

# Case Study

## First Hull Trains: Single Sign Up and Onboard Media

An innovative rail operator boosting passenger numbers with a *'faster, more reliable and improved service'*

The UK's first single-sign-up 4G-enabled Wi-Fi solution, free for all passengers

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### The Challenge

- Support the new passenger smartphone app services, including passenger Wi-Fi
- Host onboard media server and provide seamless station-to-train Wi-Fi handover

First Hull Trains, part of FirstGroup, is a UK rail operator running 90 services a week between London King's Cross and Hull's Paragon Interchange. It will carry approximately 825,000 passengers throughout 2014/2015 on its fleet of four Class 180 DMUs.

Its aim is to deliver an industry-leading customer experience. It has invested in and achieved various innovative industry firsts, a pioneer in the UK transport sector.

To continue this innovation, FirstGroup wanted to improve their existing app for smart devices. Through this, it would be possible to **buy tickets** and **check train times**, as before, but also to **log on to station and train Wi-Fi seamlessly** without the need to repeat the login process again.

In addition to these services, FirstGroup also wanted to offer all their passengers onboard media content. The successful connectivity solution needed to support all of these features.

There were five suppliers involved in the delivery of the solution, none of which had previously integrated with each other's technology.

Icomera's primary goals were to provide the onboard 4G-enabled passenger Wi-Fi and host a virtual onboard media content server while also facilitating L2 MAC authentication for Single Sign Up (SSU) between the station Wi-Fi networks and the onboard Wi-Fi.

### The Solution

- Virtual Onboard Media Server running on the Icomera X-Series platform
- Collaboration and integration with solution partners

Both First Group and First Hull Trains dedicated time and energy to finding a solution that would offer passengers an all-round better service. The most appropriate equipment and technologies were then selected before the installation process began.



FirstGroup were looking for a market-leading solution

The solution was built around the **Icomera X6** router. Icomera also provided the onboard 4G-enabled passenger Wi-Fi service.

**CAPMedia** provided the video on demand content via a primary media server at Hull station and a virtual onboard media server hosted on the Icomera X6.

**Masabi** were responsible for the development of the passenger app.

**Airsense** created the connection management app for smart devices, handling the device authentication and handover.

**The Cloud** are the station Wi-Fi providers.





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The installed system makes seamless end-to-end Internet connectivity possible, whilst enabling the additional requirements of the passenger app.

The virtual onboard media server, running as an application on the Icomera X6, is at the forefront of the solution. The content enhances the user experience when using the Icomera onboard Wi-Fi, giving passengers access to a wide selection of television programmes.

The media content is frequently updated. Once the train terminates at Hull station a media synchronisation takes place over the wireless 5GHz link between the onboard server and the primary server located at the station. A 2GB video takes around 4 minutes to sync at 80Mbps.

### The Results

- SSU passengers consistently connecting for longer
- TechWorld 'Travel Project of the Year' award

The development and installation phase took approximately 6 months to complete with minimal service disruptions. The pilot phase will last six months but, two months in, the benefits were already becoming clear.

Passengers using the SSU service use it for longer than the previous Wi-Fi solution: **77% of SSU users connect at least once a week** and the **average time connected has increased by 75%**.

113GB of onboard media content has been accessed by passengers in the first two months of the trial. Storing this content locally on the virtual media server, as opposed to streaming it over the Internet, has **significantly reduced First Hull Trains' potential mobile data costs**.

This FirstGroup SSU Wi-Fi and media solution was named **Transport Project of the Year** at the TechWorld awards - a "celebration of innovation by both IT teams and IT suppliers in a period of unprecedented technological change".



Passenger media portal accessible through Wi-Fi portal

### What the Customer Says:

*"First Hull Trains is taking its commitment to innovation and market leadership a step further by trialling the very first 4G-enabled Wi-Fi SSU solution to all passengers.*

*"People have wanted to be able to get online when they travel for several years which is why we've always given all passengers free access to our onboard Wi-Fi. But with the demand and necessity growing, our passenger feedback demonstrated they required a better service so we are proud to provide this enhanced service.*

*"The service is faster, more reliable and will give an improved experience for our passengers and that's why we've made this investment ahead of every other public transport company in the UK."*

Will Dunnett, Managing Director, First Hull Trains

### What We Say:

*"With the successful delivery of this upgraded Wi-Fi and entertainment solution First Hull Trains are fully utilising the best technologies available to improve the passenger experience, enhancing their already prominent position as a leading contributor to the development of a truly 21st century UK rail industry."*

Dave Palmer, Senior VP Sales and Business Development, Icomera