

 **Directory**  
 < **Data & Information**



# Boosting In-Vehicle WiFi

The provision of virtually unlimited onboard bandwidth for media streaming could potentially allow transport operators to benefit from entertainment services for free, says Ralf Cabos, PaxLife Innovations CEO.

## The New Era of Media Streaming

Media consumption patterns are changing dramatically. Traditional linear TV is experiencing a significant decline these past years; there has been a shift in viewership towards streaming platforms. In the United States, according to a study from Nielsen, “overall streaming is now 25% of TV viewing”. Likewise in Europe, numerous launches of international and national

direct-to-consumer SVOD services (subscription video on demand services, such as Netflix) by media players have led to a rapid rise in consumers’ preference for accessing content anytime, anywhere and on any device: OTT SVOD subscriptions have passed from 300,000 subscriptions in 2010 to over 140 million in 2020 (source: European Audiovisual Observatory “Trends in the VOD market in EU28”). And this starts to lead to advertisement budgets being rebalanced towards digital media streaming channels.

## A Challenge for Transport Operators

So, in the public transport world, in principle, in order to meet today’s media consumption demands, the entertainment services that are defined in transport vehicles and promoted to passengers should eventually reflect this major shift in consumers’ media habits. Passengers – especially younger ones – are indeed increasingly expecting onboard seamless and

reliable access on their personal devices to media streaming apps and their diverse content, as they do at home. In an ideal world, to make this work, transport operators would then provide easily enough bandwidth for everybody to consume as a basic service.

The reality is however somewhat different: there are currently limitations that you cannot avoid. Firstly, the limitations are related to the number of existing 4G towers which may not be sufficient in some areas, meaning that in the countryside coverage may remain poor or even non-existent. Secondly, even with good mobile coverage usually in more urbanised areas, the number of SIM cards required for the on-board WiFi system to support the ever-increasing entertainment needs of today's passengers will not be at all an economical and viable solution for operators either today or tomorrow.

**So, what then? How to satisfy passengers with an affordable solution for transport operators?**

## Bringing Standard WiFi Systems Installed in Vehicles in Line with Media Streaming Consumption

In the everyday digital world, the delivery of media apps to people at

home (or in hotels, in stations etc...) relies on content delivery network (CDN) companies. In summary, these CDN companies ensure the quality of the media delivery up to the end users to their devices, in a *fixed* environment.

For *mobile* environments, such as trains, buses, or other means of transport, PaxLife Innovations has come up with a similar software CDN platform, embedded in vehicles, that ensures that supported media applications are reliably delivered locally from the onboard server to passengers' devices throughout the journey. The server is synchronising with media content via high-speed connections available along the route (initially at stations); so at the end the system works with the media apps running onboard and getting accessed by passengers' devices regardless of the external connection, **without increasing broadband data charges**.

**In this way, the vehicle's 4G/WiFi bandwidth is preserved for other usage**, for other passenger services or even to the benefit of the operator.

Moreover, this architecture brings significant additional benefits to the transport sector and passengers: once the platform is in place, transport operators no longer need to buy a limited set of films, series or TV shows, for which the cost of licencing is

notoriously high; and at the same time, passengers benefit from fast and reliable access to a much wider choice of media content than is available on trains today.

## PaxLife Innovations Brings a Plug-in and Fully Managed Proposition

### On-Demand Video, Podcasts or News

As a standard service, national and local public radio and TV applications hosted on-board work at the vehicle's intranet speed. This allows passengers to enjoy compelling on-demand content (video, music and news) on their own devices the same way they experience it outside the vehicle, in good reception quality, interruption-free and with no strains on their mobile data budget. The seamless integration of any private media streaming platforms – AVOD and SVOD players – who are interested in connecting with more viewers on the go, is also possible.

### Live Audio Streaming

The service is based on the vehicle server relaying one single live stream onboard that all passengers can access individually, in high quality, and as they wish. This architecture makes it possible to avoid any pressure on the vehicle's 4G connectivity system, while

ensuring passenger satisfaction at the same time. Live video streaming is under development and should be launched by the end of 2021.

### Digital Radio, Interruption Free

Each passenger accesses up to 32 live channels on personal devices (depending on the DAB+ coverage).

This DAB+ add-on achieves uninterrupted live radio transmission by combining both a 4G connection and DAB+ stream delivery. The system optimises buffering and other settings

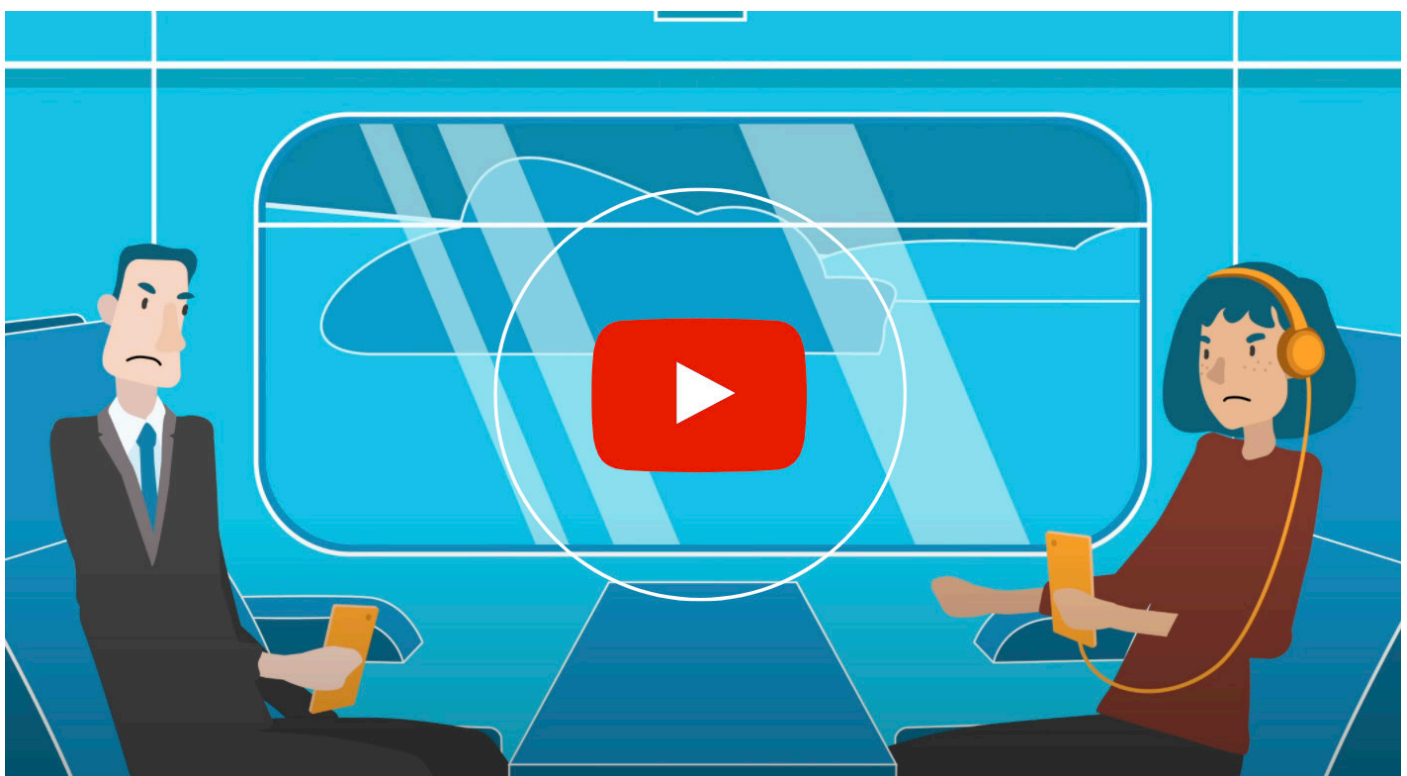
depending on the current train position.

### Combining the Monetisation of the Passenger Information Displays

The technology easily integrates into the existing PIS (Passenger Information System). PaxLife Innovations is now working with advertising partners to re-use the logic within the CDN platform to connect to the vehicle's infotainment screens that transport operators would have given access to, not for broadcasting content but for the placement of

advertisements: if done well, this could generate sufficient ancillary revenue to cover the deployment and operations of the entire entertainment services described previously.

So from the transport operator's perspective, **it means that the current challenge about offering sufficient WiFi bandwidth could transform into a tremendous benefit for the passenger experience** and, depending on the number of screens, on the number of annual passengers and the passengers dwell time, it could even be done at **no cost**.



## Make the Most Of Your Onboard WiFi

If you would like to know more, please check [www.paxlife.aero](http://www.paxlife.aero) or contact us directly at [info@paxlife.aero](mailto:info@paxlife.aero) / [delphine@paxlife.aero](mailto:delphine@paxlife.aero) +49 (0)331 243424 -0. We would be very pleased to discuss further with you!