

## A device patented by SNCF

The Aquascan is a device used for wheel inspections and one of the phased array ultrasonic solutions. It was developed through a research project led by the AEF (Railway Test Agency).

The idea is to use a phased array transducer comprised of 64 cells aligned over a total probe width of about 10 centimetres. This ensures that the entire width of the wheel tread is covered and that the wheel can be inspected in a single revolution.

The probe is encapsulated inside a holding device, enabling a local immersion of the phased array sensor and the area of the wheel to be inspected.

The aim of this inspection?

- To generate an internal image of the wheel
- To capture any fatigue cracks that might appear in the wheel.

Eurailtest  
and the Railway  
Test Agency  
are here to address  
your needs



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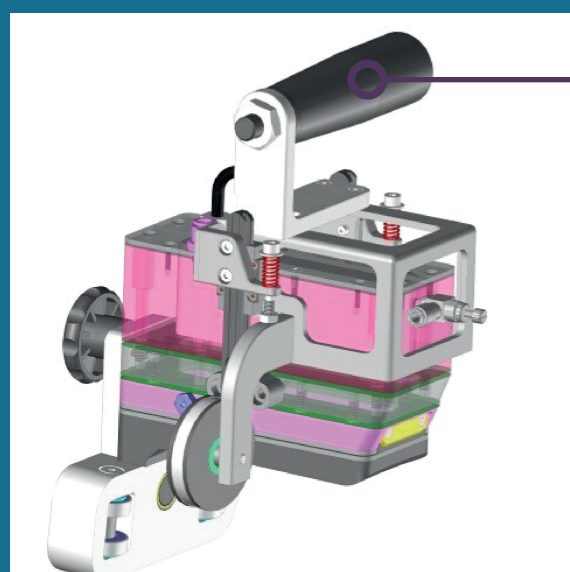
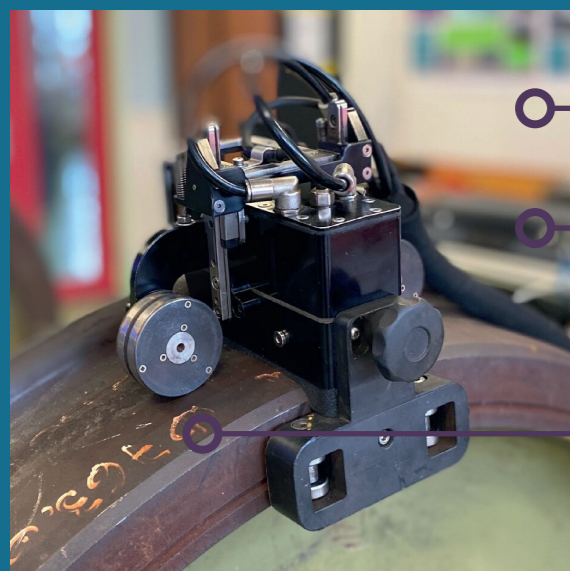


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The AQUASCAN  
an innovative  
device

The modern solution for wheel inspections  
using phased array ultrasonics



- Inspection completed in just a few seconds
- Increased defect detection probability due to the width of tread covered
- Scanner connected to an ultrasonic device
- Screen displays a cross-sectional view of the wheel rim
- Simple and convenient to handle

### The device for solving your problems

- **Fatigue defects:** an internal health maintenance check on wheels during in-service inspections.
- **Manufacturing defects:** quality controls on manufactured products, particularly for wheel types not suited to automated inspections.
- **Expert analyses:** periodic checks on master wheel (reference unit), product type approval, etc.
- **Failure analysis:** defect characterisation, condition of stock of failure-sensitive axles, etc.

## OUR COMMITMENTS



EXPERT ANALYSIS  
80 years of experience



INDEPENDENCE  
&  
CONFIDENTIALITY



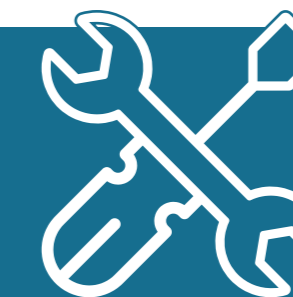
ADAPTABILITY  
&  
MOBILITY



STANDARDS  
&  
REGULATORY COMPLIANCE

## NUMEROUS BENEFITS

01



**ENHANCED MAINTENANCE**  
The Aquascan can carry out quick health maintenance checks on wheels whatever the location.

02



**IMPROVED SAFETY**  
Very high detection probability.

03



**REDUCTION IN TOTAL INSPECTION TIME**  
Significant amount of time saved to perform inspections (from 6 to 3 hours)

04



**REMOVAL OF ENVIRONMENTAL POLLUTANTS**  
Water, rather than grease and gels, is now the coupling medium used.

05



**BETTER QUALITY OF LIFE AT WORK**  
A convenient device that reduces the time an operator needs to perform inspections and work in uncomfortable positions.



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