APTA Rail Conference

Smart Maintenance

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Key figures

Revenue
- Strukton: 2.1 billion dollars
- Strukton Rail: 1 billion dollars

Number of employees
- Strukton: 6,500
- Strukton Rail: 3,500

Home countries
- Sweden, Denmark, the Netherlands, Belgium, Italy
- Australia, United States
What is our challenge?

• Busy networks
• Switches most critical
• Intensive use/operations
• Short time frames for maintenance
• Brain Drain of Expertise
• Limited budgets
What is our goal?
What is the answer?

- Engineering specs
- Rail Operating Plan (MGTA)
- Train Operations (time table)

- Visual Inspection
- Ultrasonic Flaw Detection
- Geometry Measurement
- Surface Crack Detection

- GIS
- SAP linear module
- Excel

- Maximo
- RAMSYS
- IRISSYS
- Predictive algorithms

- Long Term Planning
- SAP
- Workflows
- SOG

- Rail Plant & Equipment
- Maintenance Teams
- Work Order Execution
- Work Order Feedback
- Safety Management
Malfunction diagnosis

- Forced open point
- Worn out motor brushes
- Point at end of life cycle

- Jammed slide chair in the heel
- Potential locking problem
- High electrical resistance in motor circuit
Malfunction prediction

2015

Wooden sleepers

Concrete sleepers

2016

2017

Strukton Rail – Smart Maintenance
RC Shunting device

MAINTAIN & FEEDBACK

Strukton Rail – Smart Maintenance
Work safer and more efficient
React on irregularities
Repair
Continuous monitoring
Planned work
Report repairs/maintenance
Improve algorithms
2 weeks in advance
Planned work
Predicted future failure
Preventive maintenance
Take aways

- Reduce failures impacting train service (preventive maintenance)
- Reduce contact moments with assets (safety)
- Increase efficiency in maintenance processes by reducing contact moments with assets (planned maintenance)
- Detailed insight in performance of assets and correlate them with similar types in other geographical areas (analysis + predictive)
- Reduce e.g. point failures by up to 30% (results)
Results

• Exposure of staff to trains reduced with 50%
• No collisions with workers since 2006
• Improvement of reliability of rail network
• 30% reduction in total daily maintenance costs
• 70% reduction in number of track geometry defects
• Up to 75% less costs on switches
Thank you!

Questions?

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