



From an interface to real added value

# FUNKWERK & DB LIGHTGATE

Funkwerk & DB Lightgate

# AGENDA

- Welcome and introduction of the speakers
- DB Lightgate: Innovative real-time occupancy monitoring
- Funkwerk passenger information systems: Integration of Lightgate Data
- Discussion & Q&A session

## INTRODUCTION OF THE SPEAKERS



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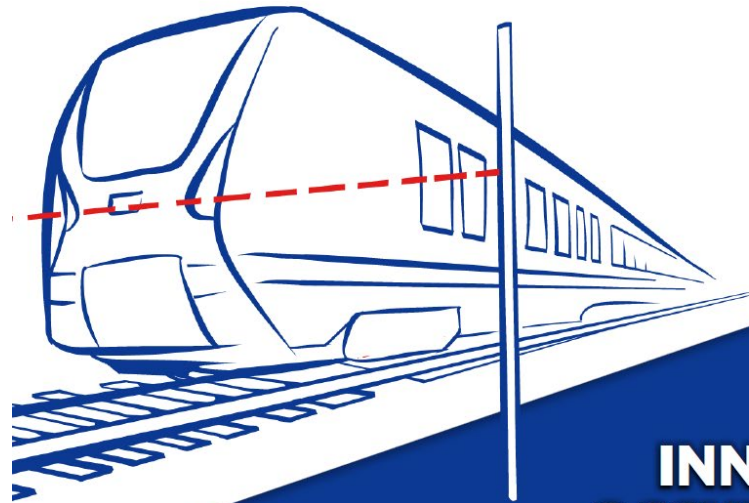
**NIKLAS SCHULZ | STRATEGY & CLIENT PROJECTS**

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DB Lightgate

# INNOVATIVE REAL-TIME OCCUPANCY MONITORING



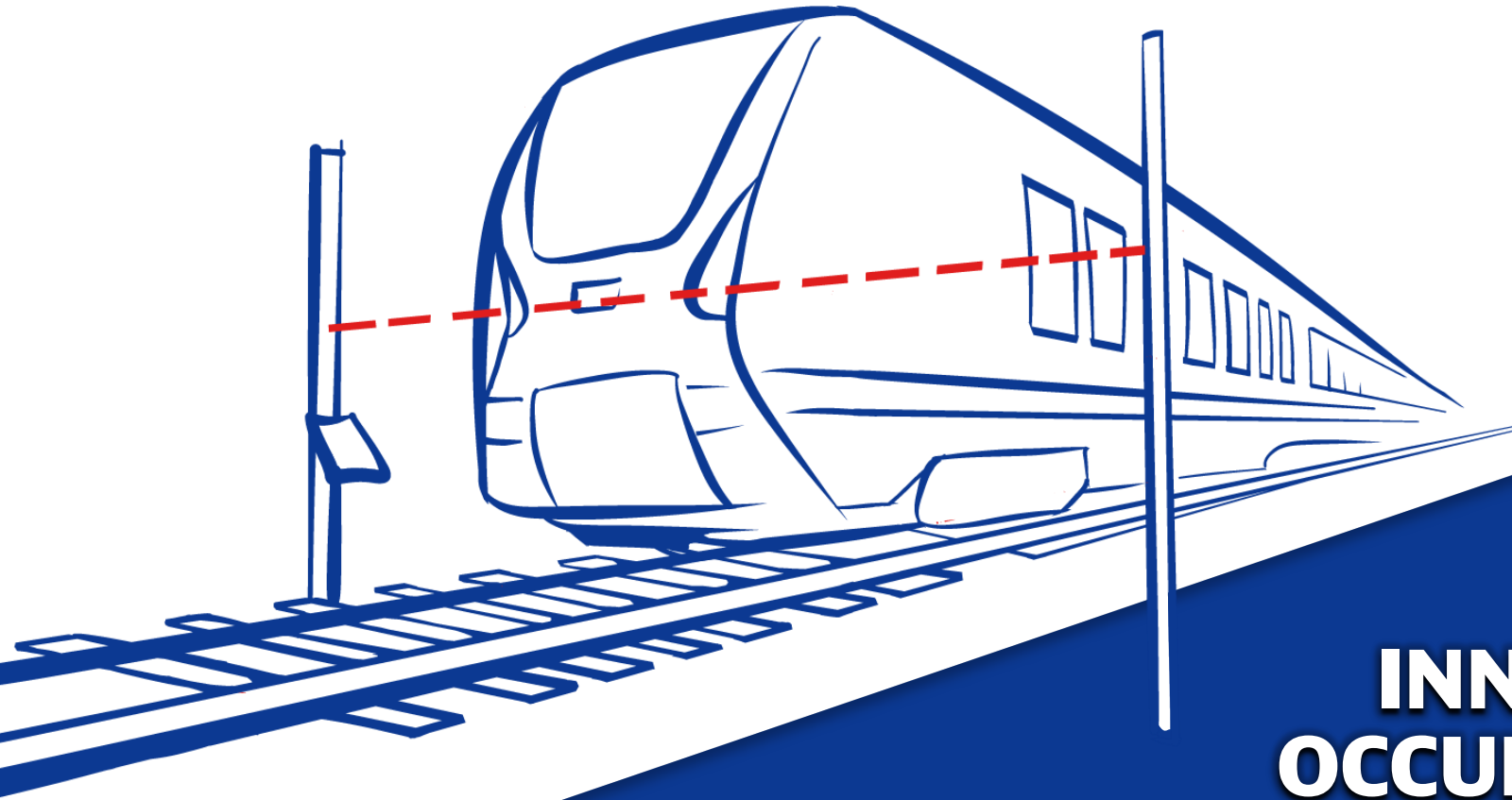
Lightgate | 

## INNOVATIVE REAL-TIME OCCUPANCY MONITORING

System Presentation DB Lightgate

 Bahn Hamburg | Niklas Schulz | April 15, 2026

**Lightgate** |



# INNOVATIVE REAL-TIME OCCUPANCY MONITORING

System Presentation DB Lightgate

# PRODUCT VIDEO



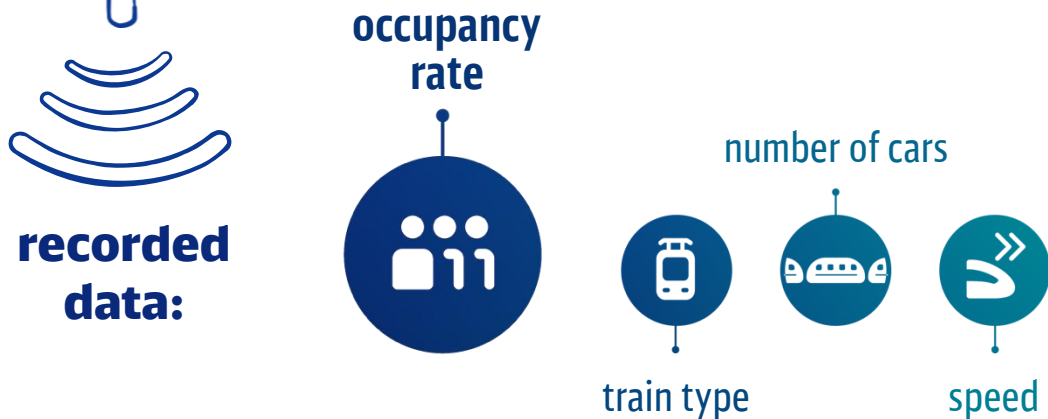
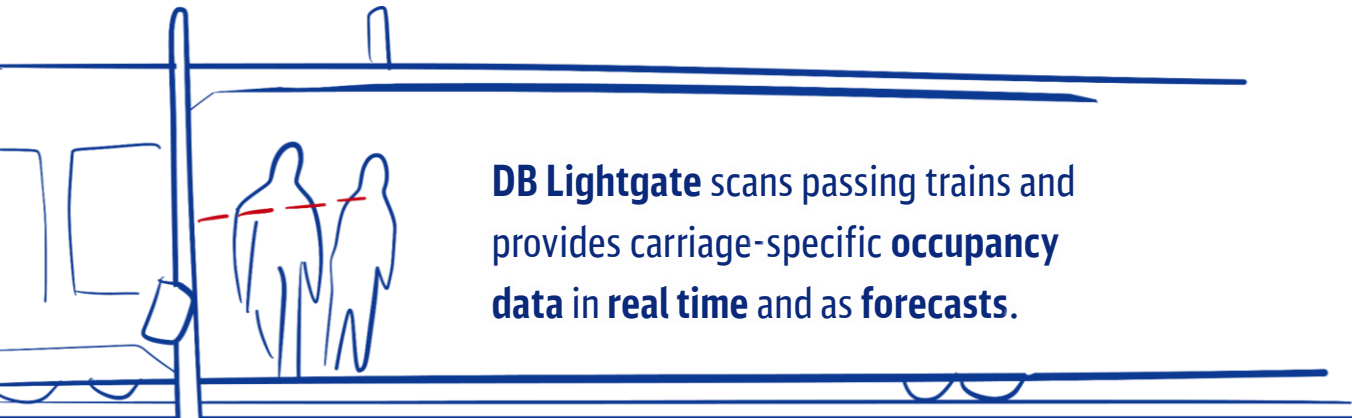


# WHERE DO I GET ON?



# WHICH TRAIN DO I PRIORITIZE?

# WHAT IS DB LIGHTGATE?



- Real time and forecast data
- Applicable to all train types
- No vehicle adaption required
- Efficient integration and scalability
- Hardware and software from a single source
- Privacy compliant
- Autonomous outdoor power-supply
- Wireless data transmission
- No interference with electrical systems

# INSTALLATION IN THE INFRASTRUCTURE



**Reduced equipment costs**  
(fewer stations than vehicles)



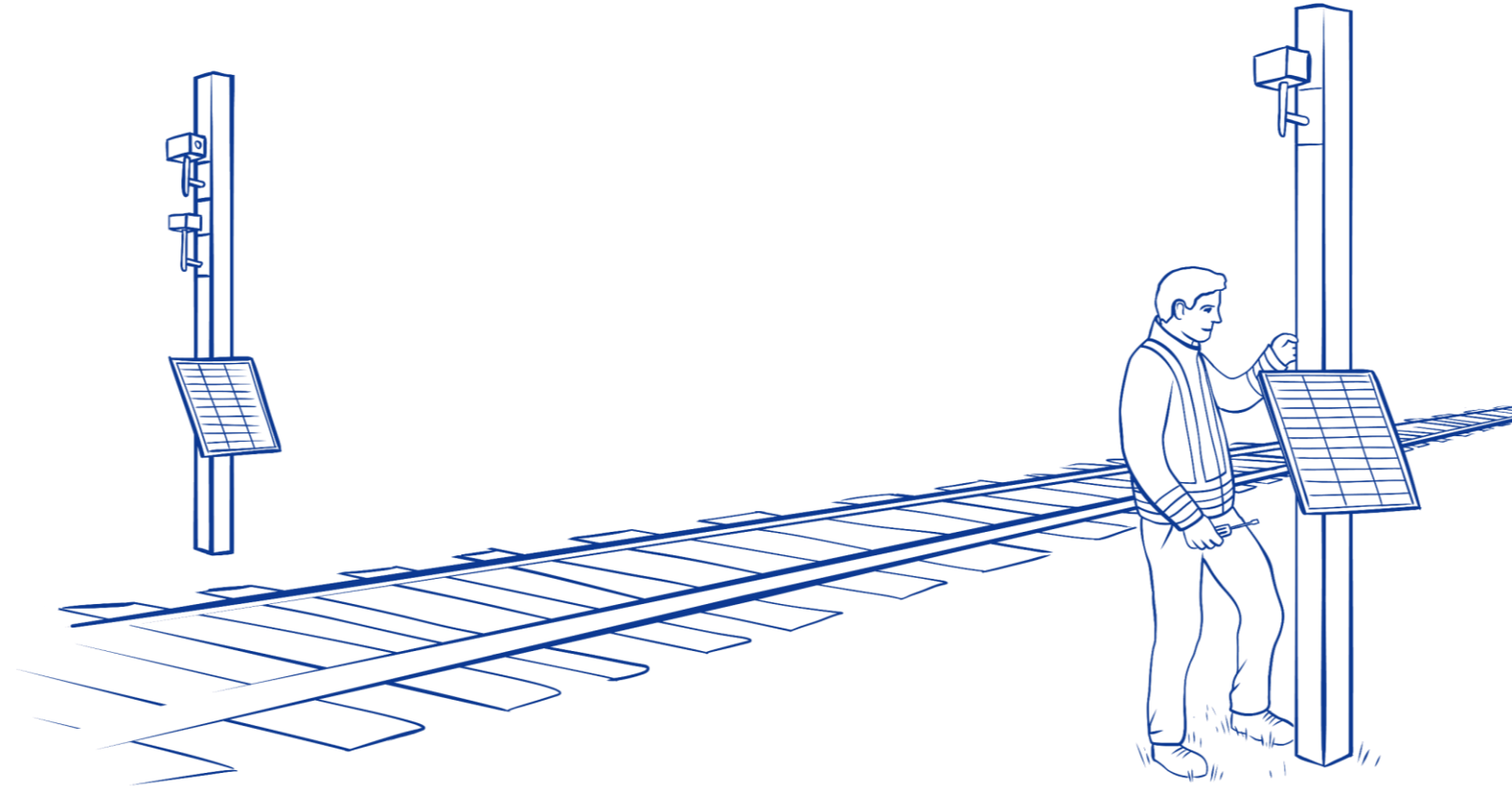
**Robust against downtime**  
(sensors independent of each other)



**Flexible maintenance & service**  
(independent from operations)



**Multiple users supported**  
(multiple transport operators)



# WHAT IS DB LIGHTGATE?

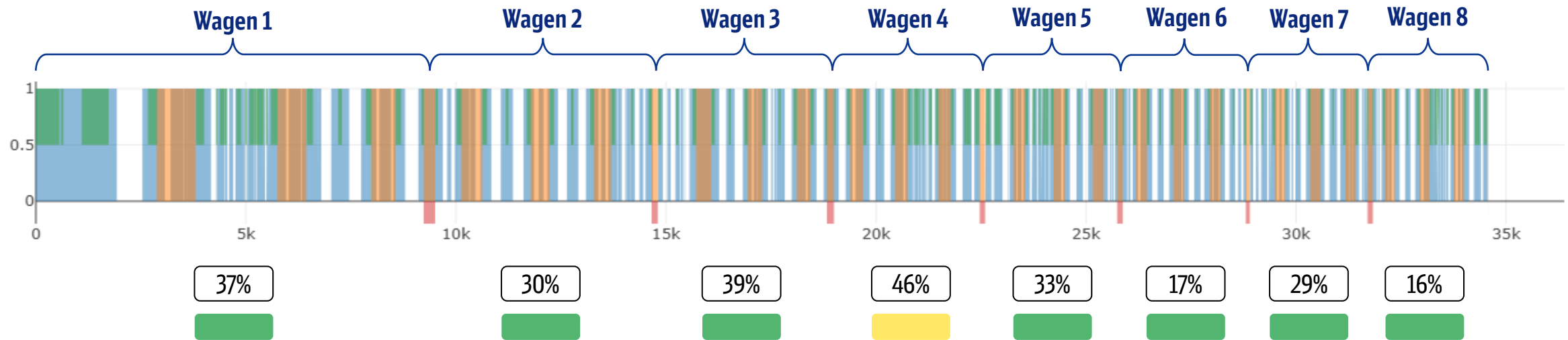


# DATA EXAMPLE

## DB LIGHTGATE



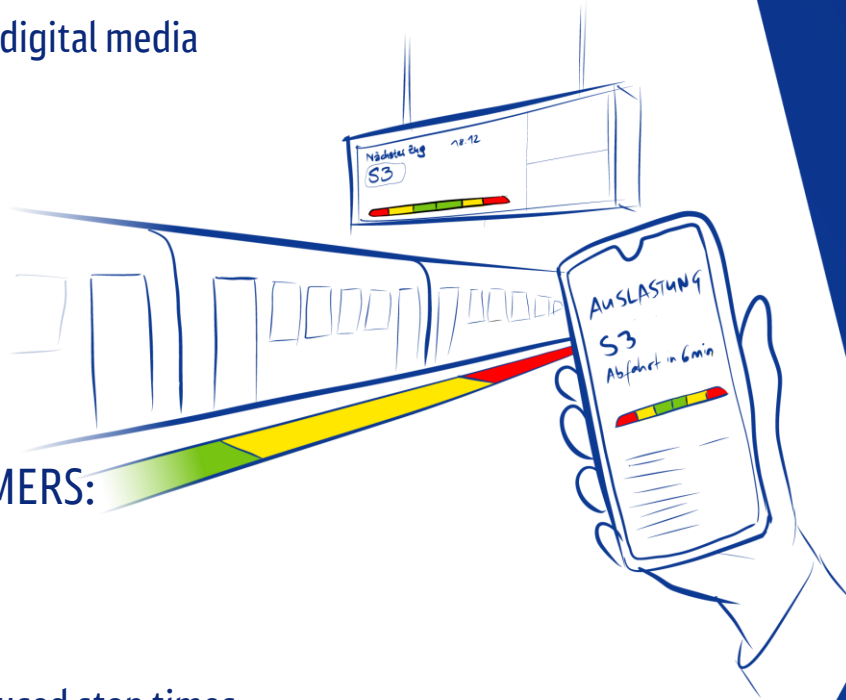
Location: Friedrichstraße > Hackescher Markt  
Line: S5 | Time: 21.10.2024 17:24 Uhr



# USE CASES: CUSTOMER

## GUIDANCE OF PASSENGERS THROUGH:

- Display of train occupancy at the platform
- Display of occupancy forecasts on digital media



## ADVANTAGES FOR CUSTOMERS:

- Faster finding of available seats
- Improved travel planning
- Increased punctuality through reduced stop times

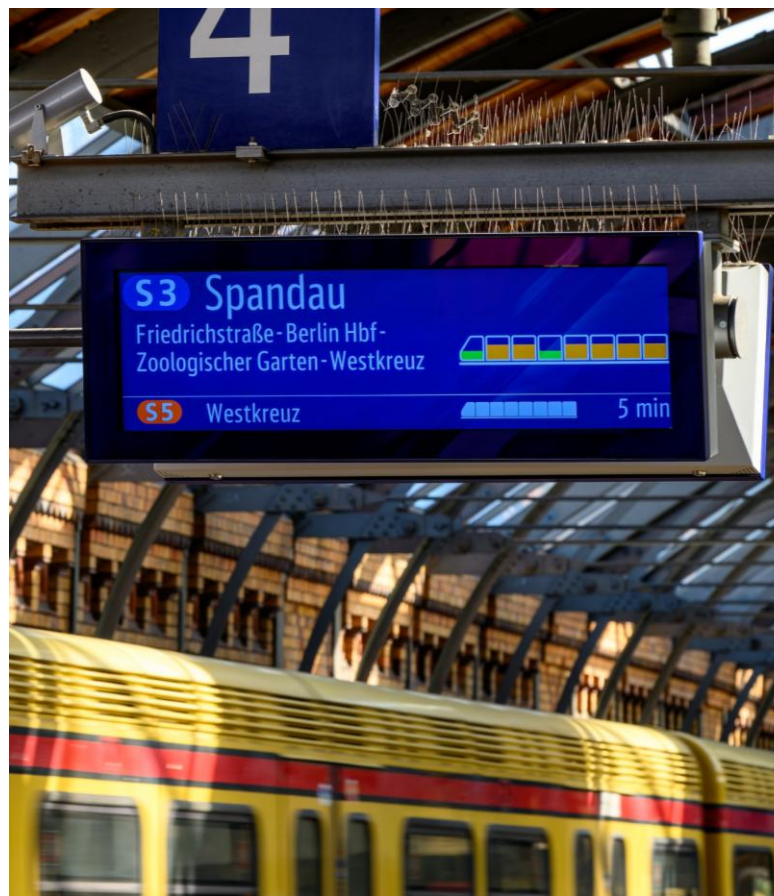
# + OPERATIONS

## ADVANTAGES FOR OPERATIONS THROUGH OCCUPANCY DATA

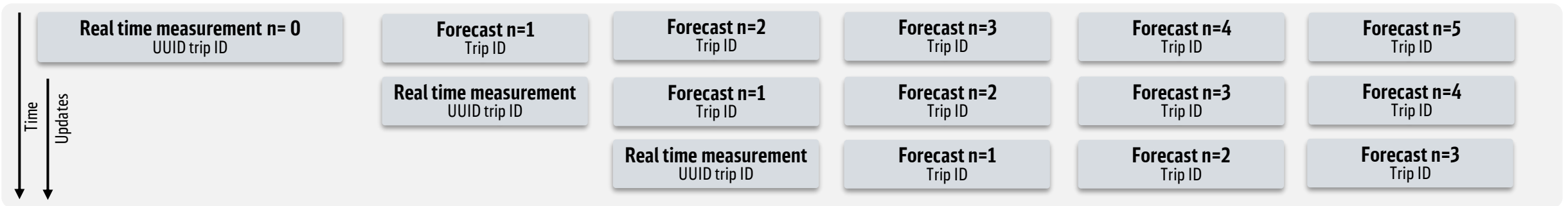
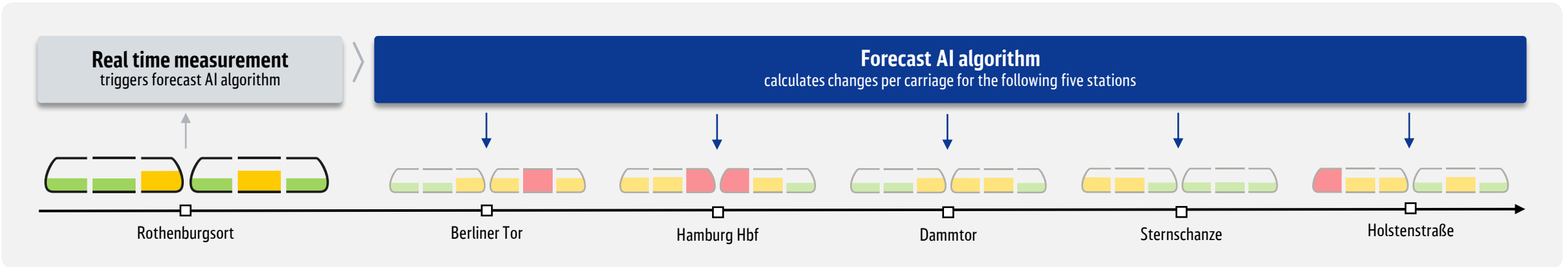
- Improved traffic control at junction stations
- Ad hoc changes to the timetable
- Optimization of service and train path planning
- Optimization of incident management



# PASSENGER GUIDANCE WITH DB LIGHTGATE



# ULTRA-SHORT-TERM PREDICTION FOR PASSENGER GUIDANCE & OPERATIONS

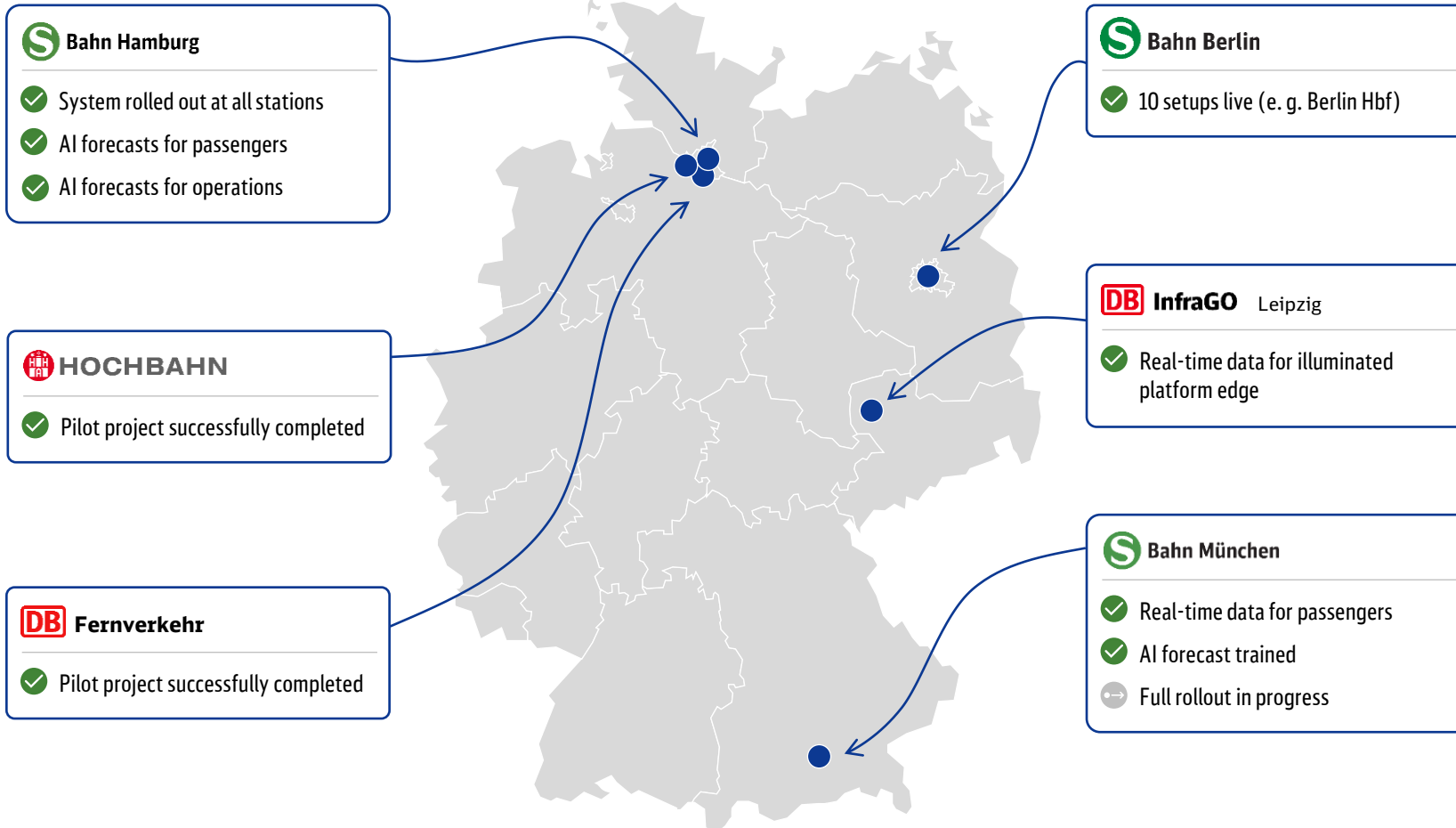


The forecast provides **passenger** information on occupancy before real-time data is available. Passengers can position themselves at the platform in advance.



**Dispatchers and train traffic controllers** know the predicted occupancy for the following stations. This improves decisions for smooth operations.

# REFERENCES





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**Lightgate** | 

[deutschebahn.com/lightgate](https://deutschebahn.com/lightgate)

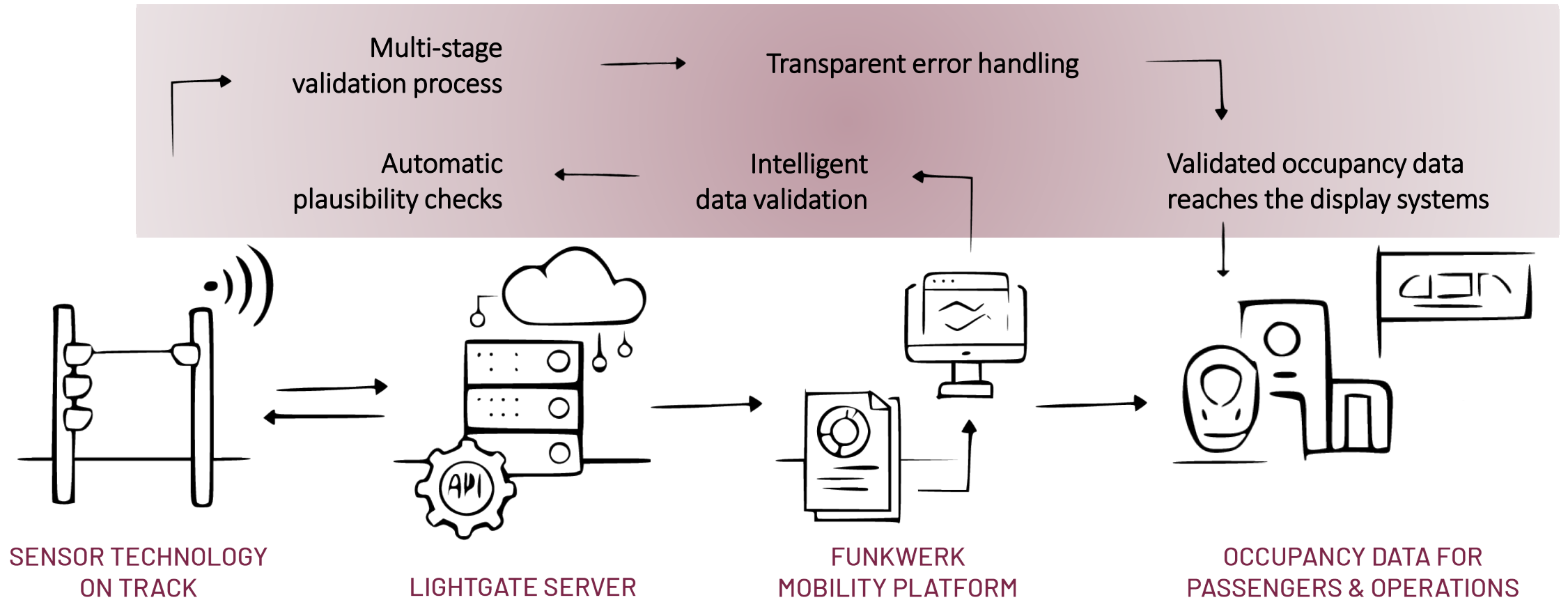


Funkwerk Passenger Information Systems

# INTEGRATION OF LIGHTGATE DATA



# DATA ACCURACY



## FUNKWERK MOBILITY PLATFORM

### Open API architecture

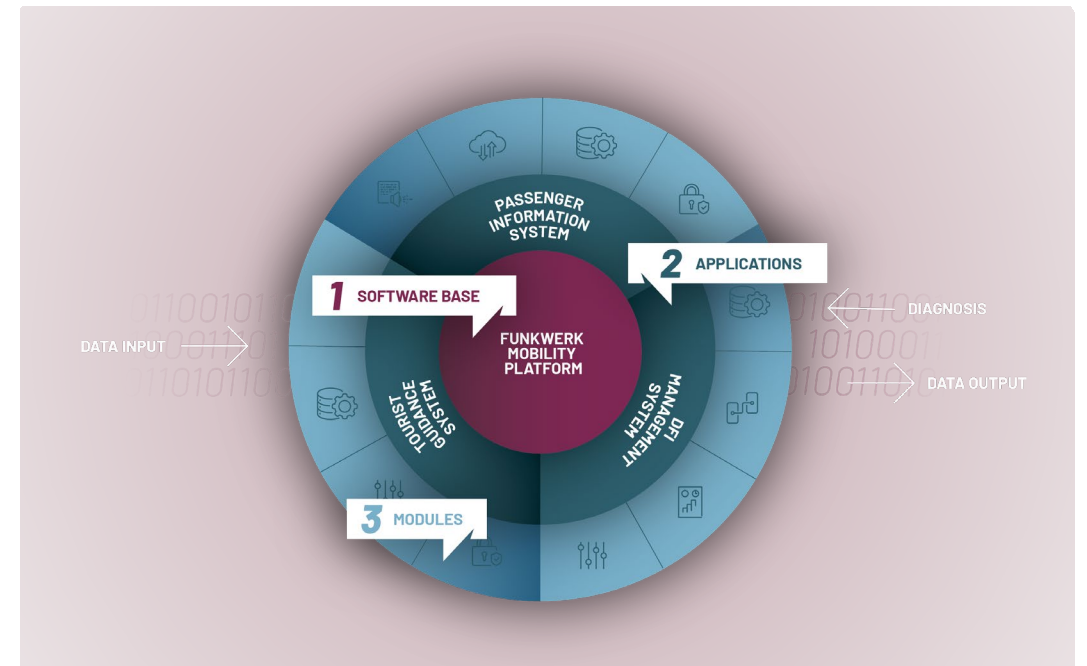
- standardized interfaces for seamless integration into existing IT landscapes and third-party systems

### Scalable architecture

- from individual stations to network-wide implementations, highly available and fail-safe

### Compatibility with control and operating systems

- connection to ITCS, interlockings, control centers, and external data sources



## INTEGRATION MODULE

### Integration module with UI

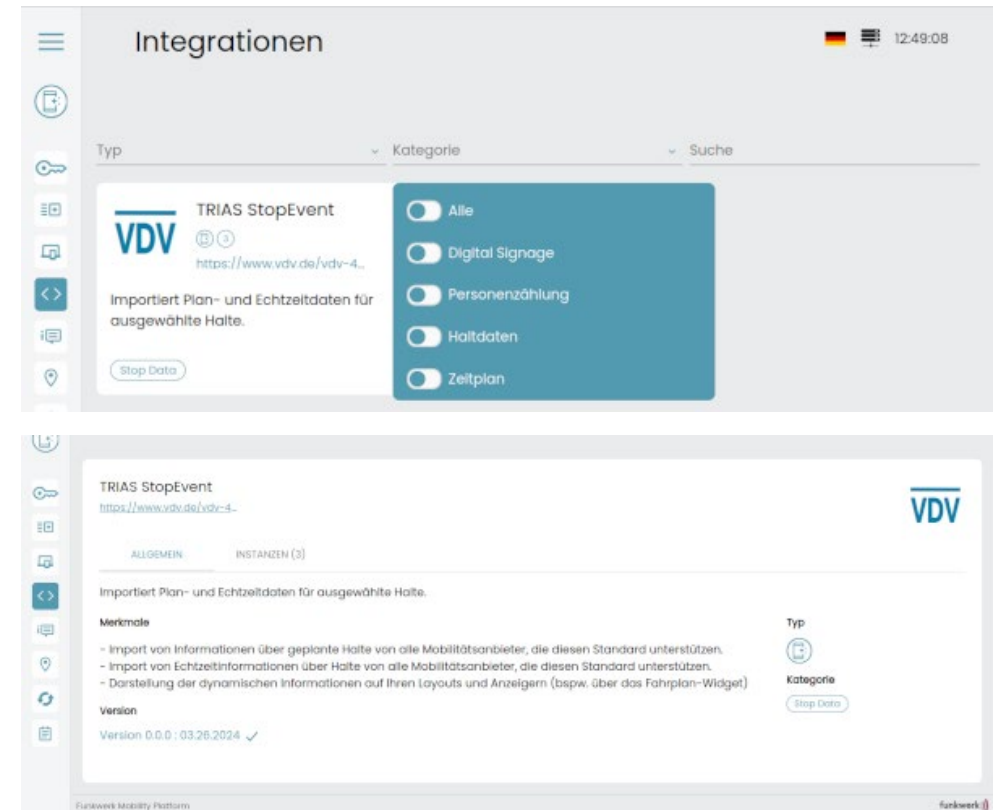
- management, monitoring, and configuration of all interfaces via central user interface

### Real-time data processing

- bidirectional communication with Lightgate server, timetable databases, and sensor networks

### Flexible data exchange formats

- support for common standards such as JSON, XML, REST, MQTT for maximum interoperability



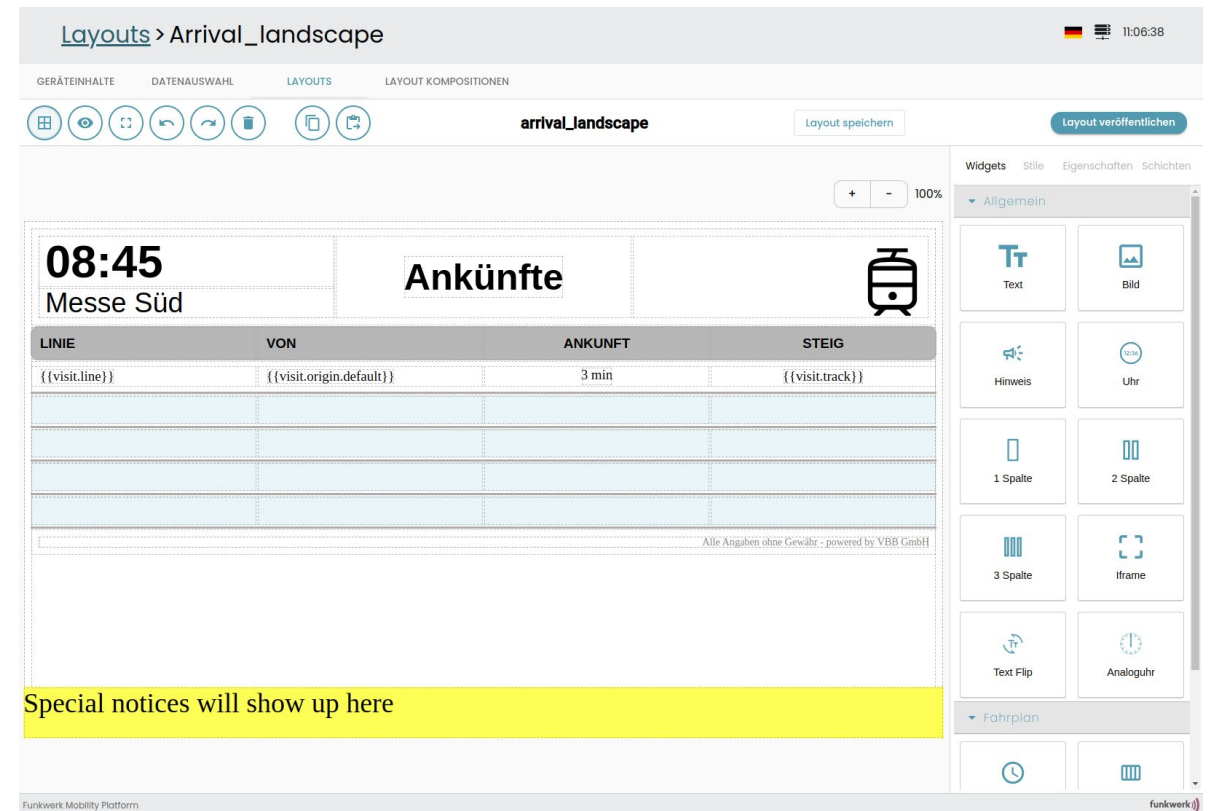
# LAYOUT EDITOR

## WYSIWYG-editor

- visual real-time design of passenger information displays without programming knowledge

## Drag-and-drop-functionality

- intuitive placement of texts, symbols, graphics, and dynamic content on the display area



# LAYOUT EDITOR

## Dynamic widget integration

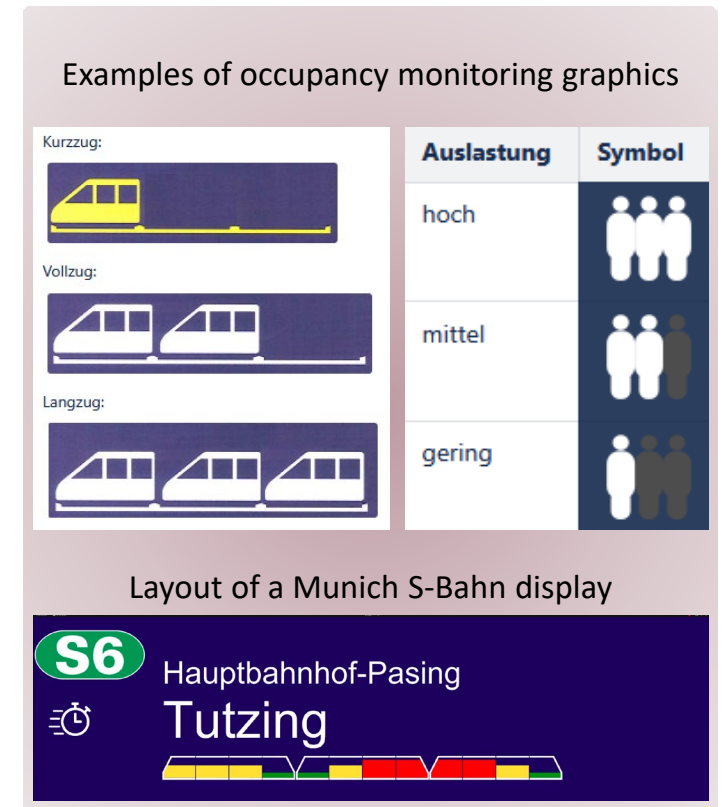
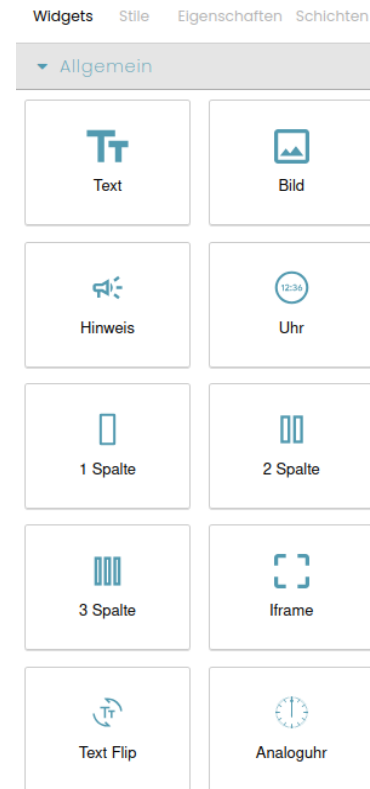
- easy insertion of real-time data such as departure times, delays, occupancy information

## Template management

- predefined templates for rapid deployment, reusability across stations

## Instant preview and publication

- live simulation of display before activation
- seamless rollout to devices



# THANK YOU

We look forward to continuing our exchange!

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