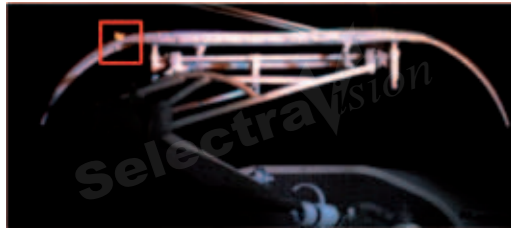
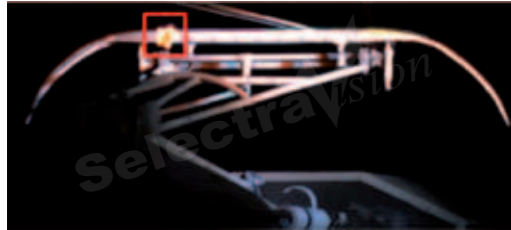


Other examples



Extraneous object on pantograph



Left pantograph horn damaged



good



damaged

3D reconstruction



PantoCheck Measurements

- | | |
|---------------------------|----------------------------|
| • pantograph shape | • pantograph thrust |
| • pantograph integrity | • wire uplift |
| • pantograph geometry | • wire tension |
| • pantograph horns | • wire voltage |
| • missing parts of carbon | • wind direction and speed |
| • carbon strips wear | • pantograph temperature |

PantoCheck

Automatic video inspection system for Pantographs



Automatic control
of Pantographs

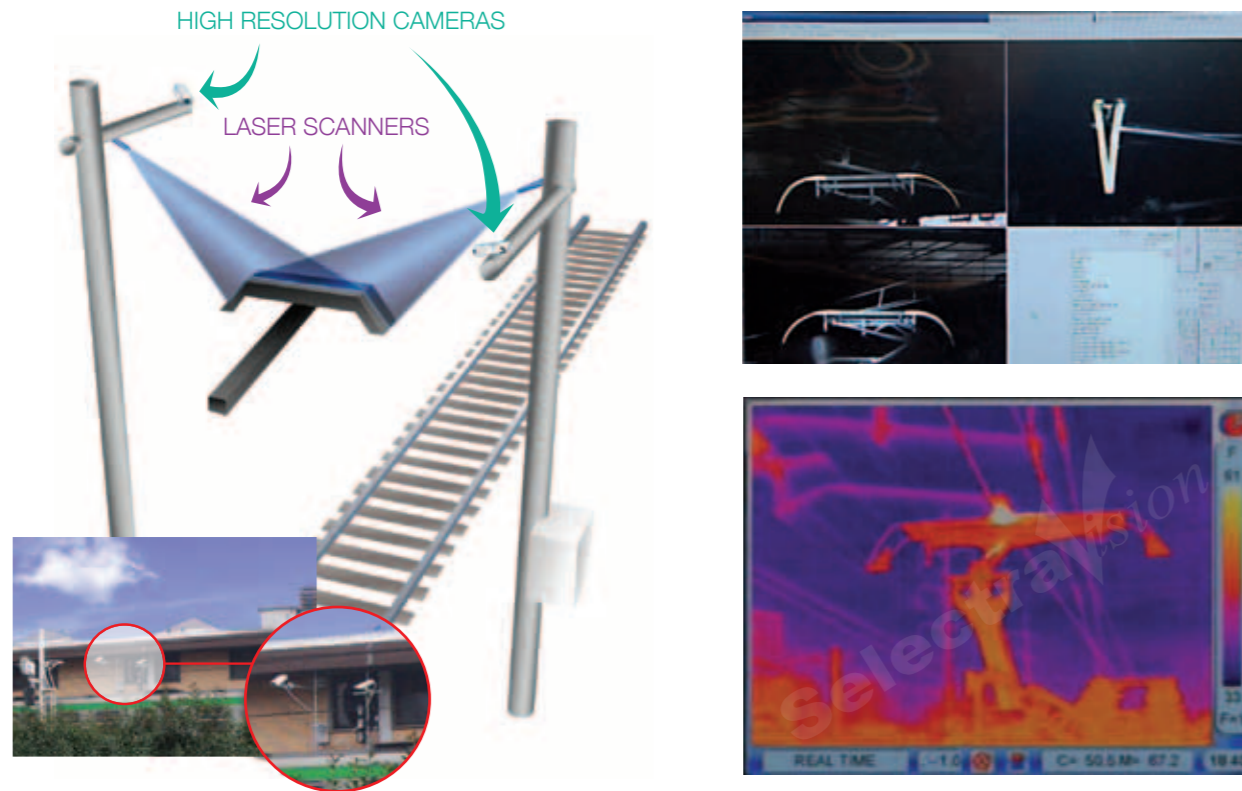
High speed



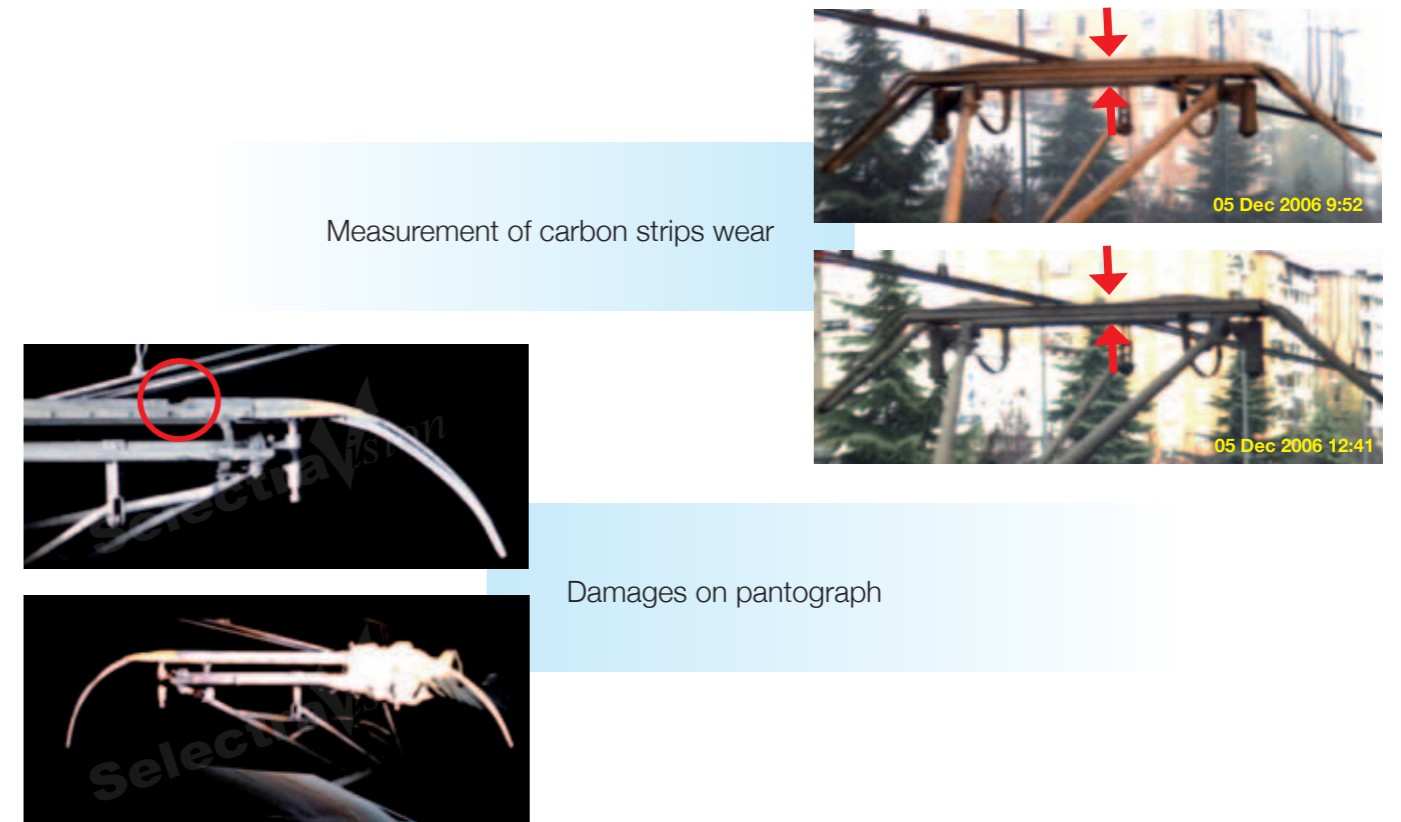
Qualified by RATP
Paris Metro

The complete solution for checking pantographs


Working modes



Examples





Composition



Cameras:

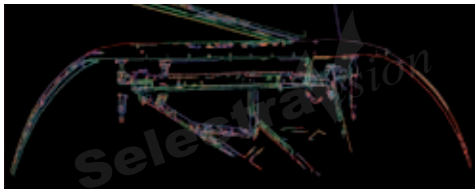
- high resolution
- high speed
- multiple cameras






Lighting:

- day and night acquisition



Laser Scanners:

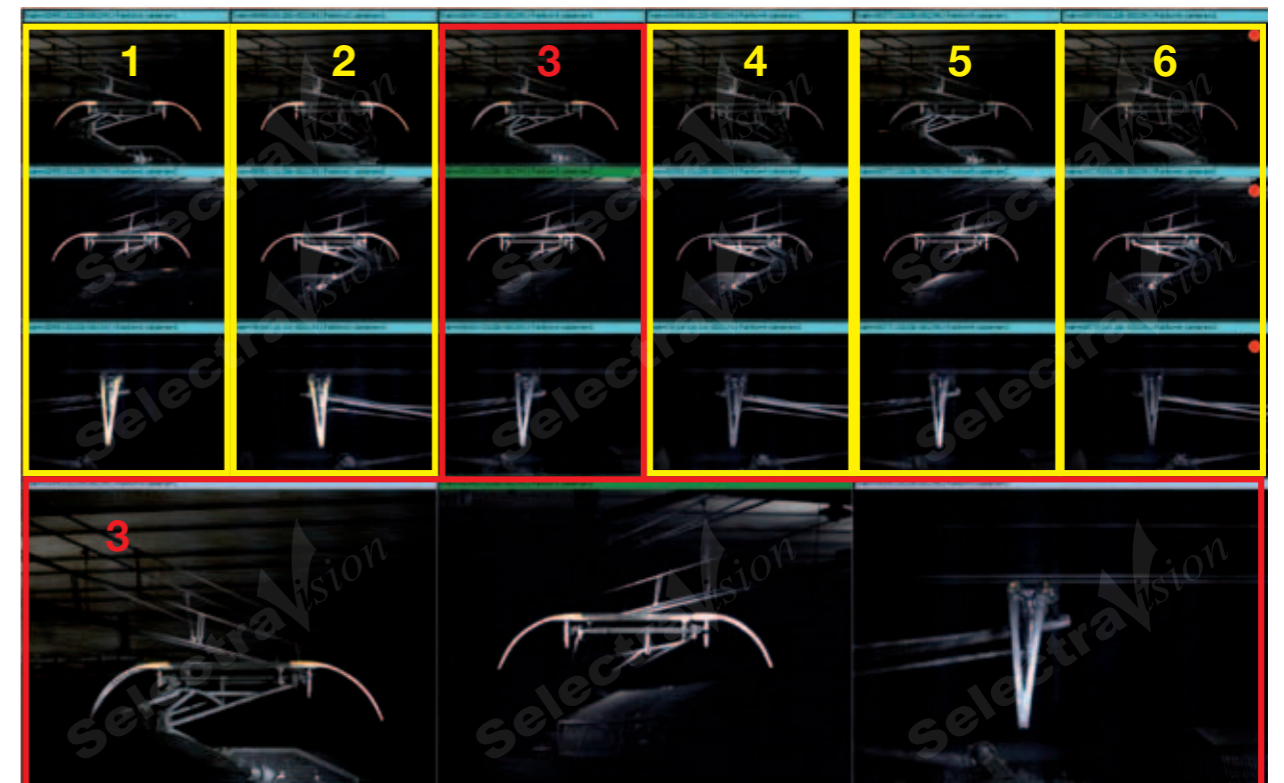
- 3D reconstruction
- high accuracy



Software:

- Computer vision image processing for automatic detection

Display



Real example of train with 6 pantos. The computer shows in real time the 3 different views of each pantograph: **frontal**, **rear** and **lateral view**.