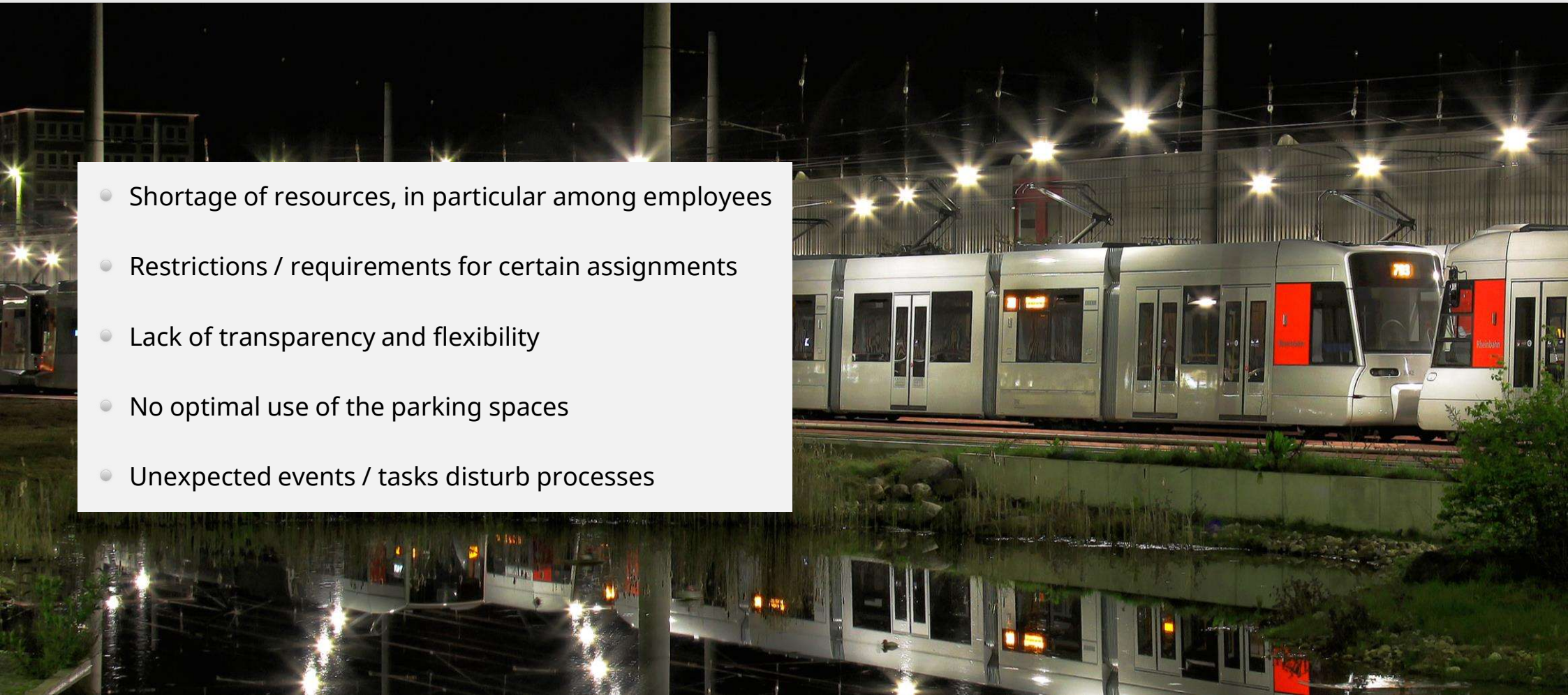
A Depot Management System – Why?

- High penalty for cancelled blocks
- Uncertainty about vehicle condition and location
- Ease of work for dispatchers
- Cost for shunting operations too high
- Away from paper-based orders to digitised processes
- Need of monitoring multiple depots

A Depot Management System – Why?



- Shortage of resources, in particular among employees
- Restrictions / requirements for certain assignments
- Lack of transparency and flexibility
- No optimal use of the parking spaces
- Unexpected events / tasks disturb processes

Savings achieved by PSItraffic/DMS

40+ Percent

Less refuelling taks
Due to intelligent refuelling management

4000+ Euro

Savings per incident
due to avoidance of cancelled trips

10+ Percent

Time savings/ day
due to avoidance of redundant refulling tasks

0,5+ Working yrs

Time savongs
due to automated driver sign-in

5000+ hours

Time savings/ year
due to no wast of time to search vehicles

20+ Percent

Time and cost savings/ day
due to less shunting

PSItraffic/DMS-Modules for the best possible utilization of all resources

Depot

PSItraffic/DMS

Vehicle identification and localisation

Charging management

Automatic vehicle allocation to parking lots

Cloud capability

Workshop and maintenance

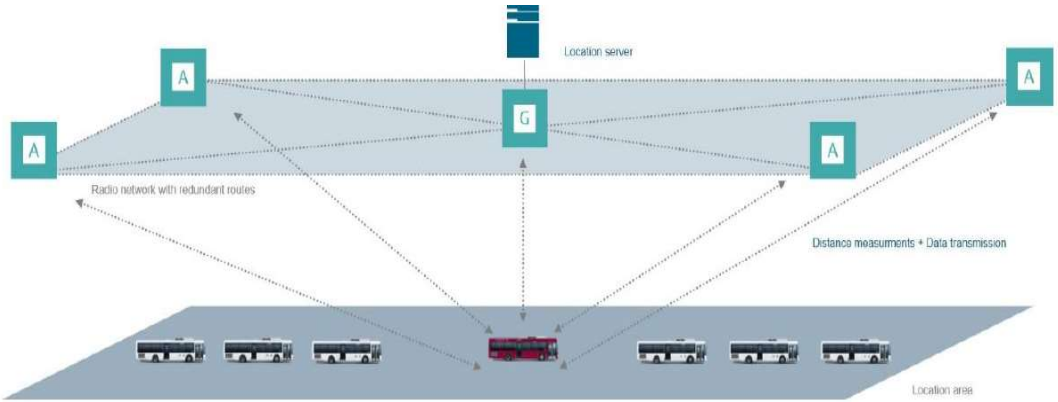
Driver information

Vehicle allocation to blocks

Quality management

Vehicle identification and localization – Precise determination of position

- Various positioning systems (manufacturer independence)
- Precise, meter-accurate localisation
- Interface to various switch control systems
- Positioning/switch control system reports arrival and location of vehicles
- FMS-data from the vehicle
- Control of preconditioning
- Graphic overview for all users



Example

- Without a localization system, dispatchers spend 2-4 hours a day searching for vehicles
- Average time saving through DMS:

  5 depots x 3 hours x 365 days = **5,475 hours / year**

Automatic allocation to parking lots – Optimized parking

- Automatic allocation to parking spaces according to vehicle status
- Automatic control of tramways (switch control)
- Information of parking space: display, board computer, tablet
- Fast arrival of vehicles without waiting times (gate control)

Dispatching of workshop tasks – Efficient planning of operations

- Fault detection (manually, via AVMS)
- Automatic import of FMS data
- Import of master data and orders from ERP (SAP/workshop management system)
- Scheduling of repair works
- Visible for all users
- History of faults, workshop and maintenance tasks

Dispatching of maintenance tasks – Efficient vehicle supply

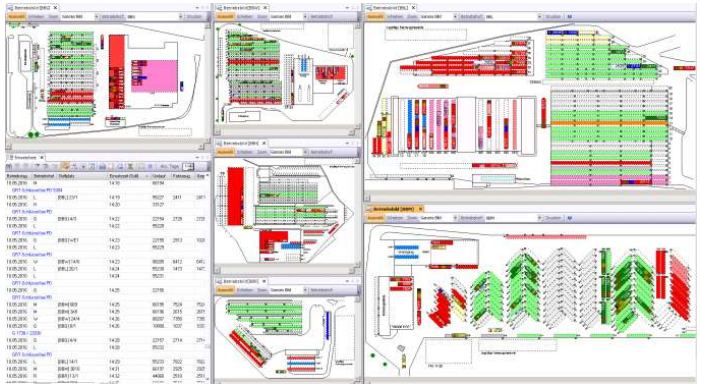
- Refuelling optimization
- Interface to tank data/kilometre data collection systems
- Charging management
- Use of special terminals
- Documentation of all necessary supplies

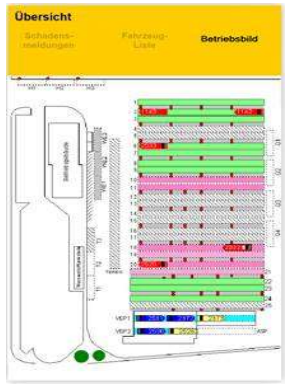
Automatic block assignment – Dynamic, flexible and very fast

- Optimisation / **Qualicision with artificial intelligence –** always finds a solution
- Dispatching within seconds, considering all operational conditions
- Flexible configuration of all dispatching criteria
- Semi-automatic, fully automatic and manual assignment of available vehicles to blocks
- Notification if blocks can not be served (vehicle shortage notification)
- Graphic overview of block assignment
- Dispatching of all modes of driving

Information – Current status at the depot

- Current operational information in real-time
- Operator file, vehicle file, parking space file, block file with current and historical data
- Immediate notification of critical operating conditions to responsible persons
- Basis for operational decisions and control





Allocation of driver information – Comprehensive, clear and up-to-date

Stadtwerke Augsburg

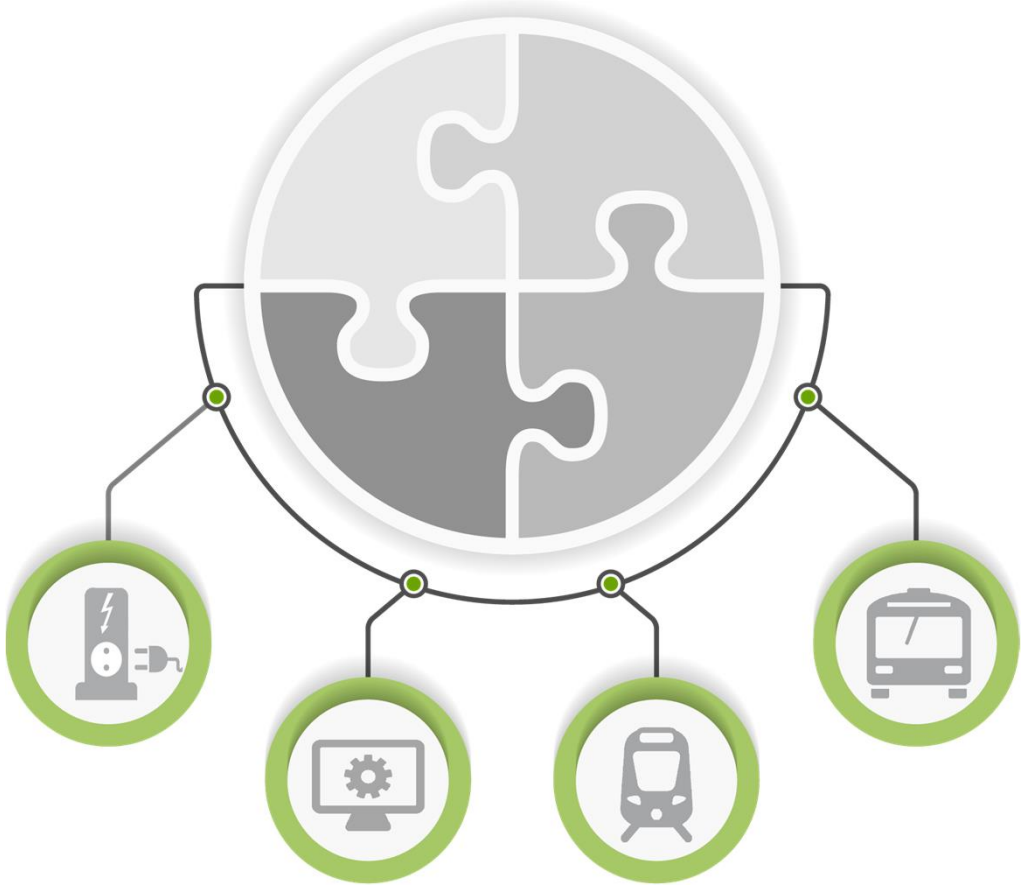
Lechhauser Straße Betriebstag: 29.10.2015

Ausfahrt	Li/Ku	Dienst	Nach	Fahrzeug	Platz	Hinweis
14:32	23/16	753	FIRN	3521	PAH2	
14:51	22/03	755	ULBR	3559	10.1	
14:52	23/09	359	FIRN	3520	10.2	
15:03	23/15	752	KÖPL	3541	9.1	
15:11	22/05	758	ULBR	3518	9.2	
15:12	23/11	751	FIRN	3533	9.3	
15:27	22/07	160	ULBR	3526	9.4	
23:57	90/01		GÖRA			
00:06	94/02		ROTH			
00:06	94/01		HASÜ			
00:07	91/01		STWE			
00:12	92/01		JOST			
00:19	92/02		AMEU			

- Screens and driver information terminals
- Information about trips, services, vehicle conditions
- Supervision of service attendance and departure checks

PSI

Integration into your IT landscape – Interfaces



- Timetable and duty roster planning (VDV 452 & 455)
- Charging management (VDV 463)
- ERP system
- Switch control system
- AVMS (VDV 461)
- Gate control system
- Positioning system
- Fuelling data system
- Kilometre data recording