

RailQ runway geometric surveys



Is your crane runway safe ?

A safe crane runway is essential for helping prevent accidents, protecting your equipment and maintaining efficient operations. A well-maintained runway can not only help you comply with local regulations but can also help safeguard your personnel and improve productivity.

Fast, comprehensive, safe runway surveys

The condition of the runway influences how well a crane moves on its rails and affects the usability and lifetime of the crane and its traveling machineries. Poor runway alignment condition can lead to reduced crane reliability, performance, and possible safety risks.

If you're operating production critical cranes, installing a new crane or modernizing an existing one, a runway survey can provide you with valuable information to keep your operations running smooth.

We offer two types of runway surveys: our **RailQ 3D Runway Survey** uses point cloud data analysis to deliver a complete view of your runway condition and rail alignment and our **RailQ Runway Survey** focuses only on rail alignment. When a survey is completed, we'll present you with engineering drawings and recommendations for corrective actions.

These advanced surveys are designed to assess rail alignment and runway condition with minimal disruption to your operations, helping you address potential issues before they become costly problems.



A runway survey is recommended when:

- The crane skews or mistracks during travel
- Rails or wheels show excessive wear
- Rail fasteners are loose or failing
- Bridge movement produces unusual noise
- Parts like couplings or axles need frequent replacement
- Wheel flanges are bent from stress
- A new runway needs precise alignment
- A crane is added or capacity increased
- A crane modernization is being planned
- Critical cranes haven't been surveyed recently
- Crane overloading is suspected
- Girder flexing is visible under load



Our RailQ 3D and RailQ runway surveys are conducted to meet major international standards, including ISO 12488-1. Our reporting can be tailored to ensure compliance with your specific regional requirements, such as CMAA (US), AS 1418 (Australia), BS 466 (UK), PN-91/M-45457 (Poland), and ASME (US).

Data-driven insights guided by expert advice

Our crane runway surveys are always performed by Konecranes experts to give you precise measurements for reliable crane operation.

We guide you all the way from initial analysis through condition assessment to actionable maintenance and optimization recommendations. Our focus is on keeping your crane runway safe, productive and compliant.

➔ Benefits

- **Delivers precise insights** into runway condition and alignment, powered by the expertise of our trained specialists.
- **Faster than traditional methods**, saving valuable time without compromising accuracy.
- **Clear, actionable reporting**—condition data and recommendations are easy to understand and share across teams.
- **Supports immediate action**—engineering survey drawings enable quick field adjustments and repairs.
- **Flexible survey options**—choose a full-depth analysis of rails and girders with RailQ 3D, or focus solely on rail alignment with RailQ.
- **Improved safety and less downtime** with remote data collection.

What’s the difference between RailQ and RailQ 3D?

Accurate information with the RailQ runway survey
The RailQ Runway Survey uses a remotely-operated robot to give you accurate information on runway rail alignment—including comprehensive insights into span, straightness, elevation, and rail-to-rail elevation. It’s suitable for most crane types and ideal for supplementing service programs with a faster lead time for reporting.

In-depth analysis with the RailQ 3D runway survey
The RailQ 3D Runway Survey improves crane runway assessment with high-definition 3D laser scanning and advanced point cloud analysis. It delivers a complete, data-rich view of your runway’s condition—going beyond span, straightness and elevation. With RailQ 3D, you gain insights into rail-to-girder eccentricity, rail wear, girder condition and girder camber and sway.

The system captures millions of data points to generate accurate 3D crane bay views, complete with geotags and adjusted runway drawings. The depth of analysis helps you make confident, informed decisions that support crane safety and long-term reliability.

SURVEY FEATURE	RAILQ	RAILQ 3D
Top running cranes	✓	✓
Survey style drawing & summary report	✓	✓
Span	✓	✓
Straightness	✓	✓
Elevation	✓	✓
Rail-to-rail elevation	✓	✓
Visual observation of runway*	✓	✓
Rail-to girder eccentricity	✗	✓
Girder condition	✗	✓
Rail wear	✗	✓
Underslung cranes	✗	✓
3D crane bay view with geotags	✗	✓
Point cloud data	✗	✓
Immune to runway rail condition	✗	✓

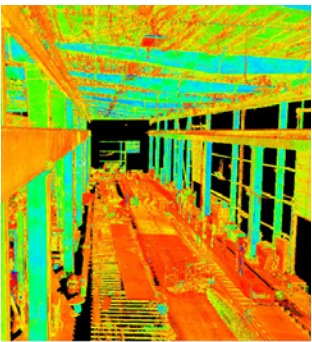
*Spot observations and RailQ 3D observations from point cloud data

With RailQ 3D a picture is worth a thousand words



Crane bay viewer

The RailQ 3D viewer is a valuable tool for visual collaboration. After a survey is completed, your Konecranes expert will use the viewer to highlight and explain any visible issues in your crane bay. Deficiencies are tagged in their exact locations with supporting photos giving you a complete picture of runway condition.



Point cloud

When requested, we can deliver the full point cloud, that when paired with the RailQ 3D viewer allows you to explore your crane bay in detail. It enables you to move anywhere in the scanned area and take point-to-point measurements. The point cloud can even be imported to BIM and CAD tools for further processing.

Accurate measurements with less downtime

RailQ 3D uses the latest high-definition surveying technology to measure and analyze the critical aspects of the crane runway system including: the alignment of the runway rails to one another and the alignment of each rail to its corresponding runway girder, as well as rail and girder condition.

The survey data is accurate and repeatable. Our proprietary analysis and 3D visualization software produces reports that visualize the problem areas. Konecranes engineers review the data to recommend alignment strategies and highlight areas where critical safety and production issues are found.

Optimize maintenance planning with a crane runway survey
Performing RailQ and RailQ 3D as part of a periodic inspection program on your critical production crane runways can help identify chronic issues signaling the need for a long-term engineered solution.

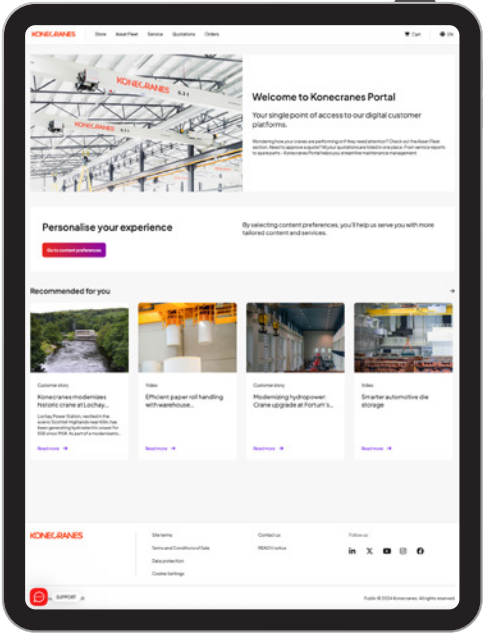
This approach allows you to plan maintenance far in advance and implement corrective actions during planned outages and production stoppages to limit the effects of lost production.

Get a complete view of crane and rail geometry
Our RailQ and RailQ 3D Runway Surveys and CraneQ Crane Geometric Survey work together for a complete view of crane and rail geometry.

The CraneQ Crane Geometric Survey provides accurate information detailing the alignment and square of a crane. It measures dimensional tolerances of wheels, guide rollers, end trucks, girders, and other components of the crane.



The RailQ 3D and RailQ reports include the survey drawing which shows the recommended adjustments to bring the runway to the necessary tolerances.



Reports available on Konecranes Portal

From service reports to spare parts—Konecranes Portal helps you streamline maintenance management.

RailQ and RailQ 3D reports and recommendations are made available on the Konecranes Portal—your single point of access to our digital customer platforms.

The portal gives users with a Konecranes service agreement quick and easy access to crane maintenance information, asset condition and usage data, quotations and more. The data on the portal can be viewed, analyzed and shared quickly helping you make informed maintenance decisions.


You can also find manuals on the portal and browse and order spare parts for many brands, makes and models of industrial cranes and hoists. From service reports to spare parts – Konecranes Portal helps you streamline maintenance management.

Learn more about Konecranes Portal at:
konecranes.com/service/konecranes-portal





Konecranes is a global leader in material handling solutions, serving a broad range of customers across multiple industries. We consistently set the industry benchmark, from everyday improvements to the breakthroughs at moments that matter most, because we know we can always find a safer, more productive and sustainable way. That's why, with around 16,500 professionals in over 50 countries, Konecranes is trusted every day to lift, handle and move what the world needs. In 2024, Group sales totaled EUR 4.2 billion. Konecranes shares are listed on Nasdaq Helsinki (symbol: KCR).

© 2025 Konecranes. All rights reserved. 'Konecranes', 'Moves what matters' and  are either registered trademarks or trademarks of Konecranes.

This publication is for general informational purposes only. Konecranes reserves the right at any time, without notice, to alter or discontinue the products and/or specifications referenced herein. This publication creates no warranty on the part of Konecranes, express or implied, including but not limited to any implied warranty or merchantability or fitness for a particular purpose.

KONECRANES Moves what matters.