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Nahverkehrs... praxis

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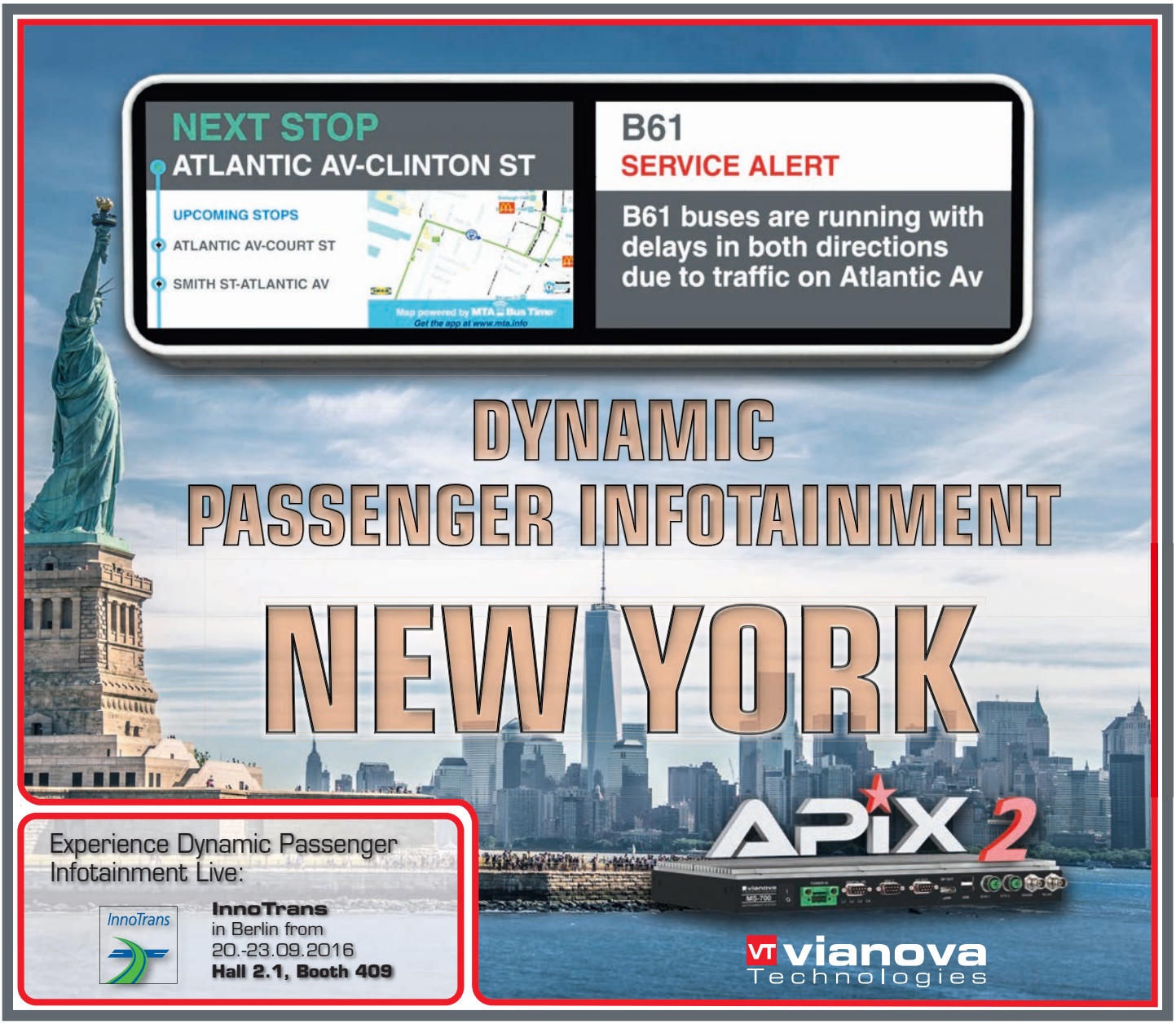

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Dynamic Passenger Information in New York

Image 1. The Nova Artic articulated bus is equipped with 3 ceiling-mounted dual display units ensuring both dynamic passenger information and entertainment are visible from all seating positions.

Starting with the very busy buses operating in Manhattan and Queens, the „New York City Transit Authority“ (NYCTA) is upgrading its vehicle fleet by installing superlative quality, highly reliable dynamic passenger information and entertainment systems from VIANOVA Technologies. This initial package includes tried-and-tested ceiling-mounted dual display units and dedicated software.

Christian Endres,
Managing Director,
Vianova Technologies GmbH, Dresden

Proven Dual Display System

The 18.5” dual display units are attached to the vehicle ceilings via modular stanchion systems that ensure the USA regulatory access height of 78 inches is respected for all bus types within the NYCTA fleet (Image 1).

Three dual display units are installed in the NOVA Artic articulated buses ensuring passenger information is easily viewable even from a max. 20 foot (6m) range so all seating positions are covered. The left-hand screen shows only dynamic passenger information (DPI) whereas the right-hand screen is used primarily for entertainment with an approx. 30 % advertising payload, but is also used for important passenger information announcements.

The MS-700 distributed server from VIANOVA connects to the onboard audio system in such a way that displayed information is broadcast audibly, in a local New York dialect, as „Text-to-Speech” announcements (TTS) and supports all the required communication interfaces such as LTE/4G, GPS, Ethernet to the onboard computer as well as digital and serial I/Os. A single quad-core cable serves the two independent video channels from the APIX data highway.

APIX Data Highway as Video Bus

A pair of wires in the quad-core cable from the APIX data highway (Automotive Pixel Link), integrated within the MS-700 server, is all that is needed to control the two independent video channels of the three dual display units. The video signal of the daisy chained display connection is so robust that even after passing through couplers bridging the folding bellows linking the articulated bus segments it remains completely lossless.

The second pair of wires within the same quad-core cable serves as a feedback channel for diagnostic information and for commercial log files. Should, however, a regular Ethernet cable be used in place of the standard cable, then two pairs of wires remain unused and kept for reserve.

All components have been designed for a minimum 10 year active service life in harsh conditions aboard these buses and, in addition to being certified to meet the European KBA and railway standards, are certified according to the MIL-STD 810G standard.

Superlative Dynamic Passenger Information

To satisfy the tough operational conditions, particularly in Manhattan, where regular stops with an array of connection possibilities coupled with timetable variation are the norm, then a few requirements had to be met by the top-notch DPI or were already available to the transport authority in New York:

1. Real-time GTFS-Data are available – this means that the transport authority has all the target schedules and route information available in Google standard and updates these as

required. Incidents are reported, in real-time, by the transport authority as they come.

2. SIRI – Service-Interface for Real Time Information
NYCTA uses the open source OneBusAway.org platform, which uses the SIRI data format for gathering the actual data of its vehicle fleet in real-time.

3. Route visualization
The NYCTA provides excellent route specific information. With this, the passengers are presented with a precise depiction of the area surrounding the bus stops in real-time via GPS using the OpenStreetMap technology.

4. The VIANOVA infotainment system, with its high performance server and powerful BitCtrl LISA (Live Infotainment System & Advertisement) software suite, interprets this wealth of information being presented to it in real-time and effectively informs the travelling public both visually and audibly. The GPS data are continually monitored ensuring the displayed information and positional map features remain highly accurate.

The second screen in the dual display unit provides additional passenger entertainment with advertising – location-specific as required (refer to image 2).

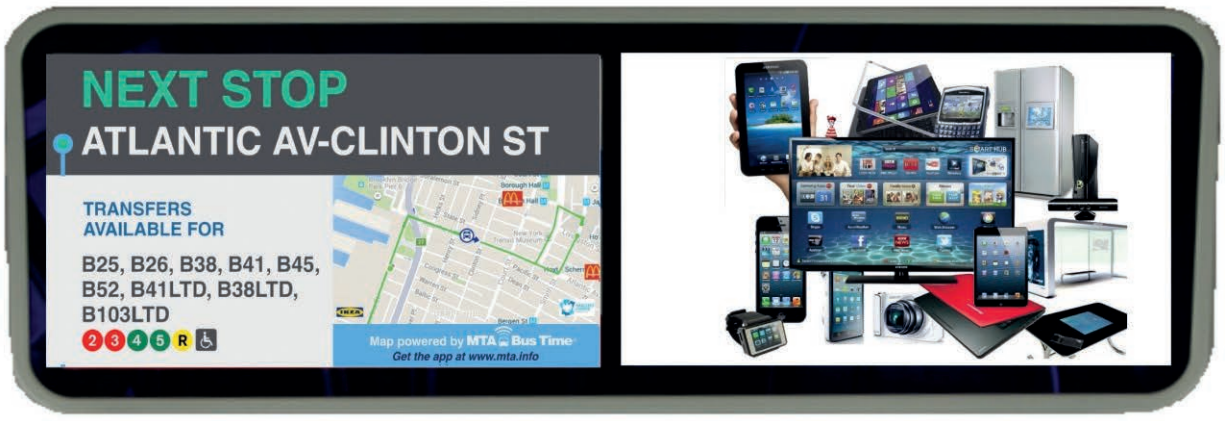

Image 2. The left-hand screen of the dual display unit shows conveniently the transfer connections alongside a localized map extract whereas the right-hand screen is reserved for entertainment content with advertising or PTO marketing. (Images: Vianova Technologies GmbH).

Infotainment System Service and Maintenance

VIANOVA Technologies offers a ten-year service contract, at a fixed price, for its systems ensuring >99% availability.

All onboard components, the server and display units have their functionality continually monitored – system errors and failures are reported via LTE/4G immediately so that service planning can be activated even before the vehicle reaches the depot.

A dedicated service and maintenance software packet (WSM) is available as a standalone tool or part of the BitCtrl LISA Content Management System. This user-friendly application monitors all the technical and commercial advertising log files of the complete vehicle fleet.

Powerful Content Management System

The BitCtrl LISA CMS is a user-friendly administration tool that gives the transport authority control over its own marketing campaigns and special announcements as well as providing the transport authority's media partners with a wide variety of possibilities to create optimal entertainment and advertising content. In addition, the LISA CMS supports the many diverse workflows in use by the various media corporations, including print, TV and out-of-home. The NYCTA took the decision to host the web-based and cloud-ready CMS from VIANOVA for maintenance and support optimization while also giving their media partners easy access to the system.

Summary

Combining the New York City Transit Authority target schedules and actual data with the high-performance VIANOVA infotainment system is finally bringing the New York Transit passengers up-to-date passenger information in an optimized presentational form.

The dynamic passenger information and self-marketing ability were reason enough for the NYCTA to purchase the user-friendly VIANOVA solution.

The possibility to rent a screen to a media partner actually generates more income for the NYCTA than the total combined system purchase and running costs.

It is the dual display concept combined with the powerful software and the purchasing power of the New York passengers that actually makes this feasible.

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Hall 2.1, stand 409

VIANOVA onboard infotainment product portfolio

Modular onboard components combined with the flexible bitcontrol® LISA software platform create the VIANOVA Technologies turnkey infotainment solutions for use in rail or bus applications. With a choice of distributed server and intelligent display units, these units are suited for installation in all conventional vehicle types.

MS-700
Passively cooled vehicle server with 3rd generation GigaStar (≤ 3 Gbit/s) video outputs.

ID-29-S-R / MD-29-S-R
29" single display unit with a 32:9 format available with a variety of installation options

ID-18-S-U / MD-18-S-U
18.5" single display unit for entry-level passenger information.

ID-18-S-W / MD-18-S-W
18.5" back-to-back display unit for wall mounting in vehicles with limited headroom.

ID-18-T-R / MD-18-T-R
Dual 18.5" display unit for bus installation. Vehicle mounting via stanchion.

ID-18-Q-R / ID-18-Q-R
18.5" quad display unit for trams. Vehicle mounting via the enclosure.

ID = GigaStar enabled displays

MD=Intelligent Display with TCP/IP transfer

Excerpt of customers successfully implementing the robust VIANOVA display systems

Infotainment in Berlin (BF)
Refurbishing and maintenance of 1156 BVG metro cars.

Infotainment in Leipzig (LVB)
Retrofitting and re-equipping buses and trams.

Infotainment in Potsdam (ViP)
Refurbishing and retrofitting existing tram systems.

Infotainment Dresden (DVB)
Refurbishment of existing tram systems

Solaris Bus & Coach S.A.
Equipment for a variety of vehicle types

WestfalenBahn GmbH
Installation in new Stadler Rail trains

Bombardier Transportation
Flexity-Classic, Flexity-XXL, NGT-8

Hamburger Hochbahn AG
New installations in vehicles of the innovation route

Chemnitzer Verkehrs AG (CVAG)
Retrofitting in existing trams

MAN Utility Vehicles
LineCityHybrid

New York City Transit (NYCT)
Retrofitting in articulated buses including audio announcements

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