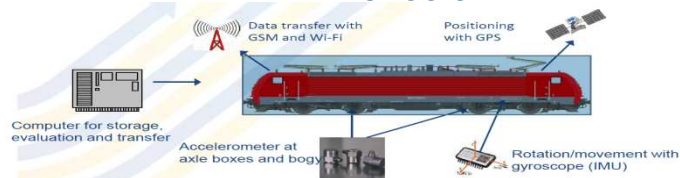




# Wrap up & Discussion



# AUTOMAIN Inspection Innovations



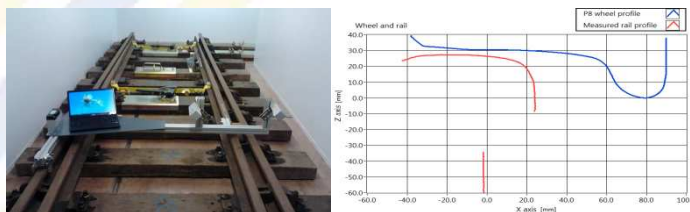
In-service measurement freight loco by DB (Deliverable 3.2 p 29)



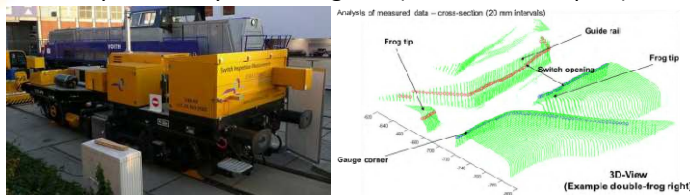
In-service measurement commuter train by University of Birmingham & Southern Railways (Deliverable 3.2 p 31)



Camera switch inspection by Damill(S) continuous view of status important or remote switches (Deliverable 3.2 p 23)



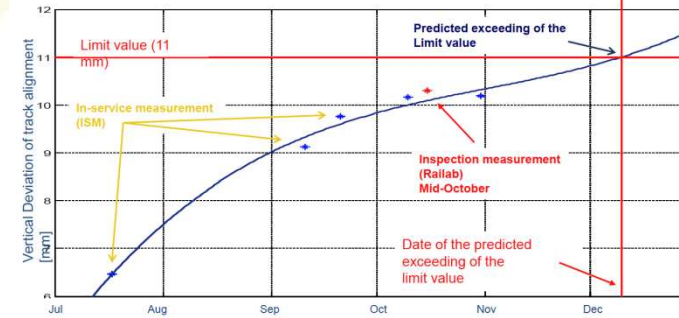
Laser profile inspection trolley & wheel-rail contact analysis by University of Birmingham (Deliverable 3.2 p 25)



SIM with DB add-on RFID on switches & new switch analysis software (D 3.2 p 28)



## Defect growth prediction



Defect growth prediction model by University of Birmingham, DLR and DB (Deliverable 3.1)

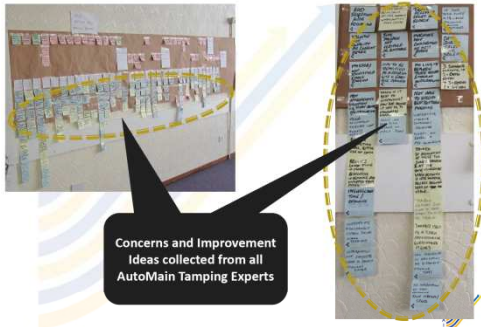
Monitoring	Inspection
Orientated on the fault and it can do: - fault detection: a system is able to detect a fault which is happening - fault diagnosis: a system is able to diagnose the fault - fault prediction: the system is able to predict a fault a certain amount of time before it will happen	Focussed on inspecting the asset according to inspection standards and it can: - identify the assets that do not meet the standards - carry out inspections specified in inspection standards - carry out the inspections in a way that satisfies the inspection requirements (e.g. precision of measurement)

Distinction between inspection and monitoring (Univ. Of Birmingham) (D 3.2 p 10)



Man-machine interface to help maintainers and link to the planning & scheduling tool (Deliverable 3.2 p 36)

# AUTOMAIN Maintenance Innovations



Results from best practices (deliverable 2.1.) performance killer mapping (deliverable 4.1.), Lean analysis & improvement opportunities (Deliverable 2.2.) by KM&T, Lulea TU and University of Birmingham (Deliverable 4.1.)



Best practices: high speed grinding by Vossloh & Lulea TU (Deliverable 4.2)



Innovation: using two grinding machines by Lulea TU (Deliverable 4.2)



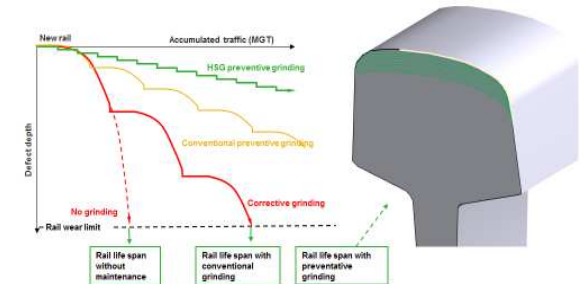
Innovation: automatic slag picker (Del. 4.2)



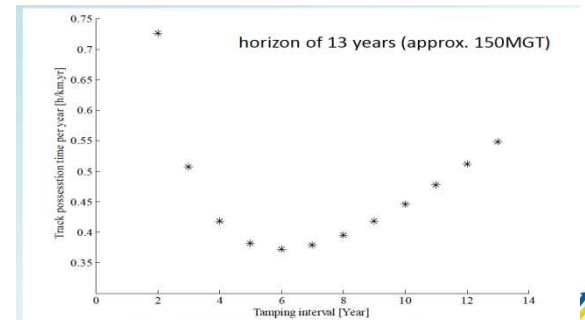
New tamping strategy by Lulea TU, deliverable 4.2)



Optimized maintenance activities  
By applying best-practices and lean



Grinding strategy by Lulea TU, deliverable 4.2.



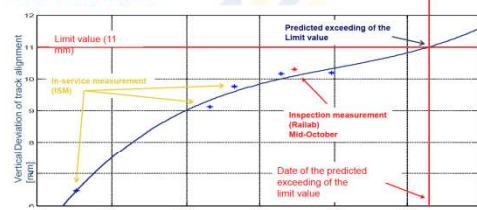
Strategy for optimal maintenance time window & interval by Lulea TU, deliverable 4.2.





Optimized maintenance activities  
By applying best-practices and lean

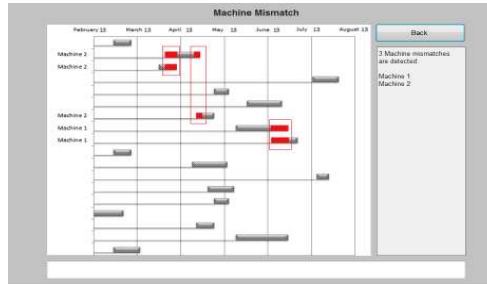
Defect growth prediction



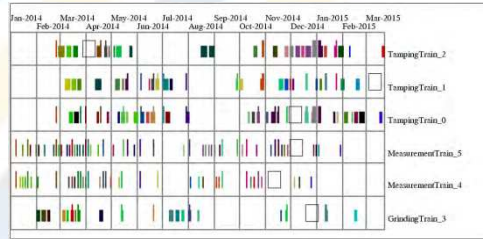
Optimized maintenance timing by  
inspection algorithms



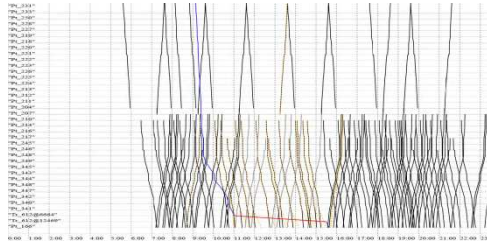
Optimized overview maintenance  
needed by inspection algorithms



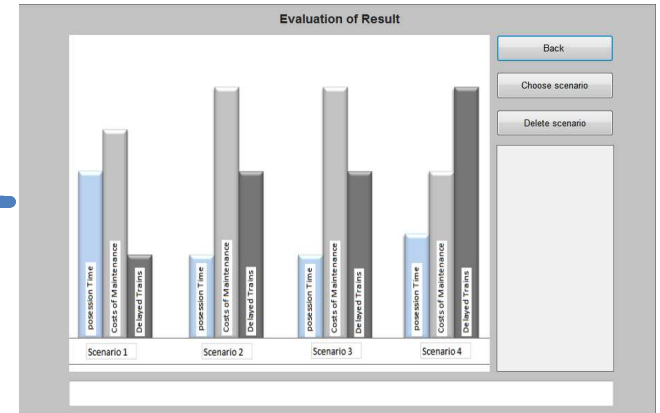
Innovative planning visualization  
interfaces by DLR



Optimized maintenance planning by  
SNCF



Optimized time window insertion  
of maintenance by TU  
Braunschweig and Eurodesicion



Holistic view balance capacity & maintenance

**AUTOMAIN**  
Planning &  
scheduling  
Innovations

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**Bedankt voor uw bezoek**