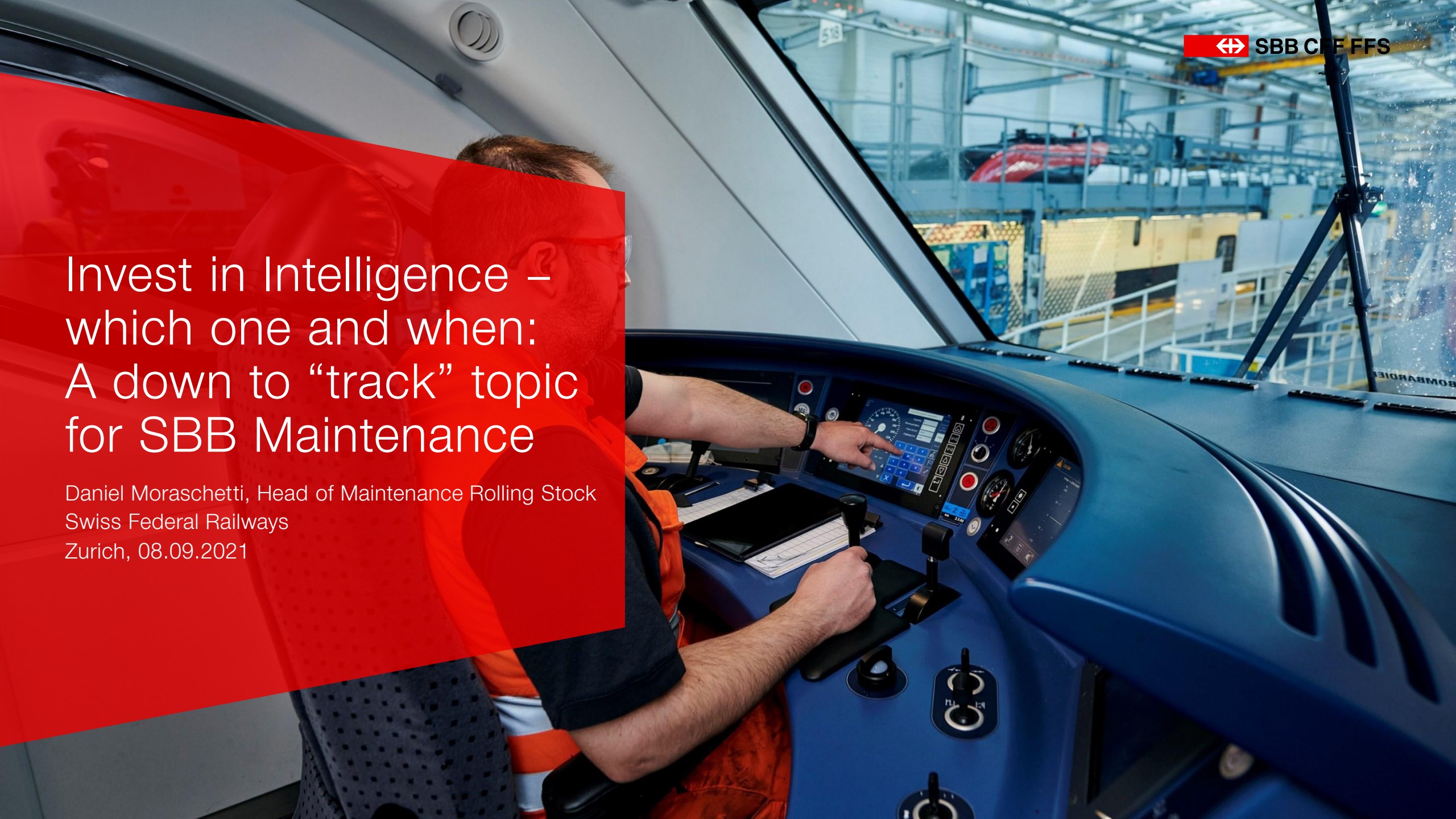


# Invest in Intelligence – which one and when: A down to “track” topic for SBB Maintenance

Daniel Moraschetti, Head of Maintenance Rolling Stock  
Swiss Federal Railways  
Zurich, 08.09.2021



# Agenda

1. Introduction Maintenance Rolling Stock
2. Our Challenges
3. Our approach and Use Case
4. Conclusion



# Introduction Maintenance Rolling Stock.



# Our core business:

Reliable and safe rolling stock for our costumers – at all times.



Planning and  
controlling of  
activities



Technical  
development,  
specifications for  
maintenance



System  
engineering



Maintenance,  
repair and  
overhaul of  
components



Light  
maintenance



Heavy  
maintenance of  
the SBB fleet

As Entity in Charge of Maintenance (ECM) II and IV, we are responsible for the maintenance of SBB's entire passenger transport fleet.



# Our diverse fleet portfolio.

More than 4'500 vehicles over a lifecycle.



RABe 511  
(S-Bahn Zurich)



Long distance double-deck train  
(FV-Dosto)



Astoro  
(ETR 610)



Vehicles Infrastructure  
1'000 vehicles, 80 types



Flirts of the modern  
generation (TSI)



Giruno



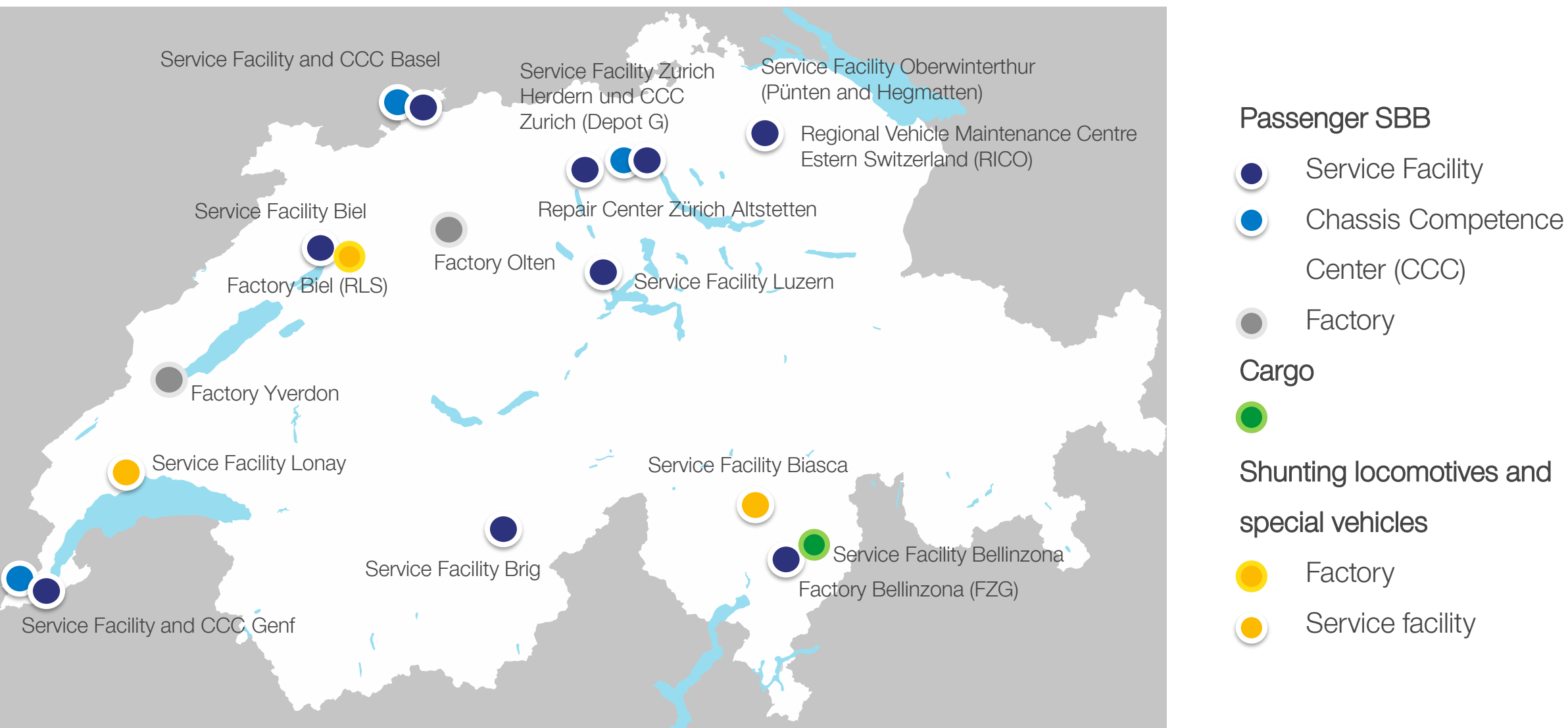
Re460 with EW IV wagon



Vehicles Cargo  
5'038 cargo wagons, 319 route-  
and 84 shunting locomotives

# Our service facilities and factories.

Up to 700 vehicles are in maintenance every day.





# Our services in heavy maintenance.

## Classical maintenance to complete lifecycle extension.



Modernized Re460



DPZplus



IC2020



Refurbishment Bogie

- We refurbish around 150'000 components per year.
- We manage around 250'000 active articles.
- In total, we manage around 400'000 items.
- Air Conditioning units: 1'250 per year.
- Bogies: 1'700 per year.
- WC-units incl. bioreactors: 2'100 per year.



# Our challenges





# Fleet diversity will remain at least until 2045

- Range of fleet age 0-50y
- Change in customer requirements
- Change in regulations (ECM / TSI)
- Financial constraints due to the Covid19 Pandemic



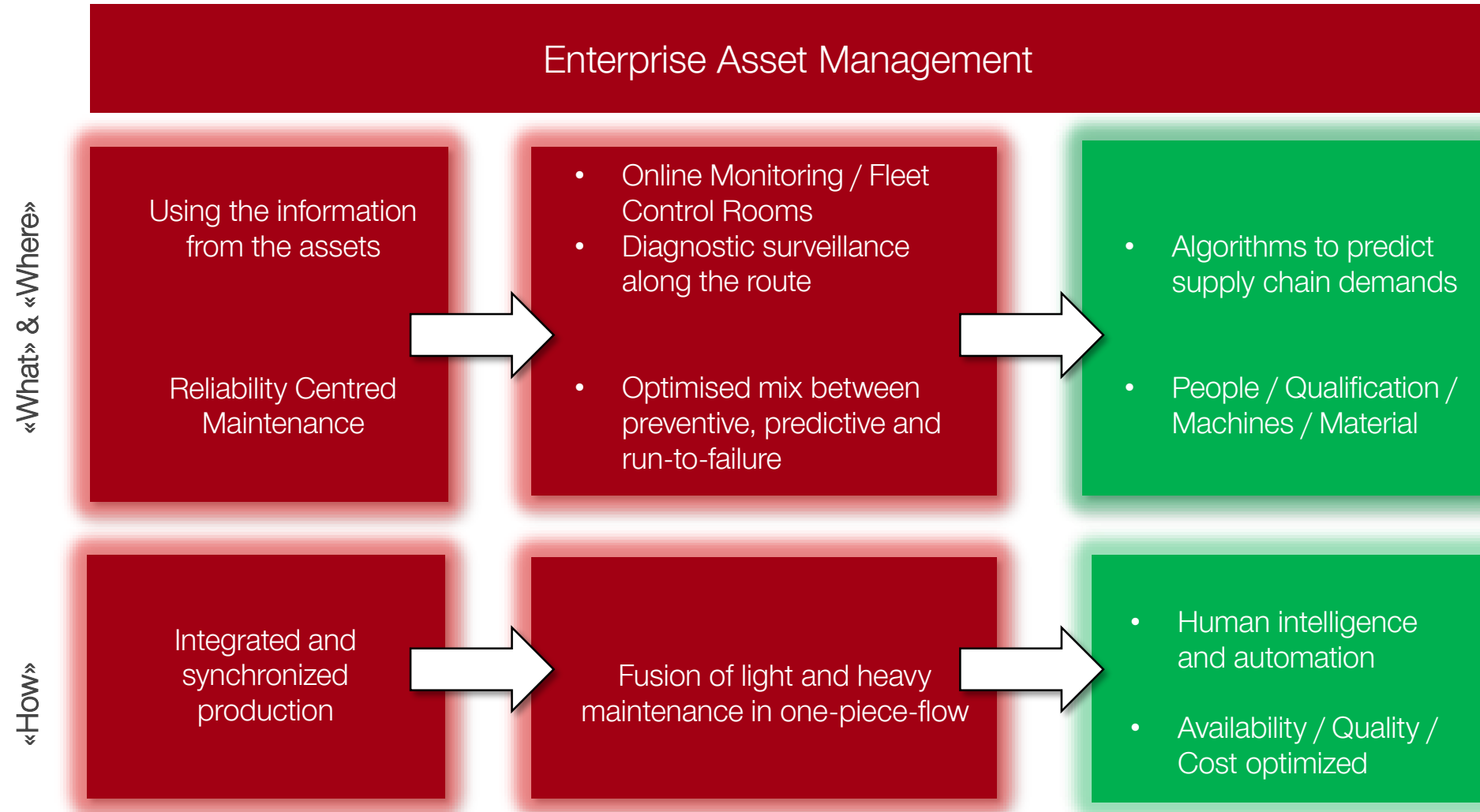
- Knowledge over two generations required
- Increased diversity in technology
- Increased complexity of the system, particularly during the phase of transition
- Finding optimal balance for improvements and savings

# Our approach





# Creativity and human intelligence connect enterprise asset management with hyper-agile supply chain.



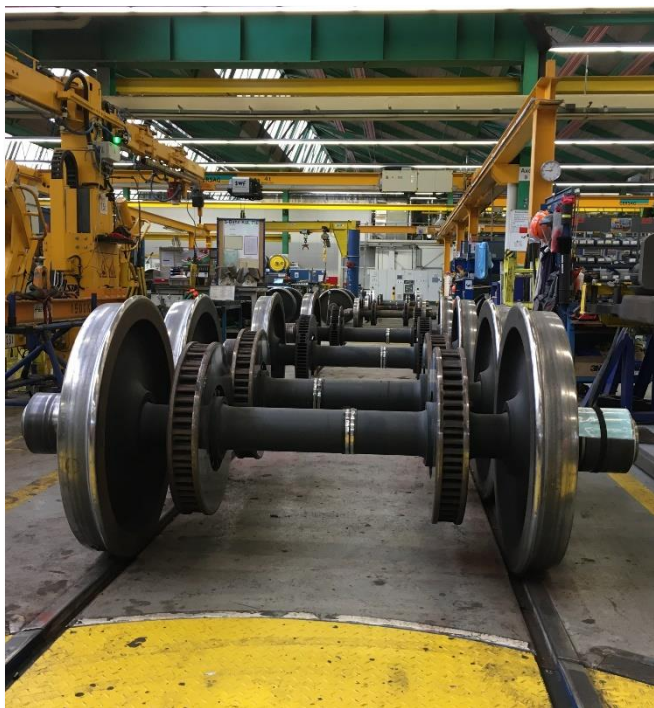
# Use Case





# Wheelset-Management and its operationalization.

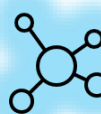
We build upon three levels:



Gathering intelligence from hard-fact data sources

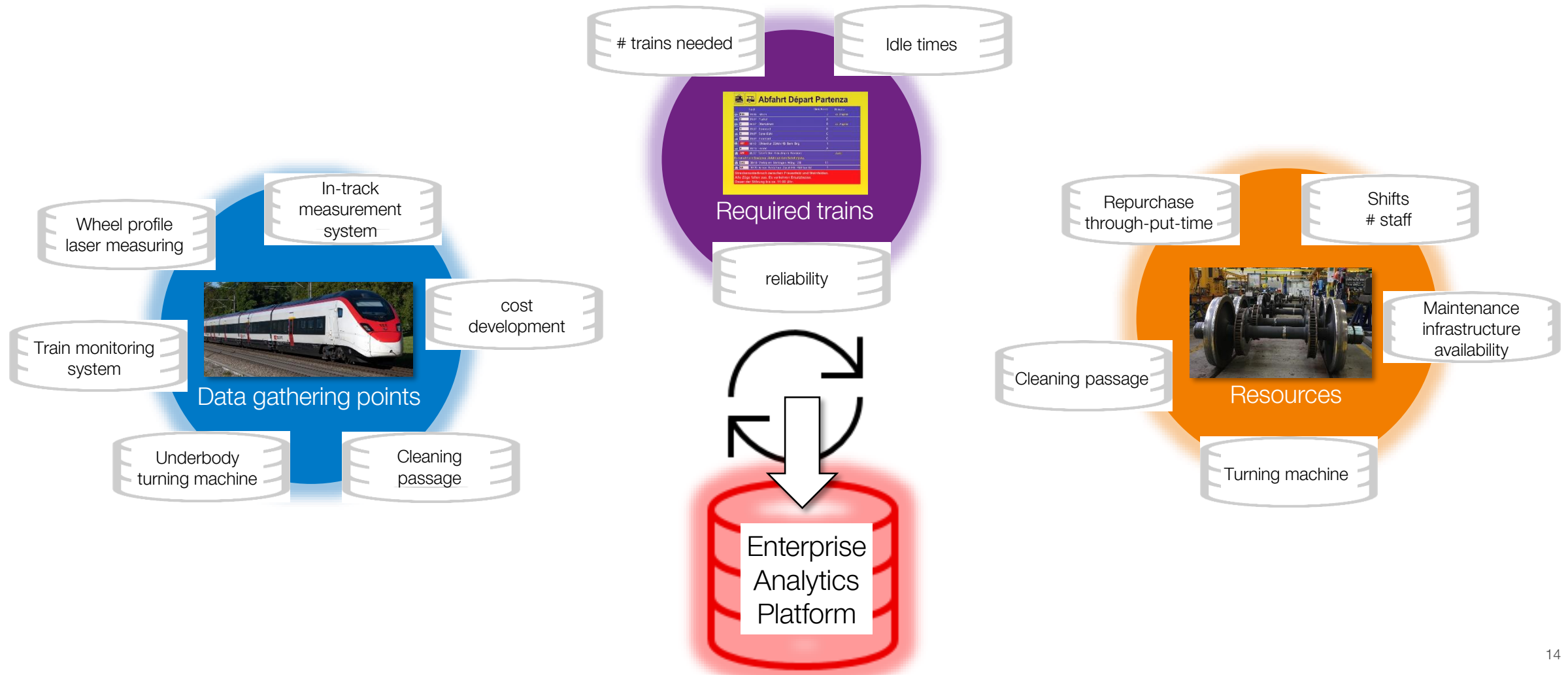


Analytics platform triggers activities



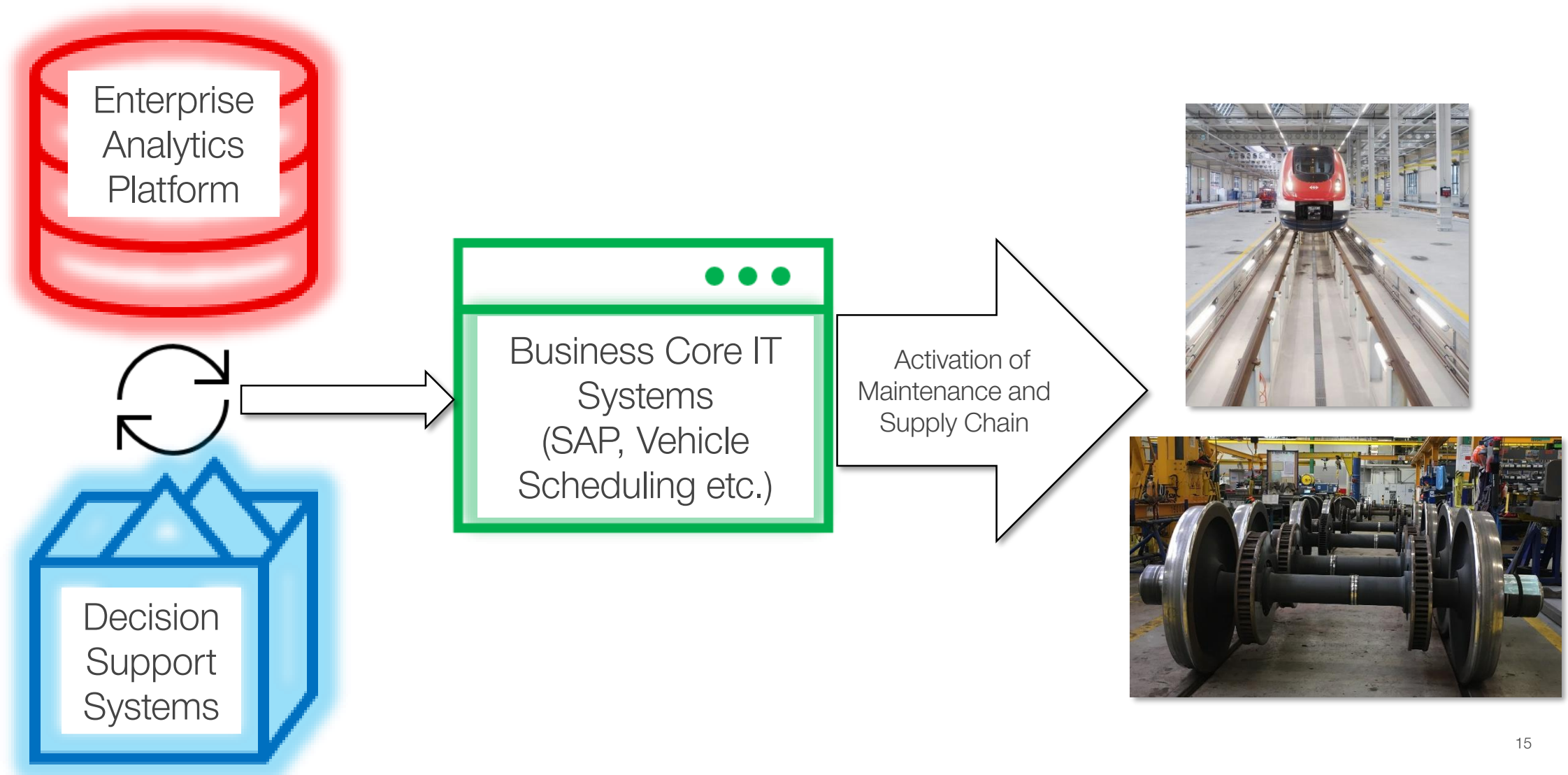
Multifunctional process-teams develop improvements

# Intelligence: we unlock new data sources and combine these for activating our supply chain.





Thanks to the transparency of the decision support systems, we avoid sunk costs in a learning stage.





# Conclusion





# Conclusion

To structure such a process of an **integrated and synchronized production** over the complete value chain triggered by data and information from the trains requires human intelligence, creativity and drive for customer satisfaction.

The **investment in human intelligence** will bring the biggest return and will keep you ahead of the competition. Everything else has only the objective to support that intelligently.

A close-up, low-angle shot of the undercarriage of a train, showing various mechanical components like wheels, suspension, and electrical wiring. The background is slightly blurred, showing the train tracks and some industrial structures.

Thank you,  
Danke, Merci  
& Grazie.