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Robert Bosch GmbH
Postfach 10 60 50
70049 Stuttgart

Media und Public Relations
Leitung: René Ziegler
Presse-Forum:
www.bosch-presse.de



Bosch turns the passenger cabin into an entertainment center Busworld 2017 in Kortrijk

October 2017

PI9833 BBM Fi/KB

- ▶ New Coach smartInfotainment Series turns coach travel into a multimedia experience
- ▶ Coach smartRadio and Coach smartPanel provide greater convenience for the driver and passengers

Hildesheim, Germany / Kortrijk, Belgium – Every coach journey can now become a superb entertainment experience. Watch movies, surf the internet on a reliable connection, and stream music and videos – thanks to multimedia technology from Bosch, even on a long trip, there will be no chance of boredom setting in. Bosch has developed the new Coach smartInfotainment Series and is presenting it for the first time at Busworld Kortrijk 2017. The leading international trade show for buses and coaches is taking place from October 20 to 25, 2017 in Belgium. “With our Coach smartInfotainment Series, we are taking in-coach comfort to the next level. This ensures coach travel will remain an attractive option among the competing transportation systems,” says Oliver Baecker, head of the coach division at Robert Bosch Car Multimedia GmbH. The core components of the new entertainment system are the Coach smartRadio and Coach smartPanel. The Coach smartRadio can receive DAB+ radio stations and stream music from a smartphone via Bluetooth; it also enables the driver to make phone calls without becoming distracted and while keeping both hands on the steering wheel. The Coach smartPanel expands this range of functions, bringing even more entertainment to the passenger cabin and driver’s cockpit.

Entertainment with outstanding sound quality

The new Coach smartRadio makes it possible to receive radio programs broadcast according to the new DAB+ standard in coaches, intercity buses, and city buses. DAB stands for “digital audio broadcasting” – the digital transmission of audio signals via antenna. The “+” means that the driver and passengers can

enjoy clear noise-free sound quality as well as access to a range of additional program information, like weather maps and details about the current song and artist. With its Coach smartRadio, Bosch is one of the first manufacturers of high quality infotainment systems to offer coach manufacturers this digital standard. A class D power amplifier ensures a rich sound that fills the cabin thanks to 2 x 40 watts of output power.

The Coach smartRadio can also play audio content supplied via its USB port and two AUX inputs as well as from memory cards. A smartphone can be integrated into the system via Bluetooth 3.0 and can be used for music and multimedia content streaming. In addition, this connection is available to the driver for making and receiving phone calls in the cockpit. The integrated USB interface provides an easy way to install system software updates and supplies power for charging a smartphone during the journey. A CAN connection makes it possible for the driver to input commands on the steering wheel to control the Coach smartRadio without becoming distracted.

The ultimate in infotainment

The Coach smartPanel expands the range of functions offered by the Coach smartRadio, thus providing even more infotainment options in coaches. With music in digital quality and interfaces for external playback devices – like a DVD player and a tuner for high-definition television – the Coach smartPanel increases the range of entertainment options available in the coach still further, making boredom on long journeys finally a thing of the past. To play radio stations, the Coach smartPanel utilizes the tuner in the Coach smartRadio via the radio unit's tandem-out function. Hip-hop in the cockpit and easy listening in the cabin? Thanks to the coach's independent audio zones, the driver and passengers will in future be able to listen to different music. The Coach smartInfotainment Series enables the coach to be equipped with up to three microphones. The driver uses a permanently mounted microphone for making announcements in the cabin; it includes an integrated hands-free function. Two further microphones are at the disposal of the tour guide. One of them is a wireless model that lets the guide move around the coach freely while making announcements.

Press photo: #1235165, #1235166, #1235168, #1235167

Contact person for press inquiries:

Annett Fischer,
phone: +49 711 811-6286

Mobility Solutions is the largest Bosch Group business sector. In 2016, its sales came to 43.9 billion euros, or 60 percent of total group sales. This makes the Bosch Group one of the leading automotive suppliers. The Mobility Solutions business sector combines the group's expertise in three mobility domains – automation, electrification, and connectivity – and offers its customers integrated mobility solutions. Its main areas of activity are injection technology and powertrain peripherals for internal-combustion engines, diverse solutions for powertrain electrification, vehicle safety systems, driver-assistance and automated functions, technology for user-friendly infotainment as well as vehicle-to-vehicle and vehicle-to-infrastructure communication, repair-shop concepts, and technology and services for the automotive aftermarket. Bosch is synonymous with important automotive innovations, such as electronic engine management, the ESP anti-skid system, and common-rail diesel technology.

The Bosch Group is a leading global supplier of technology and services. It employs roughly 390,000 associates worldwide (as of December 31, 2016). The company generated sales of 73.1 billion euros in 2016. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiaries and regional companies in some 60 countries. Including sales and service partners, Bosch's global manufacturing and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 120 locations across the globe, Bosch employs some 59,000 associates in research and development.

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Enjoy HD TV also on coach trips thanks to Bosch Busworld 2017 in Kortrijk

October 2017

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- ▶ High-definition picture increases the quality of entertainment on coach journeys
- ▶ Four antennas ensure optimal reception
- ▶ The USB interface and inputs for additional sources increase the range of in-coach entertainment options still further

Hildesheim / Kortrijk – Even on long journeys there will be no chance of boredom setting in. Bosch is turning the passenger cabin into an entertainment center and is bringing high-definition (HD) TV reception to the coach. Passengers can watch their favorite series or a movie in crystal-clear picture quality, just as they would on their home TV. And they will never miss a sports match simply because they are traveling. Bosch is presenting its new DVB-T2 Tuner for mobile applications at Busworld Kortrijk 2017, which is taking place in Belgium from October 20 to 25, 2017. As one of the world's first tuners for automotive use it brings HD picture quality and more television channels to Europe's roads. The tuner will make in-coach entertainment even more appealing. The new tuner will enter volume production in the spring of 2018.

Wide range of programs in crystal-clear quality

The new DVB-T2 Tuner makes it possible for passengers to enjoy HD-quality television broadcast according to the H.265 standard. This new technology ensures the picture is not only significantly sharper, it also enables reception of digitally broadcast TV programs in the whole of Europe. Equipped with a total of four antennas, the tuner automatically searches for the strongest signal and ensures interference-free reception. Encrypted entertainment programs are decoded by the integrated CI interface. In addition, the USB port makes it possible to play movies and music on the coach monitors from a USB device. For even more infotainment, up to two additional sources can be connected, such as satellite television and a DVD player.

The tuner is integrated into the coach's infotainment management system via the CAN bus and is controlled via CAN Remote. This makes it possible to provide even more in-coach entertainment options.

Press photo: #1235165, #1235166, #1235168, #1235169

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Bosch presents steering systems that provide smart support and save fuel Busworld 2017 in Kortrijk

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- ▶ Servotwin steering system enables a wide range of assistance functions.
- ▶ Rear-axle steering makes buses more maneuverable and even more efficient in city traffic.

Kortrijk, Belgium / Schwäbisch Gmünd, Germany – Electric steering is gaining popularity. As an indispensable building block for driver assistance systems such as lane-keeping support or park assist, it is a standard feature in more and more of today's cars. Bosch is taking its comprehensive expertise in steering systems for cars and transferring it to commercial vehicles and buses, working to create technological solutions for a new era in mobility: free of accidents, stress, and emissions.

Electronic assistants make driving buses safer and easier

The Bosch Servotwin steering system is the world's first integrated electro-hydraulic steering system for production commercial vehicles; specifically, heavy trucks and buses. Servotwin is more efficient than previous steering systems thanks to its torque overlay. It also enables driver assistance functions that make driving a bus safer and easier. One of these functions is the lane-keeping assistant, which warns the driver as soon as they unintentionally start leaving their lane. If the driver doesn't react, the system intervenes to steer the bus back into the lane. Electric steering assists the driver in traffic jams and slow-moving traffic, too, and automatically maintains the proper distance to the vehicle ahead. The driver monitors the system and can retake control at any time. Another situation where Servotwin electric steering supports the driver is in sudden crosswinds, which can be dangerous to buses because of their large surface area. The system determines how much to correct the steering to compensate for the gusts of wind and actuates an electric motor to help with the maneuver. All in all, driving a bus has never been so safe or so easy.

A rear-axle steering system increases bus maneuverability

Bosch has redesigned electro-hydraulic rear-axle steering to make it even easier to maneuver heavy commercial vehicles. Buses with large wheelbases in particular stand to benefit, as this redesigned system makes the turning radius smaller. The resulting increase in agility is especially useful in city driving. In addition, the steering solution improves vehicle stability at high speeds, thus making it even safer and easier to change lanes on the freeway. Here is how it works: the electrohydraulic steering system is an independent power-on-demand system for the leading or trailing axles of heavy trucks and buses. What makes it special is its innovative combination of a hydraulic cylinder unit and an electronic power unit. This means the steering is controlled electronically, driven electrically, and requires neither a mechanical nor a hydraulic connection between the front and rear axles. Thanks to the power-on-demand function, energy is required only when active steering is in progress. The electric motor powers a pump, which uses a work cylinder to build up hydraulic pressure and transfer it to the rear axle. Compared to conventional steering systems, the power-on-demand solution saves up to 0.6 liters of fuel for every 100 kilometers. Bosch electrohydraulic rear-axle steering is equally suitable for integration into production vehicles as for retrofits. All geometric vehicle parameters, like the wheelbase and steering angle, are programmed individually in the steering ECU.

Press photos: #1235159, #1235162, #1235163, #1235164

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