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IAA 2015: Johnson Controls reveals response to the autonomous driving megatrend

Autonomous driving in the car seat of the future

Frankfurt, Germany – September 16, 2015. *In the car of the future, assistance systems will play an increasing role – turning the driver’s seat into a comfortable control unit. With the move toward autonomous driving, the requirements for vehicle interiors and seating will also radically change. As the global leader with decades of seating expertise and numerous innovative solutions, such as the first approved reclining rear seat structure, Johnson Controls is ready for such a change – and will present itself as a competent partner at the IAA in Frankfurt.*

“Autonomous driving is on its way. It is not something that will happen overnight, though, but rather over a period of gradual development,” said Dr. Detlef Jürss, group vice president and general manager Product Group Seating Components at Johnson Controls. “Numerous driver assistance systems are already helping to make driving easier. In the future, the role of the person in the driver’s seat will shift from that of an ‘active driver’ to that of a ‘supervisor’ who must be able to intervene whenever necessary. The seat will become a multi-talented interior component that provides its strengths in safety, comfort, and entertainment.”

According to Jürss, however, true autonomous driving, where the vehicle takes over all control functions and the driver simply assumes the role of passenger, is still a long way off. Numerous challenges must be overcome along the way, for example, details concerning the necessary investment-intensive infrastructure, liability and legal issues, ethical aspects (who do the safety systems protect?), technological feasibility and safety.

Along with the changing roles of the driver and vehicle, new and higher demands are being made of seating, which is in line with the very diverse challenges in individual mobility that global markets are facing. For example, in extreme cases, the highly congested conurbations and megacities in Asia are up against the classic long-distance routes in North America or Australia and a European mix of city and country roads. In these examples, demands for tailored seating concepts

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can be summarized under the terms “workplace,” “communication and entertainment center,” or “relaxation zone,” accordingly.

“Johnson Controls has concerned itself with the challenges that such mobility trends bring to our specialized field of car seating for many years now,” said Jürss. “Therefore, we see the shift from a purely driver’s seat to an **active safety system** as a key starting point. The seat will become much more of an integral part of occupant protection, which will be linked with all active safety systems within the vehicle.” Additional features, such as a seat rotated in the opposite direction of travel to allow direct communication among passengers, or a seat in a resting position, must offer maximum safety in the event of a crash. Johnson Controls already offers high-strength mechanisms such as recliners and seat tracks. In the future, these components will be linked to the entire vehicle sensor technology and be capable of interaction.

The company considers increasing comfort and well-being in the driver’s seat as the second key starting point. “The seat will become the **driver’s partner for comfort and health**,” added Jürss. The main challenge for future seat applications lies in the intelligent interaction between seat sensors and actuators. The respective seat must be able to react ‘independently’ to sensor-based evidence of drowsiness or tension – for example with an automated alarm or position adjustments over longer distances. Various features, such as a massage function, armrests or pneumatic side bolsters, which enable the seat position to be adjusted ergonomically to individual needs and long journeys, could also play an active role – an area in which Johnson Controls’ RECARO Automotive Seating product group has decades of expertise. The internationally-recognized seal of approval awarded to RECARO by the German association for healthy backs (Aktion Gesunder Rücken e.V.) for its passenger and utility vehicle seats underlines this expertise.

The future role of the seat as a “comfortable control unit” could also include the possibility of a **crash-resistant resting position**. Johnson Controls remains true to its pioneering role as a technological leader here, too, by developing the first approved fold-flat rear seat structure for an automaker and bringing it to series production. Similar to a business class seat on an aircraft, the product meets the

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highest comfort requirements while complying with automotive safety regulations, thanks to sophisticated sensor technology that raises the seat to an upright position in the event of a crash.

The third starting point for the seat of the future, which supports all aspects of autonomous driving, is further development toward an **entertainment and information forum**: “The seats of the future must offer the occupant, as a passive driver, all possible options for work, entertainment, and communication while traveling,” says Jürss, citing the integration of tablet holders, reading lights and headphones as examples. “We can also envisage making the unused front passenger seat more flexible, turning it into an additional mobile office or living space when unoccupied, and offering non-slip compartments for personal items, drinks or electronic devices, which can also be charged wirelessly. Our SD15 seating demonstrator at the IAA booth already showcases solutions being developed, thanks to innovative adjustment mechanisms and functions.”

The 66th International Motor Show (IAA) Cars will be held in Frankfurt from September 17 to September 27, 2015. The world’s leading auto show will be open to the media on Tuesday, September 15, and Wednesday, September 16, and to industry officials on Thursday, September 17, and Friday, September 18. It opens to the public from Saturday, September 19, through Sunday, September 27. For more information, please visit: www.iaa.de.

Johnson Controls is presenting its innovations to the media and guests from September 15–27, 2015 in Hall 5.1, Booth B24.

For additional information and pictures please visit:
<http://media.johnsoncontrols-iaa.com>

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About Johnson Controls

Johnson Controls is a global diversified technology and industrial leader serving customers in more than 150 countries. Our 170,000 employees create quality products, services and solutions to optimize energy and operational efficiencies of buildings; lead-acid automotive batteries and advanced batteries for hybrid and electric vehicles; and seating components and systems for automobiles. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat. Through our growth strategies and by increasing market share we are committed to delivering value to shareholders and making our customers successful.

About Johnson Controls Automotive Experience

Johnson Controls Automotive Experience is a global leader in automotive seating components and systems. The company supports all major automakers in the differentiation of their vehicles through its products, technologies and advanced manufacturing capabilities. With more than 200 locations worldwide, Johnson Controls is where its customers need it to be. Consumers have enjoyed the comfort and style of Johnson Controls products, from single components to complete seat systems. With its global capability the company supplies more than 50 million cars per year. Johnson Controls pursues a spin-off of its Automotive Experience business. Following the separation, which is expected to close in the third quarter of 2016, the Automotive Experience business will operate as an independent, publicly traded company. Bruce McDonald will serve as the chairman and CEO of the new company. Beda Bolzenius will serve as president and COO.