

**CASE STUDY**

Captrain Italia's operational digitalization



Operator
Captrain Italia



Network
Italian rail network, 8,300 trains per year



Objective
One source of data entry for locomotive maintenance, flowing automatically to production and safety processes



Solution
MainTrack, fleet maintenance module of the SoftRail suite



Impact
Safer planning, faster reaction to locomotive issues, a leaner maintenance team

Overview

As its locomotive fleet grew, Captrain Italia outgrew the Excel files used for maintenance. The operator needed one source of data entry that flows automatically to production and safety processes.

Captrain adopted MainTrack, the fleet maintenance module of the SoftRail suite, and shaped new features with Binary System. The result is safer planning, faster reaction to locomotive issues and a leaner maintenance team.

About Binary System

Binary System is an Italian software company dedicated to railway operations. Its SoftRail suite covers the whole operational cycle, from planning and resource management to real-time control and performance analysis. We work alongside over 60 clients as a long-term partner, supporting them run their network with safe and advanced technology.

The initial context: when the fleet was growing, Excel stopped being enough

Captrain Italia faced challenges in relation to locomotive maintenance. The operator had a smaller fleet of locomotives in the past and had been managing operations with Excel files.

As Captrain's fleet became larger the team required a specialist IT system to manage the complexity, especially in relation to newer vehicles and the greater volume of data to track.

Enzo Talarico, former Rolling Stock Director for Captrain Italia and CEO of Tiber.Co, recalls: "Changes in one area did not pass through to others. We needed one solution with one source of data entry, which would then automatically flow through to all areas of operation."



A solution built with and for the operator

Captrain adopted SoftRail with the MainTrack module, which records, plans and monitors preventive and corrective maintenance in one digital system. As the first large operator to use MainTrack, Captrain worked directly with Binary System to shape new features:

- **Combined scheduling** of preventive and corrective interventions, so all required works are handled together
- **Forecasting** of preventive maintenance needs based on expected kilometres travelled
- **Contractual Availability report** showing automatically and graphically whether unavailability sits with the ECM or the RU
- **Failure insights** on how often parts break, component durability, average repair time and maintenance team performance
- **Driver mobile app** to report locomotive issues in real time

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Certified Management System:
UNI EN ISO 9001:2015;
UNI CEI EN ISO 27001:2022;
SA 8000:2014

MainTrack

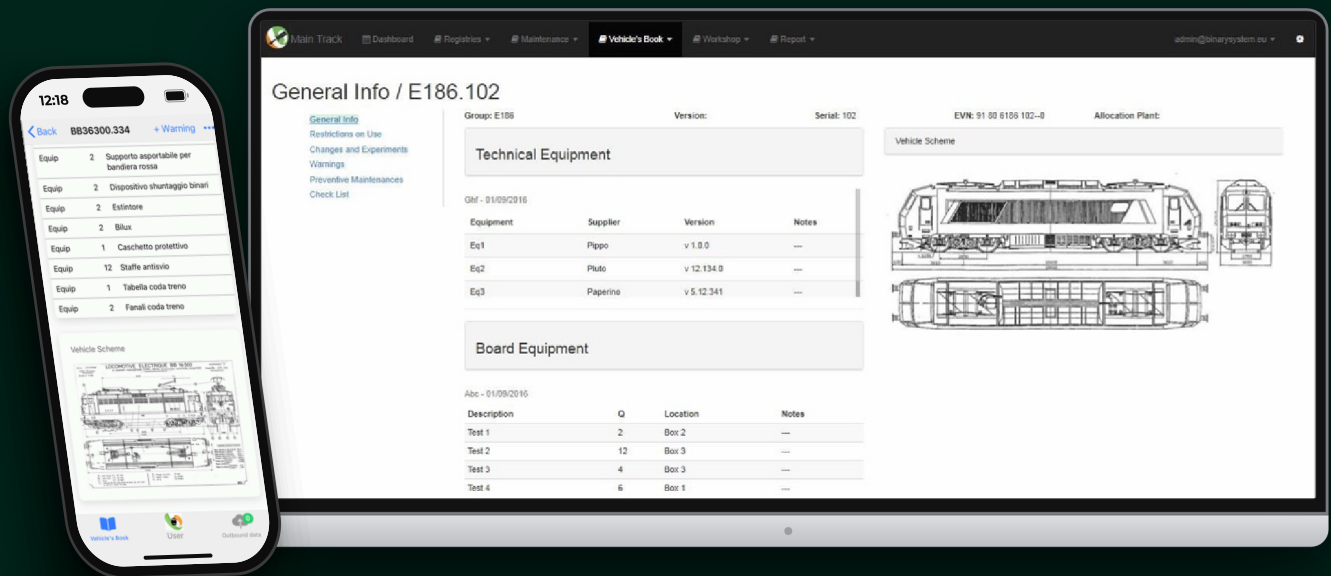
Fleet maintenance in one digital system

MainTrack enables users to record, plan and monitor preventive and corrective maintenance of the fleet, with all information in electronic format. It is a tool for more efficient management of vehicles and maintenance activities.

USED BY Fleet management office

Workshop

Drivers and train crew



Boost productivity

Less effort to plan and monitor maintenance

Decrease costs

Less locomotive downtime for maintenance

Reduce waste

Plans based on actual kilometres travelled

FEATURES

1 Preventive maintenance

Schedules per vehicle and spare part, with deadline alerts

2 Corrective maintenance

Anomaly reporting, troubleshooting and execution

3 Auxiliary activities

Technical checks, washing, modifications, safety recalls

4 Tools and warehouse

Tools, spare parts and orders management

5 Fleet status

Real-time status and maintenance history

6 Output

Deadline control, printouts, reports and KPIs

The impact on operations

Mr Talarico says that working with Binary System has improved the efficiency of Captrain's operations: "With MainTrack we work more quickly, which means we require fewer people. Without MainTrack we would need at least one person more."

On safety: "MainTrack enforces safety because we enter a maintenance plan which has to be respected. For each locomotive we receive alerts before expiry, and if an element does expire then it automatically becomes unavailable."

Drivers report issues via a mobile application, producing an alert so that production knows the locomotive is not available and can reorganise as quickly as possible. Data flows from maintenance to production, where shift planners see if a locomotive may be used and under which restrictions.

Maintenance and production now work from one source of data, the requirement Captrain started with, and MainTrack continues to evolve with the operator's needs.

- **Higher efficiency:** Faster work with a leaner team. Without MainTrack, Captrain would need at least one more person.
- **Safety by design:** Maintenance plans must be respected. Alerts arrive before expiry, and expired elements automatically become unavailable.
- **Faster reaction:** A driver's report triggers an alert, so production knows immediately that a locomotive is out and can reorganise.
- **Reliable planning:** Maintenance data flows to production, where shift planners see if a locomotive can be used and under which restrictions.

“ Enzo Talarico, Former Rolling Stock Director for Captrain Italia

The integration of the different modules has improved safety, because management of maintenance is not only an aspect of production; it is also safety and management of quality of work of maintainers.

Binary System is a supportive organisation and our collaboration has benefitted both companies. The software grows together with our needs because Binary always listens to us. I am sure we will continue to work together in a good way into the future.

Discover how MainTrack can support the efficiency and safety of your fleet

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Cover photo: courtesy of Captrain
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