Interreg CENTRAL EUROPE
European Union European Regional Development Fund

ChemMultimodal

CONSOLIDATION: REPORT ON ANALYSIS OF MULTIMODAL TRANSPORT OF CHEMICAL GOODS – PLANNING TOOLS WITHIN THE INDUSTRY

Region: Mid-Europe | Deliverable D.T1.1.5 | Version 0.1 30/05/17

Description of deliverable

Partners had to complete reports on current situation of multimodal transports in 5 regions and 4 countries:

DE: Saxony-Anhalt,

PL: Masovia + National Level,

CZ: Usti + National Level,

SK: National Level,

IT: Novara (Northern Italy – Lombardy, Piedmont, Venezia)

HU: National Level

AT: Upper Austria

Deadline: ?

1. Transport Planning Tools

Besides questions concerning multimodal transport, its strengths and weaknesses, potential shifts, internal and external promotion of multimodal transport the topic of transport planning with its utilized tool were addressed. In particular the utilized tool and its corresponding advantages and disadvantages were put into the focus of the question. Furthermore, companies were asked about their opinions in terms of cloud computing and the potential for improvement of the current planning tool.

First of all the practitioners had to state their organizational activities in terms of transport planning and the degree of being involved in such. Secondly, the tool which was/is utilized to plan transport was described more in detail. Thirdly, strengths, weaknesses and potential for improvement in terms of the tool were discussed and finally the issue of cloud computing was addresses.

1.1. Organisation and Execution of Planning

The companies, which participated in the survey, answered in a way that does not allow drawing any conclusions in terms of planning organisations and executions relative to multimodal transport.

In the majority of the cases the organization of transport is the responsibility of the *Austrian* LSP. One major reason for outsourcing transport related issues to a third party is the non-value adding nature of this activity. Nevertheless, the customer's requests regarding transport mode, route etc. are considered when organizing the transport. The decision for the engaged LSP is primarily based on a call for bids process. As a result a contract for a certain period of time is set up. Once the contract expired a new call for bids is started. Price plays a critical role in the decision-making of the chemical companies.

In the *German* market chemical companies outsource almost the entire organisation and execution of transport planning to an external logistics service provider. For that reason there is a strong competition between the LSPs. The strongest argument to choose an LSP is the price. That leads to a steady change of the LSP, which in turn potentially leads to lower standards of quality. More strategic partnerships would be better, but due to the fact that the big chemical companies often do not have a logistics or logistics planning department, there is no key contact person to deal with it. The choice of the LSP is often done by the sales or marketing department and they just decide on cost aspects.

Among the chemical companies in the *Czech Republic* almost half of the transport (49 %) is organized by an external logistics service provider. However, in the area of transport route, mode and intermodal terminals the customer is integrated, thus cooperation is in place. 23 % of transport is solely organized by the company and 28 % are solely organized by the LSP.

In *Hungary* the results show that planning is executed in various ways and no clear tendency is visible. Either the LSP or the chemical company executes 100 % of the planning issues. Also similar procedures such as in Austria and the Czech Republic are applied. This means considering customers' requests while planning and executing. Another way mentioned is that the chemical company owns the LSP and gives the task to them. Furthermore, in case of outsourced transport related activities weekly meetings are arranged in order to do the fine tuning of the transport plan.

In ***Italy*** the tasks in terms of planning are clearer. All LSPs executing hazardous goods transports operate in cooperation with chemical companies. However, there is a difference when it comes to the size of the company. Bigger and international chemical companies organize transport planning internally.

Among the ***Polish*** chemical companies five plan 66 % - 100 % in cooperation with LSP and five further ones plan 66 % - 100 % individually. On the other hand four chemical companies execute 33 % of their planning with the LSP and four others have outsourced the entire transport planning to a LSP.

In the ***Slovakian*** market chemical companies almost outsource the entire organization to a third-party logistics service provider. However, LSPs stand in direct connection with chemical companies in terms of route, mode and intermodal terminal. Similar to Italy, also bigger Slovakian chemical companies organize transport by themselves.

As a conclusion two major aspects can be highlighted as similarities between the countries. Especially in terms of company size differences regarding transport planning become obvious. So, bigger companies organize transport internally. In case that the planning activities are outsourced chemical companies are likely to be involved in the process or at least state requests regarding route, transport mode, terminals etc. Very often the decisive factor is price, especially when the sales and/or marketing are in charge of decision-making.

1.2. Utilized Tools

Unsurprisingly, no standard software exists for transport planning, thus chemical companies and LSPs utilize different systems and solutions. In terms of the utilization of IT systems very often the size of the company plays a significant role. Bigger companies have a tendency to utilize tools, which are integrated within the entire cooperation. Additionally, own IT departments work on continuous development and updates for the employed software.

In terms of potential for improvements only a minor percentage considers the system in place as perfect, thus do not see a need for adaptions or updates. The majority in turn evaluate their tool as sufficient for their purposes but do not consider it as perfect. Common statements were that, firstly, there is always room for improvements and no system is absolutely perfect. Secondly, in many cases the full potential of the tool is not utilized. One major reason for this is insufficient education of staff.

The *Austrian* chemical companies, especially large and medium ones, use a self-developed tool or an ERP software, which is interconnected with the LSP. Small companies neither have a separate logistics software tool nor do they have an interface with the LSP. Among the LSPs the situation is quite similar as large companies employ own IT departments to develop and update the software continuously. Additionally, existing and standard systems (i.e. SAP) are in use or adjusted to the respective criteria. The use of company specific tools, supply chain integrated systems and company overlapping programs also find their application in practice.

- Cloud computing: Chemical companies do not use it | Three LSPs answered with yes. Others considered is as an option for the future

Six chemical companies in the ***Czech Republic*** have an integrated corporate IT system, which is very often developed by SAP, in place. Besides this, certain subsystems are either purchase or self-developed (i.e. ISDL by Oltis/Jerid). Some companies set up a cooperation. With reference to the LSPs in CZ the utilization of IT tool differs significantly. So, two LSPs use a tool for logistics planning, which is interconnected with the supply chain. Further two, use a tool, which is integrated with the customer and supplier. Subsystems, which are integrated in the corporate IT system, are used by further two LSPs. Additionally, all others use tools, which are not integrated in the corporate IT system and are either developed by the company itself or some external supplier

- Cloud computing: not used

German chemical companies don't use any specific tool for transport planning. SAP is the only common software. It is used for the order process and the planning of the loading times via timeslot booking. There

is no strategic transport planning within the chemical companies and due to that there is no use of a planning tool.

The German logistics service providers do use some planning tools, but there is no basic solution used by all or many of them. Every LSP uses its own software. The functions in that software are kept simple. For example there is a planning tool called TimoCom – Frachtenbörse. This is a cloud solution. All LPS are in there but it represents just the road transport. A similar tool for multimodal transports or rail transport that could be used by all LSP's is missing. Because of that there is no chance of cooperation between the LPSs concerning multimodal transport.

- There are some cloud computing tools existing in Germany like Multimodal Promotion or Intermodal Map, but they are not used by the chemical companies or the Logistics Service Providers interviewed for this report

Hungarian companies have different solutions. First of all, specific tariff registration and controlling software with the advantage of strong control and cost saving are mentioned. Secondly, due to the simplicity in handling Excel spread sheets are favoured. Thirdly, companies tend to use integrated IT tools in order to benefit from exact demand tracking and quick reaction and finally SAP was mentioned as an ultimate solution, as the advantage of this software is that it is a validated system covering the total range of transport planning.

- Cloud computing: No statement

In ***Italy*** the chemical companies also use separate planning tools. In some cases they are interconnected with main company (HQ) or a subsystem of the overall IT system is in place. No company has the IT system integrated with the LSP in the supply chain but an interconnection with the customer to receive logistics or business information exists. LSPs use specific tools, which are interconnected with the customer but no integration in the supply chain is currently in place or anticipated for the near future.

- Cloud computing: only some companies use it; LSPs do not use it

The most popular solution among ***Polish*** companies and in this case for both groups of respondents was the system integrated within one company – 26 % of chemical companies and 19 % of Logistics companies are using this solution. The second most common IS, rated at the same level (16%) by both groups, was a system integrated between the company and suppliers and/or customers. Systems, which are integrated inside the company with different LSPs and forwarders, are rarely used by chemical companies but in comparison more popular for the LSPs.

- Cloud computing: The use of a platform as a base for information flow is a rarity and cloud computing models are only used occasionally.

In ***Slovakia*** the use of the following three options was mainly mentioned. Firstly, an integrated IT system within entire supply chain (vendor, buyer, LSP) is used. Hereby, also the LSP has access to the system and data which is available online at the platform. The utilization of this platform triggers/supports/demands for communication among the users. Time savings, information flow and security are positive effects of the system. High costs are negative ones. Secondly, a corporate IT system which is integrated with the supplier and buyers is in place. However, phone, mail and Excel spreadsheets are inevitable tools. Thirdly, planning is executed within the company and the order is allocated to suitable/adequate LSP afterwards.

- Cloud Computing: No statement

In case that the planning is outsourced chemical companies do not see a need for implementing a transport planning tool. However, the only thing relevant for the shipper is to get informed regarding the status within the transport (planning) process. Among the LSPs different tools are applied, thus little to no cooperation is possible as most of the times the systems are not compatible with each other. A shared base such as a platform for gathering relevant data would be useful. However, if cooperation is still executed the coordination among the actors is rather challenging.

Perception of Cloud Computing

Within the recent years cloud computing gained in importance and became a series issues for data storing and sharing. The perspectives of the chemical companies and logistics services providers differ and this very often stands in relation with the size of the company. Disregarding if chemical companies or LSP, the bigger the company the more likely it is to already be in contact with cloud computing. Also in terms of countries a slight tendency regarding the perception and use of this technology is obvious. Whereas in Italy LSPs do not use cloud computing at all, three of the participating LSPs in Austria have it in use. As an overall result the majority of the questioned companies do not use it. However, the importance for future business relations is expected to be high.

1.3. Pros and Cons

The chemical companies and LSPs had to evaluate the IT system, which is currently in place to execute planning tasks. In the countries Austria, Italy and Poland it was possible to draw a clear line between chemical companies and LSPs, whereas in Germany, the Czech Republic, Hungary and Slovakia a more generalized overview of the strengths/weaknesses or advantages/disadvantages was possible.

Austria

Chemical companies:

- Strengths:
  - Time and money savings
  - Rather low Break-even-point
  - Gathered documents
  - Online access for participants in Supply/Transport Chain

- Weaknesses
  - Complexity and manageability of comprehensive tool

LSP:

- Strengths
  - Keep costs low but implementing a reasonable value
  - Data security (can also be weakness – getting more sophisticated)
  - Online information flow and access

- Weaknesses
  - Time required to information access
  - Limited access to data
  - Risk (fear) of data loss when tool is developed in-house and shared with partners

On both sides, chemical companies and LSPs, an agreement regarding a continuous potential for improvement exists. Thus, the implemented systems are not considered as ultimately perfect.

Czech Republic

- Strengths
  - Time savings are ranked on the first place
  - Access to many information from different sources and low costs are ranked behind time savings
  - Online information flow between partners and data security are ranked on the last two places

- Weaknesses:
  - Long time for access to the information(1st rank)
  - Lack of connection between partners and limited access to the number of information (2nd and 3rd)
  - Low level of data security and high costs (4th and 5th)

- A wider integration of the IT system within logistics planning would be welcomed
- Improvements in the following area:
  - Larger integration of the corporate IT systems with external LSPs
  - Development of a communication tool for chemical companies & LSPs
  - Platform to share knowledge and experience, alternative transport solutions

Hungary:

- Company specific tariff registration and controlling software with the advantage of strong control and cost saving
- Excel sheet with the advantage of simple and easy management
- Company integrated IT tool with the advantage of exact demand tracking and quick reaction
- SAP with the advantage of validated system covering the total range

Germany:

- Pros:
  - Especially international and bigger chemical companies have long standing relationships with LSP's.
  - The tools are normally home-grown, but serve the individual purpose.
  - The tools are typically used to exchange information rather than any short-term logistic planning data.
  - Time and cost savings

- Barriers:
  - There are no common tools available which are used by all or many LSP's and chemical companies.
  - The logistics planning processes (long-term vs short-term / daily are not coherent. Long-term planning data are used for the bidding process, short-term planning data are used for the day to day activities.
  - Short-term planning tools like timeslot booking do not show the anticipated success.
  - The short-term planning and execution is very much dependent on the actual traffic situation and other dependencies, like holidays for example.

Italy:

Chemical companies:

- Strengths:
  - Experienced people when tool is developed internally
  - Provides help in planning:
    - These tools are either separate software packages that are interconnected with the main company /corporate information system or subsystems of the central IT structure. No company has its IT system integrated by LSP in the supply chain, whilst there is a complete interconnection with customers for exchanging relevant logistic/business information.
- Weaknesses:
  - Especially multinational ones believe that their tool is performing quite well → short-term need for improvement

LSP:

  - Do not see real weakness in their tools
  - BUT opportunity for continuous improvement exists all the time

Poland

Chemical companies:

- Pros
  - 1st time savings
  - 2nd data security and 3rd data flow between partners
  - 4th access to multiple sources of information and 5th low costs

- Cons:
  - 1st limited access to information
  - 2nd long time to access information and lack of communication between partners
  - 3rd high costs
  - 4th low data security

LSP:

- Pros:
  - 1st data security
  - 2nd time savings and 3rd data flow between partners
  - 4th access to multiple sources of information and 5th low costs

- Cons:
  - 1st low data security
  - 2nd high costs and 3rd limited access to information
  - 4th long time to access information and 5th lack of communication between partners

Slovakia:

- Integrated IT system within entire supply chain (vendor, buyer, LSP)
  - Advantages of such solution are in time saving, good information flow, good level of information security, as a disadvantage can be mentioned higher costs.

Conclusion

It was underlined that freight coming in from overseas is mostly speeded in a multimodal manner. This is due to the availability of high volumes and distances, which are long enough to exploit the advantages of multimodal transport. Nevertheless, a common statement was that also continental transport shows potential for an increase in multimodal transport.

Both, chemical companies and Logistics Service providers, agree on the existence of potential for improvement. Only a minor portion claimed that their tool is in no need for improvement. Nevertheless, a further aspect which was addresses by the practitioners was the issues of data security. On the one hand the online information flow and possibility to provide access to involved partners is considered as an important advantage, especially for the future. However, on the other hand companies are concerned about data misuse. Thus one major problem on the LSP's side is the reluctance to share data with other LSPs, because this in turn would be likely to enable horizontal cooperation – with the benefit to reach the critical mass for transporting multimodal.

One major outcome regarding advantages of the planning tool was savings, either in terms of time, money or the combination. It was followed closely by data security which plays a significant role when using an integrated IT system along the supply chain. However, this aspect was also regularly mentioned as a weakness of the utilized tool. On the other hand major disadvantages mentioned are the time to access data, which could find a solution in providing access to necessary data for involved actors. As time poses a critical factor within the transport business, this is articulated as a barrier to be solved.

In terms of the utilization of cloud computing the questioned companies shared very different views. In some, especially multinational countries, cloud computing was already introduced. Whereas in others cloud computing was not even an option yet. However, there are companies which are taking an implementation of the concept into account for the future or are currently working on integrating it. Same as with the utilized planning tool no clear prioritization of favoured systems can be made. Very often it is connected with the size of the company or the country. In order to do so, further and more detailed input would be needed from the practitioners. Tools, which still find their application among companies, are Excel spread sheets, mail and information sharing over the phone.