

# Software module for railroads monitoring running with Intellect Enterprise

Being able to monitor and manage railway cars and tracks in real-time is critical to a successful transportation operation. Axxon Intellect-automatically controls trains and railway car traffic, visually monitors your cargo and alerts you to any that are unaccounted for, and controls clearance and gauge limits. All events and data are logged for further analysis. Operators can request detailed information on trains and railcars, view relevant video archives, and print reports.

**Axxon Railway Intellect** tracks and manages rolling stock and cargo at industrial enterprises: oil refineries, chemical plants, sea ports, logistic centers, custom terminals and other major industrial facilities and transportation sites. It gives your corporate security departments the power to discover cargo loss and theft. It gives your logistics departments the advantage of reliable and convenient traffic registering. And it gives your IT departments easy integration capability with your existing business management software.

**Railway Intellect** protects and monitors your railcar/container operations by continually monitoring tracks via video surveillance and automatic recognizing, recording and storing information about train number and direction. System accurately counting railcars within a train via hardware detection using signal loops ensures 100% reliability.

**Axxon Intellect** is able to recognize in real-time railcar and/or tank-car serial numbers – even hard-to-read numbers – through multiple cameras and heuristic analysis.

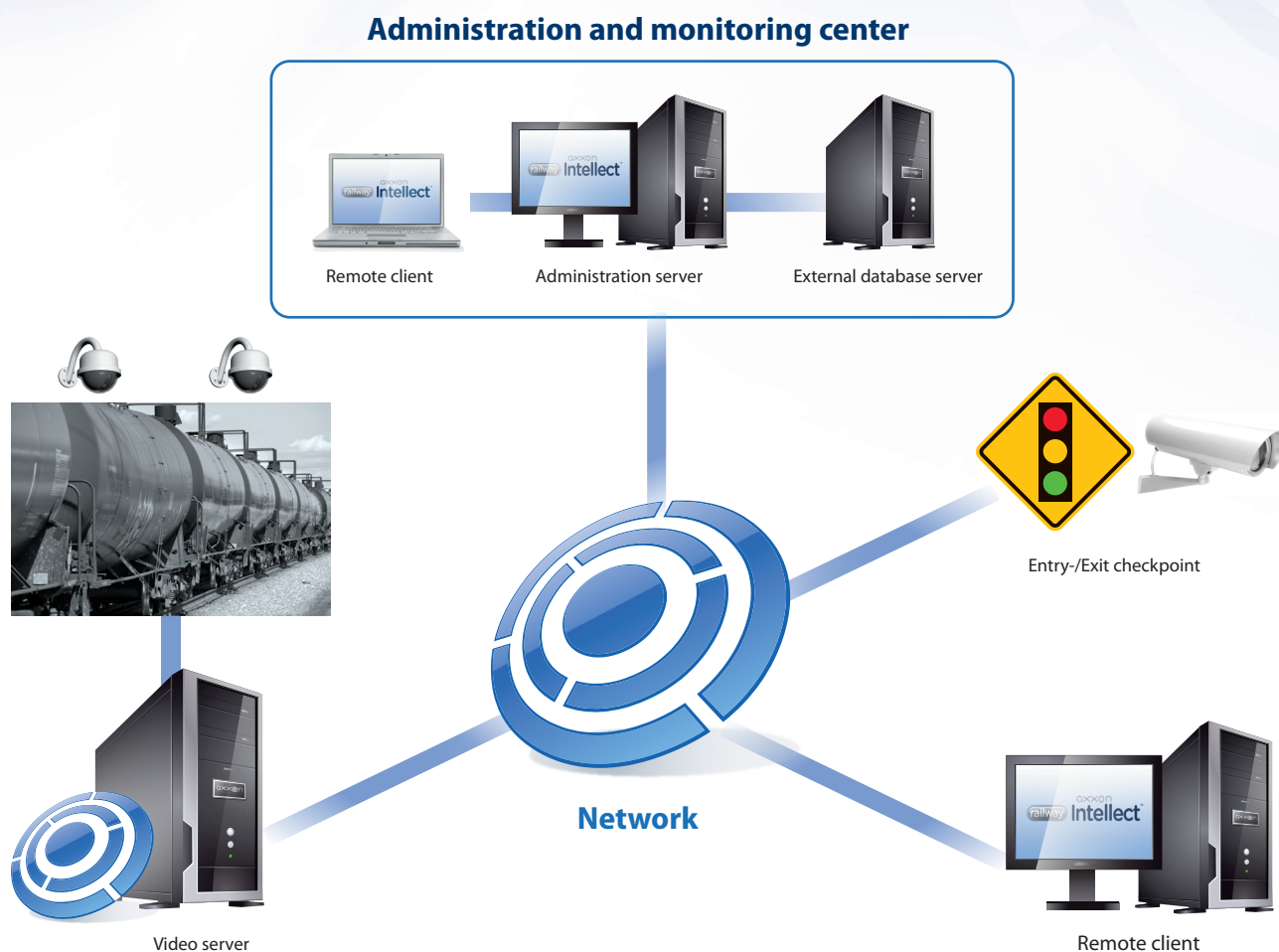
With connection of additional thermal sensor it is possible automatically measure liquid levels in tank-cars.

Monitoring railcars via video allow to control cargo clearance and seamless integration with external databases makes possible matching train schedules to consignor lists.

The system logs all events and data, so your records are always up-to-date and pin-point accurate. You can request detailed information on rakes and railcars, view relevant video archives, and print comprehensive reports.

- Automatically recognize, recording and storing wagon and container numbers
- Counting railcars within a train.
- Automatically measuring liquid levels in tank-cars
- Controlling railcars and containers via video.
- Controlling cargo clearance
- Matching train schedules to consignor lists
- Accuracy rate - above 96%

# Railway Intellect System Diagram



## Railway Intellect Technical Specification

Recognition accuracy	Day - 96% Night - 90%
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Maximum train speed	60 km/h
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Camera alignment angle	Up to 10 degrees
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Type of recognized Container Code	<ul style="list-style-type: none"> <li>• ISO 6346 (=BIC code)</li> <li>• UIC code</li> <li>• MOCO code</li> <li>• Recognize horizontal and vertical text, two or three row codes</li> </ul>
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Control area width	5 – 10 m
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Number of cameras supported per track	1 or 2
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Checksum verification	Yes
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Export option	XML interface support
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Output	<ul style="list-style-type: none"> <li>• Container (railcar) Code in ASCII</li> <li>• Best image (on which the reading is most reliable)</li> <li>• Code position</li> <li>• Confidence level</li> <li>• Checksum</li> </ul>
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