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ChemLog

Best Practice Solutions of Chemical Logistics in Central and Eastern Europe

www.chemlog.info

Imprint
ChemLog Best Practice Analysis
Best Practice Solutions of Chemical Logistics in Central and Eastern Europe

Authors:
Association of the Chemical Industry Czech Republic
Association of Chemical and Pharmaceutical Industry of Slovak Republic
FH OÖ Research and Development GmbH / Logistikum Competence Centre
isw Institute for Structural Policy and Economic Development
Ministry for Economy and Labour of Saxony-Anhalt
Ministry for Regional Development and Transport Saxony-Anhalt
Polish Chamber of Chemical Industry
Province Novara
Regional Development Holding, Budapest
Usti Region

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www.logistikum.at
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LOGISTIKUM
Kompetenzzentrum Logistik und Unternehmensnetzwerke

Table of Content

1 Introduction to the Best Practice Study

ChemLog represents a project which aims to strengthen the overall competitiveness of the Chemical Industry by improving the framework conditions for Logistics in Central and Eastern Europe. In order to reach this primary goal, several sub-objectives were stated at the beginning of the project. Among these aims, one implied the transfer of transnational know-how and technology in respect of the development of efficient logistics systems. Therefore, prior to this Best Practice Analysis, a SWOT Analysis was carried out in 2009. Regarding this first analytical phase, which was an element of the work package 3 – Analysis and Exchange of Experience and the main input for the upcoming work packages such as Investment Preparation and Strategy Development – the involved project partners had to identify the strengths, weaknesses, opportunities and threats within their regional Chemical Industry and chemical logistics respectively. Moreover, an agenda of needs for future actions and improvements represented the conclusion of the SWOT Analysis and, of course, the basis for the implementation of feasibility studies in work package 4.

In Table 1 objectives of the SWOT Analysis and the Best Practice Study are summarized.

SWOT Analysis	Best Practice Study
▪ Analyse the current situation of the Chemical Industry in each partner region ▪ Identify strengths, weaknesses, opportunities and threats of chemical logistics in the partner regions as a basis for an exchange of experience ▪ Develop a description of chemical logistics to have a common understanding of the current situation ▪ Identify regional needs and future potential areas for cooperation and implementation of feasibility studies	▪ Deeper analysis of best practice solutions in the area of chemical logistics ▪ Discussion of potential for the transfer of experience as a basis for mutual learning ▪ Show opportunities for further cooperation

Table 1: SWOT Analysis and Best Practice Study

Subsequent to the SWOT Analysis, the next step was to identify and profoundly analyse Best Practice Solutions for an exchange of experience and to provide the results for the work package 4 “Investment Preparation”. Prior to the Best Practice Study, a joint template had been created in order to consolidate the information in a structured way. This type of template will be described in detail afterwards.

However, the primary objectives of the Best Practice are as mentioned in Table 1. Especially the demonstration of different projects in the field of chemical logistics and the transfer of the available information of these Best Practices are the main pillars in this second analytical phase. In table 2 an overview of all Best Practices collected is given.

2 Structure of the Template

As mentioned above, all ChemLog project partners received a template as a supporting tool for analyzing their individual Best Practice Solutions. This template follows a logical structure and includes all required information and indicators about a Best Practice Case. However, on the basis of this following structured template, the Best Practice Solutions were analyzed as follows:

First of all the project partners have to state the basic information of the concerned project.

BASIC INFORMATION OF THE BEST PRACTICE (BP)

Title of Best Practice	
Project Leader	
Project Partner	

Including contact information

Figure 1: Joint Template - Part 1

TAGGING

1. Overall area of BP	2. Detailed area of BP	3. Involved transport modes
☐ Industry internal (also between branches)	☐ Planning ☐ Sourcing ☐ Production ☐ Distribution ☐ Other…	☐ Road ☐ Railway ☐ Waterway ☐ Intermodal ☐ Pipeline
☐ Industry cooperative	☐ between chemical companies ☐ between chemical company and LSP	☐ Road ☐ Railway ☐ Waterway ☐ Intermodal ☐ Pipeline
☐ Logistic Service Provider (LSP) and infrastructure	☐ Only between LSP or initiated by LSP ☐ Initiated by Public Authorities ☐ Both	☐ Road ☐ Railway ☐ Waterway ☐ Intermodal ☐ Pipeline

Figure 2: Joint Template - Part 2

Secondly, the person concerned needs to indicate the area in which the Best Practice Case fits. Here, there are three layers for selection:

1. Overall area of BP
2. Detailed area of BP
3. Involved transport modes

DETAILED DESCRIPTION OF THE BEST PRACTICE (BP)

Definition of project or BP	*Max 1000 characters* *Please define the BP in a short summary*
Initial situation / issues	*Max 2000 characters* *Please describe initial situation, what are the problems and the framework conditions?*
Objectives	*Max 2000. characters* *What are the objectives of the BP in the short and long term?*

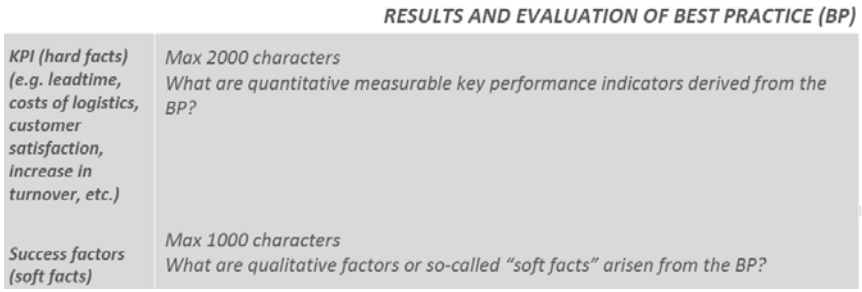
Figure 3: Joint Template - Part 3

After tagging, and a detailed description of the relevant Best Practice, the project partner has to indicate the

- definition,
- initial situation or issue,
- objectives,
- legal and financial framework
- etc.

Moreover, a maximum of characters is quoted in order to give an orientation about the scope of the BP.

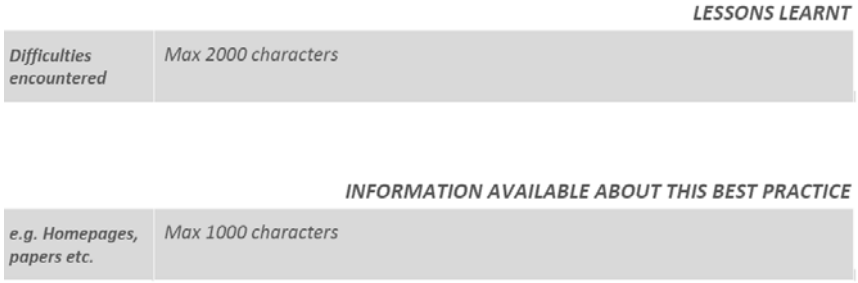
Further on some key information has to be stated. This section of the template deals with the results and evaluation of the Best Practice. The distinction between hard (measureable) and soft facts (non-measureable) facts is especially important.



RESULTS AND EVALUATION OF BEST PRACTICE (BP)	
KPI (hard facts) (e.g. leadtime, costs of logistics, customer satisfaction, increase in turnover, etc.)	Max 2000 characters What are quantitative measurable key performance indicators derived from the BP?
Success factors (soft facts)	Max 1000 characters What are qualitative factors or so-called "soft facts" arisen from the BP?

Figure 4: Joint Template - Part 4

Finally, the lessons learnt and, of course, some additional information about the Best Practice Solution described needs to be written down in order to obtain a link or access to more information about this BP.



LESSONS LEARNT	
Difficulties encountered	Max 2000 characters

INFORMATION AVAILABLE ABOUT THIS BEST PRACTICE	
e.g. Homepages, papers etc.	Max 1000 characters

Figure 5: Joint Template - Part 5

3 Best Practice Cases

Country	Best Practice Cases
Austria	Development of a Distribution Network for Fertilizer and Melamine
	Supply Chain Management – Accompaniment of a Start-up
	Optimization of Logistics Processes by Setting up a Company-owned Warehouse Facility for Hazardous Goods
Hungary	Presenting the Railroad Traffic Informational System (RTI)
	SQAS Packaged Warehouse in ADR Logistics Ltd.
Slovakia	New Modern Fluids Transshipment Facility at Ukrainian Border
	New Packing and Load Securing Procedure for Palletized Chemicals in Paper Bags transported in Semi-Trailers and Containers by Road, Rail and Sea Transport
Province Novara	Development of a Transport Concept for Incoming Raw Materials in Novara Production Complex of Radici Group
Czech Republic	The Problems of Transport of Chemicals in the System of Combined (Multimodal) Transport
	The Utilization of Elbe Waterway for Transport of Chemicals
	Railway and Road Corridors, their building up with respect to the Transport of Chemicals
Germany	Centralized Logistics for Plastics Granulates at the Dow Site in Schkopau
	The Dow ValuePark Concept for Integration of Logistic Service Providers in Chemical Sites
Poland	Systems Supporting Selling and Transport Management in Chemical Distribution
	Safety & Quality Assessment System (SQAS)
	River Information Service (RIS) for Inland Waterway
	The Change of the Company's Work Organization (Rail Tank Cars Delivery)
	The Best Practices within the Development Scope of Transmission Infrastructure (Pipelines) for Raw Materials and Chemical Products

Table 2: Overview of Best Practice Cases

3.1 Best Practice Cases from Austria

ChemLog Project Partner:

FH OÖ Research and Development GmbH / Logistikum Competence Centre

Development of a Distribution Network for Fertilizer and Melamine

Project Leader	*Project Partner*
Borealis AG Dr. Klaus Hofstadler, Head of Material Handling Linz and Piesteritz St.-Peter-Straße 25 A-4020 Linz	**Industry Internal – no Project Partner**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry Internal	**X Distribution**	**X Road** **X Waterway**

Country	*Timescale*
Austria	**Start: September 2007** **End: August 2008**

The Best Practice Case

Borealis is a leading provider of innovative, value creating plastics solutions for the infrastructure, automotive and advanced packaging markets across Europe, the Middle East and Asia. Borealis is placed worldwide close to their key customers within Europe, South and North America, the Middle East and Asia. In 2006 OMV and IPIC consolidated the chemistry activities and announced the incorporation of their respective 50% shares of Agrolinz Melamine International (AMI) into their joint subsidiary Borealis.

Borealis Agrolinz Melamine GmbH in Linz produces base (melamine, fertilizer products) and special chemicals (Calcium Ammonium Nitrates, Ammonia, Urea, Guanidine Carbonate, etc.) After becoming member of the Borealis Group in August 2007, Agrolinz Melamine International decided to reintegrate logistics activities. Another reason for backsourcing the coordination of warehousing and transport was the founding of the Linzer Agro Trade (LAT). This means that from this point in time, warehousing and transportation has been part of the core processes and the company was in charge of organizing the distribution of its products by itself.

Up to now trade activities have been taken shape and lived by the company. It was a strategic decision to find a new definition of the logistics requirements. As Central and Eastern Europe is the most important growing market, especially for fertilizer and also relevant for melamine, the company put an emphasis on building up a functioning warehousing and transportation network.

Initial Situation

As part of the Commodities, the company faces high-cost pressure due to huge differences in costs for raw materials and wages. As an interior production site, raw materials have to be

sourced over long distances as suppliers are situated globally and there is a great difference in wages within Central and Eastern Europe.

From the logistics point of view the location of the production site is challenging. Often value-added services, which are not part of the core competences, are shifted to Eastern Europe due to cost issues. Furthermore, barriers like underdeveloped infrastructure and availability of adequate modes of transport in CEE countries challenge the design of a distribution network.

Objectives

- Support of the trade organization, the Linzer Agro Trade (LAT), by developing a distribution network for melamine and fertilizer
- Selection of adequate and dedicated warehousing facilities and sites
- Design of a distribution network with the best possible integration and utilization of inland waterways as well as on-carriage processes
- Central coordination in Linz and cooperation with regional partners

Financial and Legal Framework

Due to fact that this is a company internal project, the financial and legal framework is unessential.

Results and Evaluation

- Communication processes are shorter and more direct (from the salesperson to the transport organization – everything in one hand).
- Data and key figure analysis as well as data mining are easier due to SAP support
- Interface difficulties are solved as information is available in one database
- Higher cost transparency lead to higher cost awareness

Lessons Learnt

The scheduling of resources, especially of human resources has to be planned exactly and thoughtfully. Whenever realizable, the project's lead time shall be as short as possible and external resources shall be consulted. Project leaders are advised to focus the well-timed recruiting of employees and logistics staff for the implementation of the project, as the time to implementation has to be taken into consideration.

Additional Information

www.agrolinz.com

Supply Chain Management – Accompaniment of a Start-up

LOGWIN

Project Leader	*Project Partner*
LSA – Logwin Solutions Austria GmbH Reinhold Pölzl, Director Quality, Safety and Environment Hafenstraße 77 A-3500 Krems	**BDV – BioDiesel Vienna GmbH** Ewald-Marco Münzer and Michael Münzer, Managing Directors Ölhafen Lobau - Uferstraße 12 A-1220 Wien

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Logistic Service Providers (LSP) and infrastructure	**X Only between LSP or initiated by LSP**	**X Road** **X Railway** **X Waterway** **X Intermodal** **X Pipeline**

Country	*Timescale*
Austria	**Start: Beginning 2006** **Signing of Contract: 06/2006** **Implementation of Single Sourcing: 2006/07** **Implementation of Multi Sourcing: 3Q 2007**

The Best Practice Case

Logwin is a Logistic Service Provider (LSP) which is focused on contract logistics as well as on air, ocean, road and rail transport. The company's headquarters are located in Luxembourg and it has subsidiaries all over the world. BioDiesel Vienna is the biggest, state-of-the-art production facility of biofuel in Austria. Logwin Solutions Austria was contacted by BioDiesel Vienna to build up the whole supply chain from the procurement of the raw materials to the distribution of the final product. This Best Practice Case deals with the successful conception, control and execution of a supply chain for a start-up company

Initial Situation

After implementing a new technology, called BioDiesel International (BDI) multifeed stock, in the newly constructed facility, the first step to be taken was to ensure the right quantity and quality of raw materials. This was highly important for the proper operation as well as for the downstream obligations to take delivery.

In this context the logistics requirements on site were selected in an efficient way in order to allow an integration of different transport modes, e.g. railway, inland waterway, road and pipeline.

The tasks for the supply chain organization are:

- Determination of the proper mix of transport modes and their optimal utilization
- Contribution to the selection of the general sourcing strategy
- Design of the required infrastructure in respect to logistics facilities
- Accompaniment of the start-up in terms of starting operations and also the optimization of the running business
- Implementation of a continuous improvement process (CIP).

Objectives

- Setup of the required Supply Chain Know-How
- Establishment of the needed transport fleet
- Working out the Supply Chain data for successful contracting with suppliers
- Assistance in the production planning in respect to the necessary material handling system
- Selection of qualified Supply Chain Partners
- Enlargement of the sourcing radius
- Integration of alternative transport modes in terms of incoming and also of outgoings goods
- Establishment of a best in class Supply Chain / Information Chain
- Optimiziation of the distribution performance
- Finding alternative raw materials due to an expansion of production (new proceeding, diversification of production)

Financial and Legal Framework

The legal framework is represented by a regulation released by the EU (Regulation 2003/30/EG). Furthermore, it has to be stated, that the EU supports the utilization of renewable feedstock. The financial and legal framework concerning this project is based on a cooperation agreement.

Results and Evaluation

- Reduction of lead time
- Improvement of order fulfilment
- Increase in performance on information
- Organisation of a 24 hour Hotline
- Supply Chain desk
- Coordination of shunting
- Accelerate networking
- Integration of suppliers and customers
- Customer accreditation

Lessons Learnt

This issue of the Best Practice Case was divided into different transport modes. Here, the challenges and problems and finally the lessons learnt in connection with each mode are mentioned.

Inland Waterway

First of all the availability of tankers requires long-term contracting as well as a defined level of purity due to the adhesive characteristics of the product. The transport mode inland waterway is completely different to the others, because tankers are driven by turnover. From an economic point of view, business with one-way transports are fairly challenging in terms of organising logictic processes cost-effectively. Finally, the problem with the material mix in context with inland waterways plays an important role too.

Railway

The current status of the infrastructure in Eastern Europe poses a considerable obstacle. This situation does not allow companies to monitor the runtimes and implicates risks of transportation (e.g. punctual availability of wagons). Furthermore, purification is essential due to the product characteristics which also require a specific quality of wagons. The next challenges in context with railways are the delivery performance and the influence on the transportation of passengers.

Road

In connection with road transport two specific issues were mentioned. Firstly, the high level of specialisation due to refinery products (only few suppliers on the market) and secondly the problem with one-way transport which requires solutions in the near future.

Additional Information

www.logwin-logistics.com
www.biodiesel-vienna.com

Optimization of Logistics Processes through the Setup of a Company-owned Warehouse Facility for Hazardous Goods

Project Leader	*Project Partner*
Nufarm GmbH & Co KG Mag.(FH) Heidelinde Luksch, Logistics Manager St.-Peter-Straße 25 A-4021 Linz	**Industry Internal – no Project Partner**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry Internal	**X Other**	**X Road**

Country	*Timescale*
Austria	**Start: 3rd Quarter 2007** **Opening: 3rd Quarter 2009**

The Best Practice Case

The Nufarm GmbH & Co KG in Linz, Austria, was founded in the course of the take-over of the pesticides activities of the former Agrolinz Melamine International. The company is a subsidiary (100%) of the worldwide situated Nufarm-Group with its headquarters in Melbourne, Australia. In Linz, both chemical agents and finished goods are produced as well as important licensed products for nameable producers of pesticides.

Initial Situation

As the Nufarm production site in Linz is located within a chemical industrial park, the existing warehousing facilities of DSM-Fine Chemicals Austria could be shared by Nufarm in order to store hazardous goods. Due to the fact that DSM faced capacity bottlenecks and there were no other possibilities to store goods at the chemical industrial park, Nufarm had to outsource warehousing to external providers.

The hazardous intermediates and finished goods were stored at several warehouses in the surrounding region of Linz. Numerous locations mean that dangerous intermediates and goods have to be transported several times between the production site and the warehouse facilities and pose safety risks. Furthermore, the suboptimal situation did not fit the company's strategy, meaning that the production is developing into a more end-user oriented model and the handling of goods from raw materials to intermediates or finished products shall be done internally.

The company decided to build their own warehouse dedicated for the specific demands, directly near the production facility. About 6,500 chemical goods, non-hazardous and hazardous, can be stored. At the same time a Warehouse Management System (WMS) was implemented to optimise processes in terms of information logistics.

Objectives

- Reduction of the number of transports and interfaces
- Decrease in the number of handling processes
- Improvement in safety and security due to reduced handling of dangerous goods
- Achievment of higher transparency

Financial and Legal Framework

Due to fact that this is a company internal project, the financial and legal framework is not essential.

Results and Evaluation

- Reduction of damages
- Less difficulties with dangerous goods transports
- Cost advantages
- Shorter lead time
- Optimization of order processing due to centralization of warehousing activities
- Reduction of interfaces
- Higher level of transparency
- Implementation of a Warehouse Management System enables data actuality and reliability
- Lower workload for sales people

Lessons learnt

The regulatory processes in the context of the construction of a dangerous goods warehouse are highly bureaucratic and time-consuming. As the company is situated in a chemical park, the security standards within this area have to be taken into consideration, especially by external parties. During project handling the integration of a selection of external experts is essential and the recruitment of staff for the implementation phase has to be considered.

Additional Information

www.nufarm.com

3.2 Best Practice Cases from Hungary

ChemLog Project Partner:

Regional Development Holding, Budapest

Presenting the Railroad Traffic Informational System (RTI)

Project Leader	*Project Partner*
MÁV Informatika KereskedelmiSz olgáltató és Tanácsadó Zrt. és a MÁV Tervező Intézet Head of the Department Krisztina krt. 37/A. HU-1012 Budapest	**MÁV Zrt.** Head of the Department Pf.: 56 HU-1426 Budapest

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Logistic Service Provider (LSP) and infrastructure	**X Only between LSP or initiated by LSP**	**X Railway**

Country	*Timescale*
Hungary	**Start: October 2004** **End: June 2011**

The Best Practice Case

MÁV Ltd. represents the former state-owned railway company in Hungary. The ongoing rail liberalization process within the EU had an important influence on MÁV Ltd. as well as on the domestic and international private railway companies. The appearance of private railway companies induced MÁV Ltd. to strenghten the services provided to their customers.

Therefore MÁV Ltd. developed a Railroad Traffic Informational System (RTI) in order to increase the efficiency of the internal processes, to achieve closer cooperation with international partners, to improve their service level and to develop information and communication technologies.

Initial Situation

In 2003, MÁV Ltd. Traffic Management developed conceptional plans for the RTI, which implicated – based on the EU's directives – that MÁV Ltd. has to be a reliable partner and guarantee to provide a competitive traffic informational system. These plans involved two major points:

- Granting quick and prompt responses in the process of acknowledgement
- Providing prompt traffic capacity reporting

In order to reach these requirements, all railways had to be traced, the information needed to be gathered and finally this information had to be forwarded by a capable system. Regarding this system, the following functionalities were required:

- Tracing and registration of the real departure and arrival time of the trains
- Allocation of annual time-tables and publication of all alterations in one year
- Handling of short-term train operations
- Quality assurance for operations within railway traffic
- Analysis of traffic performance

Objectives

- Development of a Railroad Traffic Informational System (RTI)
- Route directing through this system
- Evaluation of performance
- Assurance of quality within the processes
- Support of the interoperability between railroad traffic dispatching systems
- Provision of required information for the management information systems

Financial and Legal Framework

The development costs for the RTI software are 1.64 bn HUF, which includes the expenditure for performing the demanded functionalities, the modifications of the connected systems and the support of site testings in order to implement the operations.

In the initial period of this project, three alternatives of funding were presented:
Alternative A: The system is financed by the RTI project. In this case the total hardware costs amounts to 1.4 bn HUF.
Alternative B: The already existing systems of MÁV Ltd's SZIR improvement project were taken into consideration. In this case the total hardware costs are 0.8 bn HUF.
Alternative C: This option is similar to alternative B, additionally the number of working stations was reduced significantly. In this case the total hardware costs account for 0.5 bn HUF.

Ultimately, alternative C was chosen and EU financial support was drawn on too. In the year 2005, the parliament prepared the CLXXXIII. decree concerning domestic traffic politics and integration of the domestic rules into the international traffic system. A further target of that decree was to reach the environmental objectives and to improve the security in terms of railroad traffic. This decree represents the legal framework for this project and was modified in 2009.

Results and Evaluation

The effort needed for the development of the information system was around one hundred man-years. The main result is a reliable system: no breakdown since go life means a 100% availability. The System had around 95-98% availability already during the test phase. Go life of ready modules is done on the whole Hungarian railroad network. The real time connection with the system provides customers with the latest information about their rail shipments, like scheduled arrival.

- The responsibility of future system users is crucial for the final development and refinement of system components. Communication and active participation in clearing processes and feedback are strongly required from all participants
- Mutual understanding and avoidance of language barriers between users and experts
- Guarantee of good cooperation between the workers of railway companies and experts
- Improved environmental utilization of railway transportation in regard of growing efficiency

Lessons Learnt

Whenever rail security systems are going to be improved, an interface between the new technique and RTI should be taken in consideration in order to provide RTI with the necessary information. On the basis of utilization of the information, which refers to all railroutes, the dispatching operational efficiency will grow continuously.

Additional Information

- Manageability treatise for the development of Railroad Traffic Informational System (RTI)
- Tender Data Sheet's of Railroad Traffic Informational System (RTI)

SQAS Packaged Warehouse in ADR Logistics Ltd.

Project Leader	*Project Partner*
ADR Logistics Ltd. Balazs Zeher, CO Akácliget Logisztikai Központ, Hrsz.: 7000/9. HU-2360 Gyál	**Hungária Dangerous Goods Engineering Ltd.** György Sárosi, ADR adviser Nagykőrösi út 349. HU-1238 Budapest

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Logistic Service Provider (LSP) and infrastructure	**X Only between LSP or initiated by LSP**	**X Road**

Country	*Timescale*
Hungary	**Start: May 2008** **End: November 2011**

The Best Practice Case

The Akácliget Logistics Park has been established in the agglomeration area of Budapest. In the crossing point of M5 and M0 motorways 18.418 m² of leasable area and 24 lease units (as a part of a warehouse) are provided. During the planning and construction of former leasable units the SEVESO II guidelines were major aspects.

ADR Logistics Ltd. is located in the leasable units number 9-14, whose major objective is the storage of chemicals and dangerous goods. In the year 2009, this company acquired the auditing of SQAS (Safety and Quality Assessment System) which represents a standard released by CEFIC.

Initial Situation

SQAS is a system to evaluate the quality, safety, security and the environmental performance of Logistic Service Providers (LSP) with single assessments by individual chemical companies.

It helps companies to select new Logistic Service Providers and offers a tool for evaluating continuous improvement. Therefore SQAS is a key element of responsible care applied to logistics operations.

A SQAS assessment does not lead to a certificate, but offers a detailed factual assessment report. Each chemical company has to be evaluated according to its own requirements. The system provides information on the strengths and weaknesses observed during the assessment. After the evaluation of the auditing report, the chemical company can offer specific feedback to the Logistic Service Providers. They are able to add to and maintain the progress on their improvement action programme in the system. This helps to build up a mutually beneficial partnership.

CEFIC has developed five specific SQAS questionnaires for different types of Logistic Service Providers and chemical distributors in close cooperation with the involved industry sectors:

- Transport Service
- Tank Cleaning
- Packaged Warehouse
- SQAS Rail
- SQAS Rail Tank Cars (RTC) Workshop

The Packaged Warehouse module has been developed to assess the storage and handling activities in packaged warehouses, with emphasis on fire protection management.

The questionnaire also includes auxiliary services often provided at packaged warehouses, like filling and blending operations of liquid products and the loading and/or unloading of bulk solids.

Objectives

- Encouragement of communication between LSP and chemical companies on the basis of the assessment results
- Assistance in selecting new LSP
- Providing detailed feedback (strengths and weaknesses) of the chemical company's needs to the LSP
- Building up a partnership

Financial and Legal Framework

The carefully conceived concept complies with the highest standards in modern warehousing/distribution within the "Seveso II" guidelines. The 24 lease units are highly flexible and offer various standards of "High safety" and "Safety" measures.

Hard Facts:

18.418 m2 space / 24 units
8.769 m2 "Safety" area,
7.634 m2 "High Safety" area,
2.015 m2 office and social space
Smallest lease unit: 750 m2
Classification following Seveso II directives
High tech gas-extinction-systems

The construction and operation of the storage facility completely fits the Hungarian and European regulations. The SEVESO II safety regulations represent the major legal background. The warehouse adheres to fire protection, security and environmental regulations.

Results and Evaluation

- Minimization of risks for partners due to modern and safe storage facilities, equipment and transport vehicles
- Provision of high quality services

Lessons Learnt

The Behavior-based Safety Management was introduced in Hungary for the first time, so far there haven't been any possibilities to exchange experiences. This issue turned out to be one of the critical points at the audit, so there is a lot to do to improve the process until the subsequent audit in 2010. Connecting to and exchange with companies and institutions abroad with appropriate experience is the inevitable way to gather more knowledge in this area.

Additional Information

www.adr-logistics.hu/
www.alk-logistics.com/

3.3 Best Practice Cases from Slovakia

ChemLog Project Partner:

Association of Chemical and Pharmaceutical Industry of Slovak Republic

New Modern Fluids Transshipment Facility at Ukrainian Border

Project Leader	*Project Partner*
Železničná spoločnosť Cargo Slovakia, a.s. Ing. Ján Simčo, Director of the business department Drieňová 24 SK-82009 Bratislava	**Sekcia Východoslovenské prekladiská Čierna nad Tisou** Ing Szabolcs Nagy, Technology specialist Železničná 1 SK-04179 Košice

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Logistic Service Provider (LSP) and infrastructure	**X Only between LSP or initiated by LSP**	**X Railway** **X Pipeline**

Country	*Timescale*
Slovakia	**Start: 2007** **Opened: 23th October 2009**

The Best Practice Case

The founder and 100% shareholder of Železničná spoločnosť Cargo Slovakia, a.s., (hereinafter referred to as "ZSSK CARGO") is the Slovak Republic. Rights of the Government being its shareholder are executed by the Ministry of Transport, Posts and Telecommunications of the Slovak Republic (MDPT SR). The essential roles of ZSSK CARGO are transport and business activities on railroad, in particular services oriented to transport and carriage of goods in rail freight traffic.

This project dealt with a modernisation of the fluids transhipment facility in *Cierna nad Tisou* at the Ukrainian border. It also concerned the situation of changing the rail tank waggons from broad gauge to standard gauge.

Nowadays this facility represents the most modern fluids transloading facility at the Ukrainian border with high handling performance. It fulfils strict environmental and working safety requirements. Transhipment is managed by a modern computerised systems which is responsible for monitoring the whole transloading processes.

Initial Situation

The old fluids transhipment facility at the Ukrainian Border did not correspond to the working safety and environmental standards. Hence, it was essential to modernise this facility in order to ensure the continued existence of this important logistic node.

Objectives

- Construction of a new and modern fluids transhipment facility for six groups of commodities
- Location of the facility near the Ukrainian border

- Installation of a transhipment point in order to change broad gauge rail tank waggons to standard gauge ones

Financial and Legal Framework

Total costs of modernisation amount to EUR 10 m. In connection to the legal framework, legislative requirements for working safety, environmental protection, chemicals legislation as well as railway legislation are respected.

Results and Evaluation

The new facility doubled the performance of the former one. The transhipments are performed for six positions as follows:

Position 1: Alcohol derivates
- methanol
- ethanol
- buthanol
- isopropyl alcohol
- other alcohols

Position 2: Technical oils
- engine oil
- hydraulic oil
- mineral oil
- linen oil
- phenol oil
- other oils

Position 3
- solutants
- toluene
- acetone
- xylens
- ethylbenzene
- benzene

Position 4: Food oils
- sunflower oil
- colza oil
- other food oils
- Stainless steel pumping system

Position 5: Acetates
- ethylacetate
- buthylacetate
- vinylacetate
- etc.

Position 6: Fuels
- diesel oil
- kerosene
- gas oil
- heating oil
- petrol
- etc.

Furthermore the following results were achieved:
- Environment protection,
- Air protection
- Protection of water sources
- Fire protection
- Work safety

Lessons Learnt

The effort for the project preparation phase has to be considered within the time scale for the whole project as this can be a very time-consuming task. An environmental impact assessment analysis should be part of the project.

Additional Information

www.zscargo.sk/sk/pre-verejnost/aktuality/spustenie-zrekonstruovanej-prevadzky-v-precerpavacom-komplexe-v-ciernej-nad-tisou.html

korzar.sme.sk/c/5076279/opravili-precerpavaci-komplex-v-ciernej-nad-tisou.html

www.tasr.sk/31/6160.axd

New Packing and Load Securing Procedure for Palletized Chemicals in Paper Bags transported in Semi-Trailers and Containers by Road, Rail and Sea Transport

Project Leader
Duslo, a.s. Šaľa
Ing. Erik Rakický, Director of SBU - Organic
DUSLO a.s.
SK-92703 Šaľa

Project Partner
DUSLO a.s. Šaľa
Ing. Pavol Biro, Production manager
DUSLO a.s.
SK-92703 Šaľa

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry Internal	**X Production/Distribution**	**X Road** **X Intermodal**

Country	*Timescale*
Slovakia	**Start: August 2008** **End: September 2008**

The Best Practice Case

Duslo, a.s. Šaľa has developed in the course of its history as Europe's most important producer of fertilizers and as global supplier of rubber industry chemicals. In addition to this, the company produces pesticides, industrial explosives, polypropylene fibres and concentrates for fiber and plastics industry applications. Its reputation as a reliable business partner is based on the use of its own technologies using tradable commodities as a raw material input to a large extent.

This Best Practice describes a new securing procedure for packing and loading palletized chemicals in paper bags transported in semi-trailers and containers by road, rail and sea transport. The aim was to increase the number of bag layers on a pallet to make maximum use of each cargo transport unit and simplify load securing.

Initial Situation

Finding a way to secure palletized bags for packing and loading to be transported in semi-trailers and containers by road, rail and sea was challenging at the beginning. The handled chemicals are categorised as dangerous goods and therefore ADR, RID and IMDG-Codes have to be followed during transport and storage. Initially, the palletised bags were packed on 6-layer-high pallets. Often the load presented a danger for road users especially in curtainsider semi-trailers.

Another aspect was that control authorities declared palletised bags with dangerous goods as not stackable and imposed more stringent requirements for load securing. The packing machines in a chemical company were not able to pack more than 6 layers therefore the loading of pallets in CTU in 2 layers was inevitable. There were 46 pallets (14 in the upper layer) loaded into standard 13.6 m semi-trailers, 28 pallets in 2 layers into 20' containers and 44

pallets (16 in upper layer) into 40' ISO containers. Especially loading in semi-trailers and 40' containers presented safety problems and additional pallets, lashings, wooden boards and corner protectors had to be used. The following tests were performed to find solutions for old and new packages:

- Friction tests to determine the friction of bag-pallets and bag-bags
- Inclination tests to measure the stability of old and new pallets
- Inclination tests to check load securing of old pallets in two layers and new higher pallets in one layer for road transport
- Driving tests to check the load settling (granulate inside the bags) and inevitable use of long corner protectors (pressure distribution) for pallets in 2 layers in a semi-trailer with a tarpaulin.

Objectives

- Increase in work , traffic and environmental safety
- Reduction of overall logistics costs and loading and unloading time
- Increase in the number of CTU's loaded and unloaded per day
- Improvement of work safety during loading and unloading for staff
- Reduction of quantity of packing and load securing materials used
- Increase in CTU utilization and amount of goods sold
- Decrease in waste of packing materials on customer's premises

Financial and Legal Framework

The initial outlay needed to prepare load securing, packing guidelines and modification of packing line amounted to EUR 36,000.

The following legal framework for the packing and transport of dangerous goods has to be followed: ADR, RID, IMDG Code, national and industrial legislation for chemical goods. Furthermore, the European Best Practice Guidelines on Cargo Securing for Road Transport are now part of ADR 2009.

Results and Evaluation

- Decrease in loading and unloading time by 15 minutes
- Increase in the number of CTU's loaded and unloaded per day
- Decrease in packing materials used (heat treated pallets, shrink foil, reflex foil, PE bands, cardboards)
- Reduction of load securing materials used (pallets, lashings, corner protectors, wooden mesh)
- Increase of CTU utilization and number of bags sold (new design increased the amount of bags in CTU)
- Diminution of waste from packing materials on customer's premises (pallets, foil, reflex foil, PE bands)
- Decline in logistics costs (more bags carried)
- Total save from 1st January 2009 until 30th September 2009 amounted to EUR 29,980 (However, the system was already running from 1st October 2008)
- Increase in work safety for loading and unloading staff
- Increase in traffic and environmental safety for traffic users

Lessons Learnt

An anticipated difficulty was that all customers would not accept higher and heavier packages. However, all customers accepted higher and heavier pallets and welcomed the decreased amount of packing material (waste disposal).

Additional Information

Internal company information – documentation not publicly available

3.4 Best Practice Cases from Province Novara

ChemLog Project Partner:

Province Novara

Development of a Transport Concept for Incoming Raw Materials in Novara Production Complex of Radici Group

Project Leader
Radici Group
Moreno Novi, Logistics&Raw Materials
Via Ugo Foscolo, 152
IT-24024 Gandino

Project Partners
Radici Chimica S.p.A.
Moreno Novi, Logistics&Raw Materials
Via Fauser, 50
IT-28100 Novara
Trenitalia State Ralways
Riccardo Bottigliero, Head Office Operational Services of Trenitalia Cargo/Logistics
Via Valtellina 5/7
IT-20159

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry Cooperation	**X between chemical company and LSP**	**X Railway**

Region	*Timescale*
Province Novara (Italy)	**Start: June 2007** **End: --**

THE BEST PRACTICE CASE

The Radici Group is one of the most important Italian chemical companies, with an annual turnover of about EUR 1 bn. The Novara production complex is substantially dedicated to the production of polymer granulate, which is used in external plants for obtaining about 100,00 tons of nylon 66 annually. The most important raw materials used in Novara production process are: NH3, Cycloexanol and a Nitrocompound. While the final product is not dangerous, these three raw materials are highly hazardous.

INITIAL SITUATION

The production is an around the clock continuous process; initially the flow of incoming raw materials was essentially a road flow.

The increase in Radici's production capacity and the consequent increase in raw material requirement, combined with the necessity to dispatch the final product (only using road transport), has brought the logistic capacity of Radici and of the local roads to breaking point. Transport safety plays an important role in the evaluation of the project (products such as ammonia cannot be transported by road in some European countries). In fact, Radici's plant in Germany is also connected to the rail network, and ammonia in particular can be transported by rail only. 5 years ago, after a careful analysis of pros and cons related to different solutions for the incoming transport and storage of raw materials, the procurement department decided to build an internal rail track, which has a length of 1 km and is

connected to the Trenitalia network. This decision was supported by Trenitalia.

OBJECTIVES

- Improvement in safety
  Railway is by far the safest transport mode and therefore huge quantities of highly dangerous goods are pushed to as favourized mode of transportation. Furthermore the rail track is located quite near to the raw material tanks. The unloading process from tank waggons to storage tanks is performed via different, alloted unloading stations. Finally, the feeding of production units is ensured by an internal pipeline network.
- Increase of delivery reliability
  In order to guarantee the requested daily supply of raw materials, which comes from different regional and supra-regional production sites, it was decided to transport these materials using full trains with appropriate time schedules.
- Fixing the availability of tank waggons
  If some waggons must remain parked (full or empty) inside the plant network, this situation should not cause a shortage of transport units for Trenitalia.
- Promotion of efficient rail transport
  Using only full trains, transportion of such large quantities of goods by rail is becoming highly efficient at Radici's premises. In times of normal economic conditions, the costs of rail transport are competitive compared to those of other transport modes.

FINANCIAL FRAMEWORK

The investment value of this Best Practice case is approximately EUR 1 m.

RESULTS AND EVALUATION

- Reduction of logistic costs
- Improvement of safety for transport of huge quantities of dangerous goods
- Guarantee of daily supply with raw materials
- Improvement of weekly distribution of products and goods in process
- Possibility of building an efficient rail track, due to the proximity of the railway network
- Excellent cooperation between Trenitalia and Radici Group

LESSONS LEARNT

The only critical point refers to the penalty clause. These clauses foresee that in case of a reduced number of trains per week transporting raw materials and arriving at Radici's destination in Novara, compared to the contracted number, the cost of transportation should be increased to reach the contracted sum of money to be paid per week. During times of reduced product demand by manufacturing companies, the number of trains per week has been significantly reduced and so the cost of transportation has also significantly increased. This contractual item must therefore be reviewed

ADDITIONAL INFORMATION

www.radicigroup.com/chemicals

3.5 Best Practice Cases from Czech Republic

ChemLog Project Partner:

Association of the Chemical Industry Czech Republic

The Problems of the Transport of Chemicals in the System of Combined (Multimodal) Transport

SCHP ČR

Project Leader
Association of the Chemical Industry of the Czech Republic
Ing. Ladislav Špaček CSc., Health, Safety and Environment
Dělnická 12
CZ-170 00 Prague

Project Partner
VUOS Pardubice
Josef Havránek, Projectleader
Rybitví 296
CZ-533 54 Pardubice

TAGGING

Overall area of BP
- X Industry Internal
- X Industry Cooperation
- X Logistic Service Provider (LSP)and infrastructure

Detailed area of BP
- X Distribution between chemical companies
- X between chemical companies and LSP

Involved transport modes
- X Road
- X Railway
- X Waterway
- X Intermodal

Country
Czech Republic

Timescale
Start: July 2009
End: December 2009

The Best Practice Case

The Association of Chemical Industry of the Czech Republic represents the interests of the chemical industry, supports environmental protection, the safety of operations and a favourable social climate. VUOS is one of the largest companies dealing with research and development in the field of organic chemistry (fine chemicals production), offering also connected toxicology, ecotoxicology and analytical services. As a stock company, the main stakeholder is Synthesia which owns 100% of shares. Synthesia is one of the major fine chemicals producers in the whole of Europe.

This project is dedicated to defining the real needs of the chemical industry in terms of the transport of chemicals via combined transport (overseas and within Europe in the short- and long-term). Moreover, the aim is to adapt the system of combined transport and the related intermodal infrastructure to the needs of chemical companies and carriers.

Initial Situation

Combined transportion is generally defined as the transport of goods in one transportation unit by at least two different transport modes. The transport unit can be containers, swap bodies, roll-away containers, but also trucks, trailers with or without trailer tractors. The pre- and oncarriage are mainly realized by road.

Despite the fact that combined transport has long tradition in the Czech Republic, the transported volumes are small and the share of

the combined transport on the overall transport (road, railway, inland waterway, air and pipeline transport) remains insignificant. In 2006, combined transport made up only 6% of all transport.

Several transportation companies only implement one particular type of transport. The forwarding companies mainly ensure the subsequent (coherent) transport systems (antenna) to shuttles. Operators of combined transport and terminals play a key role in the development of combined transport.

Different modes of transport are utilized in the Czech Republic. Accompanied combined transport (whole trucks with drivers are transported by railway) is no longer realized in the Czech Republic. On the other hand, unaccompanied combined transport (transport of containers, swap bodies, roll-away containers without drivers) is realized on a regular basis.

Particularly in the case of dangerous chemical compounds, safety requirements have to be fulfilled to avoid health risks and damage to the environment. These requirements for road or railway transport are set in international agreements, which were signed by the Czech Republic (the European Agreement about International Transport of Dangerous Goods (ADR) and European Regulation for International Railway Transport of Dangerous Goods (RID)).

Chemical goods in the Czech Republic are mainly transported in the classic containers (ISO, roll-away or inland containers). These containers are often modified esspecially for the transport of chemical compounds (e.g. cooling, isothermic, tank or bulk material containers).

The transport of chemicals, especially hazardous goods, requires other precautions too. The providers of the chemical logistic services should be evaluated continuously. The system, used for evaluation of safety, quality and environmental aspects in transportation companies is called SQAS (Safety & Quality Assessment System).

Within the Czech Republic, the non-stop service was established to deal with extraordinary situations connected with the transport and storage of chemicals, with a special focus on dangerous chemicals. This service is known under the abbreviation TRINS (Transport Information and Accident System). TRINS is included in the European Transport Information and Accident System Network – ICE network. TRINS was established in 1996 and is based on the agreement between the Association of the Chemical Industry of the Czech Republic and the Interior Ministry of the Czech Republic.

The cleaning of used transportation containers is also an integral part of combined transport. The companies focused on cleaning of the transportation units are grouped in the CACS (Czech Association of Cleanig Stations). These companies are certified according to SQAS and allowed to issue the unified European Certificate of Cleaning – ECD.

OBJECTIVES

- Development of a complex network of shuttles in Central and Eastern Europe – interconnection of these networks for continental and sea transports
- Ensuring the availability of sufficient containers suitable for chemicals
- Improvement of the terminal equipment with respect to the transport of chemicals
- Installation of cleaning stations
- Improvement of the monitoring process in terms of chemical transport
- Permanent education of employees involved in the transportation chain

FINANCIAL AND LEGAL FRAMEWORK

The financial resources will be obtained from four different authorities: Public EU funds, state, regional and private institutions.

The legal framework is represented through the following regulations:

Some documents legalized in the Czech Republic and proclaimed in the following laws and international agreements

Public notice No. 62/1986 Sb., about International Agreeement about Safety of Containers (CSC – Convention of Safe Containers)

Announcement No. 35/1995 Sb., European Agreement on the Most Important Pathways of International Combined Transport and Connected Objects (AGTC)

Announcement No. 163/1999 Sb., European Agreement about Main Inland Waterways of International Importance (AGN)

Public notice No. 352/2004 Sb., about the Operational and Technical Interconnection of the European Railway System

The European Agreement about International Railway Arterials (Agreement AGC)

Public notice No. 64/1987 Sb., European Agreement about the International Transport of Dangerous Goods on the Road (ADR)

European Agreement about Main Roads with International Traffic (Agreement AGR)

Resolution CEMT (European Conference of Transport Ministers):
About the development of combined transport (June 1995, April 1997)
About the development of international combined transport (May 1994)
About reducing the CO2 emission level in transport (May 1993)
Overall resolution about combined transport (May 2002)

Final documents from Pan-European conferences

Combined transport in EU Legislation
EU legislation concerned with combined transport is discussed in the charter No. 7 (Transport) and in the subchapter 07.20.50 (Combined transport).

Regulation of European Parliament No.1692/96/ES

Transportation policy of the Czech Republic – Resolution of the Government of the Czech Republic for the years 2005 -2013

Results and Evaluation

- Enhancement of number of shuttles realized on and over the territory of the Czech Republic
- Increase in quantity of chemical goods transported
- Increase in the number of combined transports and increase in the share of chemical transport in combined transport overall
- Increase in competitiveness of the chemical industry
- Decrease in burdens on environment and reduction of risks connected with the transport of chemical raw materials and products

Lessons Learnt

The high costs of transportation units and transloading facilities for combined transport constitute a potential risk. Also the complexity of combined transport from a logistic point of view should be taken into account. Unsystematic and inconsistent political and legislative supports and a lack of cooperations in combined transport across Europe endanger the project. Finally, the backwardness in building up the infrastructure of combined transport, slow returnability, missing guarantee from the state and connected unwillingness of the private companies to invest into the development of this segment are important issues.

Additional Information

Operators of the combined transport

- BOHEMIACOMBI, www.bohemiakombi.cz/
- ČSKD INTRANS, www.intrans.cz/
- ERS RAILWAYS (MAERSK CZECH REPUBLIC), www.maerskline.com/
- METRANS, www.metrans.cz/

Operators of the terminals for combined transport

- ČD-DUSS Terminál, www.cdd-terminal.cz/
- ČESKÉ PŘÍSTAVY a.s., www.ceskepristavy.cz/
- Česko-saské přístavy, www.csp-labe.cz/
- ČSKD INTRANS, www.intrans.cz/
- MAERSK CZECH REPUBLIC, www.maerskline.com/
- METRANS, www.metrans.cz/
- OKD, Doprava, www.okd-doprava.cz/
- TRANS – SPED – CONSULT Lovosice, http://tsc1.sweb.cz/

International organizations

- UIRR (International Union of combined Road-Rail transport companies) – the only member from the Czech Republic is BOHEMIACOMBI, www.uirr.com/
- UIC (International Union of Railways) – Section of Combined Transport, CD is also a member, http://uic.asso.fr/
- EIA (European Intermodal Association) – established 1993, associate railway organizations, ports and some operators, www.eia-ngo.com/
- BIC (Bereau International des Containers) – International agency for containers, www.bic-code.org/
- CESAR – (Cooperative European System for Advanced Information Redistribution) – information about services of different operators, www.cesar-online.com/
- INTERCONTAINER – International Railway Association for Transport of Containers, www.icfonline.com/

Companies in the chemical industry
(listed in the SWOT analysis document or at the end of the Best Practice)

Professional associations

- Association of the Chemical Industry of the Czech Republic www.schp.cz/html/
- Association of Forwarding and Logistics of the Czech Republic
- Group of Combined Transport, www.sslczech.cz/cs/
- Transport Union – Section of Combined Transport (established in 1997), www.svazdopravy.cz/
- Czech Intermodal Association (established in 1998)

Involved public administration

- Ministry of Transport of the Czech Republic , www.mdcr.cz/
- Ministry of Environment of the Czech Republic, www.mzp.cz/
- Ministry of Finance of the Czech Republic, www.mfcr.cz/
- Interior Ministry of the Czech Republic, www.mvcr.cz/
- Ministry of Health of the Czech Republic, www.mzcr.cz/

The Utilization of the Elbe Waterway for Transport of Chemicals

SCHP ČR

Project Leader
Association of the Chemical Industry of the Czech Republic
Ing. Ladislav Špaček CSc., Health, Safety and Environment
Dělnická 12
CZ-170 00 Prague

Project Partner
VUOS Pardubice
Josef Havránek, Projectleader
Rybitví 296
CZ-533 54 Pardubice

TAGGING

Overall area of BP
- X **Industry Internal**
- X **Industry Cooperation**
- X **Logistic Service Provider (LSP) and infrastructure**

Detailed area of BP
- X **Distribution between chemical companies and LSP**
- X **between LSP or initiated by LSP**
- X **initiated by public Authorities**

Involved transport modes
- X **Waterway**
- X **Intermodal**

Country
Czech Republic

Timescale
Start: July 2009
End: December 2009

The Best Practice Case

The Association of the Chemical Industry of the Czech Republic represents the interests of the chemical industry, supports environmental protection, the safety of operations and a favourable social climate. VUOS is one of the largest companies dealing with research and development in the field of organic chemistry (fine chemicals production), offering also connected toxicology, ecotoxicology and analytical services. As a stock company, the main stakeholder is Synthesia which owns 100% of shares. Synthesia is one of the major fine chemicals producers operating in the whole of Europe.

The Best Practice deals with the improvement of the nautical and technical possibilities of the Elbe waterway and the definition of the capacity for export – import – transit of chemicals. Furthermore the project partners aimed to plan transportation chains including technical equipment and to define the involved subjects with their contractual and associative relations.

Support from regions and other state administrative bodies and the EU is essential for the success of the project as well as the delimitation of factual spheres of ecological problems (pass over political interest and lobbyistic pressures) and basic steps for their solution

Initial Situation

The Elbe is one of the biggest rivers in Europe. The Elbe springs in Krkonose in the Czech Republic and flows through Germany to the North Sea. Several industrial centres are located along the river. These centres use the Elbe, or could use the Elbe, as a natural transport corridor. Back in 1996 the Czech Republic ratified the AGN Agreement, which defines parameters of the waterway according to the international classification. Neither the parameters nor the commitment has been fulfilled yet. In 2006, the Czech – German memorandum was signed. This memorandum takes the navigability of the Elbe waterway to defined parameters into account. On the German side, the memorandum is realized aiming at the finalization of the required activities in 2010. However, on the Czech side the project has not been started up to now.

Several important chemical plants are situated in the Elbe basin (e.g. Pardubice, Kolin, Neratovice, Lovosice, Usti nad Labem, ale i Kralupy nad Vltavou a Litvinov, etc). In terms of transport, the River Elbe has great potential, especially for:

- Heavy general cargo (turbines, engines, convertors, silos, tanks for power stations)
- Dry or powdery materials especially basic chemicals, fertilizers, broken stone, sand, stone, ore and coal.
- Liquid cargo (e.g. mineral oils, lubricants, liquid chemicals or vegetable oils, etc.)
- Container transport

In recent years container transport has developed rapidly. However, in the Czech Republic, the integration of inland waterways into the system of combined transport is minimal.

The transport of dangerous chemicals on the waterways is part of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway issued in 2000. This agreement is known as ADN and was ratified by eight countries: Russia, Hungary, the Netherlands, Austria, Bulgaria, Luxembourg, Moldavia and France. The Czech Republic has incorporated this agreement by the Czech Government Resolution of 14th April 2003.

Objectives

- Improvement of Elbe navigability according to the Czech-German memorandum, i.e. improving the nautical and technical possibilities on Elbe waterway by means of realization of water dam (step) Male Brezno and Prostredni Zlab or by realization of compromise water dam Decin
- Maintainance of the river shed - mud removal
- Systematic training of the responsible employees and clear defining of the requirements for the companies involved in inland waterway transportation
- Improvement of the services and higher level of cooperation and integration with other transportation modes
- Implementation of multimodal nodes offering high quality services
- Interconnection of the involved stakeholders - transportation companies and associations, state administrative body, chemical companies and companies, which will be responsible for realization of water dams on Elbe river
- Determination of subsequent steps including long-term investment goals in the field of chemical industry

Financial and Legal Framework

The financial resources should be obtained from four different authorities: Public EU Funds, State, regional and private institutions.

The connected legal documents are:
European Agreement concerning the Main Inland Waterways with the International Importance (AGN)

European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway (ADN)

Law No. 114/1995 Sb. About the Inland River Navigation

Public notice of the Ministry of Transport No. 222/1995 Sb., about waterways, navigation traffic in the ports, transport of dangerous goods

Transport Union – Section of River Transport (established in 1997), http://www.svazdopravy.cz/, summaries from the general meetings, press release

General Agreement of the LABE/ELBE Euro Region from 24th July 1992

Territorial plan of Decin

Improving the navigability of the Elbe, water work Decin – General management of waterways of the Czech Republic

Programs for support of the inland river transport:
Program NAIADES (Navigation And Inland Waterway Action and Development in Europe). The European Commission ratified this integrated European action program for inland river transport in 2006.

Program MARCO POLO II, EU Program, which focuses on the modernization of vessels for inland river transport and transferring of part of the loads from highways to alternative kinds of transport.

Results and Evaluation

- Augmentation of navigable days during the year
- Realization of deadlines to build up the two above mentioned water works (Prostredni Zlab and Male Brezno)
- Increase in volume of chemicals transported
- Higher share of inland navigation in the overall transports
- Better conditions for utilization of 300 km of waterways on Czech territory
- Increase in the competitiveness of the chemical industry
- Decrease of the burden on the environment and reduction of the risks connected with the transport of chemical raw materials and products by transferring traffic from roads and railways

Lessons Learnt

The project of the water dams (steps) has not yet been realized due to the facts that the waterway still remains unreliable in terms of significant fluctuation in the flow of the Elbe, connected with climate conditions. Furthermore low viability of transportation leads to a lack of maintenance and a suboptimal technical state of the vessels. Liberalization of the employment market without any restrictions results in a lack of qualified crews.

Additional Information

Ship owners and operators of the ports

Companies involved – chemical, agriculture and construction companies

Professional Associations
- Association of the Chemical Industry of the Czech Republic
- www.schp.cz/html/
- Transport Union – Section of River Transport , www.svazdopravy.cz/
- Czech Intermodal Association (established in 1998)
- European Association of Ship Owners (EBU), www.avpcz.cz/

Involved public administration and connected subjects within the Czech Republic

Involved public administration
- Ministry of Transport of the Czech Republic , www.mdcr.cz/

- Ministry of Environment of the Czech Republic, www.mzp.cz/
- Ministry of Finance of the Czech Republic, www.mfcr.cz/
- Interior Ministry of the Czech Republic, www.mvcr.cz/
- Ministry of Health of the Czech Republic, www.mzcr.cz/

Connected subjects

- State Shipping Administration, www.spspraha.cz/
- General Management of Waterways of the Czech Republic, www.rvccr.cz/
- Elbe Basin, www.pla.cz/

ChemLog Project Partner: Association of the Chemical Industry of the Czech Republic

Railway and Road Corridors, their Building up with respect to the Transport of Chemicals

SCHP ČR

Project Leader
Association of the Chemical Industry of the Czech Republic
Ing. Ladislav Špaček CSc., Health, Safety and Environment
Dělnická 12
CZ-170 00 Prague

Project Partner
VUOS Pardubice
Josef Havránek, Projectleader
Rybitví 296
CZ-533 54 Pardubice

TAGGING

Overall area of BP
- X **Industry Internal**
- X **Industry Cooperation**
- X **Logistic Service Provider (LSP)and infrastructure**

Detailed area of BP
- X **Distribution between chemical companies and LSP**
- X **between LSP or initiated by LSP**
- X **initiated by public Authorities**

Involved transport modes
- X **Road**
- X **Railway**
- X **Intermodal**

Country
Czech Republic

Timescale
Start: July 2009
End: December 2009

The Best Practice Case

The Association of Chemical Industry of the Czech Republic represents the interests of the chemical industry, supports environmental protection, safety of operations and a favourable social climate. VUOS is one of the largest companies dealing with research and development in the field of organic chemistry (fine chemicals production), offering also connected toxicology, ecotoxicology and analytical services. As a stock company, the main stakeholder is Synthesia which owns 100% of shares. Synthesia is one of the major fine chemicals producers operating in the whole of Europe.

This Best Practice is concerned with the maximisation of utilization in current and planned railway and road corridors for chemical transportation.

Initial Situation

The trans-European transportation network includes all main pathways in the EU, i.e. 75,200 km of roads, 78,000 km of railways, 330 airports, 270 sea ports and 210 inland river ports. Moreover, since 1994 ten Paneuropean corridors - nine road and railway corridors and one inland waterway (Danube) – have been classified as the main pathways in Central and

Eastern Europe. The most important corridors for the Czech Republic are:

- Corridor IV: Dresen – Prague – Bratislava/Wien – Budapest – Arad (4 340 km of railways, 3 640 km of roads); branch Norimberk - Prague
- Corridor VI: Gdansk – Warsaw – Katovice – Zilina (1 800 km of railways, 1 880 km of roads); branch Katovice – Ostrava – Brno (Breclav)

The development of the transport infrastructure in the Czech Republic is covered by the Operational Program Transport (OPD), which has been funded by the EU. The Operational Program Transport is the biggest program for the period 2007–2013 in the whole Czech Republic with a financial budget of EUR 5.774 bn. The program is mainly focused on the fulfilment of the European transportation priorities and on the realization of priorities and goals described by the Transportation Policy of the Czech Republic for 2005-2013. The particular objectives are to support the building up and modernization of the transportation infrastructure of the Czech Republic. The OPD program also includes the support of infrastructure in the networks beside TEN-T, multimodal transport, infrastructure for inland navigation, and modernization of barges and development of intelligent transportation systems.

Objectives

- Overall interconnection of corridors in the modern logistic centres (interconnection of the railway network in the Czech Republic with the main European corridors)
- Improvement of technical equipment (background) within the corridors and logistics centres with respect to the transport of chemicals
- Simplification and speeding up of the check-in during the East/West transit in both directions
- Monitoring of the transport of dangerous goods, especially of goods which are transported repeatedly
- Increase in speed and safety of transport
- Improvement of the reliability and regularity in terms of freight transport

Financial and Legal Framework

The financial resources should be obtained from four different authorities: Public EU funds, state, regional and private institutions.

The legal framework is reasoned due to the following items:
Directive of European Parliament and Council 2008/68/ES about the overland transport of dangerous goods. The directive became valid on 30th September 2008.

Collective stance (ES) No. 10/2008 accepted by European Council (7th April) on the acceptance of Directive of European Parliament and Council 2008/…/ES about overland transport of dangerous goods

Operational program TRANSPORT (OPD)

Results and Evaluation

- Increase in chemical goods transported on railway and road corridors
- Increase of overall turnover of transports by railway and road on the west/east axis
- Building up of corridors (both railways and road) measured in the number of kilometres covered
- Improvement of background facilities (e.g. certified cleaning stations, lay-by-places, warehouses, etc.)
- Quality improvement of services offered on the railway and road corridors
- Rise in competitiveness of the chemical industry
- Suppresion of risks connected with the transport of chemical raw materials and products

Lessons Learnt

The capacity and the quality of both railway and road infrastructure pose the main problems of

the corridors. The capacity of nodal points is considered to be sufficient, although regarding the future development of the integrated system modernization is necessary.

ADDITIONAL INFORMATION

Railway and road transporters

Operators of the combined transport

- BOHEMIACOMBI, www.bohemiakombi.cz/
- ČSKD INTRANS, www.intrans.cz/
- ERS RAILWAYS (MAERSK CZECH REPUBLIC), www.maerskline.com/
- METRANS, www.metrans.cz/

Operators of the terminals of the combined transport

- ČSKD INTRANS, www.intrans.cz/
- MAERSK CZECH REPUBLIC, www.maerskline.com/
- METRANS, www.metrans.cz/
- ČESKÉ PŘÍSTAVY a.s., www.ceskepristavy.cz/
- Česko-saské přístavy, www.csp-labe.cz/
- OKD, Doprava, www.okd-doprava.cz/
- ČD-DUSS Terminál, www.cdd-terminal.cz/
- TRANS – SPED – CONCULT, http://tsc1.sweb.cz/

Professional associations

- Association of the Chemical Industry of the Czech Republic www.schp.cz/html/
- Association of Forwarding and Logistics of the Czech Republic
- Group of Combined Transport, www.sslczech.cz/cs/
- Transport Union – Section of Combined Transport (established in 1997), www.svazdopravy.cz/
- Czech intermodal association (established in 1998)

Involved public administration

- Ministry of Transport of the Czech Republic , www.mdcr.cz/
- Ministry of Environment of the Czech Republic, www.mzp.cz/
- Ministry of Finance of the Czech Republic, www.mfcr.cz/
- Interior Ministry of the Czech Republic, www.mvcr.cz/
- Ministry of Health of the Czech Republic, www.mzcr.cz/

3.6 Best Practice Cases from Germany

ChemLog Project Partner:

isw Institute for Structural Policy and Economic Development

Centralized Logistics for Plastics Granulates at the Dow Site in Schkopau

Project Leader	*Project Partner*
Dow Olefineverbund GmbH Wolfgang Schnabel, Supply Chain Manager DE-06258 Schkopau	**Industry Internal – no Project Partner**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry Internal	**X Planning** **X Sourcing** **X Production** **X Distribution**	**X Road** **X Railway** **X Intermodal**

Country	*Timescale*
Germany	**Start: 1996** **End: 1998**

The Best Practice Case

Dow Olefineverbund GmbH has developed a centralized logistics facility for granules on the site in Schkopau to increase productivity and to reduce supply chain costs. A central logistic facility has been developed in close proximity to the production facilities in order to ensure short transportation routes and to allow higher transport volumes.

The logistics facility includes a silo installation, bagging unit and a block storage warehouse. 800,000 tons of granulates from four different production facilities are handled in this logistics complex.

Initial Situation

The initial situation was characterised by low productivity of isolated and uncoordinated logistics solutions for different production entities at the chemical site in Schkopau, which have caused high costs, higher manpower requirements and inflexibility. The transported volumes per employee were far below the average industry standards. The development of the centralised logistics complex was connected to the restructuring of the chemical site and modernisation of production facilities.

Objectives

Centralization of logistic activities for different plastic production facitlities; the industrial benchmark for this activity in 1997 was 14,500 tons per employee and year. The planning of the logistic complex was based on 20,000 tons per employee and year.

- Increase of productivitiy of Supply Chain Management
- Decrease of costs
- Reduce time in terms of the loading process

- Logistics should be more reliable and flexible

Financial Framework

Due to fact that this is a company internal project, the financial and legal framework is not essential.

Results and Evaluation

- 800,000 tons per year turnover
- Productivity has increased from 16,000 tons to 25,000 tons per employee (from 1998 to 2008) due to constant optimization and automation of the logistic processes
- Proximity of production and logistics facilities
- Availability of critical mass
- Integration of production and supply chain management processes
- Flexible use of logistics facility according to changing production outputs
- High degree of automation

Lessons Learnt

It was difficult to integrate different informational systems in the automation process of the supply chain (SAP, storage system, site access system, bar code system)

Additional Information

www.dow.com/valuepark

The Dow ValuePark Concept for Integration of Logistic Service Providers in Chemical Sites

Project Leader **Dow Olefineverbund GmbH** Wolfgang Schnabel, Supply Chain Manager DE-06258 Schkopau	*Project Partner* **Industry Internal – no Project Partner**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry cooperative	**X between chemical Company and LSP**	**X Road** **X Railway** **X Intermodal**

Country	*Timescale*
Germany	**Start: 1995** **End: 2005**

The Best Practice Case

The Dow ValuePark® Concept includes the settlement of chemical companies and Logistic Service Providers alongside the value adding chain on the chemical park in Schkopau (110 ha). This integrative concept for site development creates synergy effects between the companies and allows the concentration on the core business supported by the provision of chemical related industrial services.

Logistic Service Providers settled on the site to provide specialized services for the chemical companies but also in the region. The ValuePark® Concept allows a new quality of cooperation between clients and supplier and leads to higher productivity and competitiveness of the involved partners.

Three major best-practices for chemical logistics are located in Schkopau:

1. The bimodal container terminal and the in-plant transport service from HOYER, operated by the KTSK-enterprise

2. Mitteldeutsche Kunststoff Logistik (MKL) – Central German Plastic Logistics – Joint Venture of Finsterwalder and Schmidt

3. Mitteldeutsche Eisenbahngesellschaft (MEG) Central German Rail Company.

Initial Situation

The starting situation was characterized by the enormous efforts of transformation and complete restructuring of the chemical site in Schkopau, which was in extremely bad economic and environmental condition after 40 years of GDR industrial history.

Unproductive chemical facilities had to be modernized and the whole supply chain had to be developed according to the new production

processes. Chemical Logistics was characterised by low productivity, high costs, long distances, inflexibility and insufficient capacities.

Objectives

- Increase in productivity of chemical companies by decreasing supply chain costs
- Creation of synergy effects and increasing flexibility by centralized logistics and integration of LSP
- Better location development and positive economic development for the region
- Providing sustainable and competitive employment for the chemical industry location

Financial Framework

Due to fact that this is a company internal project, the financial and legal framework is not essential.

Results and Evaluation

- ValuePark®: 16 companies EUR 475 m investments; 850 new work places, 1000 indirect work places created or secured
- HOYER Terminal, operated by KTSK: TEUs: 2006: 40,000; 2007: 41,000; 2008: 43,000; expected for 2009: 50,000
- MKL 300,000 tons of granulate turnover, variable costs instead of fixed costs
- MEG: transport volumes 2000: 6,732,000 Mt, 2005: 17,493,000 Mt, 2006: 19,302,000 Mt, 2007: 17,668,000 Mt, 2008: 19,234,000 Mt.
- ValuePark®: targeted selection of enterprises for settlement and integration on the chemical site, synergies alongside the value adding chain and according to complexity of production, long-term commitment and expert knowledge of loogistic service providers to invest in reliable and long-term business relations to jointly develop partnership concepts for logistics
- HOYER Terminal: Expert knowledge of HOYER in container logistics, reliable long-term cooperation between HOYER and Dow, long-term commitment to invest in the location Schkopau, opportunities to offer logistics services for the chemical location but also for the surrounding region
- MKL: Proximity of production and logistics facilities, no winstead investments from Dow, contract with MKL to provide services. long term contract for 10 years to buy logistics services without minimum sales volume to achieve maximum flexibility and transformation of fix costs into variable costs
- MEG: Privatization process of rail section from Buna to MEG, sustainable growth with transport services for Dow and chemical companies on the site and other regional companies, Higher flexibility for Dow

Lessons Learnt

The settlement of logistic service providers was a clear added value for the location Schkopau.

Additional Information

No additional information about this best practice case is available.

3.7 Best Practice Cases from Poland

ChemLog Project Partner:

Polish Chamber of Chemical Industry

Systems Supporting Selling and Transport Management in Chemical Distribution

BRENNTAG

Project Leader	*Project Partner*
Brenntag Polska Sp. z.o.o. Magdalena Adamow, Transport Managing Director 21, Bema Str. PL-47-224 Kedzierzyn – Kozle	**Co-operating Logistic Transport Providers (rail, road)**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry internal X Industry cooperative X Logistic Service Provider (LSP) and infrastructure	X Planning X Sourcing X Distribution X Between chemical companies X between chemical Company and LSP X Only between LSP or initiated by LSP	X Road X Railway

Country	*Timescale*
Poland	**Start: June 1995 (in EU 15); March 2003 (in Poland)** **End: not finished yet**

The Best Practice Case

Brenntag Polska Sp. z o.o. represents one of the biggest chemical companies in Poland. Since 2005, some modern solutions have been introduced, such as the implementation of bar codes within the whole warehouse system which allow the precise tracing of the location of each product, or the designing of software supporting the planning process of transport routes. Furthermore ERP system elements have been set up in order to simplify the process of shipping orders in domestic and international transports. Finally an accounting software for freight costs has also been established in the course of this project.

Initial Situation

The initial situation at Brenntag Polska was characterised by out-of-date warehouse management using paper documents, manually planned transport routes and inefficient handling of shipping orders, which were generated in the own system and could not be connected to other supply chain partners. Furthermore, the inefficiency had a significant impact on the cost structure. All processes within the company were time-consuming and extremely dependent on know-how and skills of the employees. This overall situation caused considerable problems in terms of performance and efficiency.

Objectives

- Implementation of clear rules of costs accounting
- Elimination of warehouse operators' mistakes
- Simplification of operating and documentary work
- Reduction in costs

Financial and Legal Framework

The project costs amount to EUR 450,000. Furthermore this project is paid by own financial sources of Brenntag Polska Sp. z o.o.

Results and Evaluation

- Increase of turnover
- Cost reduction
- Higher customer satisfaction and a significant reduction of claims
- Improvement of the company's image
- Missing: please describe finally the outcome of this project and how you implemented and realized the objectves

Lessons learnt

The company faced some difficulties during project implementation due to internal reluctance to changes by the employees. The co-operation with the software provider posed challenges too.

Additional Information

www.brenntag.pl

Safety & Quality Assessment System (SQAS)

Project Leaders

European Chemical Industry Council (CEFIC)
Marc Twisk, SQAS Manager
Av. E. van Nieuvenhuyse 4
B-1160 Brussels

Polish Chamber of Chemical Industry
Hanna Kilen, Co-ordinator
Pawel Mularz, SQAS Accredited Assessor
17, Sniadeckich str.,
PL-00-654 Warsaw

Project Partners

Road Transport /Transport Service companies, LSP
Rail Transport Carriers
Chemical Distributors
Chemical Warehouses
Tank Cleaning Station
Rail Tank Cars Workshops

TAGGING

Overall area of BP

- X Industry internal
- X Industry cooperative
- X Logistic Service Provider (LSP) and infrastructure

Detailed area of BP

- X Planning
- X Sourcing
- X Distribution
- X Other: Subcontractors evaluation
- X between chemical Company and LSP
- X Only between LSP or initiated by LSP

Involved transport modes

- X Road
- X Railway
- X Intermodal

Country
Poland

Timescale
Start: 2003
End: 2009

THE BEST PRACTICE CASE

Basically the Safety and Quality Assessment System covers five logistics modules and SQAS Distributor (ESAD) for chemical distributors.

1. SQAS Transport Service
2. SQAS Cleaning (=Tank Cleaning Stations)
3. SQAS Rail (=Carriers)
4. SQAS RTC Workshop (= Maintenance workshops for rail tank cars)
5. SQAS Warehouse
6. ESAD II (=Chemical distributors)

Each of the above-mentioned modules implies questionnaires, which will be assessed by professional auditors who are trained and accredited by Cefic for each type of assessment. They are also closely monitored by Cefic to ensure a continuous high and uniform quality of work across Europe. In 2009, 42 chemical companies supported and used the logistics modules in SQAS.

Initial Situation

Before SQAS was developed by CEFIC, two absolutely different instruments had been used in practice. Chemical companies and LSP co-operated with uncertified partners. The result was problems with orders given to not assessed LSP, which caused non-conformances, bad quality of service, accidents, etc. Before SQAS was implemented, chemical companies had made audits with each LSP according to their own defined requirements. Hence, the auditing process was time-consuming and expensive.

The current European Transport Industry reality no longer requires the distinction between those separate modules. Most transport companies use a mixture of their own and subcontracted drivers and equipment, and offer a complexity of intermodal and logistic services.

The "SQAS Transport Service" module is intended for asset based transport companies, operating predominantly with their own fleet as well as for Logistic Service Providers that are direct partners of the chemical companies, but outsource their logistic services to other companies. The "SQAS Transport Service" module can also be used to assess inland Transfer Terminals.

The areas for improvements are:

- Behavior Based Safety (BBS) (Road and Rail Transport and other modules)
- Sub-contractors' evaluation process (whole supply chain)
- "Man in tank" procedure (Tank Cleaning Stations, RTC's Workshops)

The following is an overview of SQAS in Poland by module from 2003 until October 2009:
61 assessments – Transport Service / Road
28 assessments – Tank Cleaning Station
5 assessments – Rail Carrier
2 assessments – RTC's Workshop
9 assessments – Distributor ESAD II
1 assessment – Packaged Goods Warehouse

Objective

- Creation of uniform standards in terms of quality, safety and environmental compatibility of LSP
- Preparation of a detailed factual report which each chemical company needs to evaluate according to its own requirements

Financial Framework

Companies pay less for one assessment than for ISO 9000 certification. The assessment report is valid for 3 years. Afterwards a re-assessment is necessary.

Results and Evaluation

- Increase of competitiveness on the market
- Augmentation of number of customers
- Increase of turnover
- Higher customer satisfaction
- Higher quality and safety of managed activity
- Increase in responsibility level for employees, environment and neighborhoods

Lessons Learnt

The Safety & Quality Assessment System does not represent a common norm, as for instance ISO certificates.

Additional Information

www.cefic.be /sqas
www.sqas.org
www.pipc.org.pl

Articles in Chemical Review, professional magazine for chemical producers and distributors written by Pawel Mularz, Nos. 6/2006, 6/2007, 6/2008, 5/2009.
Articles in Gazeta Transportowa, (Polish Transport Gazette) written by Pawel Mularz and Marek Adamski, 2006, 2009.

River Information Service (RIS) for Inland Waterway

Project Leader
Polish Ministry of Infrastructure
Marta WOLSKA, Project Officer in Navigation Safety
Dept.4/6, Chalubinskiego str.
PL-00-928 Warsaw

Project Partners
Inland Waterway Office
Dr. Krzysztof WOŚ, Director, Head of Inland Waterways
Szczecin 4, Stefan Batory Square
PL-70-207 Szczecin
ODRATRANS Group
Sebastian DZIADEK, Vice President,
Iwona MARSZAL, International Cooperation Co-ordinator ODRATRANS
S.A., 50, Kleczkowska str.
PL-50-277 Wroclaw

TAGGING

Overall area of BP
- X **Industry internal**
- X **Industry cooperative**
- X **Logistic Service Provider (LSP) and infrastructure**

Detailed area of BP
- X **Planning**
- X **Sourcing**
- X **Distribution**
- X **Between chemical companies**
- X **Both**

Involved transport modes
- X **Waterway**

Country
Poland

Timescale
Start: July 2006
End: January 2013 (planned)

THE BEST PRACTICE CASE

Due to the specific characteristics of inland waterways such as safety, low energy-consuming, low work-consuming and high load carrying ability and capacity, the European Commission strives to increase the utilization of inland waterway transports as an alternative transport mode. Moreover, the inland waterway should play a key role within the European intermodal transport system. This mode, together with rail and short-see transport, should contribute to the sustainability of transport systems according to the White Book: "European Transport Policy in Horizon to 2010 – Time for Decisions." NAIADES (NAIADES = Navigation And Inland Waterway Action) and Development of Safety concentrates on five strategic zones. One of these zones is the River Information Service (RIS) development in Europe as a part of suitable inland waterway infrastructure. RIS includes the following tasks: gathering, processing and giving information about navigational conditions such as weather reports, hydrologic and geografic information. The interoperability, which guarantees the access to the same database for all users, also belongs to the tasks of RIS.

Initial Situation

The implementation of new technologies in inland waterways started in last decades as a common advanced IT development.

PCs equipped with wireless internet, GPS, digital navigational maps and transponders were installed on the vessels. Quayside stations were equipped with vessel radiolocation and reporting systems connected to the own database.

The challenge which had appeared by inland waterway transport sector was the integration of different, newly developed local, regional and national IT-Systems in one common European operation concept.

The system's tasks are connected to RIS targets, cooperations within Supply Chain Management and inland waterway riverside infrastructure. Those tasks are realized on 3 different areas:

- logistics cooperation
- transport
- movement co-ordination and registration

The harmonized information system will allow users to achieve appointed targets based on the gathered and transferred information regarding each service.

Objectives

- Creation of following tasks: gathering, processing and giving information to the users in terms of navigational conditions
- Achieving the interoperability which guarantees access to the same database for all users is one of the tasks of RIS
- Improvement of efficiency in terms of increasing waterway capacity, reducing time and costs of transportation, ensuring efficient and economic connections between different transport modes

Financial and Legal Framework

The costs for implementing RIS in Poland are approximately PLN 80 m (about EUR 20 m) which are financed by European funds and the Polish budget.

In order to create a common European framework of a RIS concept, the European Parliament and the Council of Europe decided the directive 2005/44/EU.Legislative work concerning the construction of a RIS system in Poland was completed in 2008. Moreover, Poland implemented the RIS directive by Polish Parliament Act on 4th September 2008 (Dz.U. 2008, poz.1057).

Results and Evaluation

Implementing a RIS system leads to:

- Higher share of inland waterway transport competing by better fleet management and integrating that branch with intermodal delivery chains
- Optimal use of infrastructure due to more efficient terminals, drawbridges and use offflood-gates
- Improvement of transport safety by transferring information influencing on tactic and strategic navigational decisions
- Improvement of protection of natural environment by the possibility of monitoring dangerous products transport and increasing inland waterway transport instead of road transport
- Better position of inland waterway in the share of different transport modes including intermodal transport

Lessons Learnt

A lesson learnt regarding this project was the necessity of creating new administrative structures for building and implementation of a RIS system in Poland.

ADDITIONAL INFORMATION

- K.Woś: Harmonising River Information Service on Inland Waterways,
- Polish Journal of Environmental Studies, Vol.16, No.6B, 2007
- Business Magazine : K. Woś ; River Information in Poland, September 2009
- Stateczny A. Martime University, Szczecin: River Information Services in Poland, smart rivers'21, 2009.08.11
- Stateczny A., Interoperativenes of the River Information System of the Lower Odra in the aspectof the Electronic Navigational Charts ; Polish Journal of Environmental Studies, Vol. 17, No. 3C, 2008
- Stateczny, J.Łubczonek, M. Sobczak : Cell Production of Electronic Charts of the Lower Odra. Inland Shipping 2009, Szczecin, 2009.
- A.Stateczny: Development Research Project Technology of Building of River Information System against the Background of EuropeanResearch Projects. Polish Journal of Environmental Studies, Vol.16, No.6B, 2007
- Gazeta Prawna (Polish Legal Gazette), Change of Law of Inland Shipping, September 2008

The Change of the Company's Work Organization (Rail Tank Cars Delivery)

DB SCHENKER

Project Leader	*Project Partners*
PCC SPEDKOL Sp. z o.o. Krzysztof Chmielewski, Commercial Director ul. Szkolna 15, PL-47-225 Kedzierzyn - Kozle	**Chemical Producers**

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry cooperative **X Logistic Service Provider (LSP) and infrastructure**	**X between chemical Company and LSP** **X Only between LSP or initiated by LSP**	**X Railway**

Country	*Timescale*
Poland	**Start: June 2008** **End: not finished yet**

The Best Practice Case

This project deals with the change of cross-border transport organisation in order to diminish transport time, increase punctuality and reduce costs. All of these changes within the transport organisation should be put into action without any additional financing but with modifications of the company's work organisation.

Initial Situation

At the beginning, the client was served by PCC SPEDKOL forwarder, cooperating with PKP Cargo transport agent. The price of the service was fully accepted by the customer, but there was a quality problem especially with these two factors:

- Unpunctuality of deliveries,
- Additional cost caused by shunting operations.

Unpunctuality of deliveries caused a serious problem in production plans preparation, because of really small warehouse capacity (5 days of production).

Additional shunting costs for receiver has been generated by specific side track limitation: impossibility of train turn reverse effected by train drive out and shunting operations at the (distanced) third party area, being a time consuming and additional costs generating process.

OBJECTIVES

- Diminishing delivery time
- Reduction of transport cost by better rotation of rail tank cars (RTC's),
- Avoidance of additional cost
- Usage of project experiences in order to provide individual solutions to next customers.

FINANCIAL AND LEGAL FRAMEWORK

The project did not require additional finance either in the preparation stage or in service realization. The project implementation was not driven by any legal acts.

RESULTS AND EVALUATION

- Decrease of service lead time from 3-4 days to 8-10 hours
- Easier planning of production and sale
- Better trade relations with product's receiver
- Reduction of RTC's leasing cost
- Increase of customer satisfaction
- Gain of new experiences needed for offering similar services to other customers
- Increase of brand identity
- Better market position by offering individual logistic solutions adapted to the needs of different customers

LESSONS LEARNT

At the beginning of the project implementation there were problems concerning the coordination of information transfer between trade and logistics customer structures, procurement and logistics receiver structures and the person responsible for the project implementation in the company. The better way is to define the fields of competences in advance to guarantee a high level of acceptance.

ADDITIONAL INFORMATION

No special information was prepared concerning implemented solutions, because at that moment there is a lack of standardization. Each solution is treated individually so far.
Company homepage : www.pccrail.pl /pcc spedkol

The Best Practices within the Development Scope of Transmission Infrastructure (Pipelines) for Raw Materials and Chemical Products

Instytut Studiów Energetycznych

Project Leader	*Project Partner*
Instytut Studiów Energetycznych Sp. z o.o. Andrzej Sikora, President of Board Sniadeckich 17 PL-00-654 Warsaw	**Major gas consumers** **Polish Chamber of Chemical Industry** Jerzy Majchrzak, Polish Chamber of Chemical Industry Director Sniadeckich 17 PL-00-654 Warsaw

TAGGING

Overall area of BP	*Detailed area of BP*	*Involved transport modes*
X Industry internal **X Industry cooperative**	**X Tariffs** **X Unbundling** **X Distribution** **X TPA, Regulator** **X Between chemical companies** **X Between chemical Company and LSP**	**X Pipeline**

Country	*Timescale*
Poland	**Start: October 2002** **End: not finished yet**

THE BEST PRACTICE CASE

The following case represents a list of Best Practices in respect to pipelines as a transport mode for raw materials and chemical produts. These BPs are divided into two layers: on the one hand the business level (including securing supply and rules for a competitive gas market) and on the other hand the technical level.

At the business level, the following issues are mentioned:

- Third Parties Access (TPA) regulations
  Effective TPA stimulates trade, competitiveness and fluency on the gas market and does not stop or delay
- Potential investments in infrastructure. Furthermore TPA requires activities from the regulators. These activities include the control of services regarding each transfer or storage demand, monitoring the transmission or storage services and a full knowledge of the cost structure.
- Unbundling – Vertical Structures Separation
  Dividing or unbundling services is a

process of splitting up into legal, financial and operating parts. The integrated company's services are divided in a way that makes it possible to evaluate them independently from each other (distribution, commercial and manufacturing activity). The process of unbundling enables equal access for all companies and secures fair prices through the cost allocation to a specific company's activity.

- Tariff – Determining and Approving Rates
  Determining tariffs for transportation or storage in order to get access to the infrastructure should be transparent and non-discriminating for every market participant. The operating costs of a transmission company rises with the distance. Hence, OECD recommends distance rates in order to create appropriate incentives for investors. While in terms of distribution networks, where determining the routes of the transport of gas for the given seller is practically impossible, OECD recommends rates regardless of the distance (point to point, entry-exit, postage-stamp).
- Regulator – The Role and Type
  OECD also suggests that entitlements of the regulator should be transfered to the institution which is completely independent. Relations between the regulator and the institution are responsible for protecting the competition.

Initial Situation

Without the implementation of best practices mentioned above we are dealing with the vertically integrated market – monopoly. Such market is characterized by the lack of competing producers as a result of the lack of authorized recipients. Moreover, all functions of the gas sector from upstream to retail sale are concentrated in one subject and regulated. Currently in Poland there is a Single Buyer Model of the gas market. On this market there are: trade agreements, central position of Transmission System Operator (Gaz-System S.A.). Moreover, Single Buyer Model allows for the competitiveness to increase between producers.

The best practices mentioned above tend in the direction of creating the fully competitive retail market.

Objectives

- Suppression of cross subsidizing, i.e. covering one kind of activity expenses (or one kind of customers) with income from another activity (or customer groups)
- Introduction of rates which will be non-discriminating for each market participant

Financial and Legal Framework

The financial framework for the implementation of best practices in the layer of both business and technical support is not estimated.

Due to the integration to the European Union, the Polish industry has adjusted its technical regulations to European Union valid regulations. These regulations involve the following points:

- Functional general recommendations
- Steel used for constructing gas pipelines has to be produced according to A and B class pipes requirements
- Polythene which is used as a construction material for gas pipelines need to fulfill specific requirements
- Situating gas pipelines – Standards allow only particular types of pipelines (tunnels, channels, on bridges, flyovers)
- Gas station requirements
- Compressor stations of gas need to be designed in respect to safety rules, fire precautions and environmental requirements
- Gas storage – natural gas can be stored both in pressure/cryogenic reservoirs and in geological systems

RESULTS AND EVALUATION

- Development of feedstock and target markets for chemical goods
- Creation of a fully competitive retail market with suppliers' variety

LESSONS LEARNT

There were internal problems concerning overall reluctance to changes - to change the organizational, institutional and technical level. With the introduction of the gas directive into national legislation the following key problems occured: separate accounts for each of the gas industry, define the basic trade and expeditionary conditions, organization of technical regulations and standards.

ADDITIONAL INFORMATION

- Guidelines of Good TPA Practice 1(GGTPAP-1) – 2002,
- Guidelines of Good TPA Practice 2 (GGTPAP-2) – 2003,
- Guidelines of Good Practice for Gas Balancing (GGPGB) – 2006,
- Guidelines for Good Practice on Open Season Procedures (GGPOS) – 2007.
- In technical level the best practices are described in:
- Functional general recommendations – PN-EN 12007 – 1,
- Construction of steel gas pipes – PN-EN 10208 - 2 + AC and PN-EN 10208 – 1,
- Construction of polyethylene pipes – PN-EN 155,
- Arranging the gas pipeline in the field – PN-EN 12007 – 1,
- Situating gas pipelines – PN-EN 1594 and the EN 12001,
- For gas station requirements – PN-EN 12186,
- Compressor gas stations – PN-EN 12583,
- Gas storing – EN 1918-1>5.
- Homepage: www.pgnig.pl

4 Summary

The ChemLog Partners have collected a number of different „best-practice“ solutions with the aim to exchange experience and transfer innovative solutions. For this purpose an intensive discussion process with logistic service providers and chemical companies has taken place to identify best practice and to speak about framework conditions and success factors. This information has been summarised in this handbook to disseminate knowledge to a broader range of interested stakeholders. Contact details of the respective knowledge carrier of the specific best-practice are mentioned in the description and can be contacted in case of interest.

The ChemLog project offers a platform for cooperation for chemical logistics in Central and Eastern Europe and invites all interested stakeholder to participate. The work package “Exchange of Experience” has paved the way for deeper cooperation of the project partners. This process will be further intensified in the 2nd half of project duration with the focus on the implementation of several feasibility studies for investment preparation and the development of the joint strategy and action plan.

For further information visit website www.chemlog.info