ZKE network
(Safety, availability, case processing)
- Centrally recording all alerts and interventions
- Providing data to RUS for **maintenance optimisation** and **protection of infrastructure**, e.g. early warning in the event of misshapen wheels, defective bogies or badly adjusted pantographs before a limit is exceeded.

**Uplift measurement**
(Availability)
Preventing contact line faults

**Natural hazard alert systems**
(Safety)
Preventing collisions with obstructions in the event of rockfall, landslide, mudslide or avalanche

**Dragging equipment detection**
(Availability)
Preventing damage to the infrastructure caused by low hanging objects

**Profile clearance and aerial detection**
(Safety)
- Preventing clearance profile breaches
- Preventing contact line damage by vehicle aerials on rolling roads

**Fire and chemical detection**
(Safety)
- Preventing safety-critical situations due to fire or loss of hazardous goods

**Hot box and brake-locking detection**
(Safety)
Preventing derailment by and wheel failures

**Wheel load checkpoints**
(Safety)
- detecting load displacement, axle overloading
- severe wheel defects
- route loading (load spectrums)