry, which has prompted Furrer+Frey to invest substantially in a continuous training programme to ensure its personnel are qualified to the highest level. The business has also invested in its global capabilities through the recent development of an Italian facility, and plans to look at the feasibility of a local presence in China to support its activities within the country.

Even more significant is the changes to Furrer+Frey's core internal structure, as Beat looks to integrate his son, and current development director, Rico Furrer into the company's management. Commenting on the future of the business beyond this development, Beat concludes: "I think that the rail industry is becoming ever more important, not just in terms of the heavier rail for long distance travel, but also lighter rail in urban environments. Our vision is simply to maintain the family character of the business through the installation of a fourth generation, and to continue to strengthen our engineering knowledge, quality and servicing to meet this demand." ■

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