

## Digital Transformation at SBB

### Initial results: how SBB implements digital solutions

Although it is only the beginning of the digital transformation process for SBB, the company can already show evidence of concrete digital solutions on all the relevant levels.

#### On the level of customer interaction:

- **Good phone signal and internet connection on the train:** In response to customer expectations, we are providing network coverage for our customers on trains and at stations (“an internet connection is more important to me than saving one minute of journey time”), preparing an important platform for future digital offerings. The German trade magazine “Connect” has carried out a comprehensive test on mobile networks in Germany, Austria and Switzerland. The results show that mobile signal for all three network providers (Swisscom, Orange, Sunrise) is significantly better on trains in Switzerland than in both neighbouring countries. As well as providing rolling stock with signal amplifiers nationwide for high-quality connectivity, free wifi has been installed at all the major railway stations across Switzerland.
- **Digital travelling companion:** SBB can offer customers concrete added value with digital services: the SBB Mobile app (with over six million downloads since its launch) is one of the most popular and widely-used digital points of contact in Switzerland alongside the sbb.ch website. Other digital services are being developed or are in the process of being launched (e.g. the relaunch of [SBB Mobile](#), the navigation app [My station](#) or [Park & Rail](#)). Around 75 per cent of the tickets sold each year are already being sold via self-service online channels or at ticket machines.
- **Customer experience:** User-centred design: when developing applications, customers are continually placed at the centre as test users throughout the design process. UX specialists help the project managers to match a solution to the requirements in order to ensure that the needs of the target group always remain a key focus.
- **SwissPass:** With the launch of the SwissPass, SBB has partnered with the public transport sector to set a standard across Switzerland for the electronic display and checking of tickets. In the initial stages of using the RFID chip, the General and Half-Fare travelcards are being integrated, as are partner services from Mobility Carsharing, PubliBike, SchweizMobil and various ski resorts. From 2016, regional travelcards will also be available via the SwissPass, which will be followed steadily by many more offers.
- **Social media:** Comprehensive support and integration of social media platforms in customer service. In 2014, our customer service staff answered over 30,000 queries via Facebook and Twitter.

#### On the level of increasing efficiency in co-operation:

- **Connecting staff:** By mid-2015, SBB had closed the digital divide within the company by providing all 33,000 or so members of staff with smartphones or tablets. Thanks to digital connectivity, staff can be reached more easily and efficiency can be increased on a local scale using specific business apps.

Business app example: “integral business processing at RailClean”:

The introduction of a business app at RailClean helps make planning the staff's shifts much more efficient. Based on resource planning, jobs are assigned to staff directly via the mobile device, as are any last-minute changes of plan or additional jobs. Other information about activities, e.g. work instructions and safety measures, can also be accessed

via the mobile device. Status information (e.g. job reports, job feedback) can be sent back directly to resource planning via the app. The other steps are triggered automatically (invoicing, etc.).

- **BYOD:** With the bring-your-own-device strategy, staff also have the option of connecting their personal devices (e.g. iPhones, iPads) to the company network and using these for business purposes. SBB makes a financial contribution towards the purchase of devices to be used for business purposes.
- **Smart work and flexible forms of work:** In its internal collaboration among knowledge workers, SBB relies fully on mobile and integrated ICT technologies (known as Unified Communication and Collaboration). They are an important foundation for new, flexible forms of work: Thanks to the possibility of collaborating efficiently at any time and anywhere, virtual meetings can be held, for example during peak periods, without the need for all participants to be in situ. SBB is thus playing its part in taking the burden off peak periods.

### On the level of process optimisation

- **Rail Control System (RCS HOT,** HOT stands for Hub Optimisation Technology) is a control program that optimises train management in critical locations on the track network. The program calculates the optimum driving profile for each individual train and informs the engine driver of this via the external system. It also calculates the optimum sequences and automatically inputs these into the control system in order to make the best possible use of track capacity. This means that bottlenecks like in Zurich Killwangen can be navigated in the optimum order without unnecessary braking even when traffic volumes are high, making timetables more reliable and reducing delays. After some positive initial experiences with RCS HOT in Zurich Killwangen, SBB is planning to introduce the technology in other critical locations, for example in the Gotthard Base Tunnel to ensure optimum traffic flow along the north-south line.
- **Adaptive steering (ADS)** –real-time control of rail services (mobile application for engine drivers) to avoid unscheduled stops. SBB is the first railway in the world to use a system like this centrally for all trains. The disposition software calculates the optimum speed for each individual train based on predictions across the entire rail traffic network, thus creating a “green wave” for rail traffic. Every three seconds, over 5,000 parameters are analysed and predictions about the train’s progress are recalculated. A recommended optimum speed is then sent to the engine driver via an iPad in the driver’s cab. The system has been introduced nationwide since the start of 2015 and is currently in the start-up stages.
- **Internet of Things/sensor technology: WarnApp.** The WarnApp is a system newly developed by SBB that contributes towards safety. The application was launched in September 2015 and is intended to provide a meaningful supplement to existing train control or train protection systems: information about location and routes in the control system is combined with the tablet’s motion sensor. If a train travels through a stop signal at a station, the engine driver is given an audible and visible warning.