Rail Enterprise Asset Management

How to drive significant business value from SAP Investments

February 2011
HCL AXON is:
- The number 1 IT Services company for SAP in Rail globally.
- Part of HCL Technologies, a global IT Services Provider employing over 75,000 employees.
- Developing the future generation Enterprise Asset Management Solutions for SAP.

The ReadyForRail framework is based on a cooperation between SAP and HCL AXON aimed at building the future generation Rail Industry IT Platform and contains solutions and accelerators in the areas of:
- Rolling Stock Maintenance (iMRO)
- Linear Asset Management (iLine)
- Vehicle Fleet Management & Maintenance (iVFMS)
- Workforce Management (iCrew)
- Mobile Communications (mSAM)
- Carbon Footprint Management (GreenEdge)

This slide set is meant to provide you insights in the solutions and accelerators for Enterprise Asset Management. Detailed presentations are available for the different solutions within the SAP Rail Industry platform.
Agenda

A. Introduction to HCL AXON
B. Benefits Realisation in Rolling Stock Maintenance
C. ReadyForRail Overview
D. Case Studies
The HCL Enterprise

HCL Technologies

HCL Infosystems

Highlights
- Total Revenues: $5.5B
- Clients: 500
- Employees: 79000
- Countries: 31

Services Footprint

Vertical Presence

HCL AXON

EAS: 21%
ERS: 19%
BPO: 8%
Infrastructure Services: 22%
Customer Application (Industry Solution): 30%
HCL AXON SAP Practice

Rated #1 in Customer Satisfaction by SAP

SAP Experience

Relative to its competitors, the average HCL Axon consultant has more SAP product and implementation project experience” (Gartner)

SAP’s Go-To-Market Partner for EAM

SAP ‘Partner of the Year’ 4 out of last 6 years

Winner: Performance Improvement Consultant of the Year 2008

Awarded in the area of SI Co-Innovation related to its Rail iMRO solution

One of the World’s largest SAP integrators
HCL AXON is the leading SAP partner for Rail

Rail & Infrastructure Background:

- Entered Rail in 2002
  - Transport for London

- North America
  - Canadian National
  - Union Pacific
  - PATH
  - Norfolk Southern

- Europe
  - Transport for London
  - First Group
  - Northern Rail

- Australia & Africa
  - Queensland Rail
  - PRASA

- Founding member of SAP’s Industry Value Network for Travel & Transport

- Deep impact on the commercial development of railroads in North America

- Delivered solutions for many of the world’s leading transportation organisations

- Co-development partner for SAP’s next generation Enterprise Asset Management solutions & SAP’s go-to-market partner for Rail & Infra Asset Management
HCL AXON has full lifecycle capabilities
HCL AXON’s Benefits-Led approach enables zero investment Business & IT Transformation

Realised Benefits

Identify Validate Enable Budget

Revenue Enhancement
Cost Avoidance
Re-investment
Cost Reduction
Working Capital Reduction
Financial Engineering
Cost Clarity

Benefits management is an integral part of project delivery at HCL AXON and benefits are signed off at every stage of the Project
HCL’s breadth of service capabilities, benefits led approach and products can enable true transformation

- Efficiency locomotive operations
- Accurate billing of demurrage charges
- Accuracy of ratings and less invoice disputes
- Improvement of availability & Reduced revenue loss
- Rolling stock utilization
- Planned maintenance cycles
- Compliance of infrastructure
- Accurate crew payment

*Figures are figurative and should be validated by business case analysis.
**VISION:**
Become a trusted rail industry partner & system integrator for railway services and infrastructure companies worldwide

**Approach:**

a) Penetrate the EMEA Railways market with *industry specific value propositions* in the area of Rolling Stock, Infrastructure maintenance and Rail Operations

b) Set the *Industry Standard* by creating and maintaining an *end-to reference model* in cooperation with Rail customers, the Rail User Group and SAP

c) Deliver a *Rail Industry Platform* based on differentiating solution components in the areas of Order-to-Cash, operational Train & Terminal management as well as Engineering & Maintenance, *complementary to SAP*
Key Relationship with SAP

Combining specialized know how and leading software house

ReadyForRail is based on:

a) A joint HCL AXON and SAP Reference Model and enhanced rail solutions roadmap.
b) Extensive operations experience and detailed process know how at HCL AXON.
c) The outcome of benefits led implementation approaches at HCL AXON.
HCL AXON has delivered iMRO
*Investing in other Major Add-Ons*

<table>
<thead>
<tr>
<th>iMRO</th>
<th>Overview</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance, repair, and overhaul</td>
<td>- User interface and productivity enhancements&lt;br&gt;- Medium- and short-term planning functionality&lt;br&gt;- Maintenance execution workbench&lt;br&gt;- Mobile maintenance</td>
<td>Business case Design Build Release</td>
</tr>
<tr>
<td>CREW</td>
<td>Complex workforce deployment in rail and project system&lt;br&gt;- Bids and bulletins&lt;br&gt;- Crew planning decision support&lt;br&gt;- Time to gross payroll</td>
<td>✔✔✔✔ ✔✔✔✔ ✔✔✔✔ ✔✔✔✔</td>
</tr>
<tr>
<td>LINE</td>
<td>Accelerate new linear asset data model in EHP5&lt;br&gt;- Linear asset-specific data: recording and tracking&lt;br&gt;- GIS integration&lt;br&gt;- Allocation of work and cost to linear segments&lt;br&gt;- Mobile track inspection</td>
<td>✔✔✔✔ ✔✔✔✔ ✔✔✔✔ ✔✔✔✔</td>
</tr>
</tbody>
</table>

**HCL AXON PRODUCTS**
Accelerate your SAP Deployment

Reduce time, cost and risk

### Rail Fleet Accelerator Solution

### Rail Fleet Specific Process Model

### Standard Documentation
Agenda

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HCL AXON created a detailed benefits dependency map to help quantify and then deliver tangible performance improvements.
A benefits enablement map has been developed

*One sample area of the ReadyForRail dependency map*
As a SAP Value Management (VM) certified partner we can benchmark you against your industry peers

“Top Down”

- SAP Performance Benchmarking established in 2004
- Reach:
  - Over 5,000 participants from over 2,000 companies
  - Global program: in 2009 over 50% participants from outside NA
  - Partnerships with 7 user groups, 3 industry associations
  - Studies available in 10 languages
- Content Coverage:
  - Over 20 business process assessments
  - Over 700 KPIs, over 1,000 Best Practices
  - Over 300 peer groups

Comprehensive written assessment:
- KPI Performance & Value Opportunity
- High-Impact Strategies
- Supporting Best Practices
- Enabling Solutions
We will work with your operational managers to set achievable benefit targets.

### “Bottom Up”

**Data Analysis**

**Workshops**

**Dependency Maps**

**Benchmarking Analysis**

<table>
<thead>
<tr>
<th>KPI</th>
<th>Benchmark Performance</th>
<th>Potential Benefit (in millions)³</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Procurement Costs as % of Spend</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 25%</td>
<td>2.4</td>
<td>0.0 - 0.6</td>
</tr>
<tr>
<td>Average</td>
<td>1.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Top 25%</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Benefit of Closing Gap to Average</td>
<td>0.0 - 0.6</td>
<td></td>
</tr>
<tr>
<td>Benefit of Closing Gap to Top 25%</td>
<td>0.0 - 0.6</td>
<td></td>
</tr>
<tr>
<td><strong>Average Annual Savings (Overall) (in %)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 25%</td>
<td>2.0</td>
<td>-</td>
</tr>
<tr>
<td>Average</td>
<td>3.7</td>
<td>0.0</td>
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<tr>
<td>Top 25%</td>
<td>5.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Benefit of Closing Gap to Average</td>
<td>0.0 - 0.6</td>
<td></td>
</tr>
<tr>
<td>Benefit of Closing Gap to Top 25%</td>
<td>0.0 - 0.6</td>
<td></td>
</tr>
<tr>
<td><strong>Spend Managed Strategically (Overall) (in %)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 25%</td>
<td>68.5</td>
<td>1.0 - 4.2</td>
</tr>
<tr>
<td>Average</td>
<td>68.9</td>
<td>1.0</td>
</tr>
<tr>
<td>Top 25%</td>
<td>73.9</td>
<td>4.2</td>
</tr>
<tr>
<td>Benefit of Closing Gap to Average</td>
<td>0.1 - 1.1</td>
<td></td>
</tr>
<tr>
<td>Benefit of Closing Gap to Top 25%</td>
<td>0.1 - 1.1</td>
<td></td>
</tr>
<tr>
<td><strong>Maverick Spend (Overall) (in %)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom 25%</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>7.2</td>
<td></td>
</tr>
<tr>
<td>Top 25%</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>Benefit of Closing Gap to Average</td>
<td>0.0 - 0.6</td>
<td></td>
</tr>
<tr>
<td>Benefit of Closing Gap to Top 25%</td>
<td>0.0 - 0.6</td>
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</table>
Value Lifecycle Manager (VLM) can manage the business case process.

**Top Value Drivers**

| Value Driver | Benefit | Improvement vs. Business Baseline | Multi-Year Impact | Benefit
|--------------|---------|----------------------------------|-----------------|-------
| Software     | $1,200K | $675K to $825K                    | $2,100K         | $425K |
| Maintenance  | $125K   | $25K to $50K                     | $125K           | $25K  |
| Security     | $100K   | $20K to $40K                     | $100K           | $20K  |
| Hardware     | $75K    | $15K to $30K                     | $75K            | $15K  |
| Training     | $25K    | $5K to $10K                      | $25K            | $5K   |

**‘LIVE’ breakdown of costs**

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software</td>
<td>$120K</td>
<td>$100K</td>
<td>$80K</td>
<td>$60K</td>
</tr>
<tr>
<td>Maintenance</td>
<td>$25K</td>
<td>$20K</td>
<td>$15K</td>
<td>$10K</td>
</tr>
<tr>
<td>Security</td>
<td>$50K</td>
<td>$40K</td>
<td>$30K</td>
<td>$20K</td>
</tr>
<tr>
<td>Hardware</td>
<td>$30K</td>
<td>$25K</td>
<td>$20K</td>
<td>$15K</td>
</tr>
<tr>
<td>Training</td>
<td>$15K</td>
<td>$10K</td>
<td>$5K</td>
<td>$0</td>
</tr>
</tbody>
</table>

**Multi-year ROI model**

- **VLM Benchmark Database:**
  - 10,000+ users today
  - 1000+ users added monthly
  - 3,000+ Active Business Cases

**HCL AXON**
So in Summary

- Standardized and Simplified Processes
- Key Engineering & Maintenance Processes Built within the SAP toolset
- Focused on the Rail industry needs and visibility requirements
- Removing “waste” transactions from the normal SAP process

- World leading benefits led implementation experience in Rail & strong MRO delivery track record.
- Invested in the complex rail asset industry, partnering with SAP
- Large MRO resource pool across all functional and process areas

- Standardizing Best Business Practice into SAP
- Enabling a more efficient and faster ROI of ERP investments
- Greater assurance of success at the RIGHT price
- One future proof maintenance solution platform therefore a lower TCO
- Rail focused MRO product, delivering improved user interfaces and productivity enhancements
Agenda

A. Introduction to HCL AXON
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## SAP – HCL AXON Rail Solution Roadmap

### Planned & Running Investments

<table>
<thead>
<tr>
<th>Customers and Partners</th>
<th>Marketing and Sales</th>
<th>Planning and Sourcing</th>
<th>Operations &amp; Execution</th>
<th>Revenue &amp; Cost Mgt</th>
<th>Suppliers and Sub-Contractors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Corporate Direction</td>
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<tr>
<td></td>
<td></td>
<td>Demand Management</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Freight Transportation</td>
<td></td>
<td>iCREW / O2I &amp; Fulfillment Apps</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Passenger Rail Travel</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Railways Asset Management</td>
<td></td>
<td>iMRO / iLINE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Visibility &amp; Compliance</td>
<td></td>
<td>iLINE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Supplier Management</td>
<td></td>
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<td></td>
<td>Commercial Management</td>
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<td></td>
<td>Safety &amp; Risk Management</td>
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<td>iCREW</td>
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<td></td>
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<td></td>
<td>Capacity Utilisation</td>
<td></td>
<td>iCREW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Enterprise Management &amp; Support</td>
<td></td>
<td>iMRO / iLINE / iCREW</td>
</tr>
</tbody>
</table>

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**Generic TM Platform**

**Loyalty Management**

**EAM Foundation**

**Sustainability Roadmap**

**CRM Web Channel**

**Sustainability Roadmap**

**Profit & Cost Management**

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**SAP – HCL AXON**

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**HCL AXON**
Agenda

A. Introduction to HCL AXON
B. Benefits Realisation in Asset Management
C. ReadyForRail Overview
D. Some Case Studies
<table>
<thead>
<tr>
<th>Profile</th>
<th>Scope</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Over $8 billion in revenues</td>
<td>Integrated eight business units on a single platform</td>
</tr>
<tr>
<td></td>
<td>4 million rail and mass transit journeys per day</td>
<td>Program delivered on-time and on budget</td>
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<td></td>
<td>17,500 employees – 12,000 on shift</td>
<td>“Most successful IT project within TfL”</td>
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<tr>
<td></td>
<td>Annual capital project budget over $4 billion</td>
<td>$400 million in savings</td>
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<tr>
<td></td>
<td>$2,100 million</td>
<td>Program delivered on-time and on budget</td>
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<td></td>
<td>5,500 employees</td>
<td>Most comprehensive implementation of the project system functionality of SAP ERP in the United States</td>
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<td></td>
<td>28 unions</td>
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<td></td>
<td>Largest UK railway spares supplier</td>
<td>Reduced supply chain working capital</td>
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<td></td>
<td>$5 billion revenue</td>
<td>Increase maintenance capacity</td>
</tr>
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<td></td>
<td>ScotRail</td>
<td></td>
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<td></td>
<td>Over 500 rail vehicles</td>
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<tr>
<td></td>
<td>5 depots and out bases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5,000 employees</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$5 billion revenue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rolling stock asset maintenance</td>
<td>Improved lifecycle cost visibility</td>
</tr>
<tr>
<td></td>
<td>Engineering spares management</td>
<td>Increased operational efficiency</td>
</tr>
<tr>
<td></td>
<td>Procurement</td>
<td>Increased asset availability</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>Annual revenue AUD$3.4 billion</td>
<td>Increase asset utilization</td>
</tr>
<tr>
<td></td>
<td>14,500 employees</td>
<td>Improve customer service and interaction</td>
</tr>
<tr>
<td></td>
<td>Each day QR operates</td>
<td>Improved commercial performance</td>
</tr>
<tr>
<td></td>
<td>– Over 1,000 train services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– 670,000 tons of freight</td>
<td></td>
</tr>
<tr>
<td></td>
<td>– 170,000 passengers</td>
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</tbody>
</table>
## Extensive Railroad Experience – II

<table>
<thead>
<tr>
<th>Profile</th>
<th>Scope</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| - 2,500 passenger services operated daily  
- Services targeted as population of 14.2 million | - Systems replacement  
- HCM  
- Time management & Payroll in-sourcing  
- E-procurement  
- Engineering spares | - Reduced supply chain working capital  
- Increased maintenance capacity |
| - $15 billion revenue  
- 50,000 employees  
- $3.6 billion in payroll cost | - Finance and payroll transformation  
- Finance, Mgt. accounting and assets  
- Planning and budgeting  
- Resource-related billing  
- Payroll | - Implemented world-class processes  
- Enabled consistent and reliable controls  
- Real-time information |
| - Over 18 million annual passengers  
- Management of airports, bridges, tunnels and PATH rail | - Rolling stock fleet maintenance  
- Plant maintenance  
- Project system  
- Materials management  
- HR & Resource planning | - Project on time and on budget  
- More predictive maintenance |
| - Over 2,000 employees  
- 4,000 miles of track in 26 U.S. states | - Systems replacement  
- HCM  
- Payroll  
- Time management | - Single store of HR data  
- Automated time management  
- Improved decision making |
| - 3rd largest rail freight carrier in North America  
- 22,000 employees  
- CND 8.5bn turnover | - Workforce Management  
- Linear asset management  
- Signaling and track information  
- Mobile asset management | - Blueprint for workforce management  
- Go-live end 2010  
- $500 Mln in savings, $100 Mln ongoing |
Contacts

How to drive significant business Value from SAP investments

Thank you:

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