

Automate Inspection of Wayside Signalling Assets

Maintaining railway infrastructure is crucial, especially with aging infrastructure and a shortage of skilled workers.

HMAX by Hitachi Rail uses sensors fitted to fleets of trains to monitor wayside rail signalling assets, integrating data into a single platform to deliver greater operational stability. Leveraging machine learning and AI, HMAX reduces operating costs and enhances railway reliability.

Following the acquisition of Omnicom Balfour Beatty in 2025, HMAX now offers new train-borne monitoring of rail infrastructure capabilities, including:

► Mobile monitoring

► Mobile measurement

► Remote monitoring

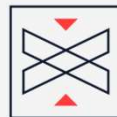


Replacing inspections with ongoing remote testing

A record of operation, insights on degradation, and informed asset lifespan decisions.



Points
conditions



Level
crossings



Signalling
events



200+
sites 24/7

Automate Inspection of Wayside Signalling Assets

Hosted in the cloud, and accessible offline, HMAX now enables infrastructure maintainers to not only get alerts about rail infrastructure assets that have failed, but also predict which assets are likely to fail – targeting their efforts on the work that matters most.

Switches

- ▶ **350+**
in Singapore and Hong Kong
- ▶ **Voltage, Current, Time to move, Direction** (unlock, traverse and lock)

Level Crossings

- ▶ **Over 10%**
of 1,259 targeted level crossing in the UK
- ▶ **Interlockings**
- ▶ **Near real-time** performance alerts

Power

- ▶ **100+**
Principal Supply Points monitored

Client example: Singapore



Our predictive analytics **avoided a catastrophic points failure.**



Our data showed the escalation. We alerted the client, and they found a very loose control arm at full extension.

Once sensors are installed, HMAX provides users with a suite of pre-configured alarms and prognosis indicators.



Gain an insight into the **active state of your assets** as well as changes in health states over time



Prevent costly and disruptive line closures through **continuous data-driven maintenance**



Replace quarterly manual inspections with **safer and more efficient** remote testing



Provide **decision support** to improve asset lifespan



Proof of crossing operation for dispute resolution



Telemetry-based data permits insights surrounding degradation

“

We turn 24/7 monitoring into diagnostics with the help of data - delivering insights and decreasing manual inspections.”



Project Engineer
Hitachi Rail

Talk to an executive or schedule a demo:



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