

Productivity gains from automated data-driven NDT solutions

World-renowned, Non-Destructive Testing (NDT) specialist ScanMaster has appointed Unipart Rail as its sole distributor to the UK Rail industry. The strategic partnership provides a full range of contemporary ultrasonic test equipment, with products servicing infrastructure, wheel and axle requirements to train operators, overhaulers and maintenance providers alike.

Inspection systems

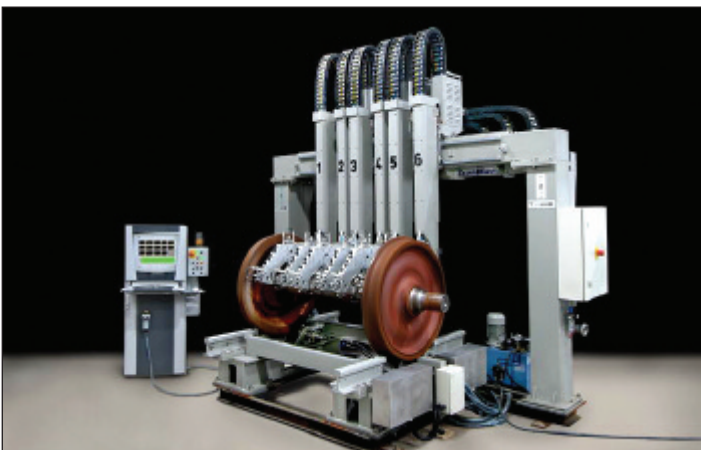
ScanMaster, a subsidiary of Elbit Vision Systems (EVS), develops, manufactures and markets ultrasonic inspection systems internationally proven in aerospace, automotive, train, rail, pipe and plate environments. David Gal, ScanMaster/EVS Chairman, said: 'This strategic alliance with Unipart Rail is one of the most important milestones in our long-term growth strategy to increase penetration levels in the rail industry. We are delighted to have entered into this agreement with Unipart Rail which, given its size and prestige, we believe will be instrumental in increasing our sales to the UK railway industry.'

In a first for the UK rail industry, Unipart Rail is now able to offer these world class products to maintainers and rail service providers increasingly in need of better solutions for non-destructive crack and corrosion detection.

Wheel and axle system

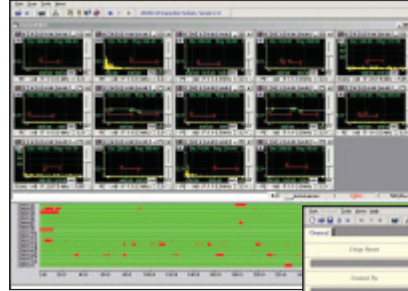
ScanMaster provides a fully computerized automated ultrasonic inspection system for wheel and axles whilst also offering in-service rail and track equipment. The Unipart Rail/ScanMaster wheel/axle solution is designed for in-service, production line or repair shop type inspections. The integrated systems include multi-channel ultrasonics, sophisticated robots, high load capacity mechanics with multiple transducer heads and advanced software. Its main features include:

- Fully integrated, PC-based customised train axle testing solutions.
- Set-ups for different axle types, which are stored in the memory and can be recalled whenever necessary.
- Simple to use, single-screen operator control console.
- Real-time flaw evaluation from B-scan images.
- Detailed test results with comprehensive documentation for reporting and archiving.



Unique software

Ultimately, it is ScanMaster's unique software that sets the system apart from existing mainly manual driven equivalents. The software features online A-Scan display of all active channels, pseudo B-Scan based on the operator's definition of gates and defects as well as C-Scan imaging of the part. All scans are documented by sustainable reports on a per-part and per-channel basis. Post processing operations can be performed to show defect analysis according to the inspection standard and specification.



The system's scan mode.



The system's set-up mode.

A variety of systems are available for either wheels, axles or combined wheel and axle assemblies. Widely proven in their respective fields, they provide fast scanning and accurate data acquisition. Inspection results are displayed and reported in standard or customized formats.

Rail inspection

For high speed rail inspection and checking, a fully integrated ultrasonic inspection vehicle incorporates complete mechanical hardware, a transducer sled and a sophisticated couplant system. High-speed digital data acquisition, imaging, process and evaluation modules are also included. Powerful software benefits include prediction of the inspected part's degradation and defect propagation, generation of custom or standard reports and complete analysis.

Main features of the high speed rail inspection system include:

- Fully integrated, automated rail-testing systems from single to 24 channels.
- Testing speed up to 60 mph depending on surface condition, at full multi-channel performance with guaranteed return-to-defect within 20 cm.
- Programmable up to 32 gates per channel providing real-time longitudinal B-scan images.
- Automatic 'on-the-fly' adjustment to rail height variations.
- Straightforward single-screen control of the whole system from an operator console.
- A-scan signal and pseudo B-scan display of rail longitudinal cross-section for each transducer.
- Off-line analysis and processing of stored and archived data.
- Full documentation of test results for periodic monitoring of defect growth.

The rail inspection system can be mounted on a multi-purpose vehicle or towed by a service vehicle. The equipment also enables flexible usage on converted road vehicles. Proven in Germany with Deutsche Bahn, ÖBB in Austria and many other worldwide train operation and maintenance facilities, Unipart Rail have already logged a number of advanced UK enquiries.

Unipart Rail Managing Director, John Clayton added: 'We are delighted to form this alliance with ScanMaster/EVS that will enable us to use the technological edge of ScanMaster/EVS and the market leadership of Unipart Rail to service the needs of the UK rail industry as they develop.'

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