

Fact sheet

Germany's first autonomous bus route

(Bad Birnbach, October 25, 2017) Germany's first autonomous bus route to run on public roads is launching today in Bad Birnbach. The project was realized by Deutsche Bahn (DB) together with the district of Rottal-Inn and the market town of Bad Birnbach in close collaboration with the vehicle developer EasyMile and TÜV Süd.

The pilot service is running under the new DB brand ioki and is operated by the DB subsidiary DB Regio Bus Ostbayern. The aim is to gain experience of operating small autonomous buses and a better knowledge of the technology, as well as to test customer acceptance. Services are due to run for several years.



Data and facts about the route

- Starting today, visitors and residents can use the autonomous bus route from the town center to the Rottal Terme spa free of charge.
- Route length: 660 meters one-way or a 1.320 km round trip
- 3 stops: Neuer Marktplatz, Artrium and Rottal Terme
- Daily from 8:00 am to 6:00 pm
- Journey time: just under 5 minutes from Neuer Marktplatz to Rottal Terme



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- In 2018, the autonomous bus will also run between the rail station and the town center – journey time: 15 minutes. A second bus will be used, and the operating hours will be extended to provide connections to all train services. The route will lengthen from 1.380 km to over 2 km.

Vehicle

In the Bad Birnbach pilot, DB is using the EZ10 driverless electric minibus built by the start-up EasyMile.

The bus has...

- ...six seats
- ...an extendable ramp and barrier-free access
- ...battery capacity for up to 14 hours of operation
- ...state-of-the-art technology for localization and object detection, e.g. laser sensors, cameras, GPS
- ...an unladen weight of 1,700 kg and a permissible maximum weight of 2,800 kg.



EasyMile – the leading developer of technology for autonomous buses

- The French start-up EasyMile, based in Toulouse, has been developing software to operate autonomous vehicles since it was founded in 2014.
- The EZ10 has been trialed in more than 60 locations in Asia, North America, the Middle East and Europe since April 2015.

How it works and safety

- The shuttle automatically follows a set route, as if on virtual rails. The route, including stops, is uploaded to the on-board computer by laser scanner in a one-off procedure.
- During the pilot in Bad Birnbach, an operator will always be on board. The operator can intervene if necessary, for example by triggering an immediate stop or steering around obstacles using a joystick. The bus can recognize obstacles such as parked cars and stop safely, but is not yet able to autonomously steer around them. This function will be added at a later stage.

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- The speed is limited to a maximum of 15 km/h and the number of occupants to six passengers plus an operator. Without the speed limiter, the vehicle is capable of 40 km/h.
- For safety reasons, the bus will not run in severe weather such as storms or heavy rain.
- TÜV Süd, which has extensive expertise in the area of autonomous driving, has appraised the vehicle, safety model and operational concept.

The roads

The roads have been modified as follows to ensure reliable operation:

- Installation of three speed bumps to reduce traffic speed
- Widening of the roadway on two route sections and addition of a center line
- Provision of signs to warn drivers of the autonomous bus



ioki – the new brand at the DB Group

Deutsche Bahn is bringing on-demand mobility and autonomous driving to public transportation with its new ioki brand. ioki is a one-stop shop for all services designed to enable cities or local transport authorities to offer on-demand and (in future) self-driving public transport under their own name. Particularly in rural areas, where population density is lower, there is major potential to make public transportation more sustainable and efficient with on-demand solutions, and to enable individual mobility without the need to own a car. After initial tests in Berlin and Leipzig, the first automated buses to operate regular scheduled services are now starting operation in Bad Birnbach. In 2018, as part of DB's smart city partnership with the Free and Hanseatic City of Hamburg, ioki will begin a driver-operated on-demand shuttle service connecting into local public transport in the city, as well as a testing area for autonomous buses. Another test site for autonomous driving in public transportation is also being prepared for research and development purposes.

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