Leading Supplier for Axle Counters

Project news
Interesting new projects with ACS2000

High availability
FAdC with intelligent functions

RSR110
New wheel sensor with open interface
Frauscher Sensor Technology India: fully established

Just two years after establishment of the branch in India, Frauscher was able to further reinforce its market position in Asia. Particular milestones were obtaining the RDSO approval and the opening of our own production facility in Mysore.

After the foundation of Frauscher Sensor Technology India Private Ltd. in July, the subsidiary has achieved some significant milestones. By now our products have proven their extreme reliability under extreme conditions throughout India. A range of individual applications has been realized and very specific solutions have been found – such as the "Counting Head Control" principle for the suppression of trolleys passing a Wheel Sensor. This shows that our products suit perfect for the Indian market and we are sure to be able to provide optimum service and products to future projects!

Regarding the philosophy of constant growth and development of optimum customer service with individual products and project designs we are already aiming for the next goals. Amongst others these would be the maximum localization of ACS2000 ("Make in India") and the RDSO approval for the latest generation of Axle Counter FAdC. On the service layer we will further strengthen our position in Malaysia and have yet appointed a local representative in Bangladesh as well.

Together with our colleagues from the Frauscher Headquarters we are sure to be able to provide best possible solutions to our customers throughout the whole SEA railway market. This magazine will give you an impression of the benefits Frauscher provides – not only by its projects but also by individual customer service, ongoing research and development and as an absolutely reliable partner.

Alok Sinha, Managing Director of Frauscher Sensor Technology India Private Limited
its position in Asia

Production
Frauscher India has built a production facility at Mysore in the Indian state of Karnataka. The plant became operational in September 2014. The facility will handle production and quality assurance for all ACS2000 components approved in India, as well as a range of products and components specifically developed for the Indian and Asian market. The Mysore plant was opened as scheduled on 6 November 2014.

The production facility is also used as a research laboratory where work is carried out to optimise proven Frauscher products in line with specific requirements of the Indian rail structure. Emphasize is the successful transfer of essential knowledge and experience between the Austrian headquarters and the new production facility in India. In order to maintain Frauscher’s high quality standards in the international environment, we have integrated production processes from the company’s headquarters into the Mysore plant. Moreover, the test equipment used corresponds exactly to the equipment used in Austria.

Services
As a customer-focused company, Frauscher offers a complete spectrum of services for all products and systems. This encompasses both individual planning and project planning, as well as the provision of support for installation and commissioning. A comprehensive training programme ensures that operators are able to install the systems independently, operate them on a long-term basis, maintain them and even configure them where necessary.

This guarantees maximum independence of customer from the system supplier and minimal life cycle costs.

To fulfill the customers need here in India we have localized all relevant services:
• Consulting
• Production
• Installation, Commissioning and Training
• After Sales Service

KEY FACTS ON FRAUSCHER INDIA - LEADING SUPPLIER FOR AXLE COUNTERS
• Established in 5th July 2013
• 40 Employees
• Product manufacturing unit set-up at Mysore in November 2014
• RDSO approval for ACS2000
• ISO 9001:2008 QMS certification
• Customizing with local R&D and engineering teams

PVK Subramanian, Engineering Director
The Engineering department of Frauscher India includes Application Design, Product Management, Manufacturing & Operations, Research & Development as well as IT Management. It counts 22 employees and plays a key role for optimized local service throughout the South East Asian railway market.
Frauscher Axle Counters

Multi section digital Axle Counter ACS2000

*With the introduction of the ACS2000 some years ago, new standards with regard to ease of use and user-friendliness were set in axle counter technology.*

Benefits of the ACS2000

- Extremely high availability due to distributed safety
- Preventative maintenance and rapid fault rectification
- Low maintenance outlay
- Flexible project design
- Easy installation
- Automated adjustment processes simplify commissioning
- Simple configuration using hardware
- Open interface (relay)

Modular system for efficient train detection

The system architecture is very simply designed, with each counting head and each track section assigned to a fail-safe board. As the individual boards are pre-configured during manufacture, configuration takes place exclusively via the hardware. This means that no specific knowledge or software tools are required. All that is necessary is to plug the boards into the board rack and/or to replace these as appropriate in the event of changes. In addition, this concept guarantees a very high level of availability, as only one section is affected if there is an error in a board (distributed safety).

Customer specific product portfolio

The good reception of Frauscher products in India is not only based on the constantly high quality itself, but also on the flexibility regarding existing properties like interfaces as well as new developments. Basically all test results from trials and experiences from realized projects flow back to the Frauscher HQ in Austria. Ongoing research and development within the Frauscher Austria and the laboratory in India guarantee innovative solutions for yet existing as well as new products and optimum adaptation of all Frauscher components to either legal or operator application specific.

The Indian team has already made considerable progress in developing components for installation. These include:

- Axle Counter Cubicle
- Rail Deflectors
- Reset box for MSDAC and SSDAC
- Strain relief Clamps
- Track Lead Junction Box with IP65 (option to upgrade to IP68 level)
- Frauscher Block System
- Centralised Diagnostics Monitoring CDM System FBS

**More information about the CDM System**

The CDM System as the name implies, enables to have the ACS2000 event logs from Frauscher Diagnostic System (FDS) at different locations in the network to a central place. The CDM system communicates to the FDS’ at different locations through the standard xml interface via Ethernet network that is provided by the rail operator.

In addition to the centralized logging, the CDM system has facility to analyse the ACS2000 event logs and generate analysis reports. The log data from multiple FDS in a location is stored as one single log file in CDM per location per day. The log analyzer facility in the CDM enables the user to generate comprehensive report of various components of ACS2000 axle counting system.
**Important projects**

**Delhi Metro Line 8 through Nippon Signal**
In a CBTC system, as a fall back arrangement, Axle Counters are used as track vacancy detection system to locate the train in case of failure of primary radio communication. In order to facilitate this requirement, Nippon has chosen RDSO approved Frauscher-make Axle Counter System ACS2000. The contract awarded to the company involves approximately 300 track sections and about 312 counting heads.

**Kochi Metro through Alstom**
Situated in Kochi, Kerala, Kochi Metro will provide a rapid transit system of 25.65 km metro line from Aluva to Pettah. It will include 22 stations. Construction started in 2013 and will be completed by 2016. Alstom Transportation India Limited has chosen Frauscher Sensor Technology India Pvt. Ltd. as a partner for supply of axle counting system for this project.

**Navi Mumbai Metro Line 1 through Ansaldo STS**
Consortium comprising of Ansaldo STS S.p.A (ASTS Italy), Tata Projects Limited and CSR Zhuzhou Electric Locomotive Co, Ltd have been awarded the contract for complete Navi Mumbai Metro from CIDCO. The project covers a total of 11.10 km from Belapur to Pendhar. In total 156 detection points and 5 stations plus a depot are equipped by Frauscher Advanced Counter with parallel interface (but without relays).

**Ansaldo STS, the consortium member awarded the Axle Counter Scope to Frauscher including Installation, Testing and Commissioning. Frauscher India will also train Ansaldo/CIDCO engineers on design, installation, testing and commissioning of FAdC.**

**Malaysia Skypark through Ansaldo STS, Malaysia**
Frauscher is awarded to supply axle counter for Malaysia Skypark project by Ansaldo STS Malaysia. The project covers a total of 11 km from Subang Jaya to Skypark. For a project scope of 20 detection points and 2 station the new generation of axle counting the Frauscher Advanced Counter to have been installed.

**Kyan Sit Thar – Level Crossing Projects in Myanmar Railways**
Frauscher is awarded with a level crossing project at Kyan Sit Thar of Yangoan to Pyuntaza section in Myanmar Railways by Hitachi Asia, Singapore. Frauscher proposed a solution with 7 detection points using Frauscher Axle Counting System ACS2000 for this level crossing project. Also design, manufacture and supply of the ACS2000 included in the scope of supply. Hitachi will integrate this into their level crossing control equipment.
Increasing the availability of modern Axle Counters

In principle, all state-of-the-art signalling solutions are based on current safety standards which require compliance to technical codes, specifications and prescriptions set by operators, legislators or relevant associations. Therefore, it can be expected that modern signalling components and systems fulfil the requirements for maximum availability. However, even when complying with all relevant specifications concerning the construction, project design, installation or operation, components may still be affected by failures. These can be caused by various independent factors which have to be considered when developing approaches to increase availability without affecting the normal, and in many cases safety-relevant operation in case of an error.

To achieve the expected results, high availability must not be seen as an isolated goal but as integral part of the complex railway system consisting of vehicles, wheels, tracks and railway technology systems. The new Axle Counter FAdC offers intelligent, fault-tolerant function in order to maintain operation without noticeable limitations in the event of a fault – particularly one caused by external influences. In many cases, this enables the required level of availability to be achieved.

Benefits of the FAdC

- High flexibility
- Easy setup
- Flexible architecture: centralised and decentralised
- Communication via open networks using Frauscher Safe Ethernet FSE
- Easy installation due to quick mounting with rail claws
- High availability
- Remote maintenance

FSE has become a standard software protocol

Modern signalling systems require a high degree of integration of all sub-systems and therefore high-performance interfaces. An efficient exchange of data between the sub-systems can only be achieved with software interfaces and Frauscher has developed the Frauscher Safe Ethernet (FSE) for this purpose.

The FSE protocol is the ideal solution for integration into systems without their own software protocol. It has been developed especially for a very wide range of applications in the field of wheel detection and axle counting. More than 10 FSE implementations in more than 10 different customer interlocking and level crossing systems are already completed, projects like Mining Port Vostochnji in Russia, Level Crossings in Egypt or Transnordestina in Brazil having the FSE in use.

Further information on the fault-tolerant functions of the FAdC can be found in the whitepaper „High availability“
Request the paper via mail: marketing@frauscher.com
Frauscher Wheel Sensor

Wheel Sensor RSR110: High available and versatile

Increasing interest in high-quality wheel sensors with an open interface was the impetus behind the development of the new RSR110. With this development, Frauscher is breaking new ground in its product strategy: in future, the company will offer this high-quality sensor with an open analogue interface alongside the established wheel detection systems. The feedback on the presentation of the product during InnoTrans 2014 and the numerous enquiries are already confirming that this was the right decision.

Simple integration by means of an open interface

Various projects frequently present special requirements that can only be met by designing individual solutions. The wheel sensor RSR110 was developed to simplify the realisation of corresponding applications. It is supplied without an evaluation board, and its open analogue interface enables easy implementation into the customer’s specifically-developed system electronics. Furthermore, this guarantees significant savings in terms of the hardware and space required.

Highly available

The new wheel sensor RSR110 was developed based on the operating principles and hardware platform of the proven RSR123. As a result, the high availability of the sensor can be guaranteed, including with individual integration in specific system electronics structures. Even with extreme mechanical, electro-magnetic or climatic interference, the combination of different inductive operational principles and the robust design ensure optimum availability.

Major applications

In addition to the installation of systems to detect flat spots and hot boxes, the creation of vehicle detection systems and execution of special switching and measurement tasks are possible, by way of example.
Frauscher worldwide

Quick response times and the specialist knowledge and language skills of employees from the region characterize the service of Frauscher Sensortechnik GmbH. As a global player, it is particularly important for Frauscher to be represented locally as a reliable contact partner in various markets. Many branches and sales partners throughout the world underline the philosophy of “think globally, act locally”. Since 2013, Frauscher is also located in India and since 2014 represented in Malaysia.

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From the start the Bangalore office had a highly skilled team, which has grown to more than 40 employees in only two years and is equipped with all the key functional departments ranging from Engineering, Project Management, Quality, R&D, Business Development, Post-Sales, Marketing, and other support functions.

In order to improve communication and project handling, a Frauscher representative office in Kuala Lumpur, Malaysia, was founded. Here Martin Soosay Raj will be in charge for our customers on site. Please do not hesitate to contact him in case you need technical support or information about our products and portfolio.

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Visions and Trends in Train Detection: 30 September - 02 October

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On Friday, participants can chose from a selection of technical site visits. Against this background, the event provides possibilities for getting in touch with senior decision makers from all over the globe, as about 200 leading experts are expected to attend the event.

For further information and registration, please visit
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