

Remote/Digital Factory Acceptance Tests (FATs) Vossloh's remote inspection solutions for points and crossings* (live videoconference or remote documentation sending)

*available for Point Machines as well, either with turnouts, or taken independently

Live Remote Inspections



GLASSES WITH ON-BOARD CAMERA FOR REMOTE VALIDATION VIA VIDEOCONFERENCE

- The site operator wears glasses with an onboard camera that transmits live, using an integrated microphone and headset that allow real-time communication with the customer remotely
- An interactive tablet is used to share the information sent by the glasses to the customer
- The connection between the operator and the customer is made through a videoconference

**Greener
Faster
Smarter**

► References:

France, Belgium, India, Hong Kong...

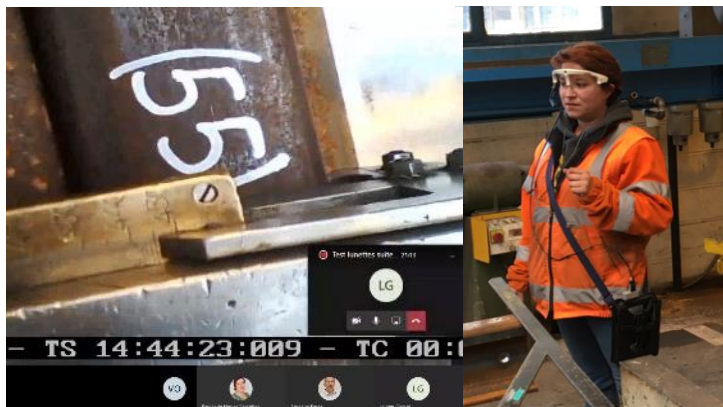
Just like the customer is directly on site

In real time, the customer follows the factory acceptance procedure for switches and crossings, interacting directly or through a third party throughout the auditing process.



Applications

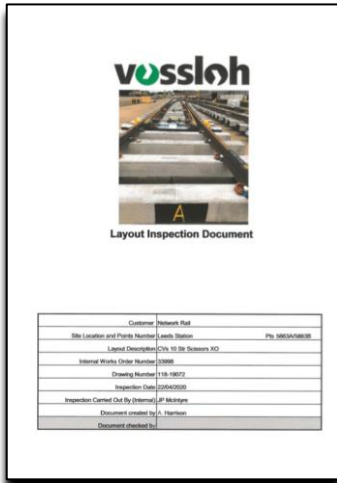
- Inspection, Monitoring and Validation of Switches and Crossings, Point Machines, and Associated Equipment
- Remote Maintenance and Technical Support
- Distance Learning and Training



ADVANTAGES

- Remote digital inspection (webcam and microphone on glasses + videoconference) for validation in real conditions
- Customer and operator interactivity
- Monitoring with measurements and real-time images
- Saves time and reduces operating costs

Remote Inspections

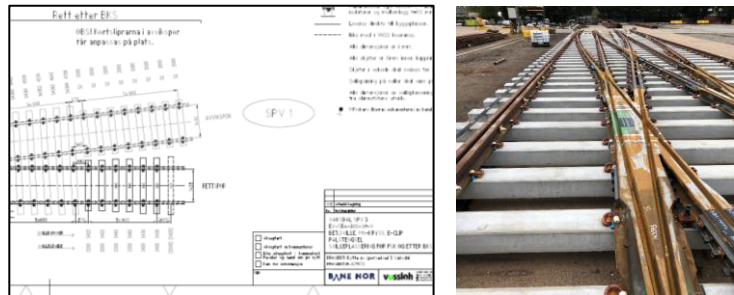


WE ARE ABLE TO OFFER REMOTE/DIGITAL FATs TO ALL CUSTOMERS

- Video footage of the turnout is supplied demonstrating switch operation and any specific requests from the customer
- Additional photographs of the turnout is supplied covering all key areas along with any specific requests from the customer
- Any additional customer documentation can also be completed

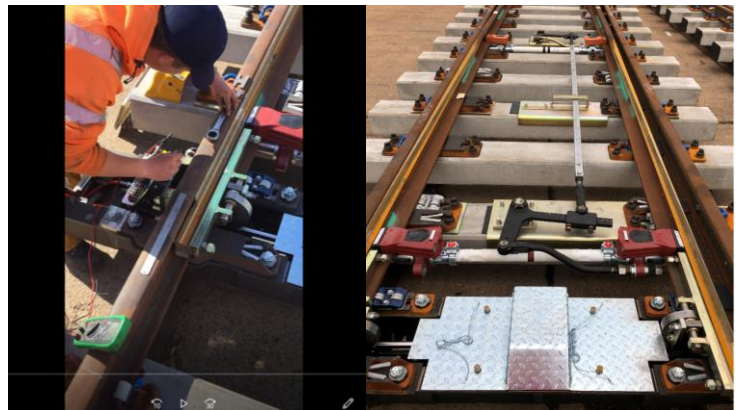


The standard Vossloh inspection document is provided on the FAT date



Documentation

- Checklists proving that the turnout has been built according to customer specifications + Drawings of the turnout
- Material list, Delivery specifications



ADDITIONAL FEATURE

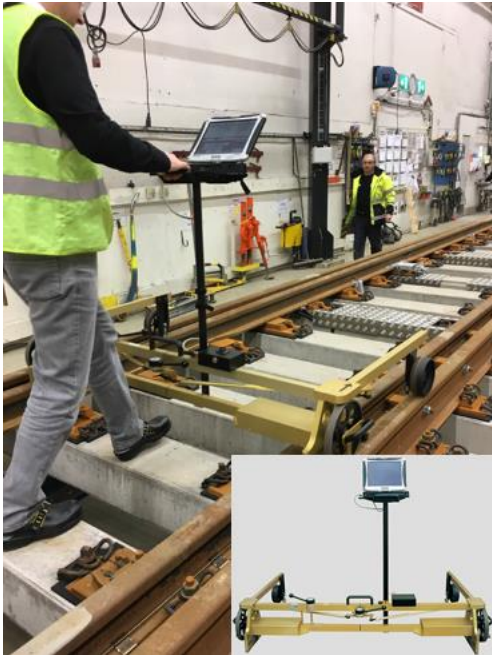
- A Facetime/Digital call can also be offered to allow a walkaround of the turnout to be conducted in real time along any questions discussed

References

Great-Britain, Sweden, Norway...



Digitized Inspections for Customized Asset Management



Data transferred to the customer in a digital way enabling further use under turnout lifetime

| Vossloh | | Vekselkontrollrapport | | Kundorder nummer: 1363733 | | Provblad nr: 033-2020 | | | | | | | | | | | | | | | | | | | |
|--|----------------|-----------------------|----------------|----------------------------|-----------|-----------------------|----------------|----------------|----------------|----------------|------|----------------|--------|----------------|------|----------------------|-------|----------------|-------|----------------|-------|----------------|-------|----------------|-------|
| Enkelveksel | | TO nummer: 1049775 | | Stationsnr: 300-1-9-V, S54 | | Rurveksel | | | | | | | | | | | | | | | | | | | |
| Stad | Veksler | Byggningsnr | Figur nr | Stationsnr | Rurveksel | Drivmaskingsnr | Usp | | | | | | | | | | | | | | | | | | |
| Vaksdal | SPV 3 | 3-110148 | | 300-1-9-V, S54 | | Palstengsel | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| Målepunkt | a | b | c | C ₁ | e | e ₁ | f ₁ | f ₂ | f ₃ | f ₄ | g | g ₁ | h | h ₁ | j | j ₁ | r | r ₁ | t | t ₁ | u | u ₁ | d | d ₁ | |
| Normalverdi | 1435 | 1436 | 1435 | 1435 | 1435 | 1435 | 59 | 59 | 59 | 59 | 39 | 39 | 44 | 44 | 1396 | 1396 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 |
| Toleranser | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +2/-1 | +2/-1 | +2/-1 | +2/-1 | +/-1 | +/-1 | +/-1,5 | +/-1,5 | 0/+2 | 0/+2 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 | +3/-1 |
| Oppmålt | 1333 | 1364 | 1357 | 1314 | 1322 | 1319 | 61 | 60 | 57 | 57 | 37,3 | 37,7 | 42,8 | 42,7 | 1376 | 1376 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 | 1435 |
| Avvik | 0 | 0,2 | 0,2 | 0,2 | 0,2 | 0,2 | 0 | 0 | 0,3 | 0,3 | -0,2 | -0,2 | -0,2 | -0,2 | 0 | 0,2 | 1,9 | 1,9 | 1,9 | 1,9 | 1,9 | 1,9 | 1,9 | 1,9 | |
| Målepunkt | k ₁ | k ₂ | k ₃ | k ₄ | v | v ₁ | x | x ₁ | y | y ₁ | | | | | | | | | | | | | | | |
| Normalverdi | 80 | 80 | 80 | 80 | 169 | 169 | 58 | 58 | 1435 | 1435 | | | | | | | | | | | | | | | |
| Toleranser | +2 | +2 | +2 | +2 | | | | | +3/-1 | +3/-1 | | | | | | | | | | | | | | | |
| Oppmålt | 77 | 80 | 77 | 80 | 172 | 172 | 57,7 | 57,7 | 1435 | 1435 | | | | | | | | | | | | | | | |
| Avvik | 1 | 0 | -1 | 0 | | | | | | | | | | | | | | | | | | | | | |
| Måling av VT neutraliserte: <input checked="" type="checkbox"/> | | | | | | | | | | | | | | | | Anslutningssted: 2,2 | | | | | | | | | |
| Isoleringens plassering sett fra V og H: <input checked="" type="checkbox"/> 1 Nr: 36504 <input type="checkbox"/> 2 Nr: <input type="checkbox"/> 3 Nr: 36503 <input type="checkbox"/> 4 Nr: <input type="checkbox"/> | | | | | | | | | | | | | | | | Slipsplacering: 0,0 | | | | | | | | | |
| Besiktiget dat: 2020-05-19 | | | | | | | | | | | | | | | | Bes man: George M | | | | | | | | | |

MEASUREMENTS WITH DIGITAL TROLLEY ALLOWING ACCURATE DATA COLLECTIONS

- Digitized and customized checklists for further use in customers different data bases intended for asset management, inspection and maintenance purposes
- Drawings are created in 3D and BIM-models are available



THE TURNOUT OF THE FUTURE

- Each Turnout* will have its own digital data file during all its lifetime enabling optimized monitoring and costs savings

*available for Point Machines as well, either with turnouts, or taken independently

