



WDSI Group Public Transport WiFi

Arriva Scandinavia AB, is a leading bus and train operator in the Nordics and the largest bus operator in Denmark, carrying more than 250 million passengers every year. Network Zone Relations (NZR), a leading Danish systems integrator selected to work with WDSI to develop an on-board WiFi service that Arriva's passengers could use for "Free" and also act as gateway for other real-time services for passenger data and tracking information.

Objective

NZR had won a contract to design and supply a range of on-board communication solutions for both Arriva operations and its passengers. NZR already had an integrated solution for real time passenger information, CCTV and ticketing, but they wanted to be able to develop robust "Free WiFi" broadband solutions for passengers that would be able to provide connectivity for the internet service as well as being able to send operational information and data over the same connection.

A 3G partner was already working with NZR and the WiFi had to provide an easy but secure service. The on board system had to be capable of providing passengers access to the internet easily with a one click system, and also providing a captive portal landing page for the "Myarriva" theme.

Challenges

The 33 buses that were selected for the WiFi internet access would run multiple types of routes within a 70Km radius of Copenhagen and therefore the 4G WiFi gateway needed to be able to handle link rates from LTE/HSDPA down to GPRS. There was also limited capacity in terms of where the gateways could be positioned and therefore the unit had to be compact and require just one power lead.

The gateway needed to be able to provide both wireless (WiFi) and Ethernet connectivity (on board devices) in the same unit and the internal antennas must be strong enough to pick up the 3G signal, as placing externally mounted antennas was not an option under the agreement.

The internet service had to be capable of handling multiple users at any one time and different types of WiFi enabled hardware (e.g. phones, PDA, Notebooks).

The installation of the equipment had to be simple and voltage regulation to ensure safety of the on-board equipment. The equipment needed to be installed in 2-hour window periods with a tight deadline for launching the service.





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Solution Delivery

WDSI designed and delivered a 4G WiFi solution, based on its mobile broadband gateway hardware and unique “Hotspot in a Box” for buses. The competitively priced platform and small form factor meant that NZR’s target of keeping space taken to a minimum and time required to install at under 45 min’s, ensured that the hardware could be installed with the minimum of fuss. Once installed the hardware was pre-configured to “fire up” and provide an instant connection to the internet through the HSDPA enabled WiFi gateway.

At the same time, the Ethernet option provided connectivity to devices on each bus to convey data and passenger information, as well as tracking the location of the bus.

Once each bus was installed, they were taken on various routes to ensure that the connectivity was good and that the passenger WiFi was seamless to connect. Once this was achieved, the buses were then passed and the Free WiFi service was ready to be launched by Arriva.



The Feedback

The Free WiFi service was launched in Copenhagen and commented on as follows:

"We are continually seeking new ways to improve the quality of bus travel in Denmark," said **Johnny Hansen, Managing Director of Arriva Scandinavia**. "We believe that the introduction of broadband services on these two bus lines in Copenhagen today will enhance the passenger experience and provide a useful and productive way for our customers to spend their journey time. If more people decide to take the bus and leave their cars at home we can make a serious contribution to the reduction of carbon dioxide emissions."

"Arriva's roll-out of Wi-Fi for bus passengers is a clear indication of the importance broadband access has in today's bus industry," said **Louis Preben Nezer, CEO of Osseu International**.

Over the next 12 months, NZR awarded further contracts to WDSI to be enabled with the same WiFi solution.