

## TIS ETA Pilot – Context and objective

- **Initial Project focus**
  - TIS displaying additional info on estimated time of arrival in terminal (ETA) and current data of train arrival in / train departure from the terminal
  - Shared manual data input (ETA/ current dates) in TIS by the shunting service provider and the terminal manager
    - Incoming trains: ETA/ current arrival/ Ready for unloading
    - Outgoing trains: ETD/ current closing for loading/ current departure
- **Project realization:**
  - TIS adaptation to add the last mile train run
  - Additional user accounts created for each shunting service provider and the terminal (with individual user rights allocated)
- **Project Timeline**
  - Start in April 2017 - pilot duration foreseen for one year
  - Mid-term review in July/ August 2017

# Pilot on last mile ETA “terminal arrival” in TIS



The Pilot involves all relevant parties which are invited to the following activities during the upcoming 2-3 months

| 1 | RNE   | 2 | Terminals  | 3 | Shunting RU   |
|---|---|---|--|---|---|
|   | <ul style="list-style-type: none"> <li>insert additional line in TIS for terminal arrival (see below)</li> <li>rename existing line “arrival terminal” in “arrival hand-over”</li> <li>train involved parties in TIS for inserting ETA “under the crane”</li> </ul> |   | <ul style="list-style-type: none"> <li>select some pilot trains out of int. freight trains on RFC RALP</li> <li>register in TIS and establish reporting point (“RICS code”)</li> </ul> |   | <ul style="list-style-type: none"> <li>estimate train arrival in terminal “under the crane”</li> <li>insert ETA in TIS (see green arrow below) for selected trains</li> </ul> |

|                                      |                            |             |                            |      |                            |
|--------------------------------------|----------------------------|-------------|----------------------------|------|----------------------------|
| Botrop Hbf - Gbf                     | 17/05/2017 08:51:18 +02:00 | Ankunft     | 17/05/2017 08:28:52 +02:00 | -22  | Ankunft                    |
| Oberhausen Mathilde                  | 17/05/2017 09:24:36 +02:00 | Durchfahrt  | 17/05/2017 08:48:36 +02:00 | -36  | Durchfahrt                 |
| Botrop Hbf - Gbf                     | 17/05/2017 09:11:30 +02:00 | Abfahrt     | 17/05/2017 08:49:30 +02:00 | -22  |                            |
| Duisburg-Ruhrort Hafen               | 17/05/2017 09:31:06 +02:00 | Zielbahnhof | 17/05/2017 08:52:10 +02:00 | -39  | Zielbahnhof                |
| Oberhausen-Osterfeld Abzw            | 17/05/2017 09:20:54 +02:00 | Durchfahrt  | 17/05/2017 08:58:54 +02:00 | -22  |                            |
| Duisburg Ruhrort Hafen Übergang DUSS | 17/05/2017 07:00:00 +02:00 | Abfahrt     | 17/05/2017 09:00:00 +02:00 | +120 | Abfahrt                    |
| Terminal DUSS                        | 17/05/2017 08:00:00 +02:00 | Ankunft     | 17/05/2017 10:00:00 +02:00 | +120 | Ankunft                    |
| DUSS Terminal Kran                   | 17/05/2017 08:40:00 +02:00 | Abfahrt     | 17/05/2017 10:35:00 +02:00 | +115 | Abfahrt                    |
|                                      |                            |             |                            |      | 17/05/2017 10:40:00 +02:00 |

Prolonged train run (incoming trains)

# Another example for outgoing trains (→ departure from the terminal)

|                          |  |             |       |      |  |
|--------------------------|--|-------------|-------|------|--|
| Internationale Zugnummer | Letzte Position                              | Status      | Delta | Von  | DUSS Terminal Kran<br>22/05/2017 15:30:00 +02:00 |
|                          | Waalhaven Zuid<br>22/05/2017 19:49:44 +02:00 | Zielbahnhof | 0     | Nach | Waalhaven Zuid<br>22/05/2017 19:50:00 +02:00     |

  

| Betriebsstelle                       | Fahrplan                   | Status der Fpl-Bst. | Ist-Zeit / Vorschau        | Delta | Status der Zuglauffr. | Forecast                   | Fc |
|--------------------------------------|----------------------------|---------------------|----------------------------|-------|-----------------------|----------------------------|----|
| DUSS Terminal Kran                   | 22/05/2017 15:30:00 +02:00 | Abfahrt             | 22/05/2017 15:25:00 +02:00 | -5    | Abfahrt               | 22/05/2017 15:30:00 +02:00 |    |
| Terminal DUSS                        | 22/05/2017 16:00:00 +02:00 | Ankunft             | 22/05/2017 15:55:00 +02:00 | -5    |                       |                            |    |
| Duisburg Ruhrort Hafen Übergang DUSS | 22/05/2017 16:15:00 +02:00 | Durchfahrt          | 22/05/2017 16:10:00 +02:00 | -5    |                       |                            |    |
| Duisburg-Ruhrort Hafen               | 22/05/2017 16:35:38 +02:00 | Planabfahrt         | 22/05/2017 16:12:47 +02:00 | -23   | Planabfahrt           |                            |    |
| Oberhausen West Orw                  | 22/05/2017 16:41:42 +02:00 | Durchfahrt          | 22/05/2017 16:18:53 +02:00 | -23   | Durchfahrt            |                            |    |
| Oberhausen West Orm                  | 22/05/2017 16:43:18 +02:00 | Durchfahrt          | 22/05/2017 16:41:00 +02:00 | -2    | Durchfahrt            |                            |    |

Prolonged train run (outgoing trains)

- Estimated time of departure + 5 min
- Real time of departure - 5 min
- Arrival handover point to the main track - 23 min

## TIS ETA Pilot – Lessons learned

- Existing legal restrictions in data usage rights and information sharing results in a fragmented information landscape visible for each stakeholder (based on its individual user rights in TIS).
  - This aspect should now have been tackled with the new TIS framework agreement
- The number of different stakeholders involved with their individual organizational structure and the shared responsibilities amongst them created an important complexity impeding good results
  - A quite important number of people had to be trained in TIS.
  - Shift work and changing teams in the operational centre hampered a continuous data input by the stakeholders.
  - Stakeholders relied on each other regarding the TIS data input what obviously did not work.
  - Terminal and Shunting service provider are in contact with each other anyway. TIS data input was considered redundant.
- TIS user interface for data input probably too complicated taking into account the aforementioned context

## TIS ETA Pilot – How to proceed now ...

**1. Legal context for free information sharing between the stakeholders involved should urgently be clarified.**

→ Combined transport is a complex product involving various parties. Information sharing only between parties having a contractual agreement between themselves is by far too restrictive to improve operational processes



**2. The shared data input did not work. Two possible solutions for improvement exist:**

a. There should be just one stakeholder (→ the terminal) entering the data in TIS

→ no direct data exchange – but relatively easy to implement

→ TIS frontend should be further developed. A more user user-friendly possibility for the data input should increase acceptance (max. 30 seconds per data entry).

b. There should be a direct information exchange via an IT interface of the individual production system (RU, Shunter, Terminal)

→ efficient but costly – long-term solution