
PANEL DISCUSSION:

DIGITAL RADIO DATA AND THE DRIVER

Martin Speitel – Group Manager Infotainment



Is DAB+ the solution for big data
and how can DAB technology be used to create
other opportunities for the car industry?

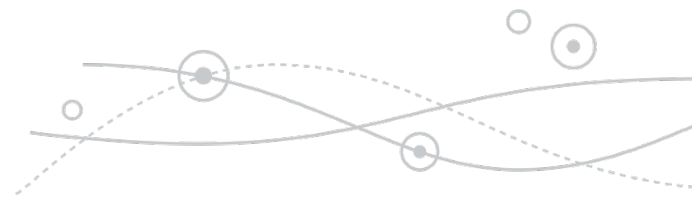
Fraunhofer Institute for Integrated Circuits IIS



Founded in 1985, approx. 950 employees, budget: approx. 130 million €
Locations in **Erlangen**, Nürnberg, Fürth, Dresden, Ilmenau, Würzburg, Bamberg, Deggendorf,
Coburg, Waischenfeld

Audio and Media Technologies

Digital Radio



One-stop shop for digital radio broadcasting

- **Basic technologies:** Audio codec HE-AACv2 (DAB+) and xHE-AAC (DRM), Journaline, Emergency Warning Functionality
- **Broadcast technologies:** ContentServer Technology to get digital radio programs with their complete functional range on air – quick and easy
- **Receiver technologies:** Software solutions for fast and cost effective receiver development (Software Defined Radio)
- Digital radio technologies by Fraunhofer IIS are used worldwide in radio systems and in professional broadcasting equipment



DAB+: More Than Audio Broadcast

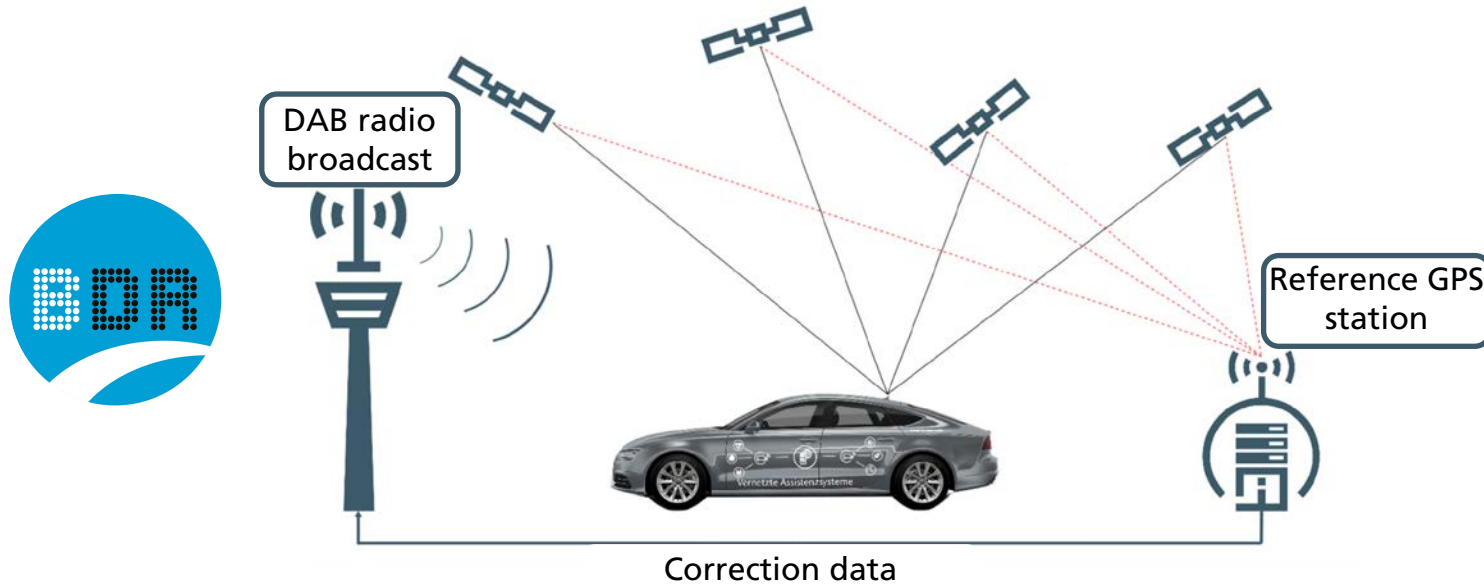
Overview DAB+ Applications

- Most important DAB+ data services on-air today:
 - **Dynamic Label / DL+**
 - **Journaline**
text based info service (Unicode), for all types of DAB+ receivers
 - **MOT Slideshow**
program accompanying images
 - **SPI/EPG** – Electronic Program Guide for station logos and program information
 - **TPEG** – Traffic Information
 - **EFW** - Emergency Warning Functionality
- DAB as data pipe into car radios
 - RTK data for navigation systems
 - Service information for cars
 - And more



Our Approach to Localization

One Approach for Commercial Vehicles



Case Study: Stop Line

Test and Demo in Regensburg

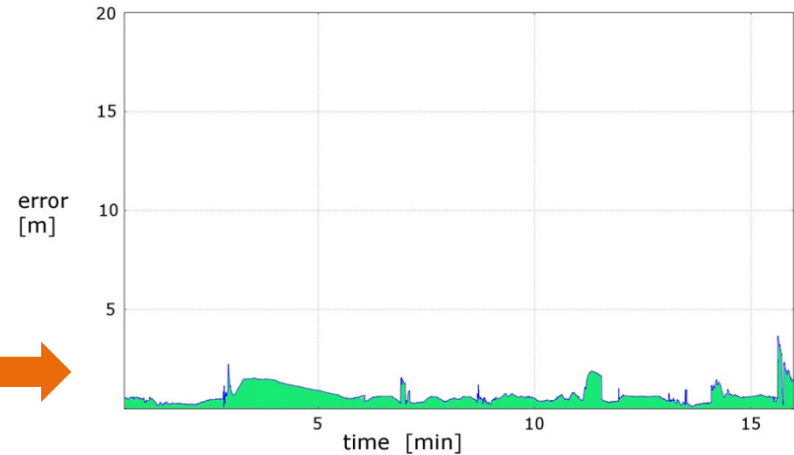
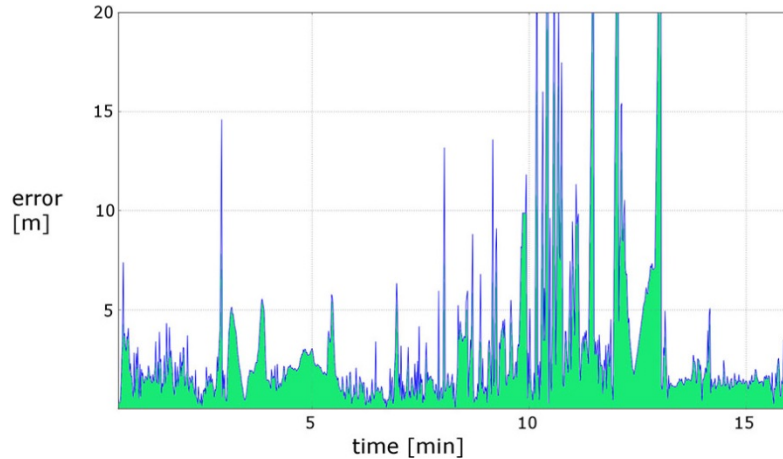
- Fraunhofer IIS works on localization and data broadcast
- Bertrandt works on vehicle control using improved localization
- Data broadcast via Bavarian DAB Multiplex
- RTK data provided by SAPOS®
- Interfaces to engine and brake
- Reduce vehicle speed efficiently and come to standstill
- Stop lines defined by their latitude and longitude
- Graceful degradation if position data is not accurate



Prototypical visualization in the dashboard

© Bertrandt

Improvement of Positioning Solution by Using Existing Technologies (GNSS-Sensor-Only)



- Position error using a carbased GNSS-receiver driving an exemplary track in town area (state of the art)

- Position error using a car-based GNSS-receiver and using broadcasted correction data for exact the **same track**

Broadcast and Broadband Department

Contact

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