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Name

Scenario

Metro operators notice an unusual increase in passenger complaints about train vibrations during peak hours. They are concerned that this could indicate track misalignment, structural fatigue, or issues with supporting infrastructure.

Expectations

- The SHM system should detect abnormal vibration levels in real time. How: Sensors like accelerometers installed along the tracks and on bridges capture vibration data continuously.

Awareness Stage

Consideration Stage

Onboarding Stage

Monitoring & Operation Stage

Actions

Metro operators identify recurring structural issues or safety risks. Research modern solutions through workshops, industry reports, and conferences.

Evaluate SHM providers and their solutions. Request technical demonstrations and a proof of concept (PoC).

Collaborate with SHM providers for sensor placement, installation, and calibration. Train staff to use the system effectively.

Monitor real-time structural data dashboard.Receive alerts for anomalies or potential failures.predictive analytics to schedule preventive maintenance.

Pains

Rising operational costs due to unplanned downtime. Safety concerns faging infrastructure and manual inspection delays.

Difficulty comparing solutions due to technical complexity.Concerns about integration existing systems.High initial investment and ROI uncertainties.

Operational disruptions during system installation. Staff resistance to adopting new technology. Unfamiliarity with interpreting SHM data.

Large volumes of data can be overwhelming. Occasional false alarms or data inconsistencies. Decision-makers may lack confidence in interpreting analytics.

Feelings



Concern: Over safety and operational disruptions.



Skeptical: About the feasibility and costs.

Overwhelmed: By technical details and system complexity.

Empowered: By actionable insights from the dashboard.



Opportunities

Highlight the importance of predictive maintenance through data-driven insights. Showcase successful SHM case studies to build confidence.

- Provide a clear cost-benefit analysis showing long-term savings. Offer modular solutions to lower initial costs and scale gradually. Emphasize user-friendly dashboards and ease of integration.

Minimize disruption by deploying in phases. Conduct hands-on training and provide detailed manuals. Include real-time technical support for troubleshooting.

Develop customizable dashboards tailored to user needs. Provide automated insights and clear visualizations for easier interpretation. Regularly update and improve algorithms to reduce false positives.

Customer feelings shapes

