



Case Study | Kazakhstan

Frauscher Advanced Counter FAdC at Uglerudnaya Station

Requirements

Uglerudnaya is an industrial railway station in Temirtau, Kazakhstan, operated by AcelorMittal. The station has 56 switches and 52 track sections. The operation of the station is controlled by the interlocking system, which sets safe routes for the arriving, departing and running through trains. This requires extremely efficient traffic management and a train detection system with a high level of availability. Uptime must be maintained under conditions such as extreme temperatures, contamination of track sections with industrial dust, high levels of humidity, etc.

Solutions

In September 2018, a new system based on the Frauscher Advanced Counter FAdC went into operation. A total of 52 individual track sections were fitted with 89 Wheel Sensors RSR180. In addition, the Frauscher Diagnostic System FDS is in use for monitoring purposes.

Benefits

By installing the axle counter, lifecycle and maintenance costs have been reduced dramatically. The same applies to downtimes due to train detection failures. The signalling staff are thus constantly able to arrange and monitor train routes. Efficiency in terms of traffic management and the use of freight cars has increased. Confirmation of train integrity via the axle counter is an extremely helpful feature for signalling staff.

Project details



JSC ArcelorMittal is the largest enterprise in the mining and metallurgical business in Kazakhstan. The company utilises an access railway called "ArcelorMittal Temirtau", which is 326 kilometres long and comprises eight stations. Uglerudnaya station is the largest of these, via which the carriage of a significant amount of raw materials is managed. These include coal, ore, fluxes and refractories to be distributed and agglomerated for further processing. Strict protocols are in place here as well as schedules which must be complied with. By deploying a highly reliable and precise train detection system such as the Fauscher Advanced Counter FAdC, processes can be designed more efficiently.

Fauscher Advanced Counter FAdC

The FAdC has been specially developed in line with the requirements of shunting yards, industrial railways and public transport. This particularly cost-effective type of FAdC fulfils CENELEC standards up to SIL 3 and is designed for traversing speeds of up to 80 km/h. It impresses with its functional modularity and easy scalability and can be connected to the higher-level system through either a hardware or software interface. Uglerudnaya station also benefits from the individual reset options and comprehensive diagnostic facilities.

Fauscher Diagnostic System FDS

The Fauscher Diagnostic System allows ArcelorMittal to monitor the system in real-time via a web browser, even from remote locations. Preventive maintenance, the optimisation of fault rectification, unrestricted online access to the axle counter system data and the minimisation of maintenance work lead to a reduction in lifecycle costs. The FDS features the option to fully integrate the FAdC diagnostics into the operator's overall diagnostic and maintenance system via a software interface.

Operator

ArcelorMittal Temirtau

Partner

Kazcenterelectroprovod (KCEP)

Scope of Supply

Components, installation and commissioning

Scope of Project

Axle Counting System

Axle Counting

FAdC

Wheel Detection

Wheel Sensor RSR180

Country

Kasachstan

Segment

Industrie

Application

Track Vacancy Detection

Project start

2017