Terminal Service Austria (TSA)

GPS-Positioning in Intermodal Terminals

TEM and TER joint Meeting Bad Gastein, 10.10.2013

DI Erich Possegger
ÖBB Infrastruktur AG
Head of Department Terminal Service Austria
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

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Handling Volume</strong></td>
<td>ca. 740,000 TEU</td>
</tr>
<tr>
<td><strong>Total handling volume</strong></td>
<td>ca. 300,000 LKW</td>
</tr>
<tr>
<td><strong>INFRA Terminals</strong></td>
<td>8 Locations</td>
</tr>
<tr>
<td><strong>Maximum handling capacity UKV</strong></td>
<td>ca. 950,000 TEU</td>
</tr>
<tr>
<td><strong>Maximum storage capacity UKV</strong></td>
<td>ca. 6,000 TEU</td>
</tr>
<tr>
<td><strong>Handling devices</strong></td>
<td>6 Portal cranes</td>
</tr>
<tr>
<td></td>
<td>13 Reach stacker</td>
</tr>
<tr>
<td><strong>Terminal Management system KLV 2000 incl. D-GPS Positioning</strong></td>
<td>At all Terminals</td>
</tr>
</tbody>
</table>

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Klassifizierungsstufe: ÖBB-Infrastruktur/TSA
Terminal Service Austria

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24.09.2013
Terminal Service Austria
Locations

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

Terminal Wels
Terminal Wien Nordwest
Terminal Wien Inzersdorf
Terminal Salzburg ROLA
Terminal Wolfurt
Terminal Wörgl ROLA
Terminal Brennersee ROLA
Terminal St. Michael
Terminal Villach Süd

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Terminal Service Austria
part of ÖBB-Infrastruktur AG

Main Benefits

Neutral Terminal Operator
Responsibility,
Resources and
Competence in one hand.

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“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
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
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
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
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!

18.09.2013 Erich Possegger