## OPTICAL DETECTION SYSTEM FOR RAIL FASTENINGS

## System Features

- · two hi-res cameras per rail
- · real-time object identification
- · defect classification and scoring
- · wide defect type catalogue
- · ready-to-deployment neural network set
- · integration on KZV vehicle with various inspection systems:
  - · geometry, corrugation, cleareance profile
  - · the same measuring vehicle
  - · One Run -> More Data



FCI-WrongPossitionOfIsolator LAT: 49.16807570946436

LON: 17.503986176299563

KTU: 453 16 2401 26 1

QmpId: 160114.85; KM: 150.054



Fastening Types

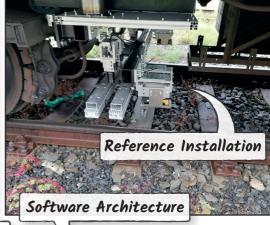
- Europe: W14, KS24, KS12, K, TR5, FastClip
- · Asia: Vossloh-300, WJ-8, WJ-7

## Camera Type Options

- · matrix (up to 25 km/h)
- · lines-scan (up to 250 km/h)

## Integration Options

- · on-board detection
- · defect list export
- · data transfer to a data center
- · dataware house analytical tool
- · photo, video and map visualisation
- · track section statistics





Defect List on the Map

Read Input Video Frame by Frame with OpenCV Object Type Identification and Detected

Classification Module

Object Type Identification and Detected

Classification Module

Object Type
Identification and
Classification

Color Decomposition and Object Grouping

Object Object Position