THALES





Customer Challenge - Motivation



Goals for rail operators

- Increased efficiency
- Reduction of the Life Cycle Costs of rolling stock and infrastructure
- Less labour-intensive
- Reduction in manual train supervision





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Customer Challenge - Motivation (>)



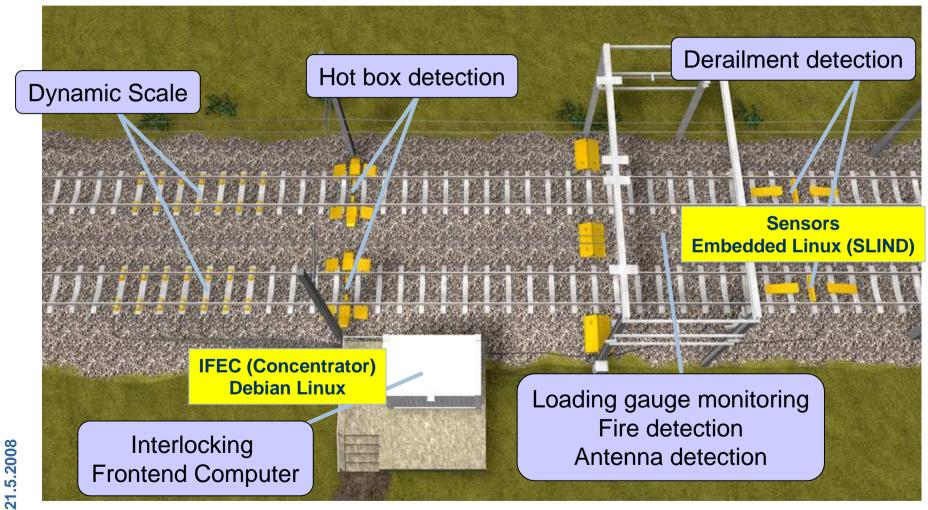
Technical solution (CheckPoint) leads to better and earlier detection of faulty conditions



- **Derailed Vehicles**
- **Blocked brakes**
- Hot boxes
- Flat wheels
- Broken axles
- Broken bearing-springs
- Displaced cargo
- Fire

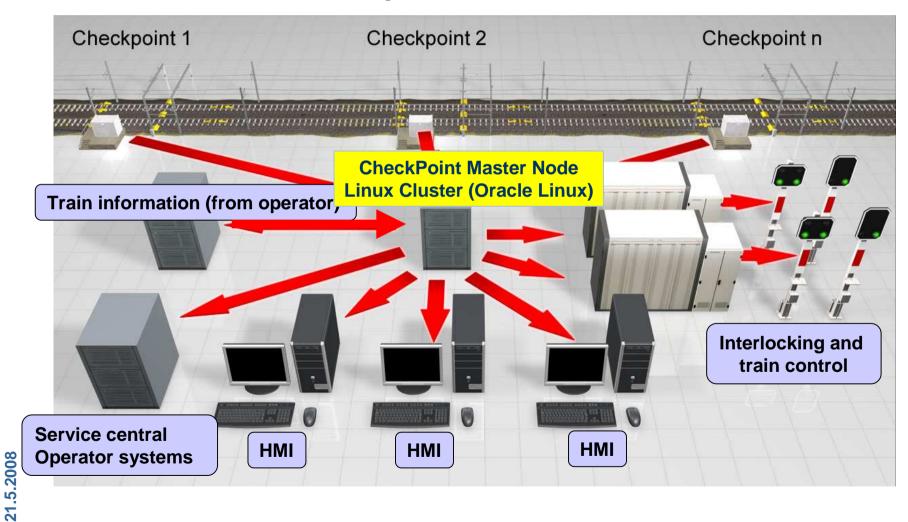


A typical Checkpoint location





Checkpoint network solution with the Checkpoint Master Node







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Quality of Service

- Increase in network's availability
 - Early identification and/or elimination of damaged rolling-stock
 - Less accidents
 - Less construction work
 - Reduction of Life Cycle Costs of rolling stock and infrastructure
- Fair and transparent pricing
 - Basis for calculating track access charge
 - Introduce polluter-pays-principle
- Necessary for centralized network operation
 - Reduction in manual train supervision
- Less labour-intensive
- Information for various other users



