

# SCANNING, MEASURING ON RAILS



After several years of petitioning, a new chord to the railway line in the Ordsall area of Greater Manchester, United Kingdom, was finally opened and made operational late last year. The approximate 96 million Euro project allows 700 extra trains per day to operate in Manny. The new link will allow trains to run between Manchester's Victoria and Picca-dilly stations for the first time.



As part of the Ordsall Chord, the flagship Network Rail project in Manchester City Centre, the construction is made up of complex geometry. Skanska Bam Joint Venture, leading development and construction companies, served as the primary contractor on the project. With a trusted relationship, the company turned to its preferred survey supplier, SCCS, for a solution that could handle such complexity efficiently and accurately. That solution was the Leica MS60 MultiStation.

***“The MS60 was purchased for this project from SCCS due to its high precision accuracy, ability to perform high resolution localised scans quickly, and intuitive onboard functionality,”*** said Ben Barnard, SCCS Survey Equipment Ltd key account manager and technical sales. ***“This helped maximise the surveyors’ efficiency on site.”***

## EFFICIENCY GAINS IN RAIL CONSTRUCTION

With a challenging design that includes architectural features, such as fanned pier extensions, the overall project includes the construction of:

- 7 new spans
- 300 metres of new track
- 2 widening of existing Victorian viaducts.

All the while at the centre of the project sits the iconic network arch bridge, the first of its kind in the UK, spanning 90 m. This structure had to be preserved throughout the project.

Since the preliminary stages of the project, SCCS has supplied the Skanska team with equipment, technical support and training. With the use of the MS60 MultiStation, significant value has been added to engineering and surveying procedures

as well as delivering significant time savings on the Ordsall Chord project.

***“The complex structures included in the project meant traditional checking throughout the construction process, which would have been challenging. The adoption of the MS60 allowed us to develop an innovative process of scanning and verification/clash detection to reduce risk and streamline the QA process,”*** said Tom Emerson, Skanska engineering surveyor. ***“The MS60 even delivered time savings over modern dedicated laser scan systems. With the regular need for point cloud data, the MS60 made it easy to capture this in conjunction with our other site engineering and surveying duties.”***

## SAVING TIME ON THE TRACKS

On a rail project such as the Ordsall Chord, limited access to track means time on track is precious. Efforts to capture the rail geometry must be done quickly, correctly and efficiently.

***“Having the ability to complete a quick scan with our MultiStation has delivered unforeseen benefits,”*** said Emerson. ***“Through as-built point cloud information, we can quickly capture what we need and make adjustments back in the office. Previously, additional track visits would have likely been required. With the captured data, we can do every-thing in the digital reality we have created.”***

With the self-learning ability of the MS60 MultiStation to adapt to any environment, scanning and measuring are made simpler in one view. On the rails, this translates to time savings and increased productivity for more efficient projects.

*Author: Dan Binney*

For more information, visit [railways.hexagongeosystems.com](https://railways.hexagongeosystems.com)



# HEXAGON

Hexagon is a leading global provider of information technologies that drive productivity and quality across geospatial and industrial enterprise applications.

Hexagon's solutions integrate sensors, software, domain knowledge and customer workflows into intelligent information ecosystems that deliver actionable information. They are used in a broad range of vital industries.

Hexagon (Nasdaq Stockholm: HEXA B) has more than 16,000 employees in 46 countries and net sales of approximately 3.4bn USD. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB. Hexagon is a leading global provider of information technologies that drive productivity and quality across geospatial and industrial enterprise applications.