

Aguila – Technical characteristics

- Max. no.of axles:	4000
- Operating temperature range of sensors:	-30°C to 80°C
- Speed range for flat wheel detection:	5-350km/h
- Operating temp Track side elektronik	0°C to 70°C (standard version)
- Protection class of F-sensors:	IP67
- Accuracy in weight measurement:	3%
- Power consumption:	200VA
- Axle load:	up to 80 t
- Max force	Peak 650KN
- Calibration :	Autocalibration
- Length of monitoring site:	4.2m to 7.8 (can be extended or shortened)
- Accuracy in train speed measurement:	1%
- Max. wheel diameter:	All standard wheel diameters
- Technology used:	fibre-optic sensors mounted between sleeper and rail
- Transmission data speed fiber – trackside:	100mb/s
- Fault detection:	all kind of faults (flat spots, out-of-roundness...etc)
- Preventive maintance:	automatic analysing of ballast
- OFM	O verlapping F orce M easurement
- Alarm evaluation for a 50-axle train:	14 sec
- Signal evaluation WIM/WILD	64us
- EN-15654	



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Aguila



WIM / WILD System



Aguila – innovative and safe

Wheels of railway vehicles are subject to extreme stresses and strains, which inevitably lead to wear and tear. Flat patches as well as damage to the contact areas are typical indicators of wear and tear. The immediate result of such wear and tear is greater variation in the vertical forces between the wheel and the rail. The consequences are:

- Higher maintenance costs due to increased wear and tear of coach and rail
- Higher noise and vibration
- Reduced comfort
- Secondary damage to coach and rail



Marking the advent of a new generation of Flat-Wheel Detectors for railway applications



These are the problems addressed by the AGUILA system developed by ITSS: AGUILA stands for an economic, reliable and continuous monitoring system for leading and trailing wheels of railway vehicles. The system uses track-mounted sensors based on fibre-optics technology to measure the forces transmitted by the wheel to the superstructure. The system then interprets the measured values within seconds, localises defective wheels and generates a data log. The log is sent to the railway control room via a data link. Alert reports even indicate the position of damaged wheels.

Summary of the benefits offered by AGUILA system

- Low installation overheads

Use of optical fibre sensors minimises installation overheads: the sensor is simply placed between the rail and the sleeper – a quick and easy procedure. Installation and maintenance procedures can be completed very quickly in any weather

- Safety

AGUILA ensures reliable identification of damage to the contact area because the system continuously monitors the entire circumference of the wheel.

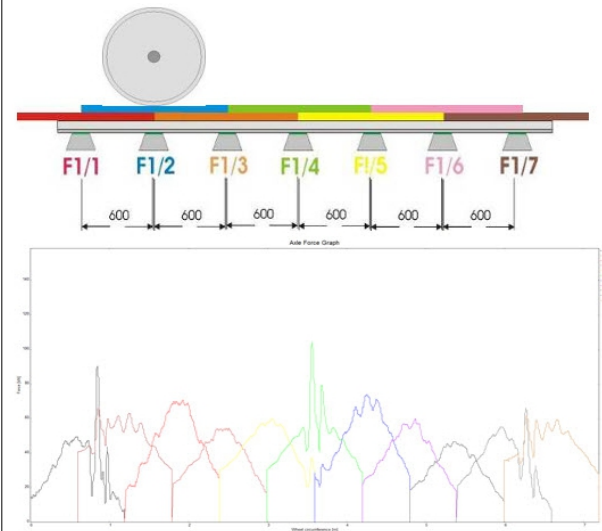
- Easy-to-maintain

De-installing the system is not necessary for tamping.

- Versatile

Aside from monitoring flat wheels, the AGUILA system can also be used as a dynamic weighbridge.

Aguila measure principle OFM (Overlapping Force Measurement)



The measurement of the sensors overlap (OFM) for a complete scan of the wheel without any blind spots

View of raw signals