

## Bombardier enables fleet maintenance across company boundaries

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### CLARIS® FLEET

The name CLARIS® means “Client Adapted Railway Intelligent System” and represents many years of expertise in the field of software development for railway undertakings, in particular maintenance of vehicle fleets.

CLARIS® combines modern and efficient maintenance management with comprehensive functionality of material management, vehicle diagnostics, and configuration management.

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**CLARIS®**  
SOLUTIONS

### *Optimising fleet availability and vehicle security by coordinating more contractual partners*

In 2003, Bombardier Transportation received a full service job order for a project from Landesnahverkehrsgesellschaft Niedersachsen (LNVG). The job for this project was to take on maintenance for a vehicle fleet currently consisting of 39 locomotives and 220 double-deck carriages for the owner over a period of 20 years.

To accomplish this job, two other contractors were brought on, the Osthannoversche Eisenbahngesellschaft (OHE) and the Eisenbahnen und Verkehrsbetriebe Elbe-Weser GmbH (EVB), to perform parts of the whole maintenance job. In total this project employs 150 maintenance workers and 20 engineers from different companies.

Jens Klusmeyer, Operation Manager at Bombardier Transportation explains: “Bringing multiple companies together for coordinated and efficient maintenance work is always a highly complex undertaking. In order to achieve precise coordination between the parties, an IT system is required in which all companies can smoothly access their information, evaluate it and provide feedback.

The aim, which should be achieved with the help of CLARIS Solutions, was to create an information field in which running processes are standardised across the different companies.”

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**Advantages of CLARIS® at a glance**

- Vehicle and maintenance management on a unified software platform.
  - All types of vehicles are managed in a standardised database.
  - Process support of corrective and preventative maintenance in accordance to ECM standards.
  - Service-oriented architecture (SOA) enables simple modifications to user interfaces, work flows, processes and reports. .
  - Access to more than 2,700 industry-specific codes for malfunction reports.
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**Integrating a standardised platform**

In addition to integrating work processes from different companies, there was also the difficulty of synchronising different software systems which were already in use in the related work areas of the different companies.

“Operating with multiple systems is very time consuming and expensive. Multiple data entries and limited access rights often prevent an efficient workflow. With the help of CLARIS Solutions, we wanted the entire maintenance work to be able to be processed via a central system, in which multiple companies are able to have their individual access rights,” Jens Klusmeyer explains.

**An equal partnership**

CLARIS Solutions, formerly Communication World, has been working as a software developer for railway undertakings since 1999. Due to the many years of expertise Bombardier Transportation decided to start the cooperation.

“CLARIS Solutions brought the necessary expertise to implement this job. Their many years of experience in service management of vehicle fleets also contributed to create a unique product which has been coordinating all processes in fleet maintenance within and outside of the responsibilities of Bombardier Transportation for many years,” Jens Klusmeyer explains.

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**CLARIS® – 3 I’s**

**Key factors in modern software systems**

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**Intelligence**

CLARIS® links autonomous units and creates unified company standards for a fast and reliable flow of information.

**Individuality**

Its modular structure enables a fast and precise adjustment to individual customer requirements.

**Internationality**

CLARIS is wonderfully suitable for usage on transnational projects due to its multi-lingual menu management and data processing..

## Intelligent coordination between customers and suppliers

Integrating multiple systems into one unified whole system is certainly the focus of many companies that have to supervise larger service projects. Bombardier is one of the first that has managed to implement a convincing solution with the help of CLARIS Solutions.

“By comprehensively mapping our fleet management in-house processes with CLARIS® we have a system in our hands that processes incoming malfunctions in the exact way we imagined it to,” says Jens Klusmeyer.

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*“Before we introduced CLARIS® FLEET we already had a high level of fleet availability. But with this system we have achieved an even more significant improvement that in particular helps us to increase the productivity and quality of our processes.”*

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As soon as train employees report a malfunction, the relevant data from which work orders can be generated go directly to the depot. Availability of the material can be checked immediately as well. Through access-specific masks the appropriate users will be shown only those orders and information that are relevant to their work areas.

## Improved operative management of malfunctions and failures

Jens Klusmeyer explains: “Merging the necessary information into a single system in particular helps us to deal with corrective maintenance astutely. The malfunctions of all vehicles, including their complete malfunction history and their pending work orders are available to us at any time. This means the right employees with the necessary materials are immediately on site, which helps us to process maintenance faster, shorten routes and be more efficient.”

Employees report that connecting malfunction information with work orders in particular increases the opportunity to become aware of errors quickly and accurately. Feedback from the depot staff is extremely positive: the vast majority said that their efficiency at work has increased and they can now respond considerably faster if a malfunction occurs.

## Shorter repair times lead to increased fleet availability

In addition to improvements in daily business, CLARIS® FLEET provides an in-depth insight into the causes and frequencies of vehicle malfunctions. This fact makes it easier for Bombardier to organise planned maintenance cycles more effectively.

Jens Klusmeyer explains: “We can filter all malfunctions type-specifically and find out the causes and circumstances that lead to them, as well as what maintenance work is necessary to repair them. This helps us to discover which types of components are affected more often by malfunctions than we previously thought. In this way we can uncover weak points more easily and carry out more activities in the area of conditional based maintenance.”

The proof of working together successfully is provided by improved numbers in our key performance indicators. For example, since introducing CLARIS® FLEET, not only have repair times been reduced, but also inventory was able to be considerably optimised.

Jens Klusmeyer draws the following conclusion: “Before we introduced CLARIS® FLEET we already had a high level of fleet availability. But with this system we have achieved an even more significant improvement that in particular helps us to increase the productivity and quality of our processes.”



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