Managed Service
Rail

![Hitachi Digital Services]

Hitachi Digital Services vision and mission

Hitachi has been a trusted supplier to the UK government for over half a century in Transport, Energy, Technology and Research among the numerous sectors where we have consistently delivered social value and value for money.

Hitachi Digital Services offers a diverse array of innovative technology solutions tailored to meet the specific needs and desired outcomes of governmental agencies. Specialising in advanced IOT, ERP, Machine Learning, data analytics, and cloud services, we stand out for our unwavering commitment to security, reliability, and innovation. With a track record of delivering robust and scalable solutions, Hitachi empowers government entities to streamline operations, increase efficiency, enhance data security, and optimize performance, thereby enabling them to better serve the UK public. By leveraging state-of-the-art innovative technology and a deep understanding of governmental challenges, Hitachi emerges as the premier choice for governmental agencies seeking to bolster their digital foundation and achieve their mission-critical objectives. Our cross-sector view and technology expertise makes us ideally placed to advise government on data-driven, end-to-end digital transformations that delivers value for money.

Hitachi Digital Services G-Cloud offerings

Partnership Offerings	Consulting/ Advisory Cloud Services	HARC/ Cloud Services	Healthcare Services
AWS Cloud Maturity Assessment	Business Analysis & Product Management	Cloud Cost Management − Assessment (FinOps)	Digital Care & Operations (DCO)
Azure Cloud Maturity Assessment	Data Strategy	Cloud Migration/Modernisation Assessment Strategy (Planning & Journey)	Lifestyle Management
GCP Cloud Maturity Assessment	Digital Transformation Strategy & Roadmap	Cloud Maturity Assessment	Secure Data Environment
Databricks Enablement Services	Cloud Organization Strategy & Design	Cloud Migration and Modernisation	Digital Healthcare Advisory and Technology Services
Oracle ERP	Organization Change Management	Cloud Operate Services	Lightbeam by Hitachi DS
SAP Cloud Support	Innovation Incubation Accelerators	Cloud Services	Luminai by Hitachi DS
Pentaho	Managed Service − Advisory	Harc Operations	Luminance by Hitachi DS
	Managed Service − Rail	Performance Testing and Engineering Services	
Sustainability Cloud Services	Cloud Managed Services	Quality Assurance and Engineering Services	**AI Cloud Offerings**
Application and Software (IT decarbonisation)	Oracle Cloud Support	Resilience and Chaos Testing and Engineering Services	AI Business Accelerator Incubate & Launch
Energy efficiency for buildings	Maturity Assessment	Security Testing and Engineering Services	AI Business Accelerator Innovate
ESG Supplier assessment and engagement	Observability Assessment	Security Services	AI Business Accelerator Optimise & Solidify
GHG Emissions Dashboard	Reliability & Resiliency Assessment	SWAT Services	AI Business Accelerator Foundation Platform
Energy Strategy	Security Posture Assessment	FinOps − Managed Cloud Cost Implementation	AI Business Accelerator Starter Platform
ESG Strategy	Advisory/Consulting − Service Management (Cloud Managed Service)	IOT − Internet of Things	GenAI Strategy Assessment
		Smart Spaces and Video Intelligence (SSVI)	

| Challenge | **Faced with increasing build and maintenance costs and a complex ecosystem of suppliers and support organisations, Hitachi Rail engaged Hitachi Digital Services to develop and managed the HFMT solution as a data platform to support the transition to Condition Based and Predictive Maintenance regimes.**

Hitachi Digital Services managed the requirements, design and implementation of the HFMT solution through to testing, acceptance and Service run – the Managed Service integrated multiple vendors via a centralised Service Desk and Support function, providing a single Service Level to the client. |

| Context | **Hitachi Rail is a global provider of superior Rail transport solutions, with over 12,000 employees, yearly consolidated revenues of 1.437 billion EUR, and a long history working in the industry.**

The requirement was to develop and run an integrated Train Management System to continuously monitor over 300 trains across the UK and support the transition away from traditional maintenance regimes. |

Hitachi Digital Services managed the requirements, design and implementation of the HFMT solution through to testing, acceptance and Service run.

Solution

The HFMT solution comprises:

- a custom developed application delivering real-time monitoring & train comms
- Hitachi Pentaho data platform for batch processing, analytics and reporting
- Hitachi Vantara hardware for compute and storage
- integration and management of 3rd parties delivering data centre hosting, mobile comms and 'train-side' technologies.

Features

- **Real-time Monitoring and Altering:** monitor real-time data and alert alarms based on the pre-defined rules.
- **Reliable Interface with Trains** to collect data, monitor status of device and track train location via GPS signal.
- **Adaptability to Interface with other Maintenance System:** support users to send work order in time and view maintenance plan, upload timetable, seat reservation & download energy consumption information.
- **Fault Diagnostic:** Investigate and diagnose fault of devices to prevent downtime of trains.
- **Dashboard Visualization:** Analyse data and make analytics report.
- **Remote Train Controlling:** Support Train Operating Companies (TOC) to remotely send commands and request onboard data easily.
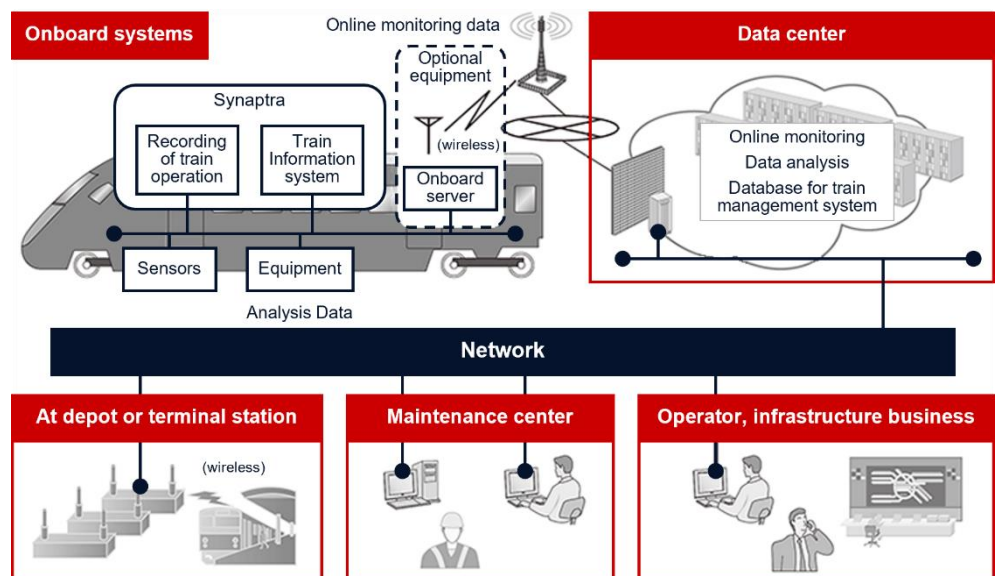
The Managed Service provides:

- 24x7 Service Support: Global support provision to maintain continuous operation and minimal downtime via Delivery Centres across EMEA, APAC and AMER.

- Established Service Delivery framework - ITIL aligned ISO27001 and ISO 9001 accredited service governance framework covering Incident, Problem, Change & Release and Capacity Management.

- Centralised Service Management for reporting and continuous Service Improvement

- Single defined Service Levels integrated across all suppliers

- Business Continuity / Disaster Recovery

HFMT Service Model
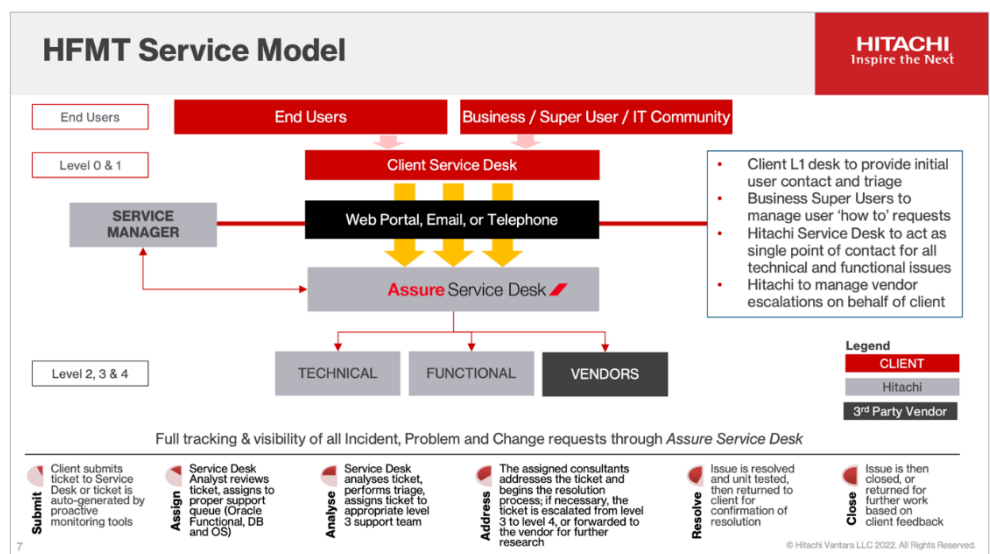
- Reduce the overall cost of fleet maintenance by supporting the adoption of reliability centred maintenance practices

- Meet contractual Train Operating Company (TOC) commitments as part of the current Inter Express Programme *

- Develop a technology tool that enables more effective maintenance and then use this solution as a source of competitive differentiation in the marketplace

- Develop a predictive maintenance capability that informs future train designs

The HFMT continues to evolve adopting cloud-based technologies and machine learning and AI to further expand the data analysis capability.

* IEP is the largest ever UK rolling stock project to replace high speed trains across the East Coast Mainline and Great Western Mainline

Benefits

Case Study

Qualifications

ISO 9001
ISO 27001
Cyber Essentials Certified
DSPT Certified
AWS Premier Tier Services
AWS Managed Service Provider
AWS Public Sector Partner
AWS Solution Provider Program
AWS − APN Immersion Days
Select Databricks Partner
Microsoft Solutions Partner: Infrastructure
Microsoft Solutions Partner: Data and AI
Microsoft Solutions Partner: Digital & App Innovation
AWS Oracle Competency Partner
Google Cloud Premier Partner
AWS Premier Consulting Partner

Intelligent Asset Management
System Overview

IBM MAS & Intelligent Remote Monitoring System Implementation

Goal

- Monitor, Track and Manage Rail assets.
- Realtime gathering of sensor data from assets on field and interface with EAM solution.
- Insights through real time reports and dashboards.

Solution

- Implementation of IBM MAS and configure Asset Management, Work Management & Inventory Management.
- Implementation of Remote Monitoring System and Integration with IBM MAS.
- Implement Mobile solution for Asset Inspection, Work Execution and Inventory Transactions.

Outcome

- Real Time Asset Monitoring & Tracking.
- Accurate Insights into Asset health condition.

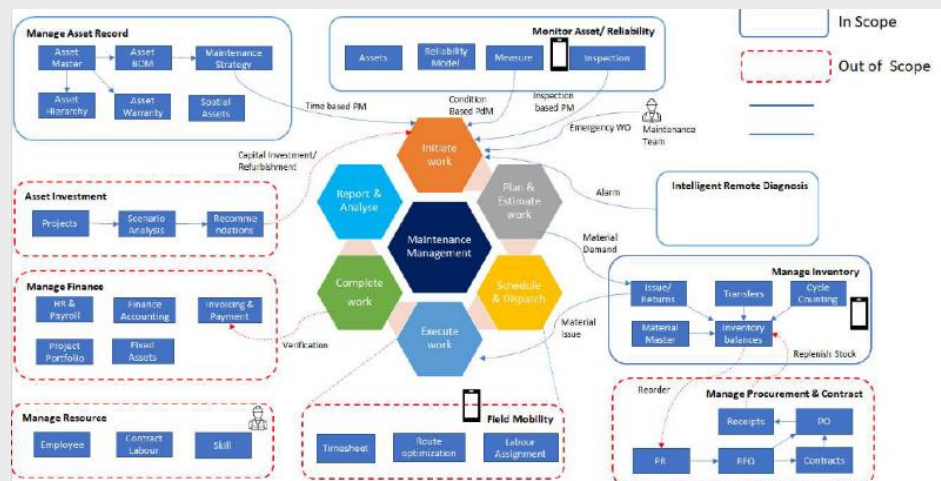### Solution Overview

Scheduled Maintenance

- Need Based Maintenance
  (Scheduled Inspections will be mandatory to ensure SAFETY)

Improved Availability of Signalling Assets by

- Smart Maintenance Practices
- Intelligent Monitoring

Achieve High level of operational efficiency

- Lean Maintenance Organization

IMB Maximo v8.11 Implemented as Enterprise Asset Management Solution