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Operator testimony – RET and ProRail

XCROSS Project – Mid-Term Public Workshop

05 February 2026

Policy regarding the measurements of the crossings

RET

- Use of heavy measurement trolley for track and switch geometry
- Ultrasonic and Eddy Current measurements for detection of internal and RCF defects
- Manual measurements, specific at non central steered switches
- Visual inspection

ProRail

- Use of measurement train for the track and switch geometry
- Ultrasonic and Eddy Current measurements for detection of internal and RCF defects
- Manual measurements, specific at non central steered switches
- Visual inspection, only when train data is not available.

Current challenges regarding the geometry of the crossings, both at RET and ProRail infrastructure

- The crossing geometry after welding is controlled by use of a steel ruler. The quality depends on the experience of the welder.
- An improvement of quality of geometry is hardly objectively measurable.
- An inspection before or after repair welding is mostly performed by highly trained and experienced person, however assessment is subjective.
- No digital data available for analysis and improvement of the known problems with geometry and defects.
- A predefined modification of the geometry of the crossing is hardly possible to realise without objective measurement.

We already can see that all these challenges are solvable with the results from the XCROSS project.

Direct application of the results from the XCROSS project

RET

- The geometry after welding is objectively measured.
- Better choice between corrective grinding or repair welding actions.
- Inspection and planning of maintenance.
- Training of the welders.

ProRail

- The geometry after welding is objectively measured.
- Better choice between corrective grinding or repair welding actions
- Inspection and planning of maintenance (subject to policy and contract changes).

Railway welding contractors

- Training of the welders.

Future use of the results of the XCROSS project

- Control of geometry of the crossings which potentially can be re-used. Transparent acceptance and rejection criteria.
- Quality control of the new parts at the factory or at delivery.
- Use during Factory Acceptance Test to obtain ‘digital fingerprint’.
- Use during Site Acceptance Test to speed-up the transfer procedures. Simultaneously, it will increase transparency during acceptance and transfer processes.
- The methods and algorithms developed for the assessment of the crossing geometry with data from 3D scanner are highly applicable for assessment of cross-section profiles measured by the switch measurement train or trolley. RET and ProRail are planning to use this as a method for improvement of the maintenance.

Thank you
for your attention

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