

# Terminal Service Austria (TSA)

## GPS-Positioning in Intermodal Terminals

TEM and TER joint Meeting Bad Gastein, 10.10.2013

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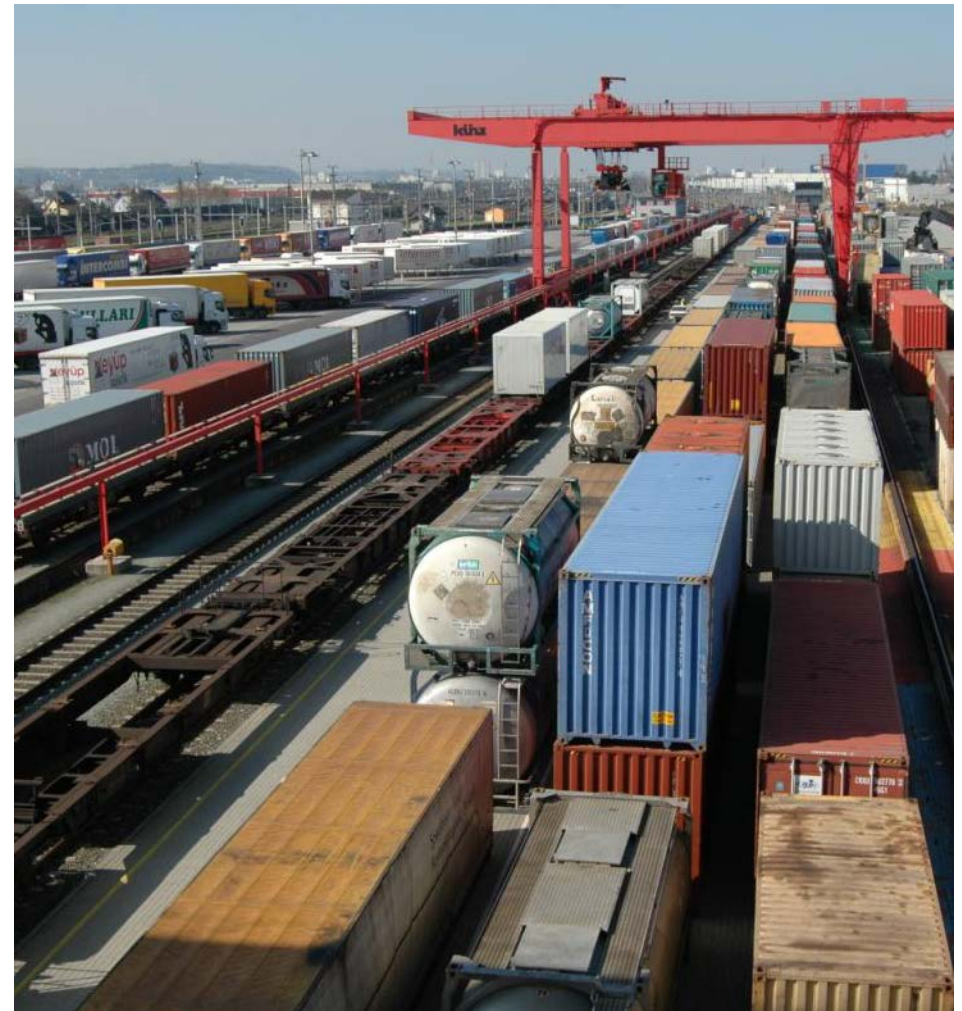
## Agenda

- Terminal Service Austria at a glance
- “Where is the container... ?” –  
Challenges and requirements
- Technical and operational solution



# Terminal Service Austria Overview

- Terminal Service Austria as business department of ÖBB Infrastruktur AG operates 8 Intermodal terminals in Austria.
- Core business of Terminal Service Austria is the handling of all kinds of intermodal loading units between the transport modes rail and road.
- In addition Terminal Service Austria offers a variety of services surrounding the intermodal business (e.g. Empty Container depot, Agency-services, container repair, ..)
- Terminal Service Austria use its own handling facilities and operate its own designed Terminal Management System (KLV 2000)






# Terminal Service Austria

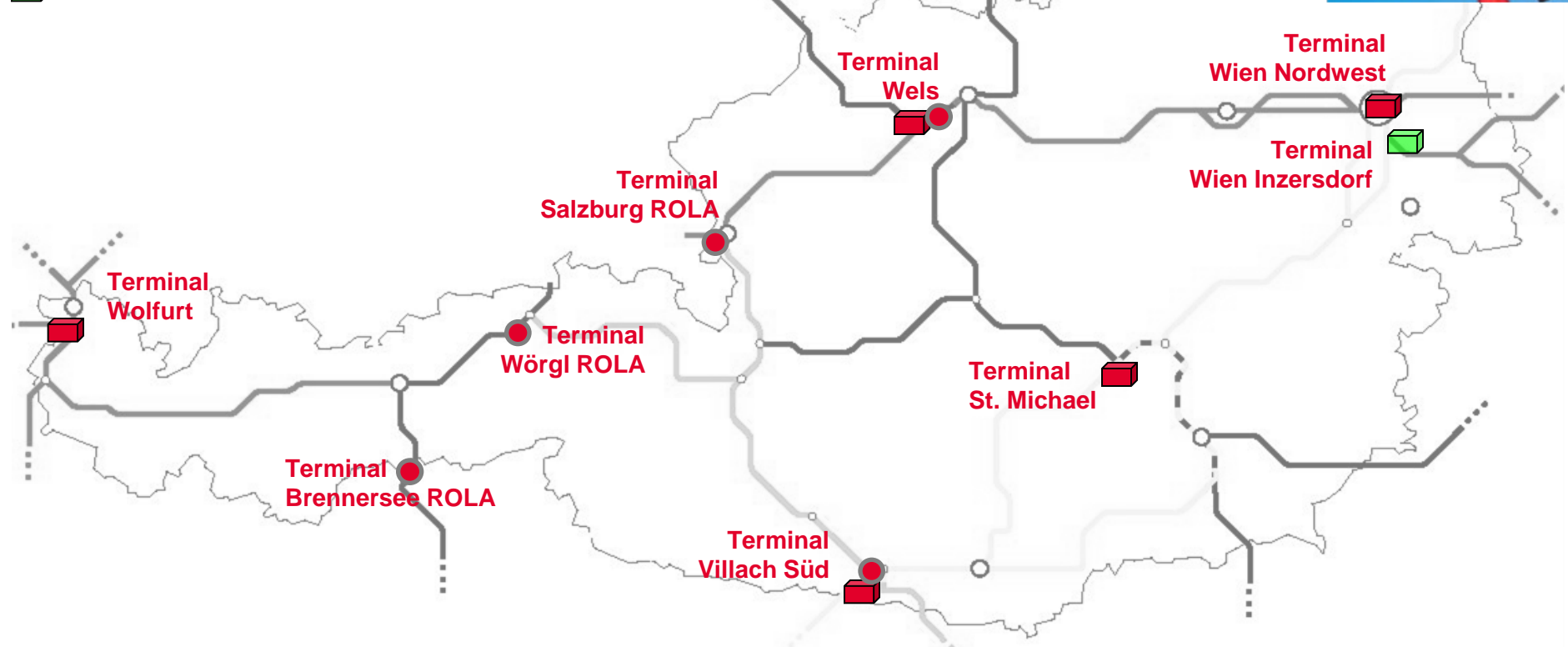
## facts and figures

Total Handling Volume unaccompanied traffic 2012	ca. 740.000 TEU
Total handling volume Rolling Motorway 2012	ca. 300.000 LKW
INFRA Terminals	8 Locations
Maximum handling capacity UKV	ca. 950.000 TEU
Maximum storage capacity UKV	ca. 6.000 TEU
Handling devices	6 Portal cranes 13 Reach stacker
Terminal Management system KLV 2000 incl. D-GPS Positioning	At all Terminals



# Terminal Service Austria Locations

-  Terminal CCT (Combi Cargo Terminal for unaccompanied intermodal traffic)
-  Terminal ROLA for Rolling Motorway (ROLA)
-  Under construction





**Terminal Service Austria**  
part of ÖBB-Infrastruktur AG

**Neutral Terminal  
Operator**

**Main Benefits**

**Responsibility,  
Resources and  
Competence in one  
hand.**

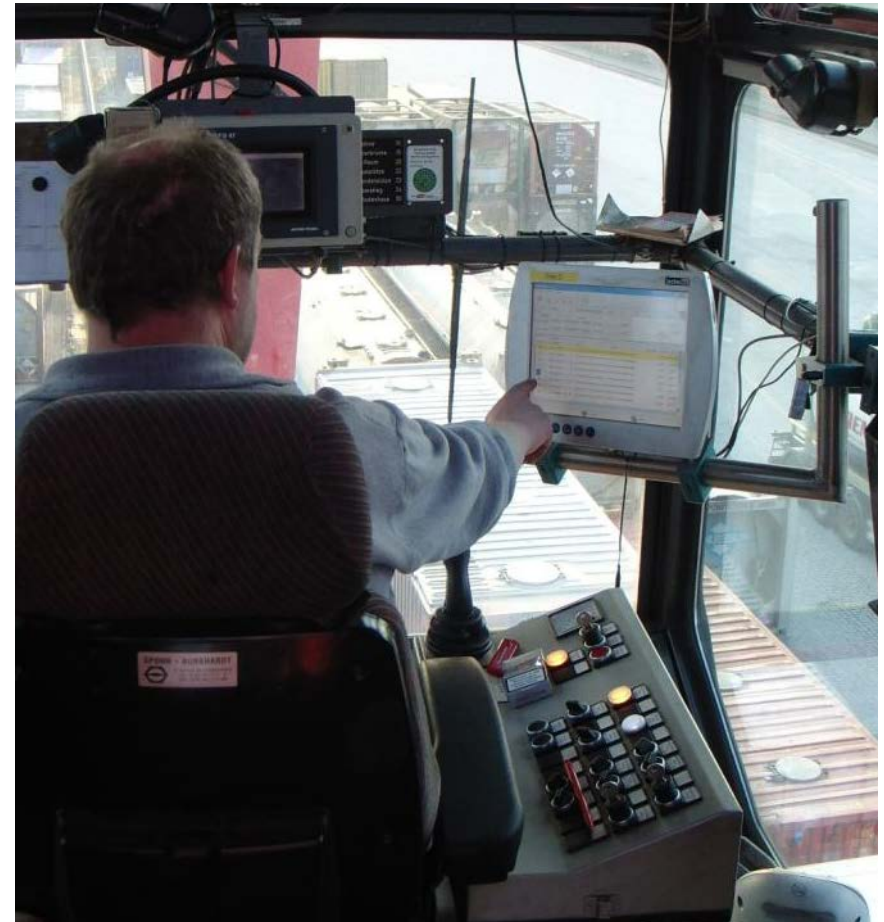
## “Where is the Container ...?”

### Challenges

- Different types of loading units
- Different types of infrastructure and handling equipment
- High dynamic in terminal stock and operations

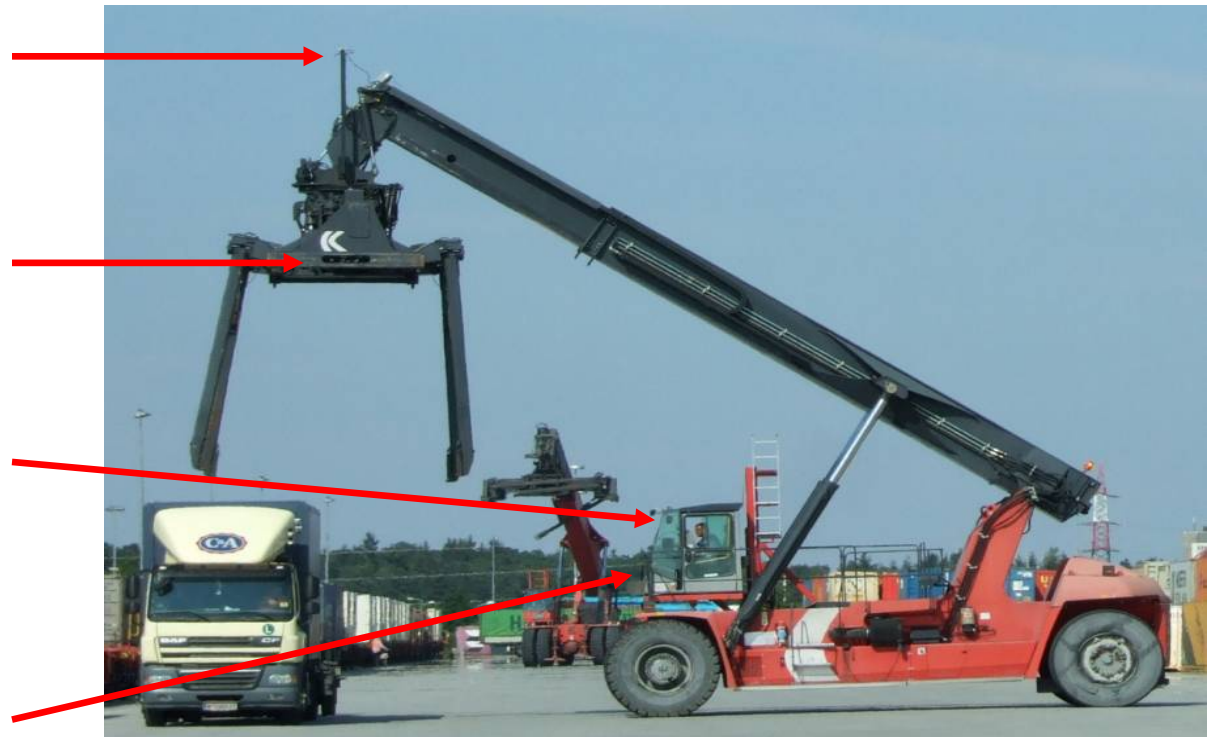
### Requirements:

- Simple system which can be used on any type of handling equipment
- Automated positioning – no inputs from the driver required
- No interface to the handling device needed



## Terminal Service Austria Technical solution

- Simple assembling of the GPS-Antenna exactly in the load center of the loading unit
- Independent load sensors to detect loading unit presence
- Automated data transfer of the recognized position directly to the terminal management system
- Automated transmission of loading orders to mobile PC in the crane cabin

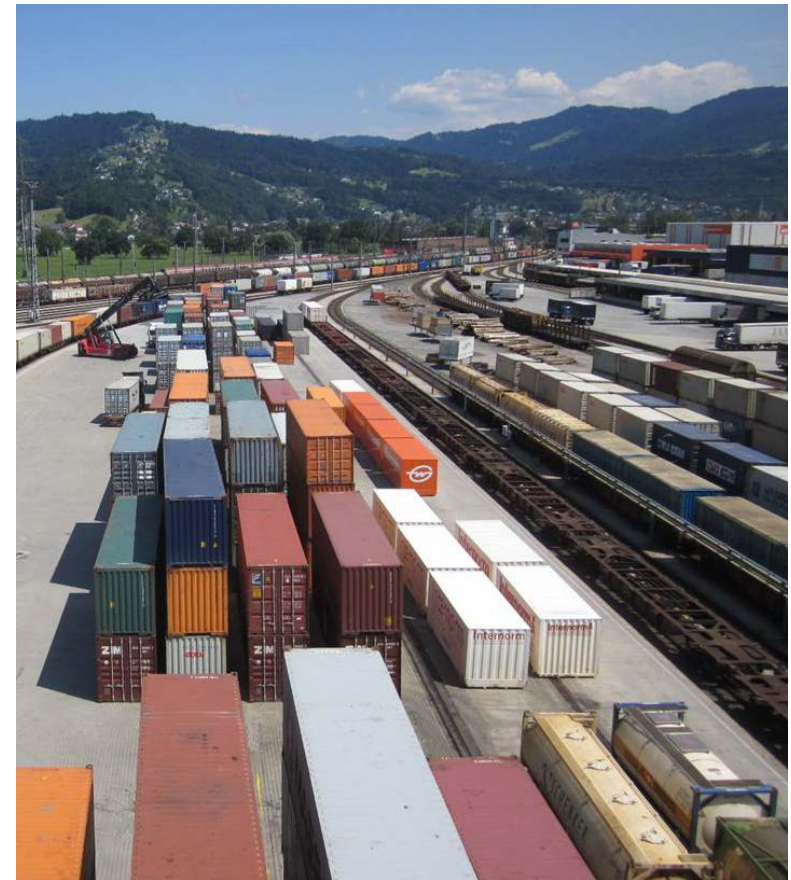




# Terminal Service Austria

## Operational solution

- Crane driver gets a list with loading orders from the terminal management system
- When loading unit is placed on a certain storage place exact position is detected automatically without input of the crane driver
- Truck driver gets the exact loading/unloading position directly at the terminals ingate
- Automatic and just in time data transfer to the Terminal management system



# Terminal Service Austria Benefits

- Better usage of existing infrastructure
- Speed up of all terminal processes
- Lower cycle time for the truck driver in the terminal – cost savings on clients side
- No positioning input from the crane driver avoids input failures and ensures higher data quality
- More safety and security
- System can be used for all handling equipment – no changes on the machines necessary
- Simple and cost efficient solution



# Terminal Service Austria

## Terminal operation - Next steps

- Improvement of the existing infrastructure – new build of terminal Vienna Inzersdorf and Terminal Wolfurt
- Development of terminal management system - Automation of Ingate road and Ingate rail-process (video-gate)
- Optimization of terminal processes (based on positioning information)







**Since 01.07.2013  
Terminal Service Austria (TSA)  
Part of  
ÖBB-Infrastruktur AG**

**Your neutral Terminal Operator!**

**Thank you very much for your attention!**