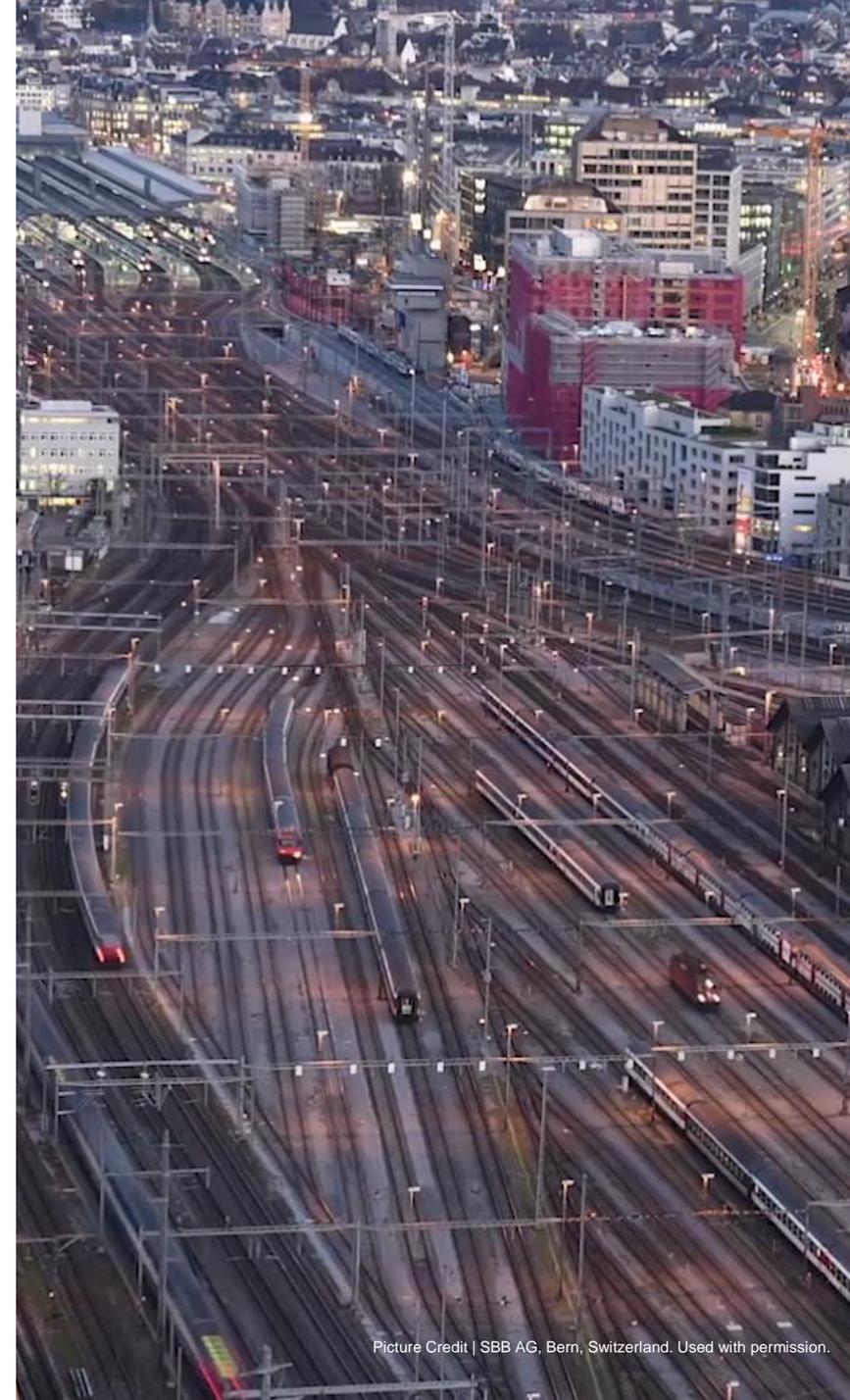


# SBB: Using a Digital Maintenance Platform to Keep Swiss Trains Running Like Clockwork

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In a world of ever-increasing mobility, providing safe, reliable, and comfortable rail transportation – that’s enhanced for the digital age – is at the center of SBB AG’s vision. To bring its vision to life, the national railway company of Switzerland is integrating reliability-centered maintenance processes with SAP® Intelligent Asset Management solutions. The expected result? An innovative strategy that **optimizes asset availability and reduces maintenance costs**. For customers, this means safe, reliable, comfortable travel with trains that arrive on time.



# Reshaping Rail Asset Management with SAP® Intelligent Asset Management Solutions

## Challenges and Opportunities

- Implement robust solutions to optimize the maintenance of a modern, highly technical fleet
- Meet rising customer expectations for modern mobility services and trains that are safe, comfortable, and punctual
- Enhance reliability-centered maintenance processes with access to real-time data and insights

## Why SAP

- Industry expertise and comprehensive solutions
- Opportunity to co-innovate, combining knowledge and experience from both teams to satisfy customer expectations and create better customer experiences

## Expected Results

- Optimizing its reliability-centered maintenance processes, with the ability to integrate real-time on-board and trackside monitoring data from multiple tracking systems
- Gaining operational efficiencies by adopting a proactive maintenance approach across its entire rolling stock
- Enabling a more efficient maintenance process with access to data that optimizes labor planning and resource management and predicts materials required in workshops



“SAP Intelligent Asset Management solutions will help us **maximize productivity in maintenance activities** and reduce maintenance costs – helping us deliver a quality customer experience.”

Urs Gehrig, Senior Consultant Business Development, SBB AG

**50%**

Increase in demand for passenger services by 2040

**45%**

Increase in demand for freight services by 2040

# Meeting Growing Demand for Modern Rail Travel That's Safe and Reliable

## Shaping mobility of the future

As the backbone of the Swiss public transport system, SBB AG plays a vital role in keeping the country moving.

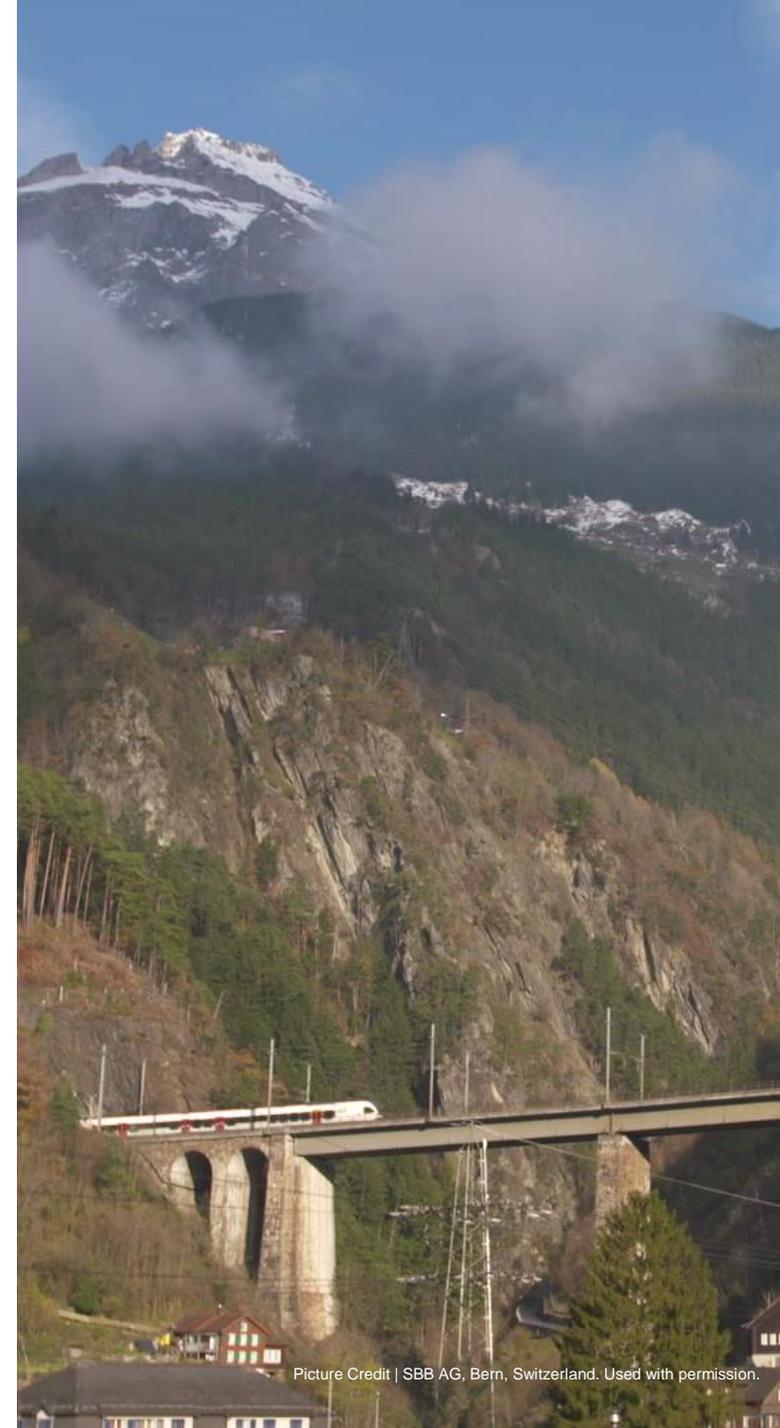
Every day, the rail company transports 1.25 million passengers on more than 6,000 trains across Switzerland and into neighboring countries. Recognizing changing mobility patterns and customers' rising expectations for their travel experience, SBB had already invested in modern, high-performance locomotives. The company expects these trains can help it deliver quality customer experiences and help ensure its train services are safe, comfortable, and punctual.

Having acquired a modern fleet, it was critical for SBB to gain maximum return on its investment. For the rail company to gain optimal operational use of its new, technologically advanced train sets, SBB also needed to enhance its fleet maintenance processes.

## Uncompromising safety

As part of its plan to enhance maintenance activities on its modern, technologically complex trains, SBB sought to **adopt a reliability-centered maintenance strategy**.

To further optimize this approach, SBB is in the process of integrating the tool sets of intelligent asset management. With real-time data and analysis, the rail company will be able to gain asset management insights, allowing it to predict and manage issues before they arise.



## Co-Innovating to Enhance Reliability-Centered Maintenance with Data-Driven Insights

With more people than ever hopping across Europe, it's important for SBB to maintain its fleet in a more progressive way. This called for planning asset maintenance strategically and considering factors such as risk, reliability, and impact.

To get there, the rail company needed to replace costly “run-to-failure” maintenance strategies with reliability-centered maintenance processes integrated with real-time data.

To bring this vision to life, SBB began implementing SAP® Intelligent Asset Management solutions. First, it took advantage of SAP Asset Intelligence Network to improve communication with its suppliers. Gaining efficiency in supplier data exchange will make maintenance easier and improve other railway undertakings.

The rail company also moved ahead with the SAP Asset Strategy and Performance Management application to implement a reliability-centered maintenance approach. In doing so, SBB will be able to use the SAP Predictive Maintenance and Service solution, integrating data directly from on-board monitoring systems on the train sets.

When fully integrated, the fusion of SAP Asset Intelligence Network, SAP Asset Strategy and Performance Management, and SAP Predictive Maintenance and Service will help SBB reshape asset management.

Working together, these solutions will enable the rail company to deliver maximum availability of fleets from reliability-centered maintenance practices based on comprehensive data.



### Pervasive data integration

Integrating SAP Intelligent Asset Management solutions, SBB benefited from pervasive data integration and a set of technologies that help ensure maintenance processes run smoothly. The company is able to **define, plan, execute, and monitor optimal maintenance strategies**. Data informs every stage of the maintenance process, from the vehicle fleet level down to the bill of materials for individual assets.

Supplier communication also improved with use of SAP Asset Intelligence Network. Based on a solid asset foundation, SBB can create sophisticated digital twins that improve failure discovery. Gaining efficiency in supplier data exchange makes maintenance easier and improves other railway undertakings.

The result is reliability-centered maintenance practices based on comprehensive data.



**6,000**  
Trains running daily



**3,500**  
Carriages cleaned each day



**500**  
Locomotive vehicles maintained

# Gaining **Speed and Efficiency** from Asset Management Optimization

By maximizing productivity in maintenance activities, SBB will be able to reduce maintenance costs and speed up maintenance work. Importantly, the rail company will shift its maintenance from a run-to-failure to a run-to-success methodology.

In doing so, SBB will be able to perform critically based maintenance planning, increasing asset availability. For travelers across Switzerland, this approach promises them trains that are clean, air-conditioned, reliable, and fast.

## **Transforming run-to-failure practices**

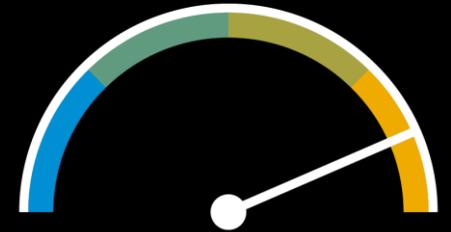
By taking a proactive maintenance approach across its entire rolling stock, SBB will be able to take advantage of operational efficiencies and reduce maintenance costs across its entire fleet. This includes its fleet of aging locomotives and wagons – not just its modern, technologically advanced trains.

In turn, SBB will be able to deliver on its vision of providing a quality customer experience with trains that are safe, comfortable, and arrive on time.

Taking advantage of SAP Intelligent Asset Management solutions allows SBB to optimize its maintenance processes so passengers can always enjoy maximum comfort on its trains.

“Using SAP Intelligent Asset Management solutions, SBB can **enhance the management of our fleets**. We’re optimizing train maintenance activities and enhancing rolling stock reliability, helping us deliver a better-quality experience for rail travelers.”

Urs Gehrig, Senior Consultant Business Development, SBB AG





# Pursuing a **Long-Term Journey** Toward Predictive Maintenance

With customer demand for train services set to soar, SBB has already set the wheels in motion to deploy the SAP Predictive Maintenance and Service solution to further optimize the operational aspects of asset management.

## Reshaping asset management

From pervasive data integration from the vehicle fleet to trackside monitoring systems paired with analytical capabilities and machine learning, every stage of the maintenance process will be completely data driven.

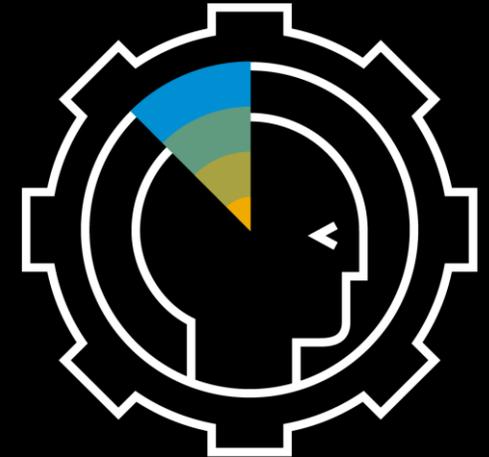
## Informed by data insights and intelligence

By aiming to predict failures before they happen, SBB will be able to **maximize productivity in maintenance activities and further reduce maintenance costs.**

Data insights will predict the materials required in workshops and enable optimal labor planning and resource management. This will give SBB the potential to take advantage of resource management cost savings from reduced person-hours spent on maintenance. Plus, it allows SBB to leverage more insights to spot and resolve potential issues, effectively stopping them in their tracks.

“Taking this approach means we can optimize every second that a train set is in the workshop just like a Formula One pit stop. Using on-board monitoring data, real-time inventory data, and the availability of skilled technicians, we can **deliver a superefficient maintenance process.**”

Urs Gehrig, Senior Consultant Business Development, SBB AG



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Studio SAP | 64530enUS (20/02)

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