

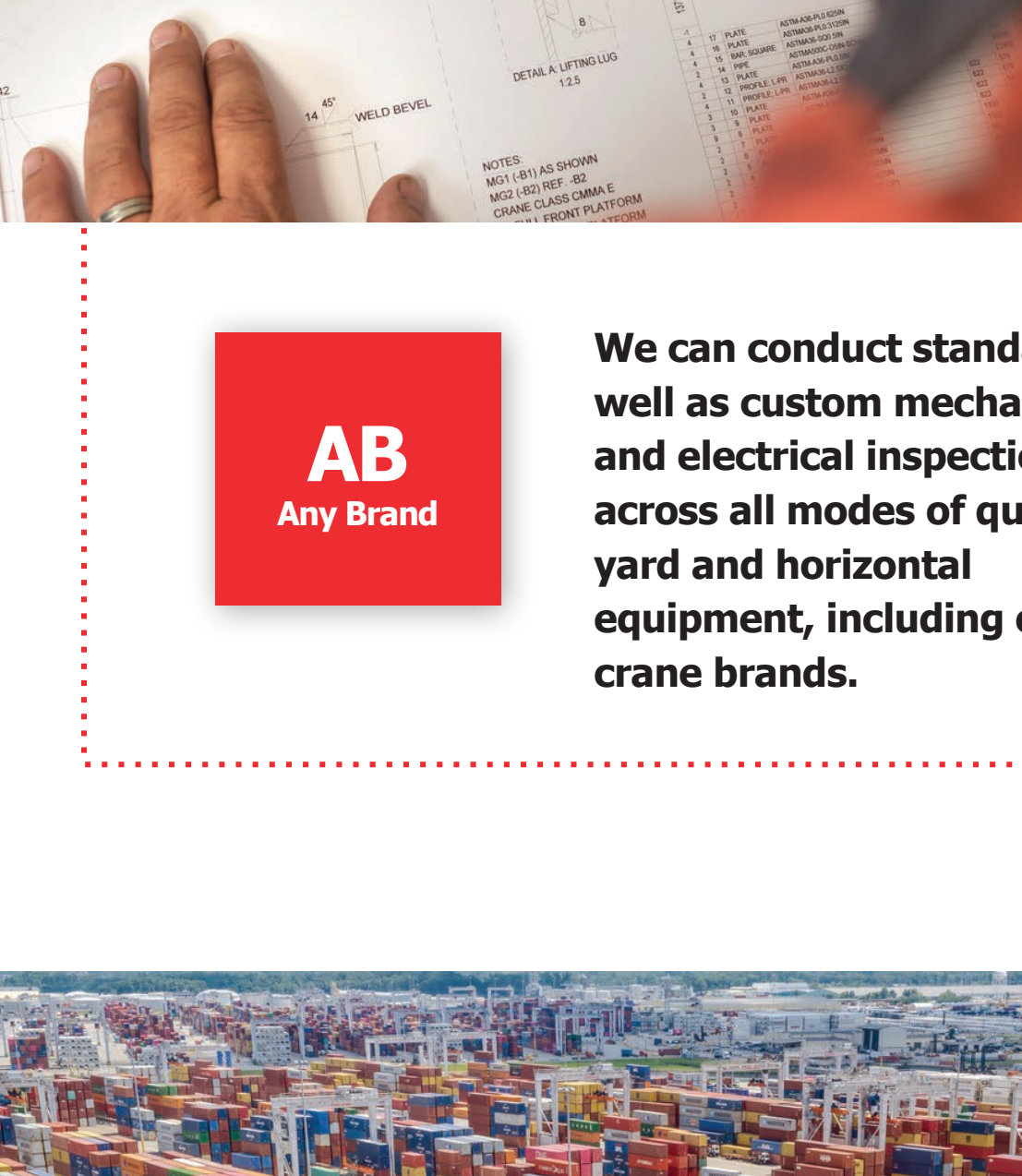
HOW HAS The weaver become the only bird that can tie knots?

Female weavers have evolved very high nest inspection standards. As a result, weaver nests are considered the avian world's super-structures.

Crane Inspections

Precision inspection tools that precisely establish the condition of your entire crane.

Precision. Evolved.



AB
Any Brand

We can conduct standard as well as custom mechanical and electrical inspections across all modes of quay, yard and horizontal equipment, including other crane brands.

ADAPT AND THRIVE

Konecranes is the premier port services provider. Our range of service products, such as inspections and training, will enable your fleet and your team to adapt to a fast-changing environment. Welcome to the evolution of your port. We provide a wide range of fleet enhancements for both equipment, systems and teams which enable ports to continue to adapt and thrive.



BENEFITS

- Maximize the safety and reliability of your equipment
- Proprietary software tools for industry-leading inspection standards
- Gain technical insight to make better decisions about your capital assets
- Improved spare parts stock planning
- Clear recommendations for preventive maintenance and repair actions
- Scope possibility of remote connection
- Adherence to more stringent regulations, our inspectors are always familiar with local requirements.

Basic Types of Inspections

STATUTORY INSPECTION

- Main purpose of this is to fulfil legislation requirements regarding crane inspections.
- Inspection scope is made locally, based on legal requirements.

ONE-TIME INSPECTION

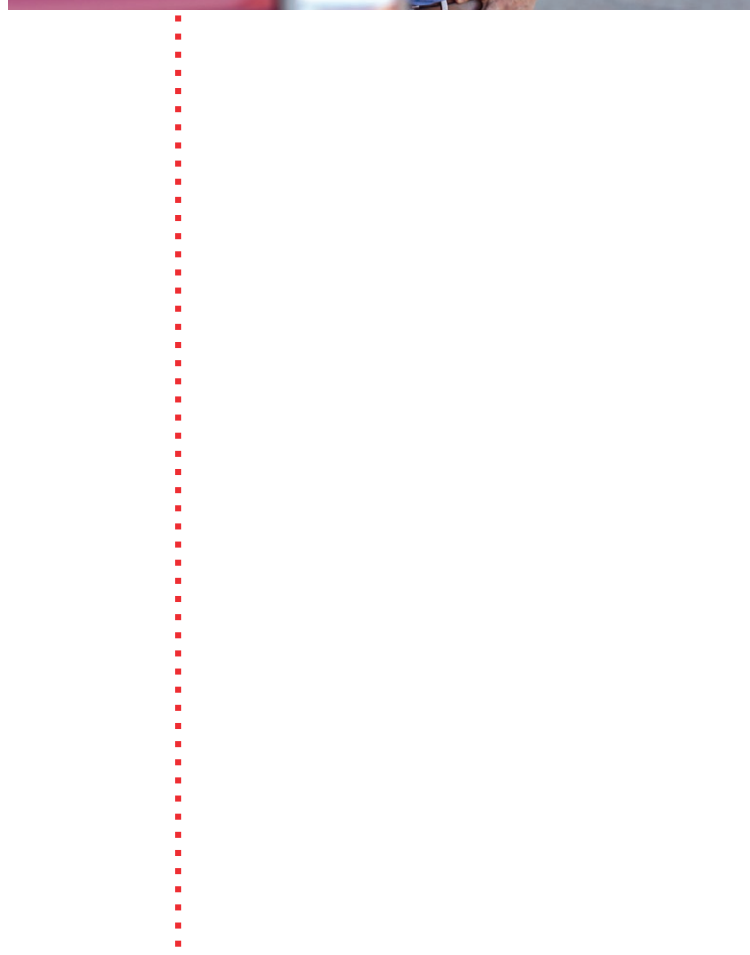
- The purpose of the one-time inspection is to produce accurate information about the crane condition and to recommend necessary preventive maintenance actions.
- The one-time inspection can be limited or unlimited: covering the whole crane.
- The scope of the inspection is agreed case by case.

SCHEDULED INSPECTION

- Conducted on regular intervals (monthly, quarterly, annually etc.)
- Follow up the crane condition regularly to find out accurate information to decide necessary actions.
- Scheduled inspection is part of the crane's regular maintenance program (FEM 1.006, CMAA 78-2002) and it is outlined in the owner manual of the crane.

HOW IT WORKS

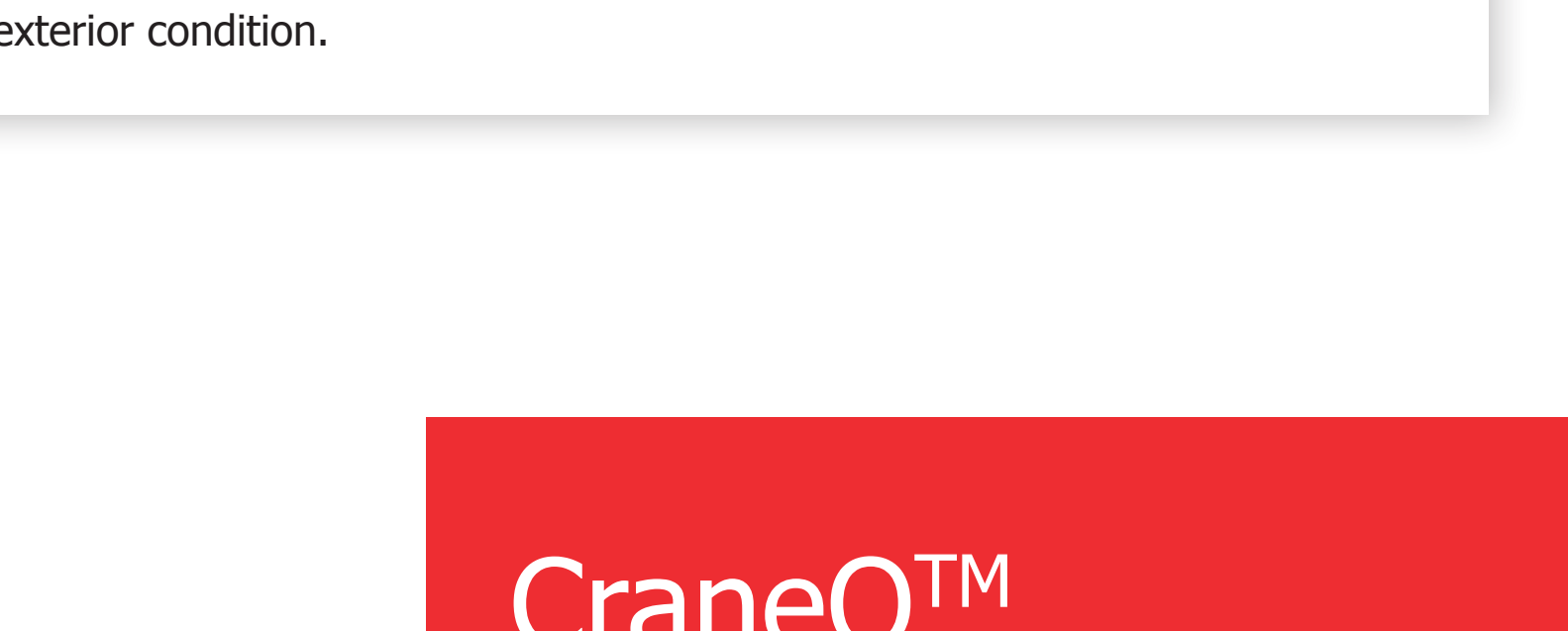
- Customers appreciate how fast Konecranes responds to support requests, and the high level of technical knowledge available.
- Inspections can be customized, maximizing the benefit from the findings.
- We start with the steel structure, then examine the operating machinery, test the electrical systems and check any hydraulics.
- If any specific tests such as RailQ or CraneQ are required these are then also conducted.
- A comprehensive inspection combines a check of your equipment's safety, the state of its components, and routine maintenance.



WHAT YOU NEED TO KNOW

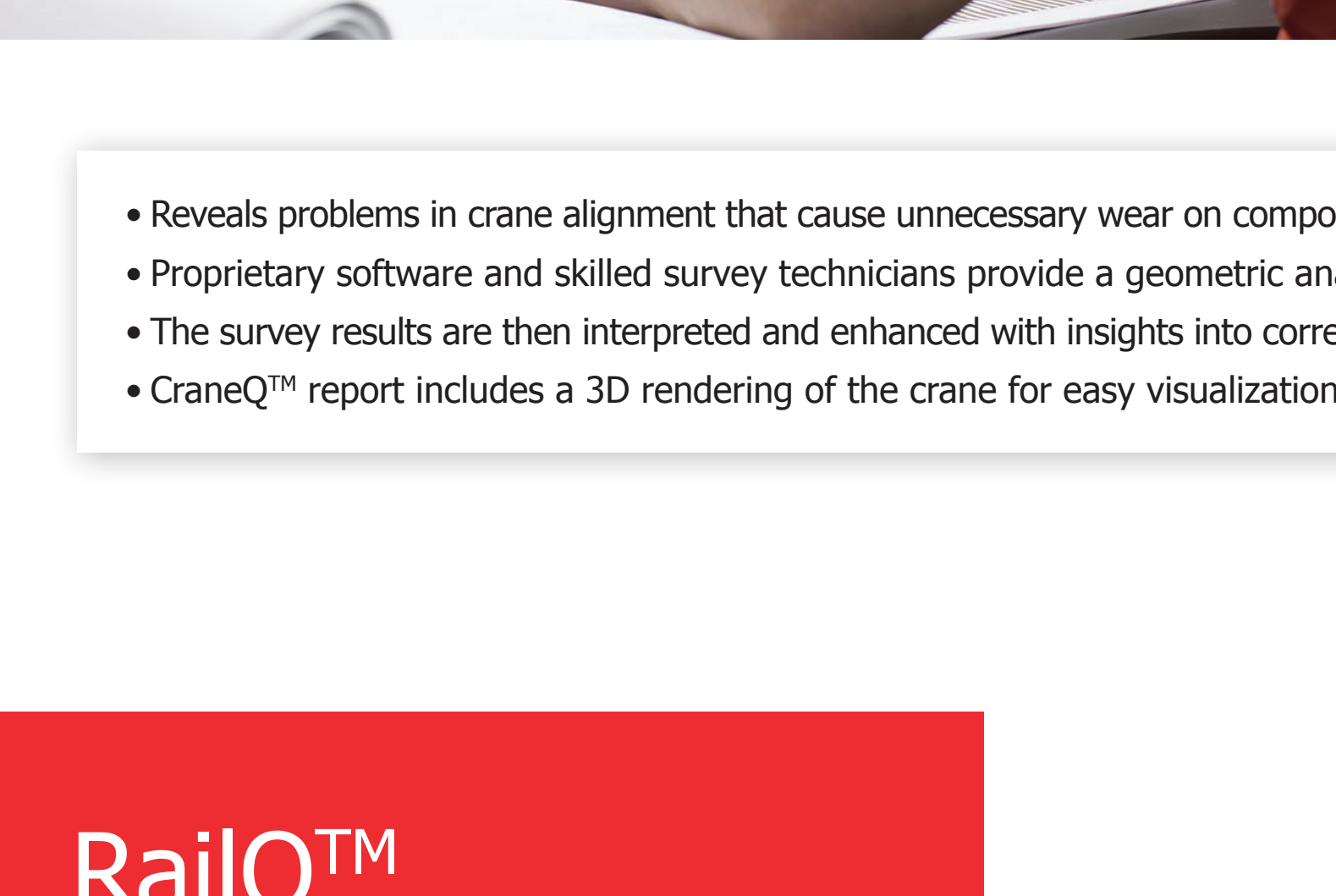
- Potential requirement for
 - auxiliary equipment e.g. forklift etc.
 - customer personnel to assist in fulfilling the inspection scope
 - additional equipment (e.g. office container)
- Customer must facilitate access to terminal, including any Safety Induction Training necessary
- Standard inspections use MAINMAN technology. In the case of a tailored inspection or the inspection of a specific part of the crane, an individual report will be made.

RopeQ™ Magnetic Rope Inspection



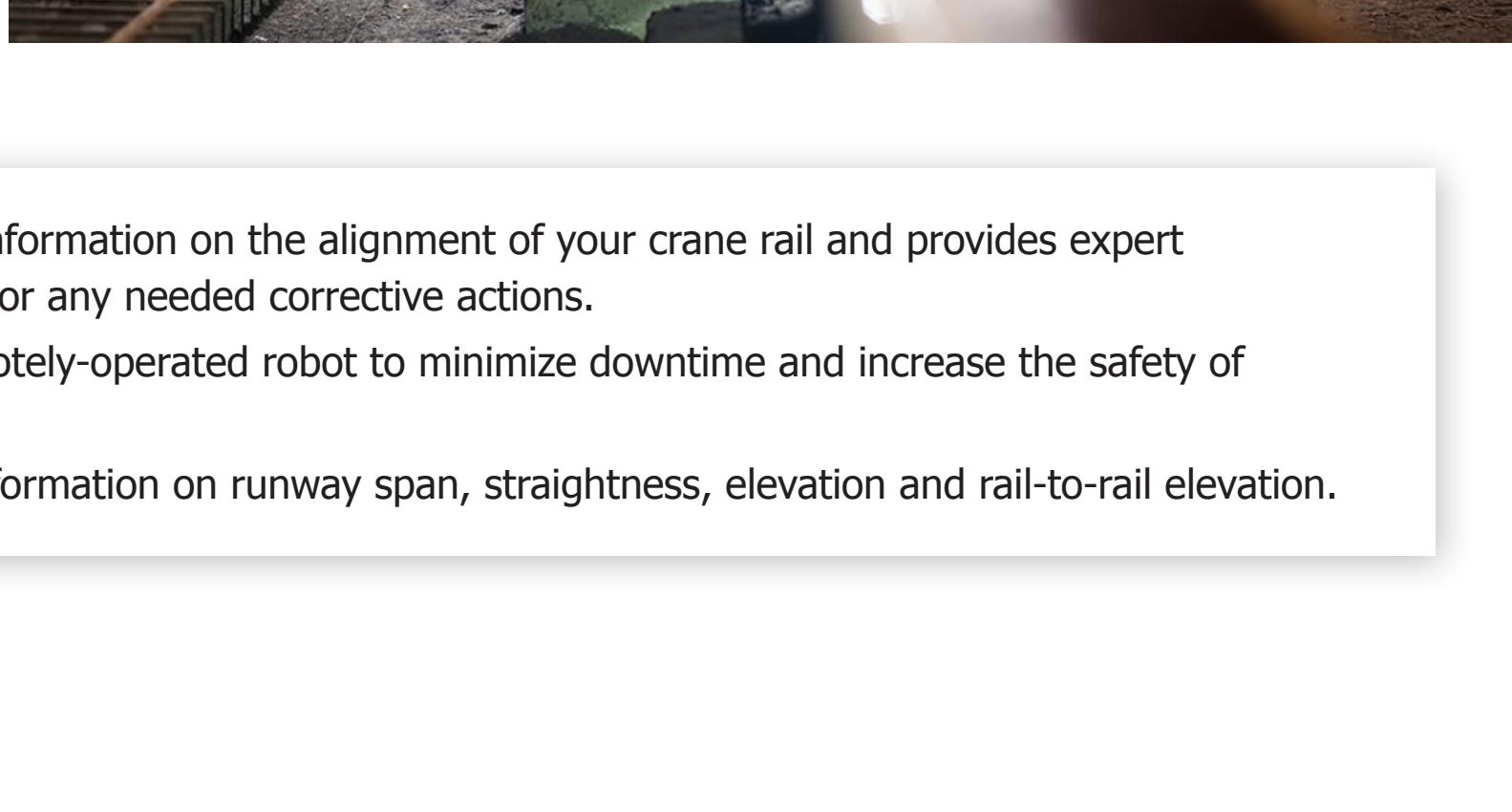
- Wire ropes are one of the most critical parts of your wire rope hoists, and they can contain hundreds of individual strands.
- Broken strands on the exterior can be found by visual inspections, but the condition of the core and inner wire strands cannot be seen.
- RopeQ™ determines the condition of a wire rope based on a visual and magnetic inspection.
- The inspection utilizes magnetic-inductive leakage technology to provide accurate data of the rope's interior and exterior condition.

CraneQ™ Geometric Survey



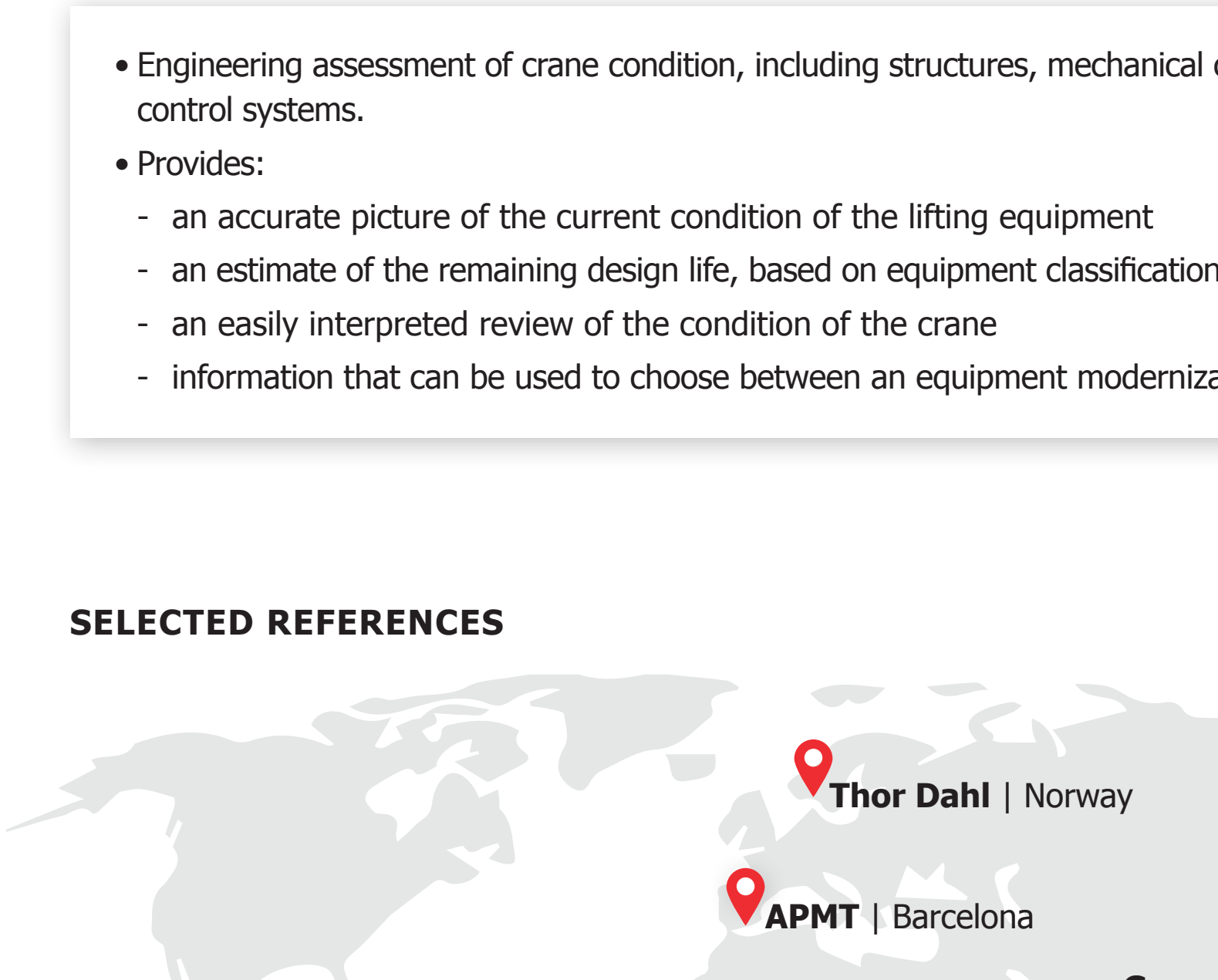
- Reveals problems in crane alignment that cause unnecessary wear on components or safety issues.
- Proprietary software and trained survey technicians provide a geometric analysis of the crane.
- The survey results are then interpreted and enhanced with insightful actions required.
- CraneQ™ report includes a 3D rendering of the crane for easy visualization.

RailQ™ Runway Survey



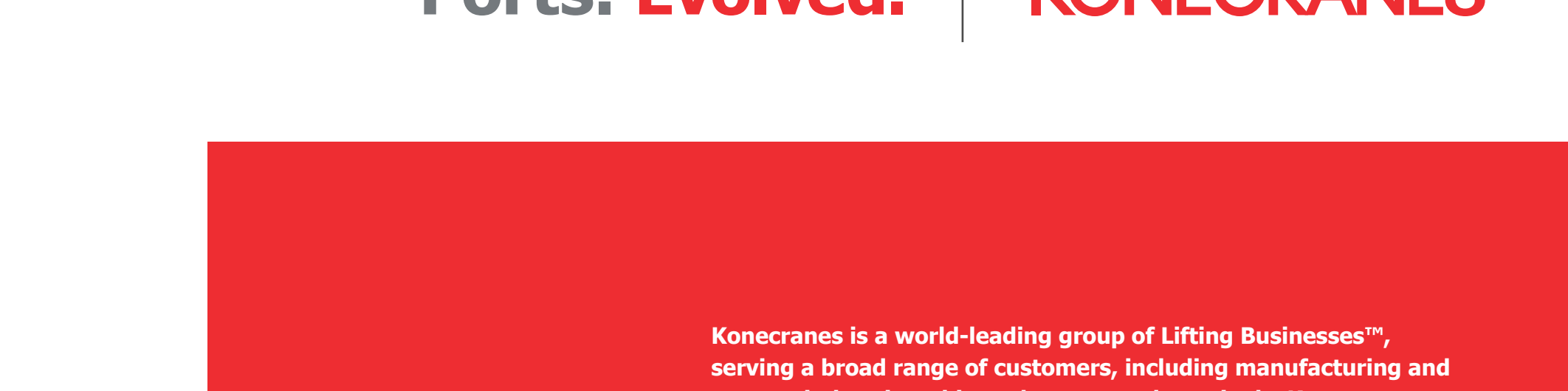
- Delivers accurate information on the alignment of your crane rail and provides expert recommendations for any needed corrective actions.
- RailQ™ uses a remotely-operated robot to minimize downtime and increase the safety of the survey.
- RailQ™ provides information on runway span, straightness, elevation and rail-to-rail elevation.

Crane Reliability Study (CRS)



- Engineering assessment of crane condition, including structures, mechanical components and control systems.
- Provides:
 - an accurate picture of the current condition of the lifting equipment
 - an estimate of the remaining design life, based on equipment classification and utilization history
 - an easily interpreted review of the condition of the crane
 - information that can be used to choose between an equipment modernization or replacement.

SELECTED REFERENCES



Year	Customer/Location	Quantity
2018-20	Gang Ji / Ningbo	102 (RTG)
2013-19	Flinders / Australia	12 (MHC)
2018	Thor Dahl / Norway	8 (M/Loader)
2017	APMT / Barcelona	5 (STS)

Ports. Evolved.

KONECRANES®



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