Case Study
Czech Railways – Simac Passenger Infotainment

Icomera X-Series platform running
Simac's passenger infotainment application
A 21st century rail operator boosting passenger numbers with a
premium service

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The Challenge

Czech Railways is the major rail operator in the Czech Republic, providing passenger and cargo transportation, they serve 170 million passengers each year. In late 2011, Czech Railways was looking to improve the level of services offered to passengers onboard its Pendolino trains, targeting a brand reputation for high quality to give the operator a competitive advantage over local rivals and ultimately boost passenger numbers.

The project scope was to fit seven Pendolino trains, each with seven coaches, with a premium service. These trains served the popular three hour route between Prague and Ostrava. The primary goals were to deliver a stable Internet connection for passengers via Wi-Fi and to provide additional entertainment options via an onboard Infotainment system.

As the first onboard Internet connectivity project ever attempted in the Czech Republic, the successful solution required solid groundwork and pioneering creativity in order to overcome key challenges such as the tight power budget and the requirement for wireless bridging between coaches. The demanding SLAs, put in place by Czech Railways to ensure a premium service for its passengers, meant it was also necessary to build a robust communication infrastructure supported by sophisticated and customised monitoring and reporting systems.

Czech Railways awarded the contract to Simac, the local application partner of Icomera, in November 2011.

The Solution

Aware of the geographical specifics of the Czech countryside, Simac devoted considerable time and effort to the careful analysis of the mobile signal reception conditions around the planned railway routes. Following this, the most appropriate equipment and technologies were selected before the installation process began.

Simac Infotainment Services
Compatible with any smart device

The solution was built around the Icomera X6 router running the Simac Infotainment system. The Icomera X-Series platform provided the resources to run both the passenger Infotainment services and the components of the distributed monitoring system without the need for any additional hardware. Cisco industrial switches and wireless access points were used to create a stable and reliable onboard infrastructure.

Passengers are automatically forwarded to the Infotainment portal, a browser based application, once they have connected to the onboard Wi-Fi. They then either browse the content provided on the portal or go directly to the Internet.

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The content available from the portal ranges from news and route information (with an interactive map and live camera feeds from the front and rear of the train) to a multimedia section with music, e-books, multiplayer games, and movies. This content is automagically managed from the central synchronization server, so there is no need to physically access each system for content updates.

The portal is also integrated with the onboard catering service, allowing passengers to order food to be delivered to their seats. These features all combine to present Czech Railways as a leading 21st century rail operator.

The Results

Implementation, including the analysis phase, was completed within eight months. An efficient installation phase was crucial in keeping the seven Pendolino trains in near-continuous use.

The combined Simac and Icomera solution met both of Czech Railways' key requirements: A top quality service is being provided (a claim supported by positive passenger feedback) and the operator is now seeing more booked seats on Pendolino trains than ever before.

The popularity of the content available through the portal has surpassed all expectations, with passengers choosing to spend more and more time with the content rather than browsing the Internet. Czech Railways has seen this as an opportunity to build closer relationships with its passengers and the next version of the Infotainment solution is already being planned. This will include multilingual support, an internal instant messaging system, Facebook integration and a CMS API among other features.

There are also plans to make further use of the onboard Internet connectivity in order to allow Czech Railways to collect telemetry data via the updated solution.
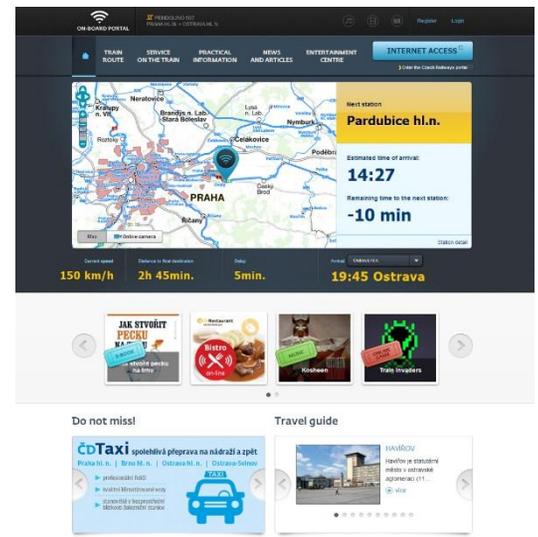
Simac Infotainment Portal
An opportunity for passenger interaction

What the Customer Says:

"The infotainment portal and Wi-Fi service are providing our passengers with a quality experience.

"Passenger feedback has been overwhelmingly positive and the services offered by the Infotainment system are attracting new passengers.

"Having invested in an open application and connectivity platform, we have created a framework to support our future requirements".

Petr Vondráček, Product Manager,
Czech Railways

What our Partners Say:

"Integrating with this Simac/Icomera solution could not have been more straightforward. Working together on this project we feel we have strengthened an already highly valued professional relationship. Simac's ability to design and deliver this complex solution again confirms that they are highly skilled professionals".

Ivo Němeček, Sys. Engineer Manager,
Cisco Systems Czech Republic