PILOT ACTION FINAL REPORT – PP 10 – MAHART CONTAINER CENTER

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1. Ex-ante situation

- *Please describe the current situation (before the pilot action implementation)*
- *Which need/weakness identified in the TNA (pls. refer to your SWOT/TNA done within WPT1) will this pilot action tackle?*
- *Which best practice identified in WPT1 has contributed to the implementation of your pilot action (if applicable)?*

As described in the Territorial Needs Assessment, MAHART Container Center, such as all intermodal terminals in Budapest, has increasing volumes year by year and the volumes are getting closer and closer to the demonstrated capacities. It is hard and expensive to increase capacities by investment in the land and/or equipment, however, there is a good chance to increase capacities with increasing turn time of the trains and automate processes with quicker administration of the incoming trains and with automated character identification of the arriving wagons and containers, enabling the terminal to switch transport from road to more environmental friendly modes of transport.

At this moment freight railway bills are received prior to the arrival of the trains, electronically, in case of some trains apart from the pdf file also data of the railway bill is pre-sent in an Excel file. MCC inputs the data manually to the locally developed system, called TOS "Terminal Operating System", which links all the workstations and the server. With this ICT system the administration can communicate with road and railway entry points and the reachstackers. The system is able to send and receive data with clients. Communication with customers is made via Excel files (rail operators) or EDI (shipping companies, freight forwarders). In case of arriving trains, the data is put manually into the system after the railway bill is received electronically in a pdf file, upon arrival, the colleagues read the actual data (wagons and containers numbers) with a handheld terminal and if there is a difference from the pre-announced data, the containers are double checked. At departing trains the data is put into the system manually by the administration and the ICT system is able to send Excel files to the customers and railway partners with actual data.

In the TNA following SWOT analysis was developed and weaknesses identified:

Strengths	Weaknesses
- skilled and experienced workforce in admin. - realisation of importance of IT developments - increasing volume expectations	- manual work in data input - container and wagon checking human work - manual mistakes can happen - long process - no scanning tool and system is available
Opportunities	**Threats**
- best practice sharing - using more automatic electric data exchange - more relation and operator involvement	- IT systems of the other terminals later connected with MCC and MCC are not corresponding - delay in the project development

Based on the SWOT analysis following needs were identified:

Short title of need	Description, justification	Identified by (organisation)
scanning system for identification of arriving wagons and containers	a system that can scan wagon numbers and container numbers and check them with the expected numbers	MCC
develop communication methods between Port of Trieste and MCC	develop files that can be up- and downloaded on Port of Trieste and MCC IT systems and that can be harmonised with other terminal systems	MCC, Port of Trieste, and T.O. Delta
make communication automatized, in order to avoid all manual input	IT systems to be developed so that messages are sent automatically without manual work	MCC, Port of Trieste, T.O. Delta
further extend develop procedure to other operators / destinations	The developed processes, files and automation should be extended to other operators calling at MCC terminal and other destinations/terminals the trains and barges go to and come from	MCC, Terminal Herne, TX Logistic

Following good practices were identified, these capabilities will strengthen results of the Pilot Actions developed:

Best practice development	Short description of results	Relevant components to utilise in COMODALCE
Container location identification by GPS	In MCC the place of containers are painted in two dimensions and the layers create third dimension. The system can identify containers by help of GPS	One pilot action of COMODALCE is Fostering coordinated multimodal freight transport through ICT systems, with help of GPS the container movements can be fastened and picking errors eliminated
ICT is able to communicate loading data to other parties	MCC ICT is developed in a way that it can send various type of messages with data of loaded containers	MCC can contribute with definition of communicating file structure

2. Pilot action description

- *Please describe the technical details of the pilot action, also using tables, pictures, diagrams, etc.*

Two Pilot Actions were defined, the first two answers the identified weaknesses and needs, while the consequent action plan is a roll-out of the Pilot Action No.I. to all customers.

Pilot Action No. I:

UPGRADE IT PLATFORM

MAHART Container Center Pilot Action in Comodalce project is upgrading its IT Platform as to enable one-to-one data exchange with the Port of Trieste on inbound/outbound trains, to reduce entry/exit time

- Develop IT platform for electronic data interchange

- Agree on data specification and format

- Develop process to upload received data in the terminal system

Pilot Action No.II.:

GATE SCANNING AND DATA IDENTIFICATION

Mahart Container Center Pilot Action in Comodalce project is implementing a scanning system which can

- Scan and identify inbound container numbers

- Scan and identify inbound wagon numbers

- Scan and identify inbound IMDG labels, IMO numbers

- Compare data with the data previously registered in the system by EDI

- Alert in case of discrepancies

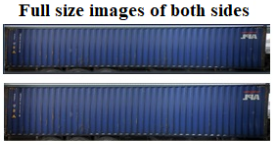
- Manual work is needed only in case of the data in the system does not correspond to the data scanned

Container

Railway wagon

Full size image of top

Full size images of both sides



Train - OCR

31804950771-4

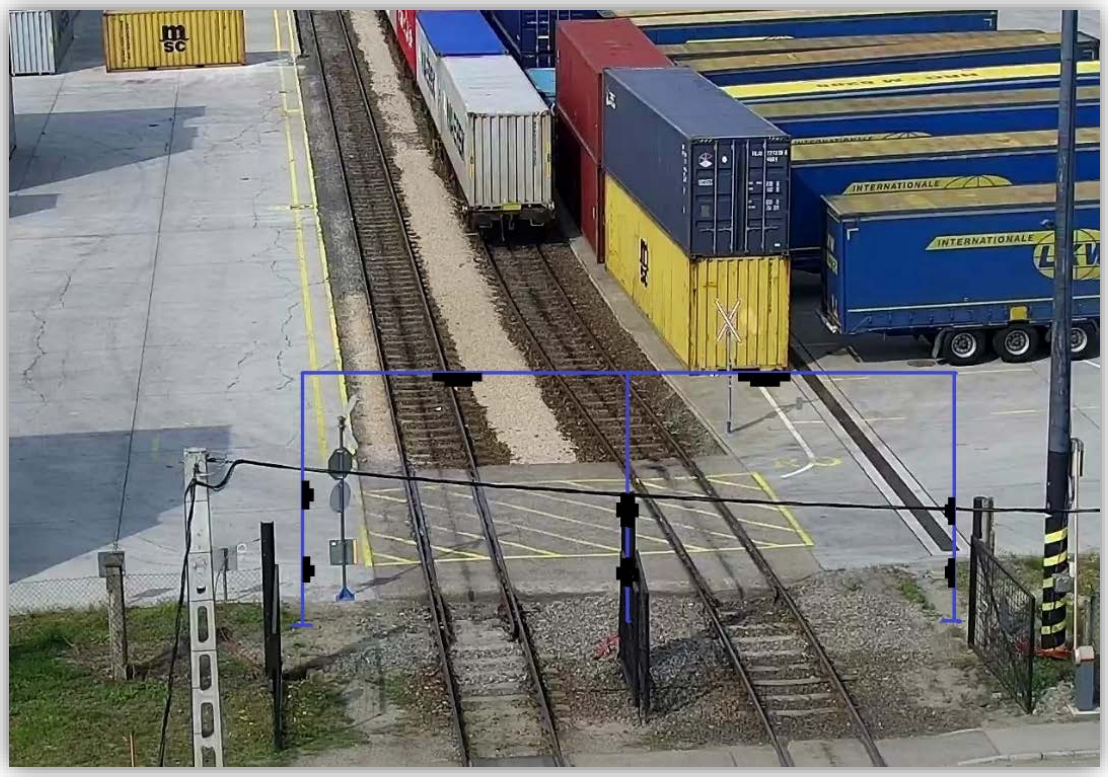
MSCU 1234567
MEDU 1234567

31804950474-5

PVDU 9876543
TCLU 7654321
BIDU6587458

Wagon number:	**31804950771-4**
Net weight:	
Max. payload:	

Container nr:	**MSCU 1234567**
Container type:	**22G1**
ADR:	**60,2078**
Seals:	
Comment:	



Building the gate itself is financed by MCC, COMODALCE project and contribution is used to develop client operation software that will enable character identification, automated upload / download possibilities and comparison with data that is in the system.

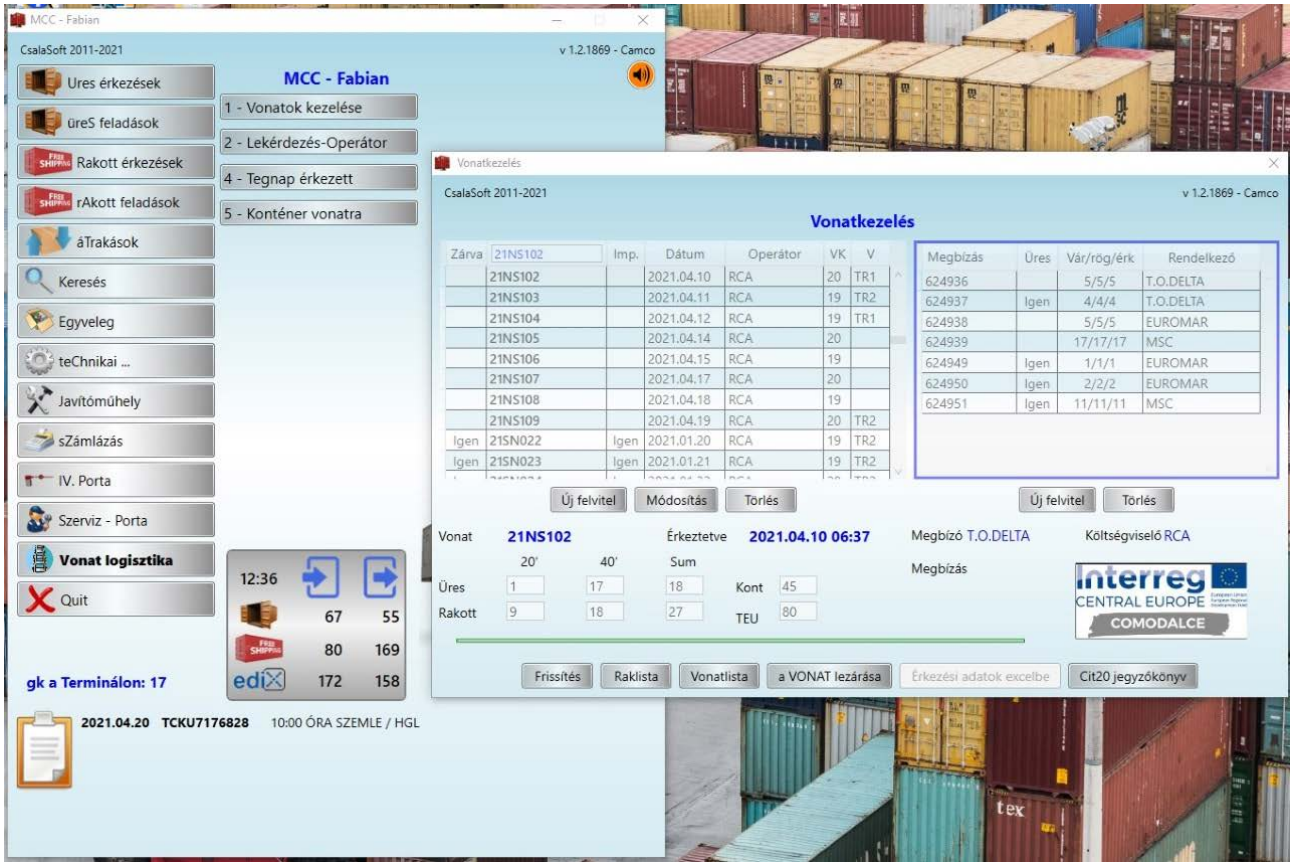
3. Conclusions

What was the result of the pilot action? What was its added value?

Both Pilot Actions were finalized, started in practice and showed the added value that was expected during the preparation phase, so that the administration time of a train could be reduced and the turn time shortened.

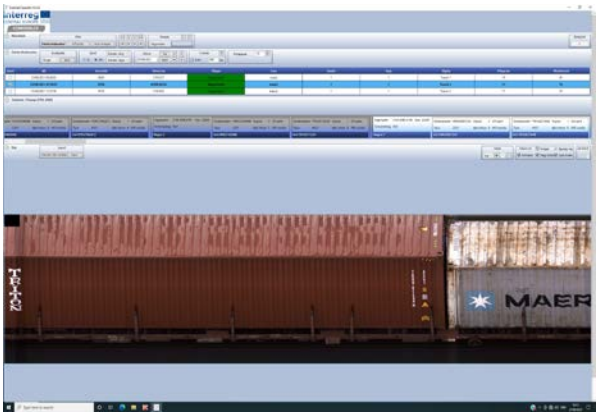
In Pilot Action No.I. the data arrives from Port of Trieste which – without manually typing the data – can be uploaded to the terminal TOS system and all relevant data about the train are available in the TOS system real time (upon train leaves Trieste and before arriving in MCC), without manual intervention.

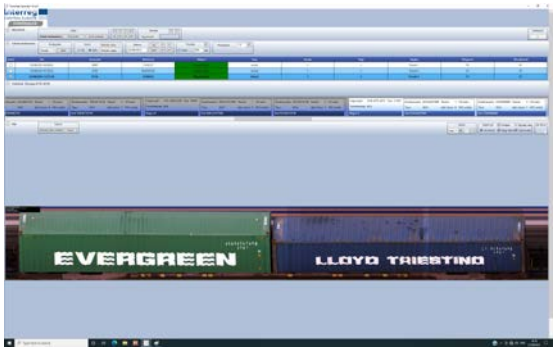
The same way, in export direction, MCC can immediately send an automatic message, in the agreed format to Port of Trieste, containing all relevant information of the trans and containers, what file Port of Trieste can use for their automatic data processing.

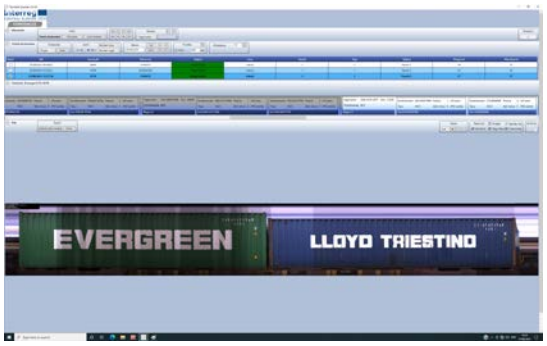


In Pilot Action No.II. the OCR rail gate can scan all actual and relevant information about the wagons and containers (container number, wagon number, IMDG label and loadability data), the system compares the actual data with the data that was uploaded in the system previously – the expected data and alerts in case of any differences between the expected and actual data.

Therefore, the train can be received by one operator in 20 minutes instead of two wagon masters 1 hour each, as only the seal number has to be personally checked, the wagon and container data are already processed.







With these two Pilot Action the train turn time is shorter, consequently we could increase throughput of the terminal, therefore fostering intermodal traffic through using ICT development and contributing to move traffic from road to environmentally friendly rail / intermodal solutions.