



ECTA-UIRR-ERFA WEBINAR
THE INTERMODAL DIGITAL GUIDELINES

Agenda



- Welcome and introduction
- Overview of the three ECTA-UIRR-ERFA digital intermodal guidelines – *Eric Feyen, UIRR*
- DXI implementation status update – *Aldo Puglisi, DXI*
- Testimonials
 - Order booking in practice – *Chris Wilkinson, Den Hartogh*
 - Terminal & intermodal operations – *Ben Beirnaert, Combinant*
- Q&A & closing

3 Industry Associations accelerating intermodal freight digitalisation



ECTA – European Chemical Transport Association

www.ecta.com



UIRR – the voice of intermodal freight transport in Europe

www.uirr.com



ERFA – European Rail Freight Association

www.erfarail.eu

ECTA - EUROPEAN CHEMICAL TRANSPORT ASSOCIATION



The UIRR Galaxy: network of +100 entities

PARTNERS

MOU PEERS



UIRR OPERATORS



UIRR TERMINALS



INDUSTRY ASSOCIATION PEERS

GOVERNMENTAL BODIES



ERFA in a nutshell

#RelaunchRailFreight



We are committed for a competitive European rail freight market:

- Remove remaining **access barriers** to the market.
- Improve the **quality** and performances of rail services.
- Reduce the **cost** of rail.
- Create a **level playing field** with other modes.

We are the voice of private and independent rail freight companies in Europe

- Members representing **entire value chain**
- Companies active across **Europe**
- Only association with **Freight** focus only
- Recognised as a **Rail Representative Body**
- Active since **2002**



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ERFA
Brussels
Secretariat



Overview of the ECTA-UIRR-ERFA digital intermodal guidelines

Eric Feyen, UIRR

Fact:

Fragmented data and non-standardised processes are limiting the sector's full potential

Solution

Establishing a common **digital data model** based on standards is essential



Streamline communication and data exchange across intermodal stakeholders



Reduce administrative costs and paperwork



Enable seamless, real-time logistics planning and execution



Enhance the competitiveness of intermodal freight services in Europe

Three Jointly Developed Guidelines on Operational Processes

ECTA UIRR ERFA Best Practice Guideline:

General principles for standardized digital data sharing in intermodal freight transport



ECTA UIRR ERFA Best Practice Guideline:

Standardized Digital Booking,
Gate-In and Gate-Out



ECTA UIRR ERFA Best Practice Guideline:

Standardized Digital Data Sharing in
intermodal freight transport

INTERFACE: Railway Undertakings (RU) ,
Combined Transport Operators (CTO) & Terminal
Operators (TO)



<https://www.uirr.com/leaflets-and-studies-publications/ecta-uirr-erfa-best-practice-guidelines-on-digitalisation>

1st guideline on general principles

It serves as a **general introductory guideline**, outlining the fundamental principles for **standardized digital data sharing** in intermodal freight transport, and aims to pave the way towards an integrated and standardized digital ecosystem in this sector.



This best practice guideline aims to define and establish **comprehensive standards** for the seamless exchange of data related to Road & Rail freight transportation.

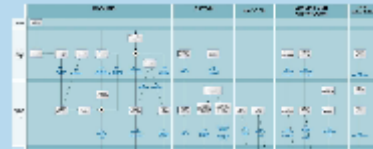
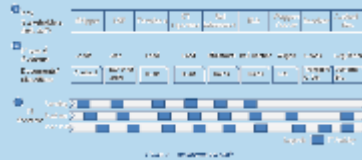


The standards outlined in this document will cover the following:

- **Data Formats**
Specifications for uniform data formats to ensure compatibility across IT systems.
- **Roles and Responsibilities**
Defined roles for all stakeholders in data exchange processes.
- **Compliance and Validation**
Criteria for ensuring adherence to the standards.
- **Change Management**
Guidelines for updating and maintaining standards over time.

1st guideline on general principles

Intermodal door-to-door process flow



Overview of existing digital standards and reference files

Name	Data Model	Data exchange format
IFTI	x	
EDIGES	x	x
IAU ISE	x	x
UN/EDIFACT	x	



Overview of existing digital platforms and data hubs



Intermodal Loading Unit (ILU) flows: Booking and Gate-In &-Out

This guideline is focused on the Intermodal Loading Unit (ILU) flows and will zoom in on the order booking, gate-in and gate-out processes.

From a transport mode point of view, movements between **road**, **rail** and **water** are included.



1. ORDER BOOKING

Create and confirm the intermodal transport order



2. GATE-IN

ILU arrives at the terminal and is registered



3. GATE-OUT

ILU leaves the terminal and is deregistered

Overall objectives of the present guideline for "booking and Gate-In &-Out"



1. Describe the basis for automated processes in intermodal business in Europe



2. Describe the main standard processes about intermodal booking and gate-in/gate-out at the terminal



3. Provide digital data standards and definitions



4. Provide basic rules as an orientation towards implementation

2nd guideline on booking, gate-in & gate-out

Intermodal Order Booking

- New Booking creation (LSPs)
- Timing Aspects and deadline definitions
- Booking Main Content Requirements



Terminal Gate-In Process

- Challenges
- Actors involved
- Business Process

Terminal Gate-In Process

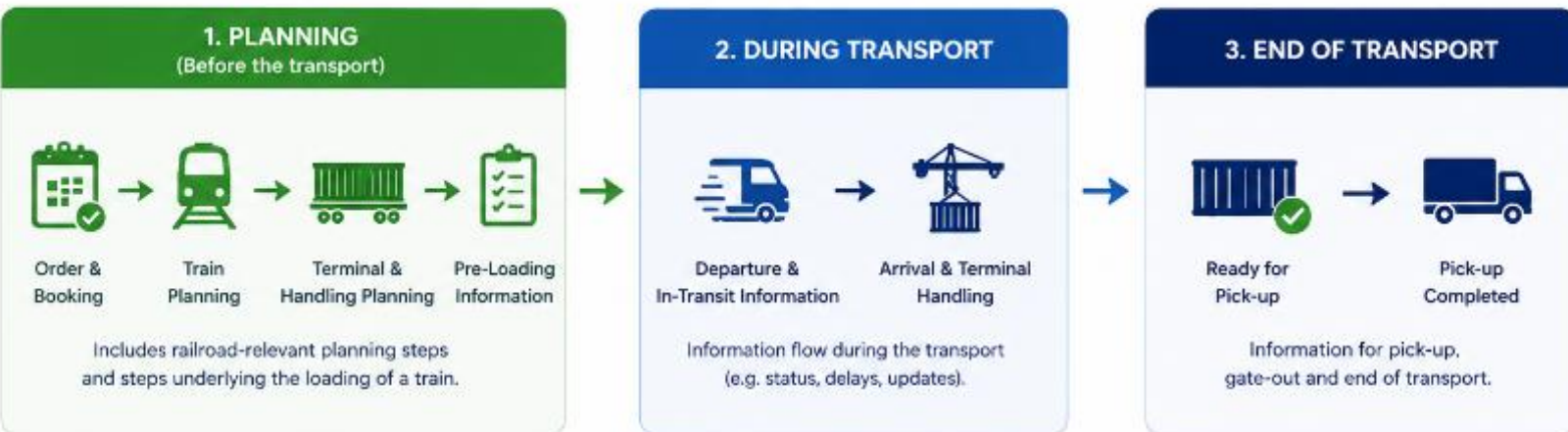
- Challenges
- Actors involved
- Business Process

Code (main/cancel)	Description	Flow
10/11	Transport Booking from Customer to Operator	Customer Logistics Service Provider à Intermodal Operator à Terminal
20/21	Delivery of unit at departure terminal (Gate-in)	Terminal à Intermodal Operator
50/51	Picking-up of the ITU (Gate-Out)	Terminal à Intermodal Operator

Table 1 – EDIGES event milestone messages covered in this guideline

Extended Guidelines – Focus on Rail Transportation

We describe the key processes around rail transport in three phases:
planning before the transport, information exchange during the transport, and completion at the end.



Communication between all partners is based on the EDIGES format.



EDIGES

Standardized Data Format



Established intermodal standard enabling "machine to machine" communication.

3rd guideline on exchange RU, CTO and TO

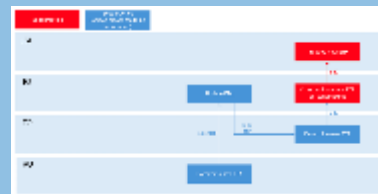
Planning Process between RU and CTO



Commissioning Railway Undertaking Process



Estimates of Pick-Up Process





Update on the DXI implementation status

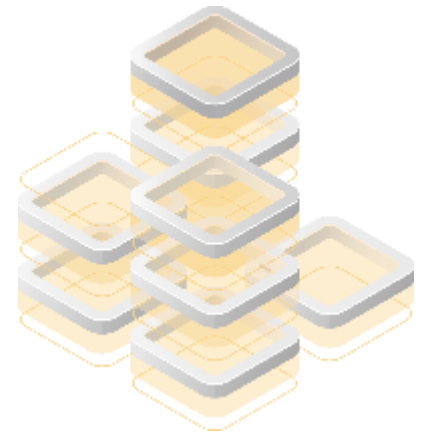
KV4.0 – Digital data hub for
intermodal transport

12.05.2026 – Aldo Puglisi



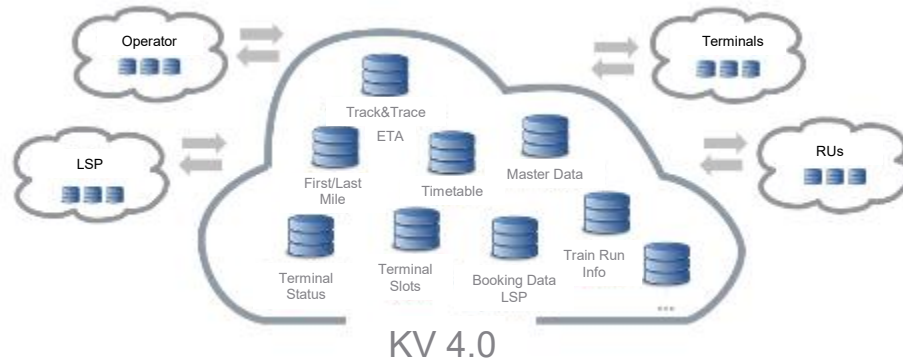
Agenda

- Introduction
 - KV4.0 Data Hub
 - Process coverage & standard interfaces
- Main benefits for the stakeholders
- DX Intermodal Company
- Current status of DXI activities
- Q&A



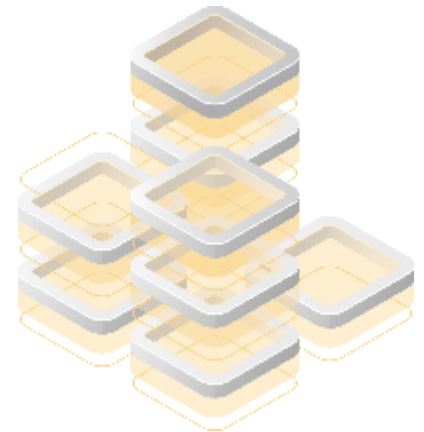
KV4.0 Data Hub

- The **KV4.0 Data Hub** is the result of the **KV4.0 Project** implemented successfully in 2017-2020 and financed by German Ministry of Innovation
- The KV4.0 Data Hub is an **open integrated data hub** increasing transparency across the entire intermodal transport chain
- KV4.0 Data Hub is a **modern cloud-based solution**
- **DXI Company** founded in **2022** with the objective to manage the KV4.0 Data Hub
- **All participating partners provides the relevant order and transport-related information (based on standard EDIGES format)**

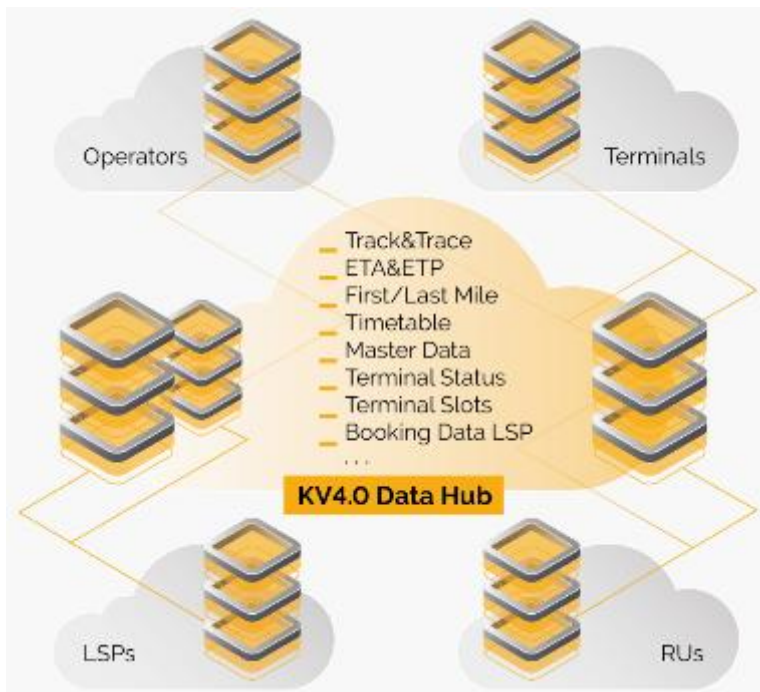


What is the KV4.0 Data Hub?

- No Web platform (Web View) but an **electronic data hub**
- **Central distributor** for all messages of the intermodal supply chain
- Communication with the hub via **standard REST API** (URL, user, password and token)
- **PUSH** procedure for delivering data to the hub
- **PULL** procedure for collecting messages from the hub
- Uniform XML standard for data exchange: **EDIGES 4.1**
- **Validation rules** for conformity with the current EDIGES format
- Only the **sender determines the respective recipients** of the data
- **No storage** of data on the hub



KV4.0 Data Hub – Overall Concept



1. The **targeted stakeholders** for the hub are the Operators, Terminals, LSPs and Railway Undertakings
2. All **intermodal processes** are covered
3. All **EDIGES status messages** can be exchanged through the KV4.0 Data Hub
4. Support **ECTA guidelines** concepts and processes

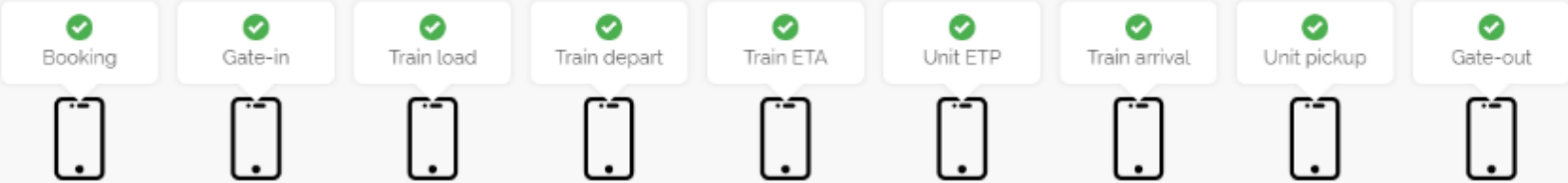
Standard intermodal process

Intermodal operator

Terminal to terminal or Door to door



Main EDIGES messages



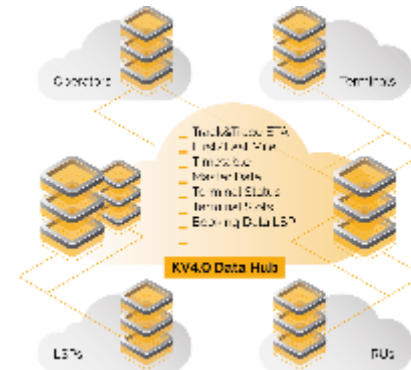
Main benefits for the stakeholders

Main Benefits

- Data **transparency** from the booking to the collection of the loading unit
- Transport units **booked through a single interface** for the LSP
- Optimized **forecast data** (ETA and ETP) in the event of irregularities
- Planning of the **terminal slots** is improved by the timely knowledge of planned shipment
- Improved **allocation of truck arrivals** and departures in the terminal
- Up-to-date **timetable** of all connected operators
- **KV4.0 Common Interface**: new developments to connect the **KV4.0 Data Hub** to **RNE TIS**
- Full support of the **ECTA Guidelines**

Main Characteristics

- **Single point for direct access** to transport-relevant data of combined transport
- **Optimized data exchanges** costs thanks to a single interface
- Easy access via **standardized interfaces** with **EDIGES and TAF-TSI**
- Modern **cloud-based** solution



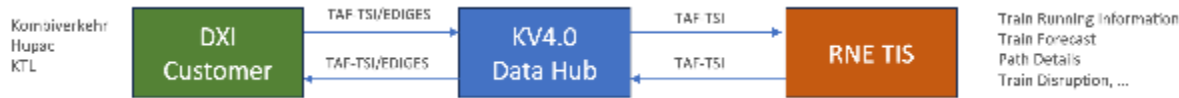
Current status of DXI activities

- Foundation of the **company DXI GmbH** (October 2022)
 - Shareholders: Hoyer, Hupac, Kombiverkehr, KTL, Lokomotion and Paneuropa
- Completion of the KV4.0 Data Hub **productive version** (February 2023)
- First **commercial use** (March 2023)
- Over **50 million messages** have been transiting through the hub
- Promoting the data hub to other players (LSP, RU, TE, OP)
- Currently **message types provided by the users**: commercial timetable, booking, ETP, ETA, train running, terminal status, terminal master data, DB Netz network disruption
- Connection of **further message from the users ongoing** (e.g. operational timetable)



Current status of DXI activities

- Activities completed within the framework of the **EU project EDICT** (project to improve interoperability in data exchange, coordinated by UIRR)
 - Test and pilot for the connection of the KV4.0 data hub with the RNE TIS Successfully completed
 - Test for TAF-TSI data exchange for train run, ETA, path, disruption, etc. Tests successfully completed with pilot companies

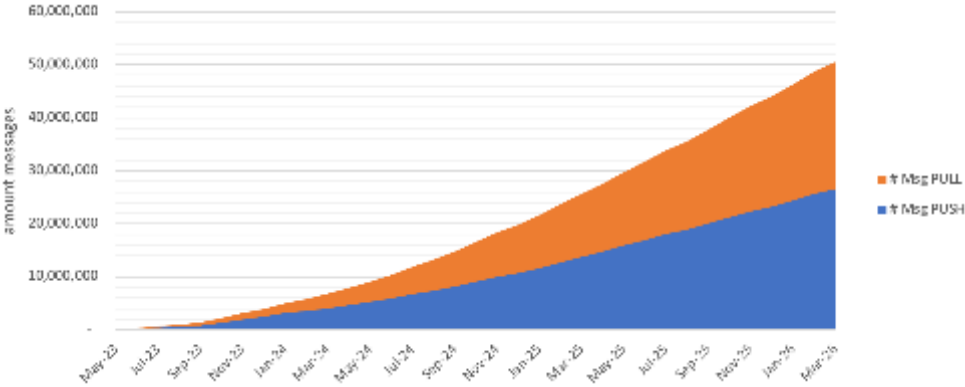


- New activities with the **EU project BRIDGE** (Improvement and Compliance with Standards for the Benefits of Combined Transport, coordinated by the UIRR)
 - Harmonized processes, data or document exchange according to standards
 - Consolidation and harmonization of data platforms
 - Definition of the new version EDIGES 5.0
- Support for the implementation of the **ECTA Guidelines**
 - Digital data sharing principles
 - Standardized booking and terminal processes
 - Data exchange between RUs, CTOs, and terminals



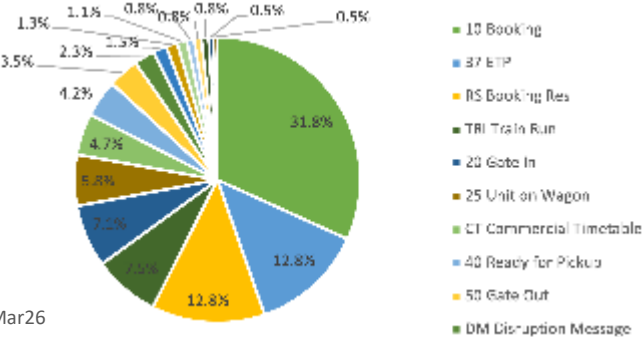
Main statistics via the Data Hub

EDIGES Messages via Data Hub (cumulated)



- Currently, 40 companies are using the production environment to exchange business data (in addition other 60 companies in test environment)
- To date, approximately 50 million messages have been sent via the data hub
- Continuous increase in message volume and users

EDIGES Messages via Data Hub per message type



How to get connected to KV4.0 Data Hub



Interested to get connected?

Contacts

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Christoph Büchner – Director DXI

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www.dx-intermodal.com

Testimonials



Chris Wilkinson, Den Hartogh



Den Hartogh Dry Bulk EDI History



Customer EDI Connections

Integrating with customer systems and industry platforms - order processing / milestones

Supply Chain EDI Links

Connecting with sea, rail, and barge partners

DXI-Kombi KV 4.0 Hub

Utilizing a new platform for seamless rail movements incl connected terminal handling

Further rail Partnerships

Collaborating to achieve connectivity for all European routes. (Hupac/PCC/Metrans...)

Den Hartogh Dry Bulk – Kombi Verkehr



Development focus shifted to the supply chain.

- Kombi: Long-standing relationship
- Good volume
- Many routes
- No EDI !

2023 Contact with Mr Christoph Buechner and Mr Laszlo Rokszin, who advised us of the forthcoming Kombi DX Hub.

We decided to wait for the development of that product before we looked to connect. At the end of July 2025, we went Live.

Enjoyed uninterrupted services
Provides our teams with many benefits from previous processes and procedures.

Kombi DXI Data Integration Streamlines Operations

Faster Access

Quicker data location as immediately fed back to our TMS

Reduced Admin

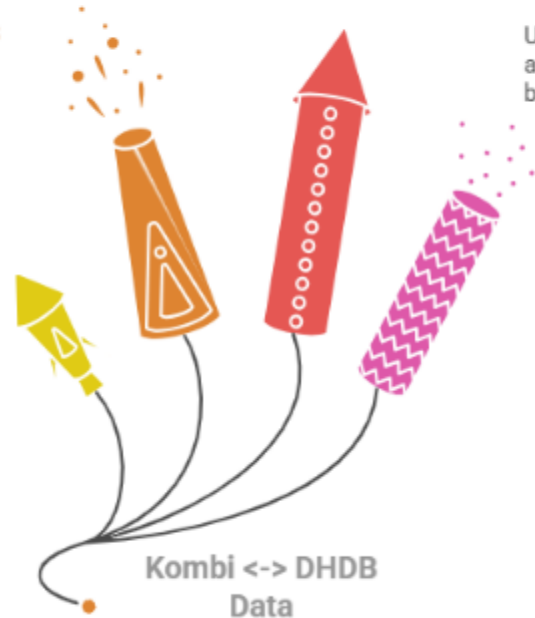
Less manual data transfer and one less portal to frequently access

Increased Visibility

Unit progress traceability allowing onward logistics best planning.

Improved BI Reporting

Internal and supply chain sharing of more fulsome and timely data.



Together with our software developers, we received and worked with comprehensive documentation. Included were planned status codes, some of which were still in development.

- S50 Gate Out
- S40 ITU Ready for Pickup
- S38 Train arrival
- S37 ET of Pickup
- S30 Train Departed
- S25 Unit Loaded
- S20 Gate In
- S11 Booking - Rejected
- S10 Booking Accepted

Booking Information	
Document (B.o.L.)	
Booking Reference	502600177895
Booking Note	
Wagon	318045585391
Entry PIN	00502600177913
Exit PIN	00502600177913

Pickup Events		
EVENT	DATE	TWF
CHECK IN	23/02/26	16:58
CLOSING	24/02/26	00:01
LOADING		
DEPARTURE	24/02/26	23:10

Drop Events		
EVENT	DATE	TWF
ARRIVAL	24/02/26	07:31
UNLOAD	24/02/26	07:31
OUT GATE	26/02/26	18:54

Booking Ref / Wagon No / Pins - All of this data was retrieved from Kombi / Cesar
 Now we digest directly into Our TMS with Codes transferred to our terminology.

Den Hartogh Dry Bulk – Future and Thanks



Next steps for us will be to look towards minor adjustments to upgrade our direct link with Hupac to the DXI version.

Who knows – maybe seafreight operators can align to a similar solution and standard and help remove the many bespoke nuances each connection can hold....



Thanks from Den Hartogh Dry Bulk to Mr Christoph Büchner and Mr Laszlo Rokszin for their collaborative spirit, thorough testing, attentive and professional partnership in achieving this development.

Such progress is only possible with such partnerships.



Terminal & intermodal operations

Ben Beirnaert, Combinant



Combinant nv

The Intermodal “open access” terminal in the port of Antwerp Bruges.

Table of content



01 **Shareholding**

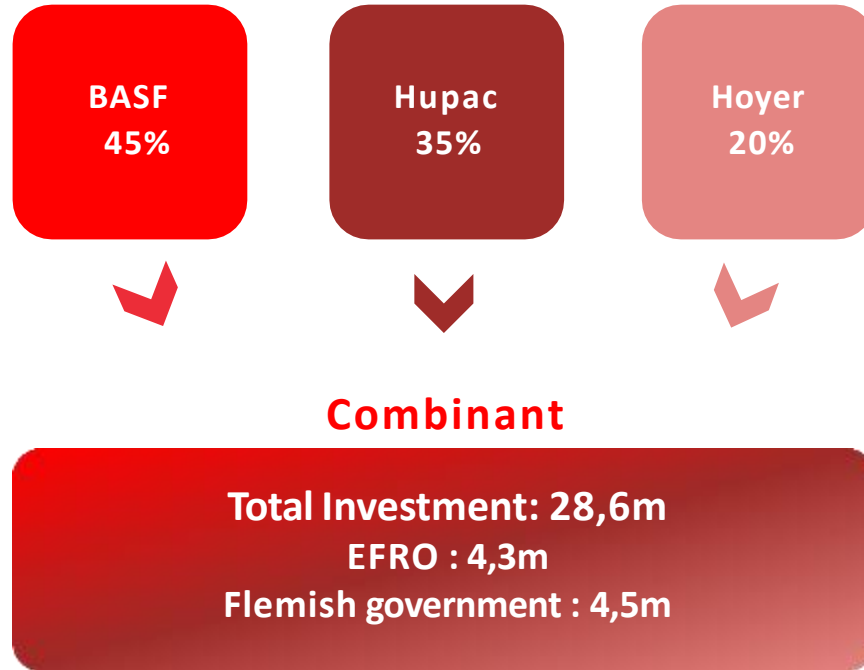
02 **Location**

03 **Key figures**

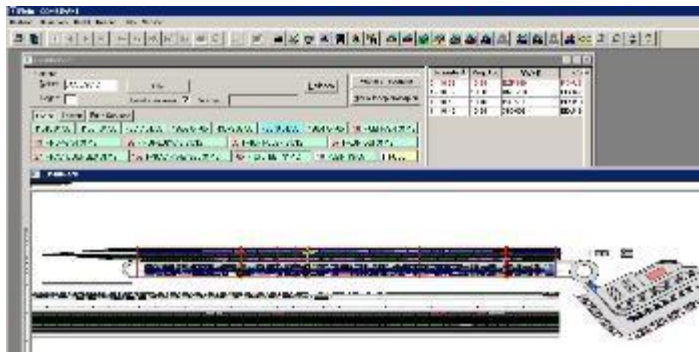
04 **EDI/processed standardisation**

05

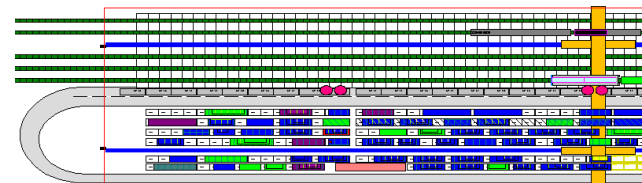
Joint venture



Key figures



- Detailed Pictures from Truck and rail
- Overview of terminal
- Real time IT system with EDI
- Real time Graphical Lay out of the terminal



Key figures



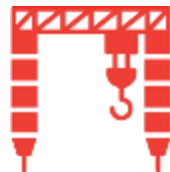
6

5x632m
1x750m



3

Rail Mounted
Gantries
(RMG's)



1

RTG 75T



2

Reachstackers



1

Terberg



3

Photogate for
trucks & rail



2000

TEU storage
capacity



66

Parking for
trailers



10 tot 12

Trains per day



140000

Containers-
per year



30-40

Staff



15

Years

Bottleneck Terminals

- Regulations
 - ADR/RID (driver identification)
 - Port area (Security & driver identification)
- Driver communication
 - Safety risks on terminal
- Different work practices across intermodal operators
- Different work practices across terminals
- Different work practices across Local Service Providers

As a terminal, we sit at a central point in the supply chain, which means that standardising ALL processes can deliver significant benefits for every party involved. By doing so, we can keep the cost as low as possible.

Solutions EDI & Standardisation



➤ Regulations

- USE OF IDENTIFICATION TOOLS FOR TRUCK DRIVERS. DIFFERENT STANDARDS ACCROSS EUROPE BUT WE HAVE TODO IT. (FI ALFAPASS LITE @COMBINANT)

➤ Communication with drivers

- INSTALLING A CHATBOT TO HELP DRIVERS ON TERMINAL IN MORE THEN 250 LANGUAGES

➤ Use of the standard EDIGES messages in the complete setup of the terminal. Fully integrated with DXI and all partners involved. (terminal is operational 24/6 with 8 operational white collar FTE's)

➤ Future (defined in the UIRR-ERFA-ECTA Intermodal Guidelines)

- MORE STANDARDISATION IN WORKING PROCESSES
- MORE INTEGRATION OF LSP'S IN THE COMPLETE SUPPLY CHAIN (FI ETA TRUCK TERMINAL)
- STANDARD CAN BE COPIED BY OTHER TERMINALS IN EUROPE (FI BRIDGE PROJECT)

Conclusion

- By having these Intermodal guidelines we are preparing everyone in the supply chain for the Future.
 - Standardisation will be key for this. (fi Telematics from Europe will be obliged)
 - Standardisation is also cost reduction which plays a big part in Intermodal business.
-
- THE GOAL REMAINS open COMMUNICATION BETWEEN ALL STAKEHOLDERS

Or as Warren Buffett phrased it

“If you can’t communicate, it’s like winking at a friend in the dark — nothing happens.”



Thank you!





THANK YOU
FOR YOUR ATTENTION