Innovation in Passenger Experience & Onboard Services

Software solutions IT architecture





PaxLife focuses in the innovation of digital services to passengers

- entirely in Software
- all combined in one generic platform to update and operate across the fleet on trains, buses, trams, undergrounds, etc. at the click of a mouse...

The PaxLife's range of solutions covers:

- Passenger information and infotainment via display, audio, smartphone and at stations
- WiFi service (with our partner Onway AG)
- Entertainment: support of VOD from media streaming services, DAB+ radio broadcast and live TV relay
- A web-shop and monitoring tool for an at-seat order service (digital catering) and additional revenues
- Landing page / portal / operator's app for passengers to access the transport operator's range of services



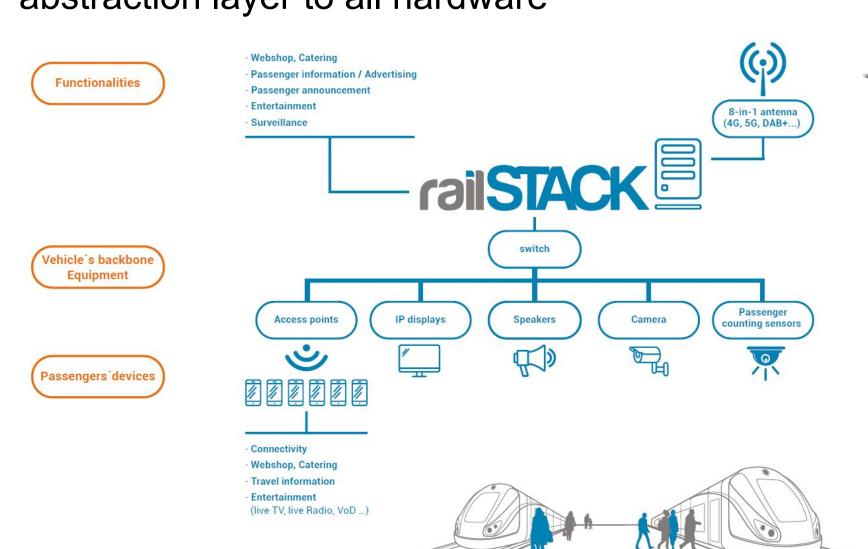








Core product: the railSTACK platform, all passenger-related functions in one software service, abstraction layer to all hardware



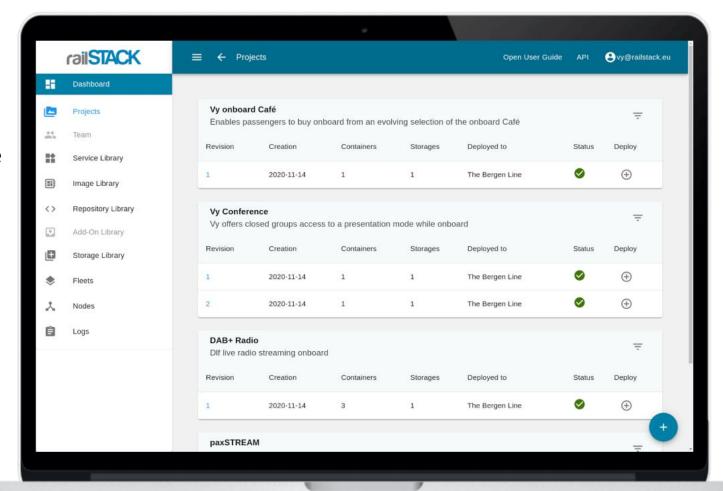
fitting existing equipment
future-proof
reliable
highly flexible architecture
modular and scalable

Transport



The railSTACK platform, to easily create, deploy and manage any services to your selected fleet

railSTACK dashboard to easily manage your passenger services, just like a software



thanks to the hardware abstraction layer it provides, railSTACK fits any vehicle, existing or future

















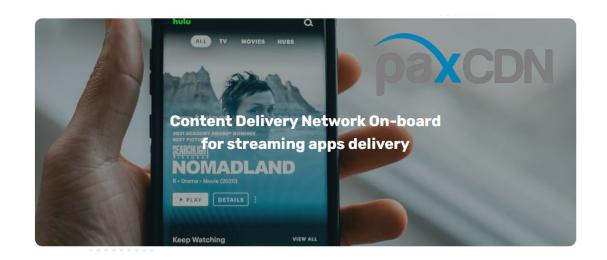






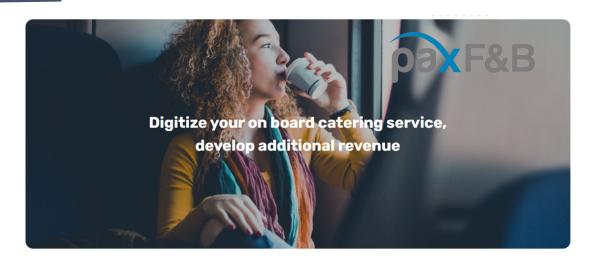














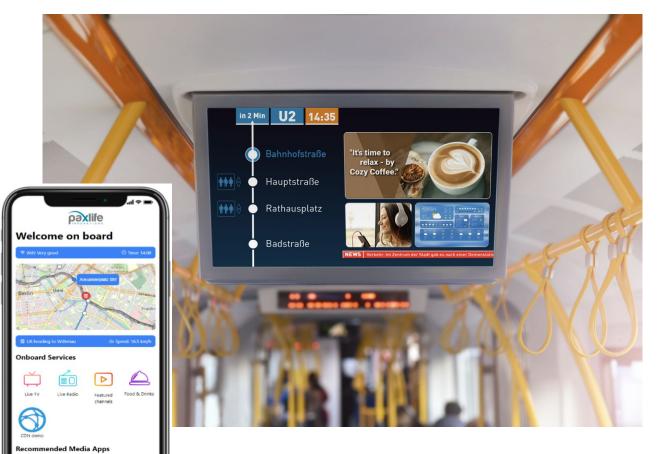




Unified Passenger Information Software Platform







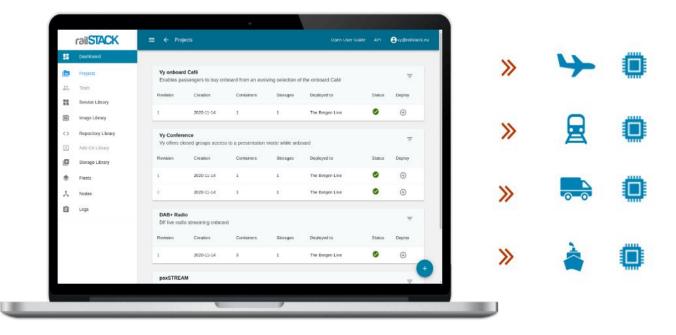
- ☐ To manage the Passenger Information regardless of any vehicles and equipment, existing or future,
- To combine on one platform real time travel information & infotainment, incl. from external & dynamic sources (news, weather, points of interests, advertising providers...),
- ☐ To freely design & reliably deliver content & information
 - in a consistent manner
 - whether on board vehicles, for displays at stations or on the passenger's smartphone (portal)
- An empowering solution & commercially open offer

Completely Hardware Independent

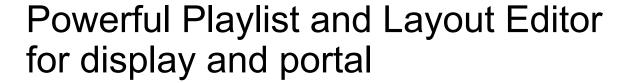




- paxCMS integrates with
 - existing hardware & new hardware
 - adapts to different configurations
- ☐ Highly reliable solution
 - software component executed in the vehicle
- Open platform combining with your own or third- party apps and systems
- Unified delivery, design and display to any information channels -
 - on-board screens, smartphones, speakers, in vehicles or at stations



railSTACK sublayer of paxCMS provides the abstraction layer

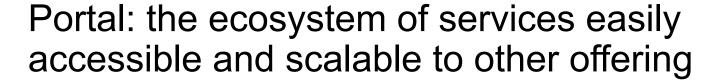






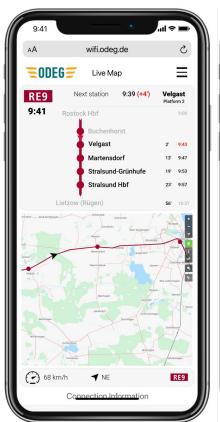
- User-friendly software for operators to easily create layouts & playlists, without programming knowledge,
- Combines in one system real time travel information & infotainment - even from external elements,
- Incorporates dynamic logic to allow each display to behave according to time, vehicle's location and given guidelines (triggers),
- Allows updates and deployment at short notice, targeted at fleet or sub-fleet,
- Applicable to display and portal design, with similar capabilities.













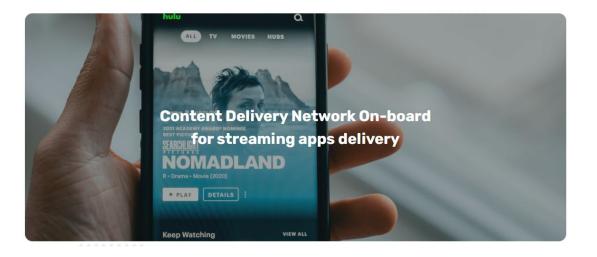




- Moving map
- Route display and status
- Digital radio services
- Streaming applications
- Offline programmatic advertising market place for in-vehicle displays
- e-shop, at-seat ordering for F&B items
- or simply use railSTACK and load your own digital service...

illustration customizable to your own design



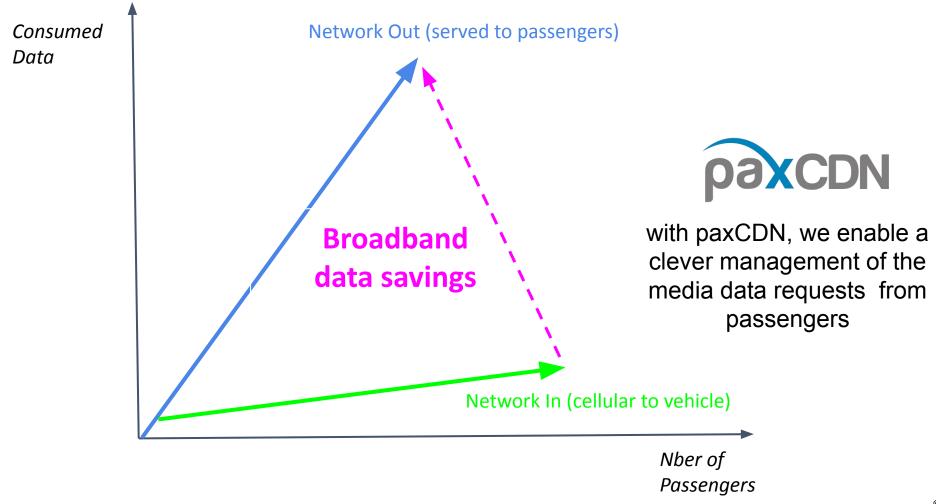






paxCDN allows passengers to stream onboard their services like at home, and optimise your Wi-Fi offer





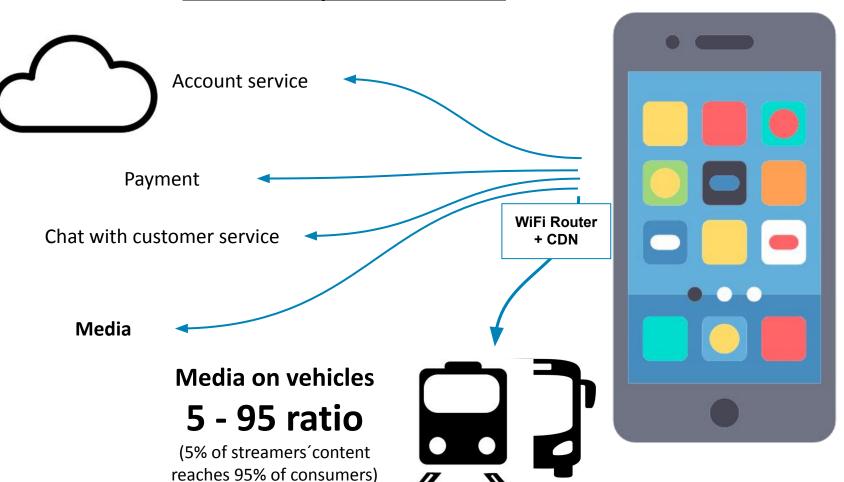
How does CDN support native streaming apps on vehicles







Different end points in the cloud



Native streaming apps on smartphones

paxCDN implements an "automated caching" of supported content on the server of a train. The passenger's app is thus served by the train's cache instead of going to the internet (and congesting the cellular bandwidth), without the user being aware of that.



















Digital Radio, DAB+ Technologie Crystal clear sound, live broadcast, uninterrupted

Digital Radio channels DAB+ Crystal clear sound, Live broadcasting, Interruption-free

- □ A small receiver box installed in the vehicle or integrated into the railSTACK platform very simple installation,
- ☐ Up to 32 live radio channels accessible by each passenger's smartphone via the operator's app and the vehicle's WiFi,
- ☐ High-quality sound, reliable broadcasting, an extended, free and unlimited radio offering (radio is paid for by public fees, no additional licensing cost),
- □ Self-learning: system optimizes buffering and other settings depending on the current train / vehicle position,
- Interruption-free: hybrid radio function available as option: combines both 4G connection and DAB+ stream delivery to patch primary DAB+ path if required,

Developed in cooperation with the German national public broadcaster Deutschlandradio <u>www.deutschlandradio.de</u>



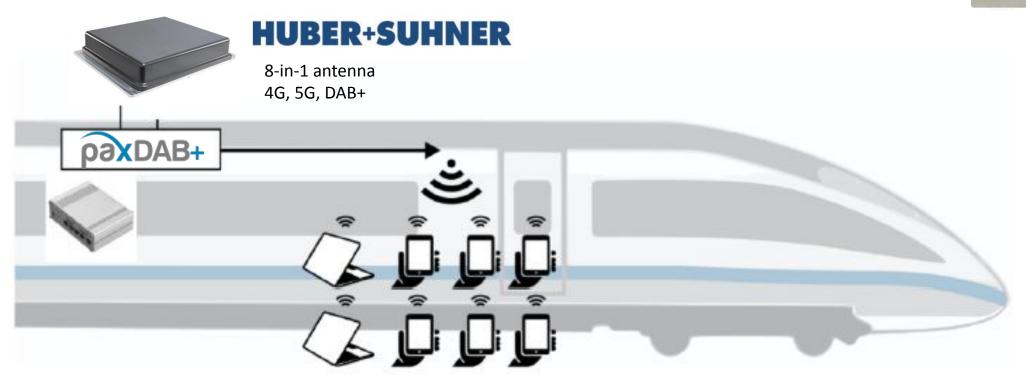








Digital Radio, **DAB+ rail antenna**Crystal clear sound, live broadcast, uninterrupted

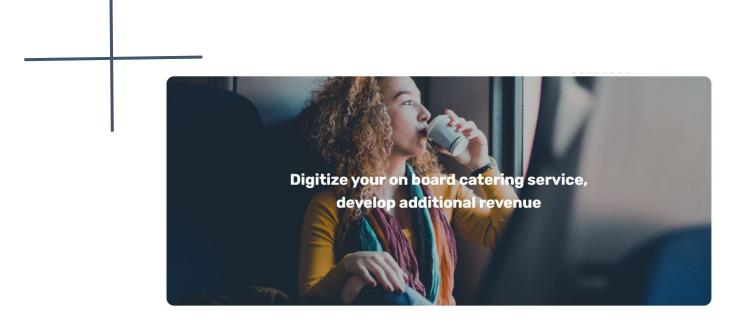


paxDAB+ installation in a train: in the current use case, paxDAB+ is provided as part of the railSTACK software platform.

PXI is working with the experienced market leading provider **Huber+Suhner** to provide an extended version of an existing rail antenna. This provides for an all-in-one antenna to extend the already superior performance of 4G, WiFi to support live digital radio onboard.





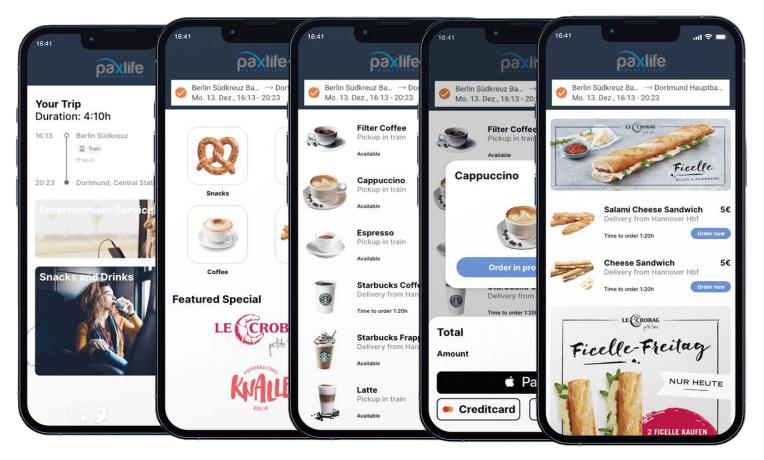


Digitize your on board catering service, enhance passenger comfort, develop additional revenue









Example of a possible layout in an app environment; the list of items, brands and prices is fictitious. The final design is customised to your brand.

paxF&B combines

- an easy-to-launch sales app for at-seat order and secure payment process,
- with a real-time reporting and data analysis tool







"How can I improve the sales app's popularity? How is the business performing and where? How can we analyze and adjust campaigns in real time?"...are some of the questions our software platform can provide insights to.

- ☐ Gain significant insights into buying patterns (analysis)
- Product offering quality metrics for quick update of stock and offer (monitor / react)
- Optimise ancillary revenue and rail product success (predict)





