

Safely extending the lifetime of aging STS cranes

Situation

- A ship-to-shore crane had reached the end of its designed service life.
- Fatigue analyses indicated a high risk of cracking, **requiring three inspections per year** to ensure safety.
- Each inspection cost \$15,000, totaling \$45,000 annually.

Solution

- A tailored sensor strategy was developed in collaboration with an engineering partner.
- **200 sensors** were installed on the crane's most critical welds.
- This allows the customer to operate the crane beyond its theoretical lifetime.



6 years
of additional
lifetime



200
Sensor probes
installed



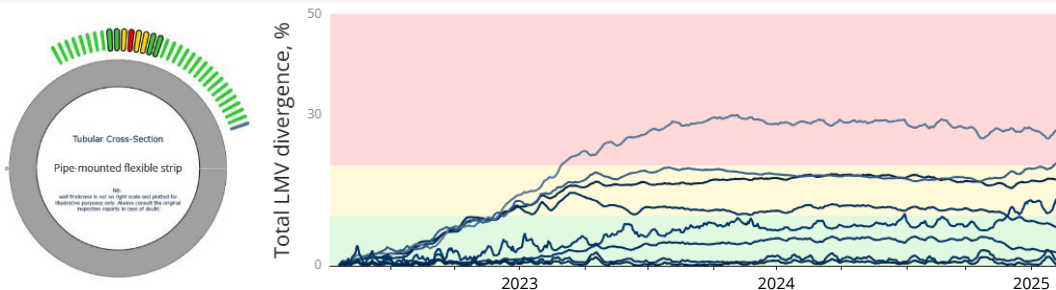
3x
more affordable
than inspecting



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Results

- Continuous monitoring with the Villari system proved to be three times more cost-effective than traditional inspections.
- No downtime was needed after the initial installation.
- **Enables safe crane operation up to 6 years beyond design life.**



A stabilized LMV is measured, providing insights into limited crack propagation



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