NUMBER*Check*
Rail Gate – OCR System

ASE Advanced Security Engineering
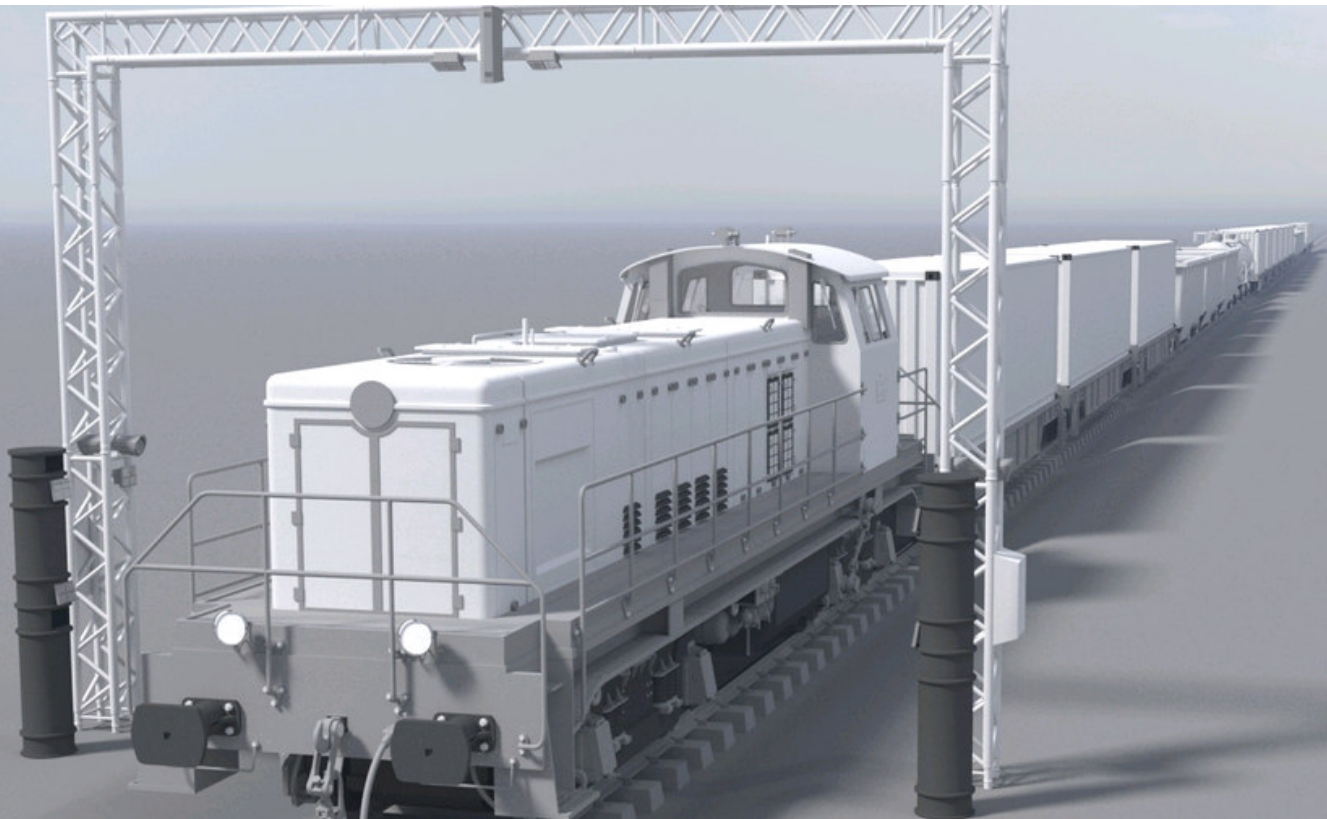
Number recognition and Wayside Train Monitoring for rail freight traffic - your basic module for logistics 4.0

NUMBER*Check* - Rail Gate automates the recording and registration of trains and wagons and their loading units at entrances and exits to closed infrastructure areas. The camera-based number recognition enables the capturing of all wagon movements and standing times and provides the operators (e.g. bi- or trimodal terminals, transhipment stations, port railways, industrial plants etc.) with all relevant data in order to accelerate and optimise logistical processes.

Features:

- Automatic recognition of passenger, freight and tank wagons

- Seamless capture of UIC numbers, Russian tank wagons, container numbers (ILU/BIC code), dangerous goods numbers and placards

- Intelligent image processing and comparison of the captured characters with a database or pre-registrations in real time

- Direct transfer of data via XML interface to higher-level operating systems

- Searching trains, wagons and loading units by number, date and time is possible at any time.

- Stitching module for overall view of a train (individual wagons can be zoomed in for inspection)

- Video recording and high-resolution images for damage and state documentation

- Smart combination with other measuring systems possible (e.g. track scale measuring system, flat spot detection)

- Option: Automatic billing for infrastructure usage (TrAbSy)
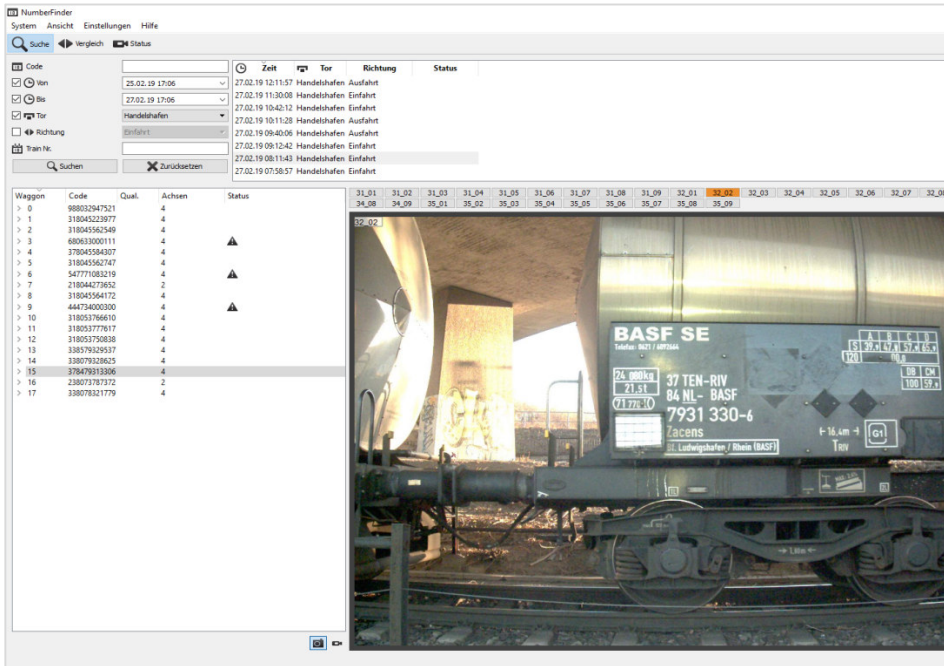
Specifications:

- Robust construction in various variants (depending on demands/infrastructure)

- Installation and assembly within a few weeks

- High-resolution 2D area scan camera technology

- Sophisticated, special lighting technology

- Triggering by inductive axis sensors

- High system reliability and excellent recognition rates

- Accurate detection at speeds up to 60 km/h

- Identification of individual wheel signatures enables precise wagon tracking (location determination)

- Modular design and individual customization possible

Each system has wheel sensors which identify the wheel signature of a wagon. In addition, the direction of travel, speed, number of axles and number of wagons are determined. ASE works with high-quality 2D area scan cameras. The LED lighting, which is precisely matched to the cameras, is only activated during the passage and is glare-free for the locomotive driver and train passengers. The combination of high-quality hardware components and our highly efficient OCR algorithm enables demonstrably first-class recognition rates.

Design variants of NUMBER*Check* - Rail Gate:

- Steel masts to the right and left of the track (also possible on one side only)
- Portal construction made of steel girders or aluminium lattice mast (covering one or two tracks)
- Vandal-resistant steel column, including sensor components to the right and left of the track (also possible on one side only)

DATABASE

Train data:
- Date / time
- Location / direction
- Duration of the passage
- Number of axes
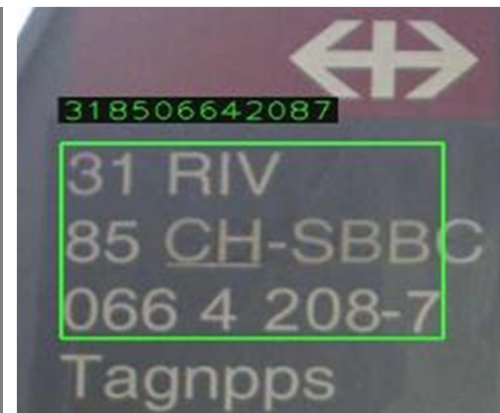- Train length
- Average speed

Wagon data:
- Sequential number
- UIC/wagon number
- Confidence (OCR)
- Number of axes
- Inspection status
- Selection of images
- Picture with UIC-/wagon number

Optional add-ons for railway operators: Level detection for liquid or bulk materials, leakage detection or detection of open dome covers can be added at any time. In the event of an alarm, the unique assignment of the UIC number ensures clear identification of the corresponding wagon. Malfunctions can be solved immediately.

Benefits:

- ✓ **Higher turnaround capacity, shorter processing times**
- ✓ **Faster logistic disposition / reduced use of shunting locomotives**
- ✓ **Automatic handling of crane orders / less moves**
- ✓ **Additional revenues from usage and parking fees**
- ✓ **Image data provide conclusive state documentation and enable preventive maintenance work.**
- ✓ **Compliance with TAF/TSI requirements**

Application:

- Container terminals
- Transshipment stations
- Freight centres
- Sea & inland ports
- Industrial plants

We offer individual solutions - Let us advise you!

ASE GmbH
Lusshardtstrasse 6
D-76646 Bruchsal
✉ vertrieb@ase-gmbh.eu
☎ +49 / 7251 / 932590
www.ase-gmbh.eu