

Complex assessment of logistic centre utilization by enterprises in the Dél-Alföld Region



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1. Presentation of the project, research objective

This study has been prepared in frame of the **Harmonized Development of Logistics Centers in CB Region** project with the identification name **LOGIC**. The implementation of the project was supported by the IPA Cross-Border Cooperation Programme for Hungary and Serbia. The Hungarian project partner was the **Dél-Alföldi Regionális Innovációs Ügynökség Közhasznú Egyesület**, while the Serbian project partner was the **Otvoreni univerzitet doo Subotica**. The former organization took responsibility for the development of a study that contains analysis of the present needs, information, assessments and development opportunities related to the logistic centres in the Dél-Alföld Region as well as a survey about cooperation with Serbian enterprises and about the utilization of logistic centres in the border region of Serbia. For the purposes of the study, primary and secondary data collection was carried out. In accordance with the project action plan Hungarian enterprises represented the target group of the primary data collection, innovative enterprises above all. Also in accordance with the action plan of the project we processed the collected data through statistical analyses and stored them in a data base. The dissemination of research results was assured through promotional activities. Promotional activities involved two workshops organized in Szeged and we also involved the on-line and off-line media to reach the widest possible circle of beneficiaries. Through this study we intend to contribute to the justification of regional development processes related to logistics centres.



2. Research methodology

2.1. Main assumptions

In order to have points to set out from in the research carried out for the purposes of this study we articulated several assumptions. Primary and secondary data collection was conducted to verify these assumptions. These assumptions could have been formulated as hypotheses as well, however, the constraints of our representative sample – that is being argued at a later point – did not allow for the implementation of hypothesis analysis methods known from mathematical statistics.

Our main assumptions were the following:

1. The utilization of services of logistics centres in the Dél-Alföld Region is not on a satisfactory level
2. Enterprises do not know enough about logistics centres in the Dél-Alföld Region
3. Relatively few enterprises intend to use the services of logistics centres in the Dél-Alföld Region
4. Enterprises are satisfied with the services of logistics centres in the Dél-Alföld Region
5. When using the services of logistics centres in the Dél-Alföld Region the main concern of enterprises are costs
6. The demand for services of logistics centres in the Dél-Alföld Region is related to the export orientation of enterprises
7. The demand for services of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises



8. The demand for services of logistics centres in the Dél-Alföld Region is related to the type of activities of enterprises
9. The demand for services of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises
10. The demand for services of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises
11. Awareness of logistics centres in the Dél-Alföld Region is related to the export orientation of enterprises
12. Awareness of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises
13. Awareness of logistics centres in the Dél-Alföld Region is related to the type of activities of enterprises
14. Awareness of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises
15. Awareness of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises
16. There are unexploited opportunities in the area of railway, water or air transport both in relation to supplies and transport of goods produced by enterprises
17. Cooperation between Hungarian and Serbian enterprises is weak
18. Few Hungarian enterprises use the services of logistics centres located in the border region of Serbia
19. Enterprises do not find harmonized development of logistics centres in Hungary and Serbia important



2.2. Data collection methodology

In order to survey the opinion of enterprises operating in the Dél-alföl Region about logistics centres we used a questionnaire to collect data. We contacted innovative enterprises or those that owned intellectual property. The reason for choosing innovative enterprises as target group was that no such survey had been done in the region before in spite of the fact that this target group is especially important from the point of view of logistics development and economic development in general. It is important to point out that we did not only contact enterprises with headquarters or branch offices in the region as other enterprises could also have needs related to the logistics centres in the Dél-Alföld Region.

As the complete list of innovative enterprises in the region is not available we could not apply probability sampling and because of this our survey cannot be considered as representative. After the sampling the sample contained mainly small and medium size enterprises, there was only a smaller number of big enterprises. We do not have information about the main characteristics of the innovative enterprises in the region such as their distribution according to size or branch so we cannot determine how representative our sample is from these points of view.

We contacted the enterprises by electronic mail. The enterprises receiving our mail could fill-in the questionnaire on-line, there was no possibility of answering the questions in the traditional way, on paper.

The rate of enterprises responding to the poll was very low that could distort the statistical imaging of reality as the responding enterprises could have different characteristics from the contacted enterprises regarded as a whole. The low response rate becomes evident from the fact that from the thousands of e-mails sent out we only received **102 fully completed**



questionnaires. We have to remark that in case of certain questions the number of answers was even smaller as the non-obligatory questions was left out by many enterprises. On the other hand there were some questions with a bigger number of answers as in addition to the fully completed questionnaires **we have also taken into account the questionnaires partially filled in so the number of answers to some of the questions is over 170.**

To verify our assumptions we divided our questionnaire into the following group of questions:

1. General information (I. group of questions);
2. Transport and storage (II. group of questions);
3. Logistics centres (III. group of questions);
4. Regional cooperation (IV. group of questions).

With regard to the last group of questions it has to be noted that by regional cooperation we actually meant interregional cooperation in the cross-border area of Hungary and Serbia as the mirror project of the research project serving as a basis for this study is carried out in the Voivodina.

2.3. Methodology of statistical analysis

The main part of the questionnaire is made up of closed questions so we used these for statistical processing. The statistical analysis was primarily done by the standard tools of descriptive statistics. We have determined and graphically presented various absolute and relative frequencies or in some cases averages. The distribution of averages was calculated by a computer software, basically to one decimal accuracy, rounding numbers in accordance with the general relevant rules. All numbers were rounded by the rule, rounding up from 0,05% and rounding down below that. Resulting from this, occasionally the sum of



distributed percentages may be slightly different from 100%. In the tables – where indicated – the sum line always shows 100%. There were questions with the possibility of multiple answers. In such cases the sum of percentages indicating the frequency of the answers is over 100%, so the tables presenting these questions do not have sum lines. Furthermore, in case of highly significant questions we analysed the so called cross tabs, also known as contingency tables, in all possible combinations. When analysing the results we partly relied on our practical experience as well.



3. Research results

3.1. The situation of logistics in the Dél-Alföld Region

Logistics basically represents a pack of services involving management elements of transport, shipping, storage, warehousing, handling, packing, postage, dispatch, customs, distribution and distribution chain combined with directly linked transport related activities and business services. Increasing the role of logistics in the economic processes of the Dél-Alföld Region plays an essential role in the increase of competitiveness of the region. The role of logistics in world economy is shown through the fact that the global logistic market makes a significant share of the global GDP. Transport assures a secure background for the society and economy, balancing regional differences and the enabling of the steady flow of goods and services play an important part in creation of logistics. However, despite of the advantages it also puts a financial burden on the society that comes to surface on the community level. In addition to the global processes, the intensification of the flow of goods among the regions within Europe contributed to the growth in demand for logistics services in Hungary also. Answering the demands of the growing Middle- and Eastern-European market introduces important development opportunities that generate a global flow of goods.

In the case of logistics, transport (road, railway, water, air and combined transport) distribution centres and IT infrastructure play an important part. Considering the elements of the service, the most important are the time related elements of logistics services.

Right quality transport logistics secure the basis of a competitive economy. **Nationally owned, characteristically middle size enterprises should be the primary target of economic**



development support, especially those able to provide complex logistics services and have development potentials. The intensification of the flow of goods increased the role of transit transport in the Dél-Alföld Region. The objective was to establish distribution chains that assured the most effective flow of goods in terms of costs and time. However, **putting the burden on the roads** is not desirable on the long term, not only because of environmental but also because of financial factors involved through infrastructural development projects.

Combined (intermodal) transport is a special type of transportation logistics which involves an intermodal transport of freight in an intermodal container using multiple modes of transport. Collaboration of the branches of transport is necessary. The main objective is the transport the freight in the most effective way. In this context **the development of road and rail connections, port infrastructure and the spread of water transport** have significant roles. However, the new approach of recent years popularized commodity transport that concentrates both on goods and the comparative advantages of sub-branches. The effective utilization of the transport system, taking into account its best qualities and taking an advantage of them could mitigate the eventual unfavourable external effects.

The foundation and development of logistics centres of national importance started back in 1993, however their concept has been continuously changing. There are three main types: intermodal logistics centres, regional service centres and local company centres.

Infrastructure in the Dél-Alföld Region

In spite of the mostly favourable geographical position of the Dél-Alföld, transport infrastructure is not on a satisfactory level, its technical condition is highly deteriorated. Considering quantity and quality indicators we can conclude that the region lags behind not



only the Western-European standard but also the much lower national standards. Infrastructural links between the western and southern parts of the country are much weaker than those between the southern and northern parts. In accordance with this, cross examining the N-S and E-W directions of flow and transport corridors – Szeged, Békéscsaba – should logistics development plans be considered, harmonized and supported. The transport system of Hungary has Budapest in its centre with a ray-shaped territorial distribution of roads, on the regional level cross links connecting these roads are missing or of low quality. The density of the basic infrastructure is satisfactory though, in most cases the technical conditions are well below the transportation needs and the EU average.

Considering the quality of roads there is a high share of roads qualified as bad or not satisfactory compared to the other parts of the country. Improving road quality would not only reduce the risk of accidents but also environmental burdens – thus improving life quality – and internal accessibility would also improve. Noise pollution would be reduced as well as the possibility of accident-prone situations. However, not only land infrastructure needs development. The range of water transport is extremely low in the Hungarian section of the River Tisza. Compared to other countries with similar waterway opportunities the share of water transport is one of the smallest in transport capacity as a whole in Hungary. It means that our transport system does not have a proper link to important sea ports with regard to the export and import of goods. The Danube has the most important role in international water transport. **The Danube and the Danube ports (Baja, for example) play significant parts in the export of agricultural products and need to be developed as such.** By the European Commission initiative re-uniting the Danube basin as part of integration processes in Middle- and South-Eastern Europe serves as a basis for a new development axis. In the half or two-thirds of the year there is only a restricted use of the Danube waterway in Hungary, depending on the water levels. The construction of ports with continuous operating capacity is not quick enough. **Taking into account the interests of**



development and European integration of the ports and logistics centres on the River Tisza, it is also necessary to integrate the Serbian section of the Tisza that serves the interests of the Szeged international port as well. The utilization of the Tisza for transport is hindered by the frequently low water levels, sedimentation and the temporary incapacity of sluices.

Considering the harmonized development of transregional logistics development projects and their support by external economic and political means, the **Békéscsaba-Szeged-Arad-Temesvár region can play an important role in the direction of Romania**, both in the field of networks and logistics centres.

Logistics centres in the Dél-Alföld Region¹

The infrastructural and technical equipment of logistics centres in the region is outdated so further investments are necessary. The quality and quantity of capital assets (transport and storage related assets) and complementary IT assets (transport management and product identification systems) is not satisfactory, we lag behind in the field of using modern technologies. There are serious quality problems in terms of vehicles as well (especially in rail and water transport). The interest of investors is not prominent in the underdeveloped regions. Intensified involvement of national company chains in the region is essential from the point of view of regional development.

Small and medium-size enterprises are important logistics service providers themselves. The majority of micro companies, however, does not have intense logistics activities, their supply system is more comparable to that of households and for this reason their access to logistics networks also is similar to the population's access to logistics. Small SMS are targeted but

¹ Logistics action plan 2009-2013



not necessarily interested in market opportunities provided through logistics networks. Their logistics interest is restricted to the local level. The intensity of logistics related activity of middle or upper range SMEs depends on their basic area of activities and they can be potentially interested both on the sales and the supply side.

The relation of digital development and logistics²

The market is not capable of creating the necessary conditions for the digital development of settlements on its own. Encouraging innovation and investment is the factor that can assure technological development. The **supply of service providers capable of providing complex logistics services with modern IT equipment should be supported** (for example: GPS equipment, radio identification systems, modern IT tools supporting entrepreneurship).

Priorities and opportunities of infrastructural development³

In the Dél-Alföld region the improvement of accessibility of small regional centres by road and public transport is of basic importance. The regional development strategy of the three counties in the Dél-Alföld region is based on the principles of the national regional policy – also applied in the EU. There is one basic objective highlighted in Békés and Csongrád counties. While in Békés the more successful integration into the developing national economy is considered the main priority, in Csongrád the increase of international and national competitiveness is the key issue. The strengthening of the Dél-Alföld Region is articulated as a completely separate programme. Dynamic poles such as Szeged play an important part everywhere. There were additional ideas in the Bács-Kiskun county where the focus is put on capacity building in underdeveloped regions and settlements. The

² Digital Renewal Action Plan 2010-2014

³ Dél-Alföld Operational Programme 3rd Priority – Transport infrastructure development



objectives are to **intensify the intermodality of national and regional transport, to create the infrastructure for intelligent transport management** and through these the improvement of economic – and where possible – environment friendly accessibility. Enabling the change of transportation modes, **deeper integration of the logistics centres into the main transport infrastructure (road, rail, air and water)**. Construction and development of linking/accession rails and roads as well as of external port infrastructure is considered priority. Related to the development of transport infrastructure in the region, in addition to improving accessibility – that involves the improvement of accessibility in the smaller regional centres by road and public transport – the support of sustainable transport development should also be considered a priority. However, from the point of view of logistical aspects, **improving accessibility has a significantly higher impact on the economic processes**. In order to assure access to urban services and enhance economic development and the spread of social innovations major improvements are necessary both in the peripheries and central areas.

Peripheries:

- construction, modernization, reconstruction and extension of byroads, collector and regional roads
- construction of missing section of collector and regional roads with the aim of improving accessibility of smaller regional centres

Central areas:

- reconstruction, widening and strengthening local roads and public roads, reconstruction of pedestrian crossings

Development elements enhancing the optimization of the flow of goods:



- creating mobility between different modes of transport, extension of handling possibilities, reducing the time of handling
- improving accessibility of logistics centres
- extension of transportation links between logistics centres
- integration of logistic services for enterprises with less need for transportation – collection-distribution transport for quantities less than a full vehicle capacity cargo

Intermodal transport⁴

Through developing transport that combines different modes of transport and the related logistical services the availability of opportunities given by the favourable geopolitical situation increases, while they are also satisfying the principles of sustainable development. Supporting the technological, infrastructural and IT development of intermodal transportation logistics enables such solution initiatives as technological modernization of intermodal linking points, integrated information systems or the introduction of electronic data processing, improving the conditions of storage and handling. **Intermodál logistics is market oriented so it is preferable to maintain the supporting benefits**, and one should strive to reduce the administration burdens among this group of enterprises. The interested transportation-logistics enterprises make up this direct group of beneficiaries. It is essential to rethink the creation of a institutional framework for the purposes of sub-branch coordination. Central decision making about logistics development was a former practice, that resulted in the present logistics service network that is growing denser in the Dél-Alföld Region also. However, many investments remain underutilized in the area of transportation logistics so complementary support to market benefits is recommended.

⁴ New Széchenyi Plan



3.2. General characteristics of enterprises in the sample

Although our sample cannot be considered a representative one, from the point of view of research methodology it is justified to examine the relevant general characteristics related to the topic of the research.

The majority of responding enterprises is not export-oriented, as in 55,9 % of the cases the share of export is less than 1% of the annual revenue. On the other hand, in about a quarter of the cases export plays a significant role in the total revenue. Presumably, these enterprises need the services of logistics centres more, including the services of the logistics centres in the Dél-Alföld Region as well.

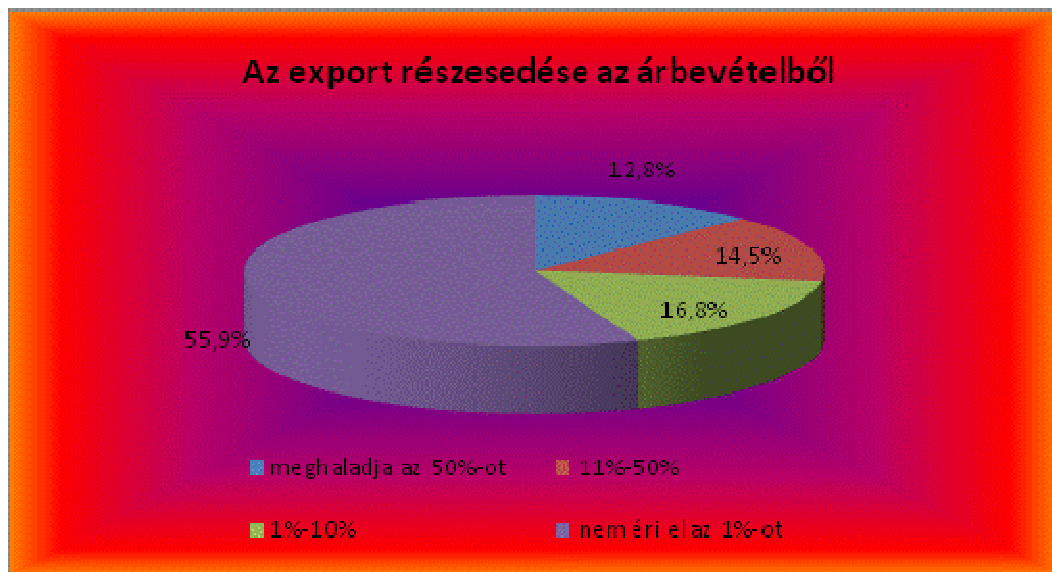
The table and the pie-chart below show the absolute and the relative frequencies in relation to the share of export:

1. table: The share of export in the revenue of the responding enterprises

Share of export in revenue	Number of respondents	Ratio of enterprises
More than 50%	23	12,8%
11%-50%	26	14,5%
1%-10%	30	16,8%
Less than 1%	100	55,9%
Total:	179	100,0%

1. graph: The share of export in the revenue of the responding enterprises





The majority of the responding enterprises have their headquarters in the Dél-Alföld Region. It should be added however, that enterprises with headquarters elsewhere can also be active in the region. According to that their involvement into the research is justified as they could have needs or opinions related to the logistics centres in the Dél-Alföld Region. In relation to the composition of the sample according to headquarters it should be remarked that enterprises with their headquarters in Bács-Kiskun County dominate. It could be a sign of the higher demand for the services of logistics centres in the Dél-Alföld Region.

The table below shows the absolute or relative frequencies in relation to the place of enterprise headquarters:

2. table: Headquarters of responding enterprises

Headquarters	Number of respondents	Ratio of enterprises
Kecskemét	30	20,0%
Békéscsaba	3	2,0%



Hungary-Serbia

IPA Cross-border Co-operation Programme

Baja	13	8,7%
Orosháza	2	1,3%
Szeged	23	15,3%
Hódmezővásárhely	3	2,0%
Kiskunhalas	8	5,3%
Szolnok	2	1,3%
Jánoshalma	2	1,3%
Mélykút	1	0,7%
Harta	1	0,7%
Kiskőrös	2	1,3%
Kalocsa	2	1,3%
Soltvadkert	1	0,7%
Lakitelek	1	0,7%
Jászszentlászló	2	1,3%
Kiskunfélegyháza	6	4,0%
Szarvas	7	4,7%
Tiszaújváros	1	0,7%
Szentes	1	0,7%
Deszk	1	0,7%
Dombóvár	2	1,3%
Budapest	18	12,0%
Berzence	1	0,7%
Ózd	1	0,7%
Kaposvár	2	1,3%
Pécs	4	2,7%
Újlengyel	1	0,7%



Kisújszállás	1	0,7%
Győr	1	0,7%
Debrecen	3	2,0%
Akasztó	1	0,7%
Vecsés	1	0,7%
Dunakeszi	1	0,7%
Tiszaszentimre	1	0,7%
Total	150	100,0%

In case of about three-quarters of the responding enterprises the foundation of the company happened more than 10 years ago, so our questionnaires were mostly filled in by enterprises that had been operating for a long time and as such probably had a founded opinion about the logistics centres in the Dél-Alföld Region. The very small response ratio of young, less than 2 years old enterprises provides a further proof for the former assumption.

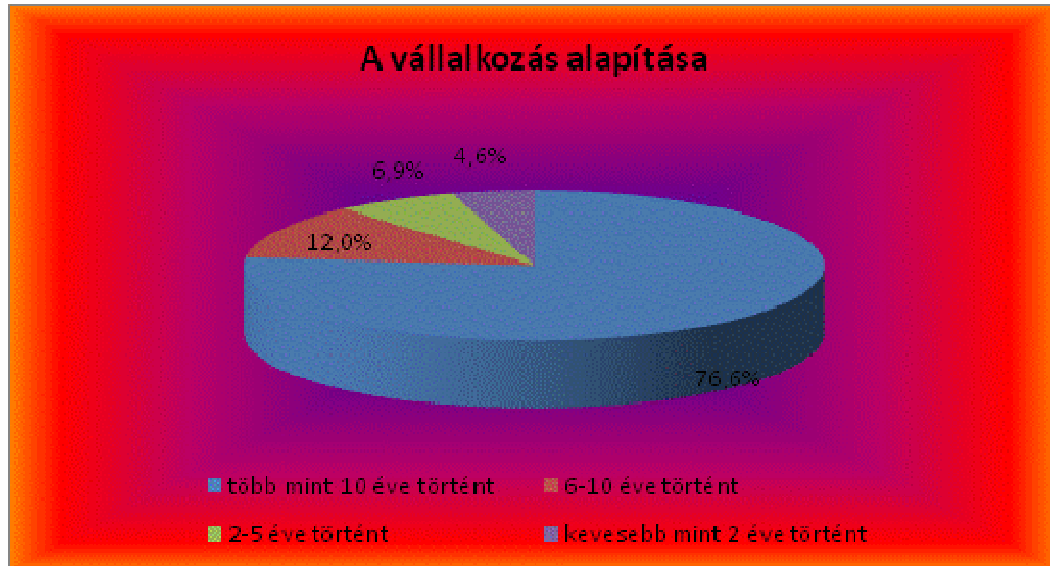
The table and the pie-chart below show the absolute or relative frequencies in relation to the foundation time of enterprises:

3. table: Foundation time of responding enterprises

Foundation of enterprises	Number of respondents	Ratio of enterprises
More than 10 years ago	134	76,6%
6-10 years ago	21	12,0%
2-5 years ago	12	6,9%
Less than 2 years ago	8	4,6%
Total	175	100,0%



2. graph: Foundation time of responding enterprises



The majority of the responding enterprises is active in the area of trade or other services. The next in the row after services are industrial activities while only a negligible percent is involved in agriculture. The extremely low participation of enterprises involved in agriculture is unfavourable from the point of view of the representativeness of the sample as the Dél-Alföld Region is mainly an agricultural region.

The table and the pie-chart below show the absolute or relative frequencies in relation to the activity type of enterprises:

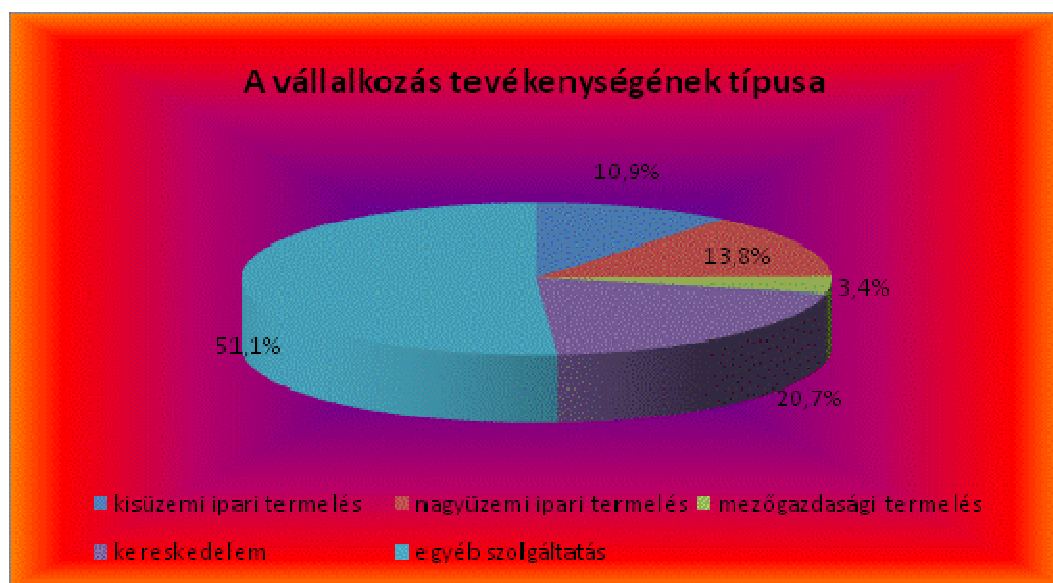
4. table: Activity type of responding enterprises

Enterprise activity type	Number of respondents	Ratio of enterprises
Small scale industrial production	19	10,9%
Large scale industrial production	24	13,8%
Agricultural production	6	3,4%



Trade	36	20,7%
Other services	89	51,1%
Total	174	100,0%

3. graph: Activity type of responding enterprises



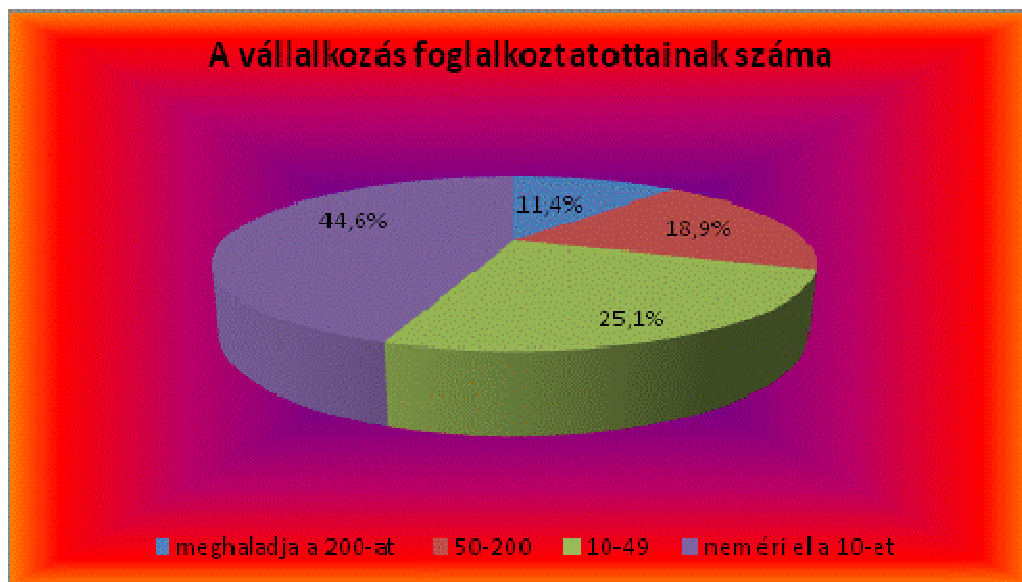
With regard to the number of employees about 70% of the responding enterprises are micro or small enterprises. The presence of large enterprises in the sample is not negligible either, as the share of companies with more than 200 employees is more than 10% so they are over-represented in the sample. We should stress this fact as bigger enterprises presumably demand the services of logistics centres more and the real need may lag behind the needs presented through the sample.

The table and the pie-chart below show the absolute or relative frequencies in relation to the number of employees of enterprises:

5. table: Number of employees at the responding enterprises

Number of employees	Number of respondents	Ratio of enterprises
Over 200	20	11,4%
50-200	33	18,9%
10-49	44	25,1%
Under 10	78	44,6%
Total	175	100,0%

4. chart: Number of employees at the responding enterprises



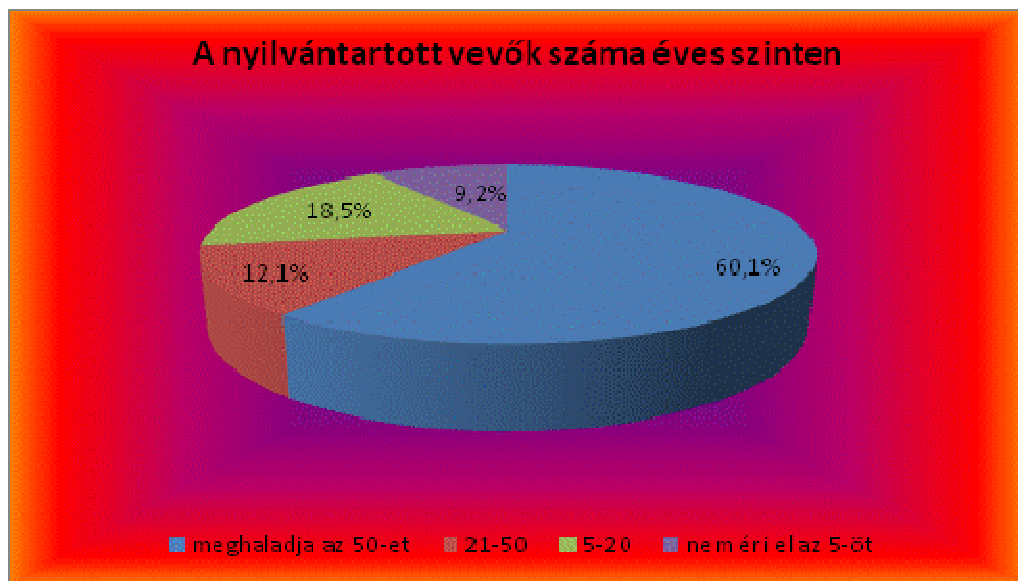
The majority of the responding enterprises has relatively many customers, as in 60% of the cases the number of registered customers is over 50 on the annual level. In case of about one-fifth of the companies however, the number of registered buyers is under 5. Latter enterprises probably satisfy special customers' needs so they can only count on a limited number of potential buyers. Nevertheless, there could be other explanations for the small number of customers.

The table and the pie-chart below show the absolute or relative frequencies in relation to the registered customers:

6. table: Registered customers of responding enterprises

Registered customers on annual basis	Number of respondents	Ratio of enterprises
Over 50	104	60,1%
21-50	21	12,1%
5-20	32	18,5%
Under 5	16	9,2%
Total	173	100,0%

5. graph: Registered customers of responding enterprises



3.3. Statistical analyses with a single variable



In the area of distribution, road transport dominates with the responding enterprises in the majority of cases. These results correspond with our expectations as this is the most characteristic way of transport for the enterprises in the region. At the same time these results draw the attention to the **unexploited opportunities in the field of rail, water and air transport**. Only a few companies report about the significant role of combined or water transport.

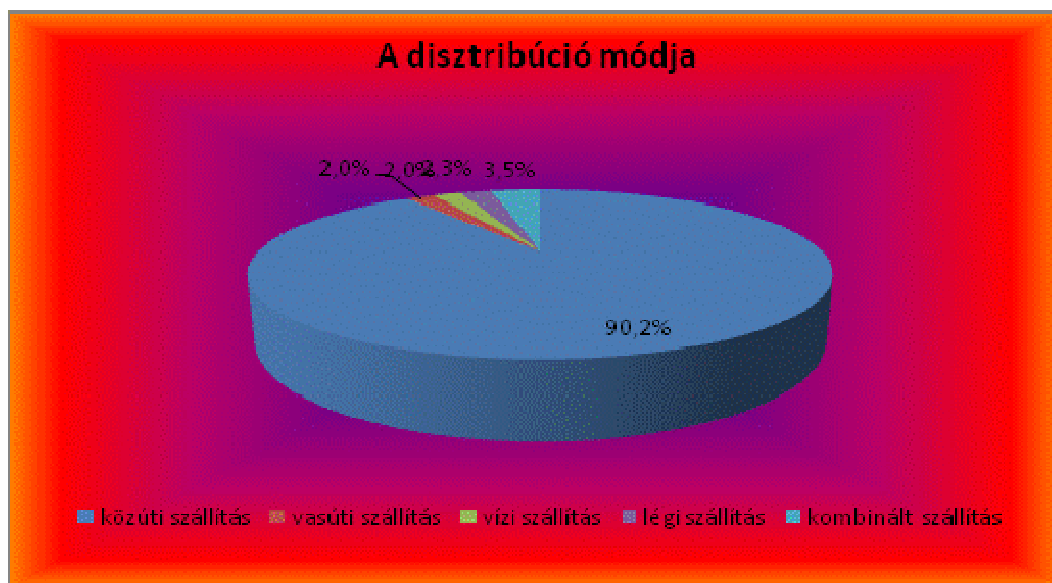
The table and the chart below shows the relation of distribution to the mode of transportation:

7. table: Ways of distribution at the responding enterprises

Distribution	Distribution share
Transportation by road	90,2%
Transportation by rail	2,0%
Transportation by water	2,0%
Transportation by air	2,3%
Combined transport	3,5%
Total	100,0%

6. chart: Ways of distribution at the responding enterprises





Similarly to distribution the supply of various products and raw materials is also primarily linked to road transportation. By the majority of the companies transportation happens exclusively by road which again draws attention to the unexploited opportunities in the areas of rail, water and air transport.

The table and chart below show the absolute or relative frequencies in relation to the supply of goods or raw materials:

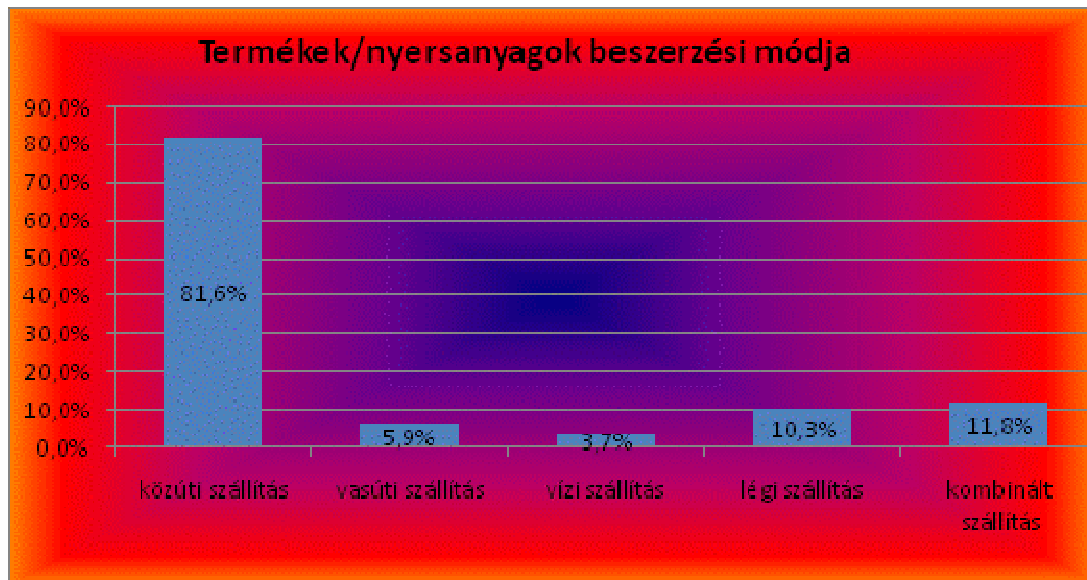
8. table: Supply of goods/raw materials

Supply scheme	Number of respondents	Ratio of enterprises
Transportation by road	111	81,6%
Transportation by rail	8	5,9%
Transportation by water	5	3,7%
Transportation by air	14	10,3%
Combined transport	16	11,8%



Total	154	
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7. graph: Supply of goods/raw materials



In relation to the supply of goods and raw materials we should add that in about one-sixth of the cases there is absolutely no transport in the enterprise. These enterprises presumably have little need for the services of logistics centres.

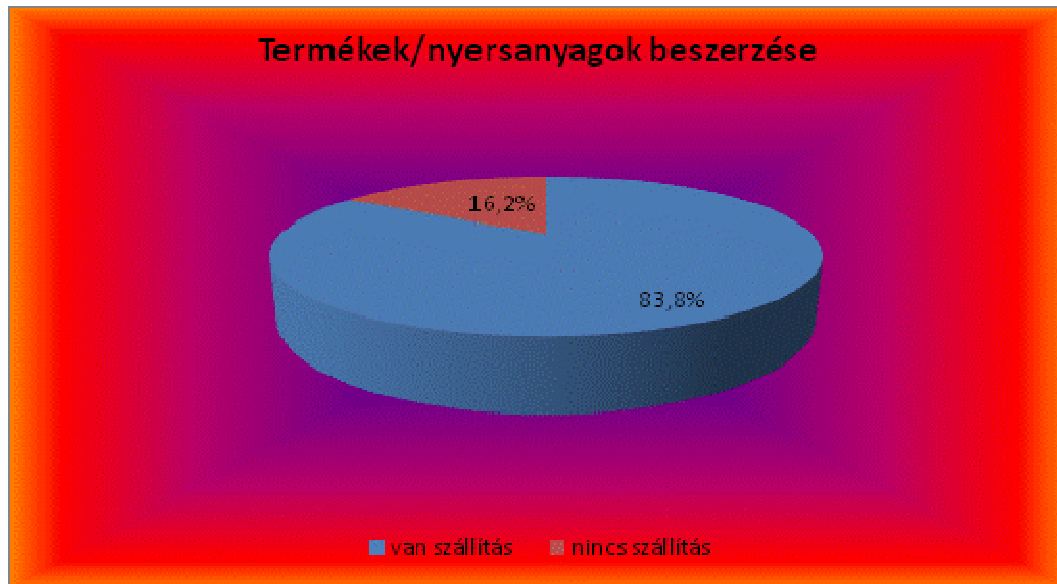
The table and chart below show the absolute or relative frequencies in relation to the existence of transport in the supply of goods and raw materials:

9. table: Supply of goods/raw materials

Supply of goods/raw materials	Number of respondents	Ratio of enterprises
There is transport	114	83,8%
There is no transport	22	16,2%
Total	136	100,0%



8. table: Supply of goods/raw materials



In the majority of the responding enterprises daily or weekly transportation services were primarily mentioned so transport is quite a frequent event. According to this a relatively **strong demand could emerge for the services of logistics centres as the frequent transportation characteristic for numerous enterprises could intensify this demand.**

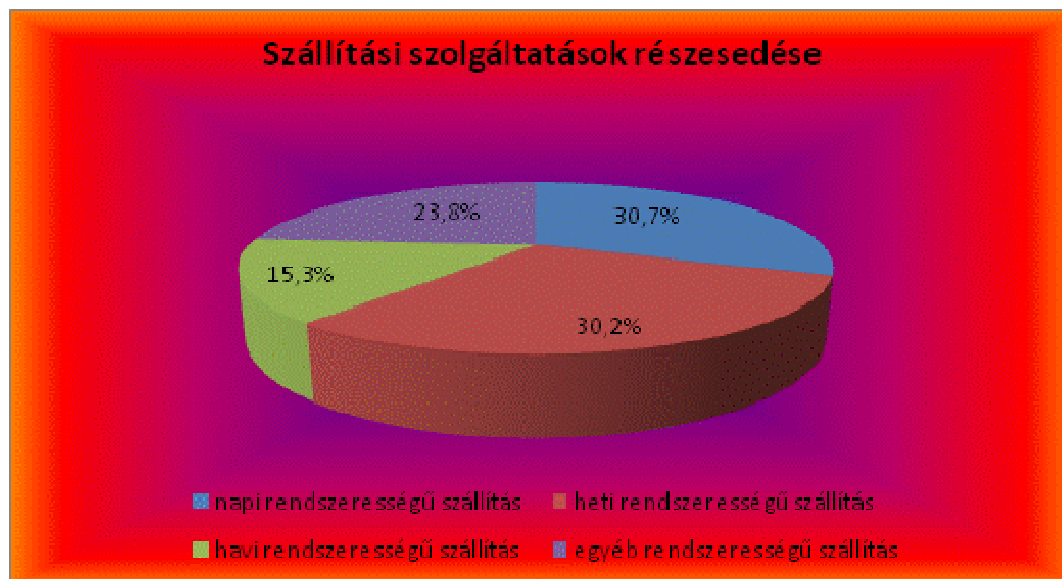
The table and pie-chart below present the distribution of transport services in relation to the frequency of transportation:

10. table: Frequency of transport services

Share of transport service	Ratio of transport frequency
Daily transport	30,7%
Weekly transport	30,2%
Monthly transport	15,3%
Other frequency of transport	23,8%

Total	100,0%
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9. graph: Frequency of transport services



At almost half of the responding companies there are no transport capacity. If there are some transport capacity they are relatively small. In spite of this, the transport capacity of 14,3% of the responding enterprises are over 200 tons. These enterprises with bigger transportation capacity might have a more serious need for the services of logistics centres.

The table and pie-chart below show the absolute or relative frequencies in relation to the transport capacity of enterprises:

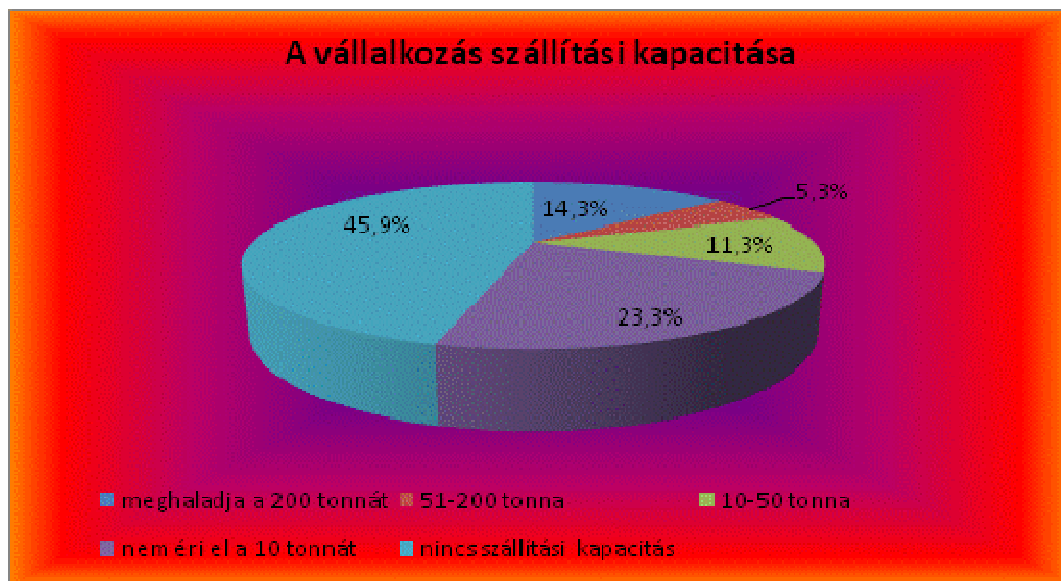
11. table: Transport capacity of responding enterprises

Transport capacity of enterprises	Number of respondents	Ratio of enterprises
Over 200 tons	19	14,3%
51-200 tons	7	5,3%



10-50 tons	15	11,3%
Under 10 tons	31	23,3%
No transport capacity	61	45,9%
Total	133	100,0%

10. graph: Transport capacity of responding enterprises



Almost two-thirds of the responding enterprises have storage capacity. These enterprises with storage capacity are more likely to demand the services of logistics centres that enterprises without storage capacity.

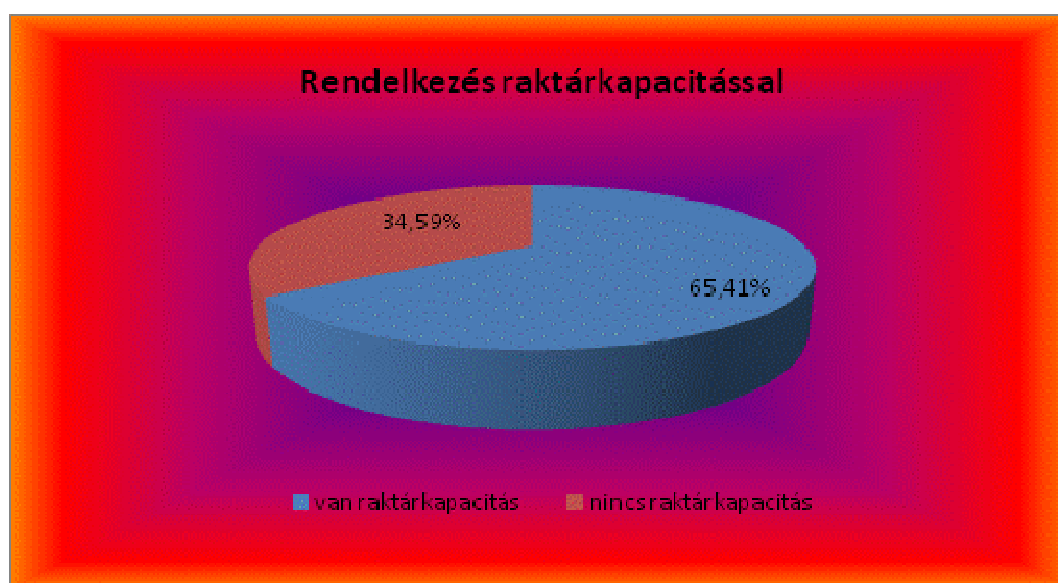
The table and pie-chart below show the absolute or relative frequencies in relation to the existence of storage capacity:

12. table: Existence of storage capacity at the responding enterprises

Existence of storage capacity	Number of respondents	Ratio of enterprises
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There are storage capacity	87	65,41%
There are no storage capacity	46	34,59%
Total	133	100,0%

11. graph: Existence of storage capacity at the responding enterprises



If we only examine enterprises with storage capacity we can see that in case of enterprises with open-air storage the size of open air storage strongly varies. The same number of responding enterprises marked the three different given values: 100-500 sq metres, 501-2000 sq and more than 2000 sq metres. When it goes about bigger storage capacity we assume that their existence is accompanied by a stronger demand for services of logistics centres.

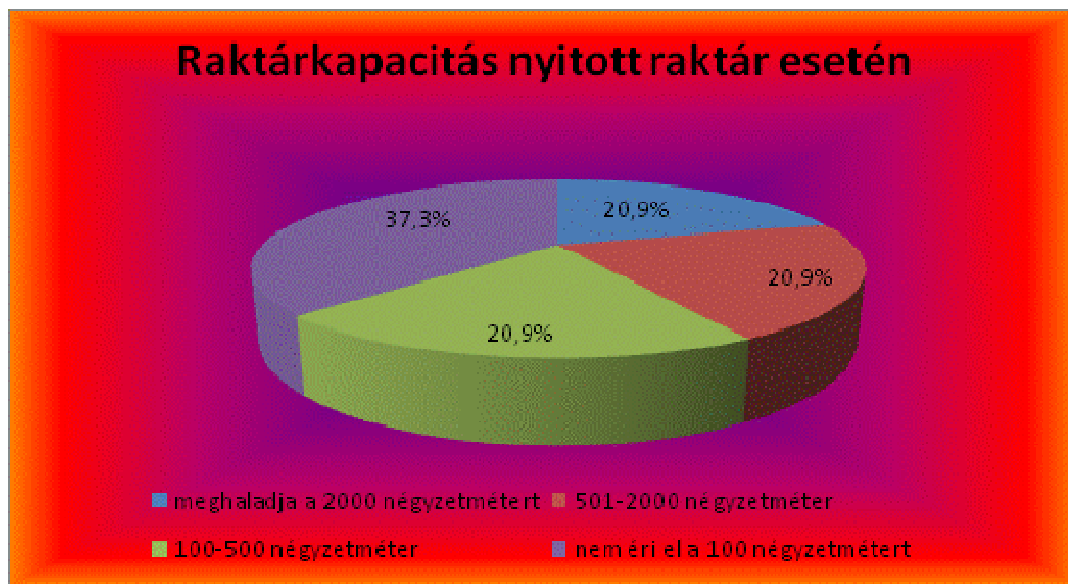
The table and pie-chart below show the absolute or relative frequencies in relation to the capacity of open storage spaces:

13. table: Storage capacity of responding enterprises in case of open air storage



Storage capacity – open air	Number of respondents	Ratio of enterprises
Over 2000 sq metres	14	20,9%
501-2000 sq metres	14	20,9%
100-500 sq metres	14	20,9%
Under 100 sq metres	25	37,3%
Total	67	100,0%

12. graph: Storage capacity of responding enterprises in case of open air storage



Switching from open air storage spaces to closed storage capacity, in about two-thirds of the cases the closed storage capacity of enterprises owning one is under 500 pallets. At the same time in one-eighth of the case the capacity of the closed storage is over 2000 pallets. We have more precise data related to the capacity of closed storage spaces so we share some further statistical data. The average storage capacity meant 2610,261 pallets. This high value is due to the participation of some enterprises with extremely big storage capacity.

The outstandingly high values resulted in high statistical variability of the sample (12999,56). In order to filter the effect of outliers it might be useful to characterise the sample with its median in addition to the average. The median of the sample was only 100 pallets.

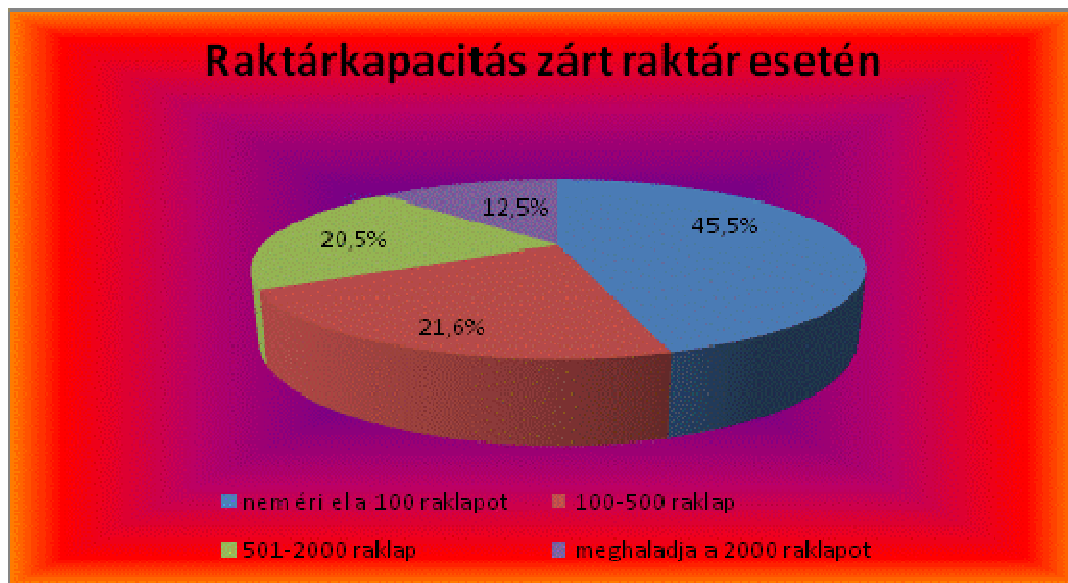
The table and pie-chart below show the absolute or relative frequencies in relation to the closed storage capacity:

14. table: Storage capacity of responding enterprises with closed storage space

Storage capacity - closed	Number of respondents	Ratio of enterprises
Under 100 pallets	40	45,5%
100-500 pallets	19	21,6%
501-2000 pallets	18	20,5%
Over 2000 pallets	11	12,5%
Total	88	100,0%

13. chart: Storage capacity of responding enterprises with closed storage space





Similarly to the case of closed storage capacity, in case of missing storage capacity the enterprises had more options in addition to marking a class so we are able to characterize the sample beyond the percentage distribution. On average 2405 sq meters of storage capacity was missing. Some enterprises with extremely high demands for storage capacity are responsible for the high value. Presumably, enterprises with such high storage capacity demands need the services of logistics centres more. However, there are only few such enterprises. Almost one-third of the responding enterprises says that the missing storage capacity is under 100 sq metres. The zero median value show, furthermore, that more than half of the responding enterprises have no missing storage capacity. The statistical variability is significant (18494) in the case of missing storage capacity as well.

The table and pie-chart below show the absolute or relative frequencies in relation to the missing storage capacity expressed in sq metres:

15. table: Missing storage capacity of the responding enterprises expressed in sq metres

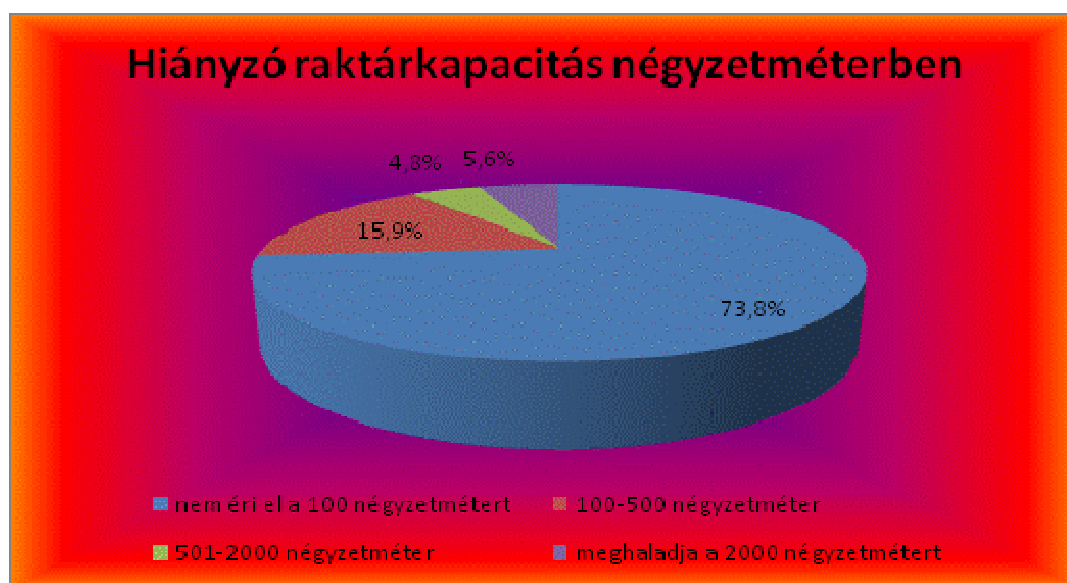
Missing storage capacity - m ²	Number	of	Ratio of enterprises
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33



	respondents	
Under 100 sq metres	93	73,8%
100-500 sq metres	20	15,9%
501-2000 sq metres	6	4,8%
Over 2000 sq metres	7	5,6%
Total	126	100,0%

14. graph: Missing storage capacity of the responding enterprises expressed in sq metres



Missing storage capacity expressed in pallets vary extremely as the value of statistical variability was 271565. Again, the role of enterprises indicating extreme values should be considered. These companies are responsible for the fact that the average missing storage capacity are expressed in 25244 pallets. The latter value is very high, considering that the missing storage capacity is only in 5% of the cases over 2000 pallets and in the majority of the cases remains under 100 pallets. The median value was also zero in the case of missing storage capacity expressed in pallets, so the majority of the enterprises has no missing storage capacity. All these results serve as justification for recalculating the values without

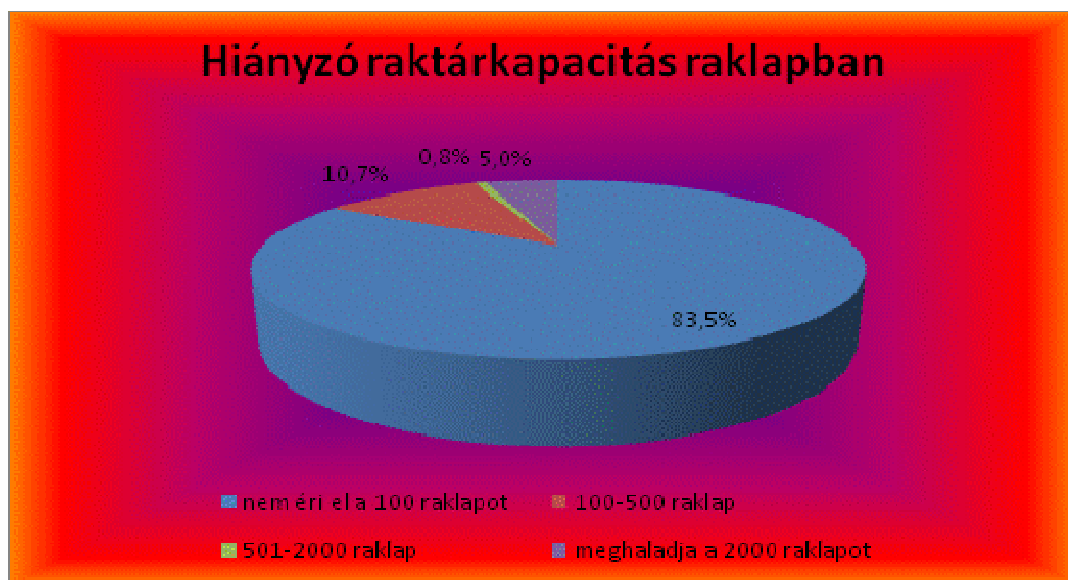
the highest value element of the sample. The results of the second calculation show 454 pallets as missing storage capacity and the dispersion was 2081.

The table and pie-chart below show the absolute or relative frequencies in relation to the missing storage capacity expressed in pallets:

16. table: Missing storage capacity of the responding enterprises expressed in pallets

Missing storage capacity - pallets	Number of respondents	Ratio of enterprises
Under 100 pallets	101	83,5%
100-500 pallets	13	10,7%
501-2000 pallets	1	0,8%
Over 2000 pallets	6	5,0%
Total	121	100,0%

15. graph: Missing storage capacity of the responding enterprises expressed in pallets



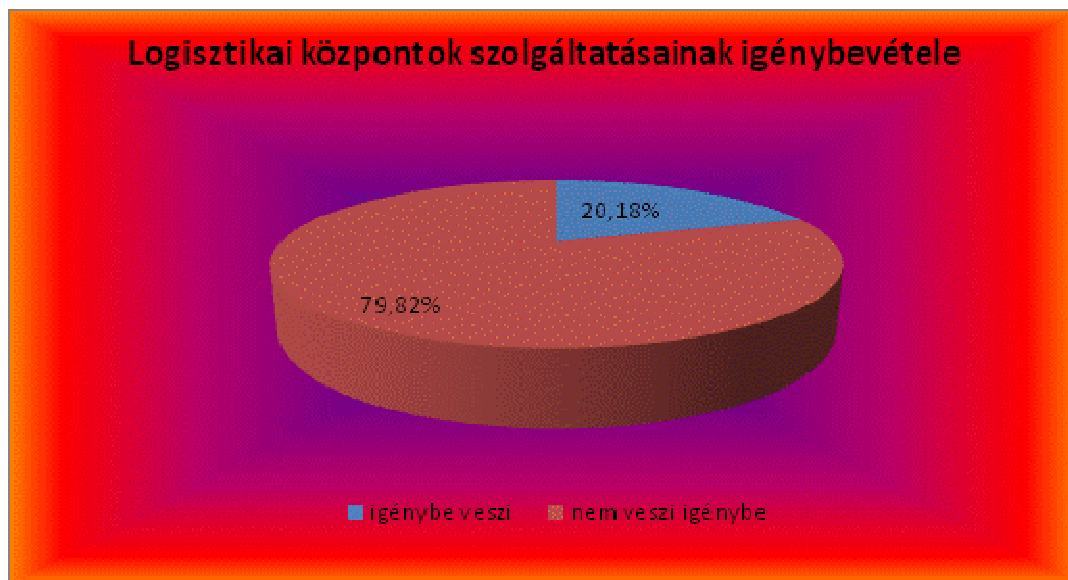
Only one-fifth of the enterprises uses the services of logistics centres. These data show that **logistics centres in the Dél-Alföld Regio have rather significant opportunities if, through improving their services they become able to reach to a wider circle of enterprises.**

The table and pie-chart below show the absolute or relative frequencies in relation to the use of services of the logistics centres

17. table: Use of logistics centre services

Use of logistics centre services	Number of respondents	Ratio of enterprises
Use	22	20,18%
Do not use	87	79,82%
Total	109	100,0%

16. graph: Use of logistics centre services



The majority of the enterprises in the sample don't use the services of logistics centres so they haven't answered the questions related to the satisfaction with the services. Enterprises had the opportunity to assess their satisfaction with the services of logistics centres on a five level scale. The average level of satisfaction was not low. Only one respondent marked the value 1 expressing the lowest possible satisfaction. The general level of satisfaction was 3,42. It should be added, however, that the value 5, expressing the highest level of satisfaction was also only marked by a few respondents. We can conclude that **enterprises are relatively satisfied with the services of logistics centres in the Dél-Alföld Region, however there is significant space for improvement.**

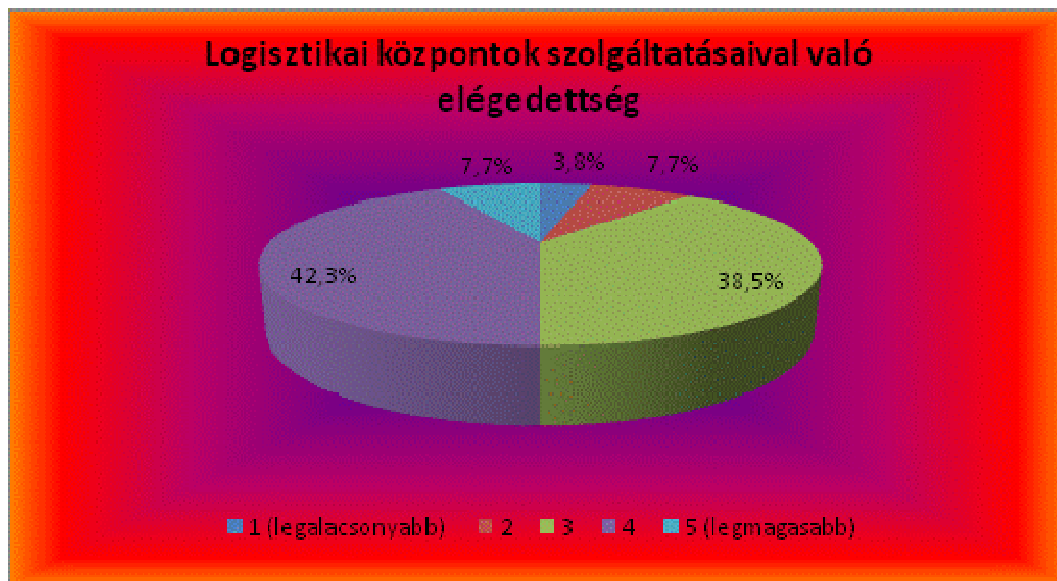
The table and pie-chart below show the absolute or relative frequencies in relation to the level of satisfaction with the services of logistics centres:

18. table: Respondent enterprises' level of satisfaction with the services of logistics centres:

Satisfaction with the services of logistics centres	Number of respondents	Ratio of enterprises
1 (lowest)	1	3,8%
2	2	7,7%
3	10	38,5%
4	11	42,3%
5 (highest)	2	7,7%
Total	26	100,0%

17. graph: Respondent enterprises' level of satisfaction with the services of logistics centres:





The responding enterprises use the following services of logistics centres:

- transport;
- clearance;
- storage;
- shipping;
- waste collection;
- picking;
- supply;
- order;
- material delivery;
- groupage shipping;
- dispatch;
- cooling;
- railroad handling;
- port handling;
- cross-docking;



- forwarding;
- distribution;
- bar code registration system;
- finishing services.

Among the responding enterprises that do not use the services of logistics centres there were only 10,8 % that plan to use the services of logistics centres in to following two years. This is an unfavourable result as it indicates that **at present, relatively few enterprises plan to use the services of logistcs centres, though by the improvement of these services the situation could probably be changed.**

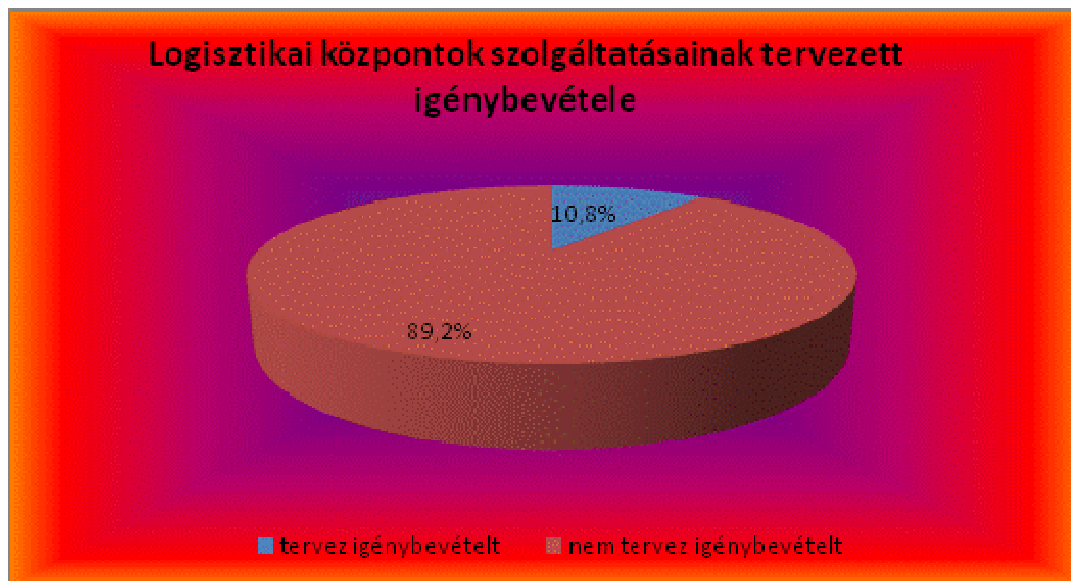
The table and pie-chart below show the absolute or relative frequencies in relation to the planned use of the services of logistics centres:

19. table: Planned use of logistics centre services

Planned use of logistics centre services	Number of respondents	Ratio of enterprises
Plan use	7	10,8%
Do not plan use	58	89,2%
Total	65	100,0%

18. graph: Planned use of logistics centre services





The responding enterprises plan to use the following services of logistics centres:

- waste collection;
- data providing;
- food material delivery;
- packing material delivery;
- storage;
- transport.

About half of the responding enterprises considers reliability most important factor when using the services of logistics centres. Costs are also considered important by many companies. On the other hand accessibility was marked as one of the most important factors only in little over tenth of the cases. These results indicate that **logistics centres in the Dél-Alföld Region should primarily improve their reliability and reduce the costs of their services in order to encourage as many enterprises as possible to use these services.**

The table and pie-chart below show the absolute or relative frequencies in relation to the



most important factors when using the services of logistics centres:

20. table: Important factors when using the services of logistics centres

Important factors when using the services of logistics centres	Number of respondents	Ratio of enterprises
Reliability	54	49,5%
Accessibility	12	11,0%
costs	33	30,3%
Customer service	4	3,7%
timing	6	5,5%
Total	109	100,0%

19. chart: Important factors when using the services of logistics centres



Surprisingly almost three-quarters of the responding enterprises do not know any logistics centres in the Dél-Alföld Region. These data clearly indicate that the **wider promotion of**

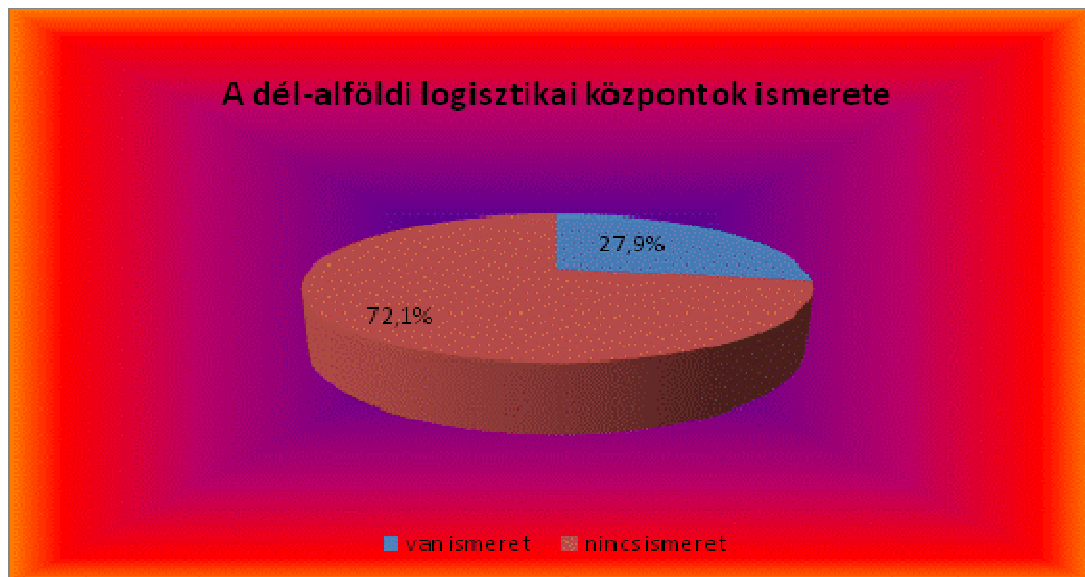
their services provides important opportunities for the logistics centres in the Dél-Alföld Region.

The table and pie-chart below show the absolute or relative frequencies in relation to the awareness of logistics centres in the Dél-Alföld Region:

21. table: Awareness of logistics centres in the Dél-Alföld Region

Awareness of logistics centres in the Dél-Alföld Region	Number of respondents	Ratio of enterprises
There is awareness	29	27,9%
There is no awareness	75	72,1%
Total	104	100,0%

20. graph: Awareness of logistics centres in the Dél-Alföld Region



Those enterprises that knew logistics centres could usually name only one logistics centres. Only a few respondents could name more logistics centres. According to the answers the

two best know logistics centres in the Dél-Alföld Region are the logistics centres of Bertrans Zrt. in Kecskemét and the Szegedi Ipari Logisztikai Központ.

A little over tenth of the responding companies has cooperation with Serbian enterprises. This is a relatively low percentage, considering that the headquarters of the most are located in counties bordering with Serbia. All these show that **there are still significant opportunities in the area of cooperation between Hungarian and Serbian enterprises. One of the tools for this could be the development of logistics centres that play an important part in the flow of goods between Hungary and Serbia.** Naturally, other measures are also necessary. Another could be the support of clusters built on cooperation of Hungarian and Serbian enterprises.

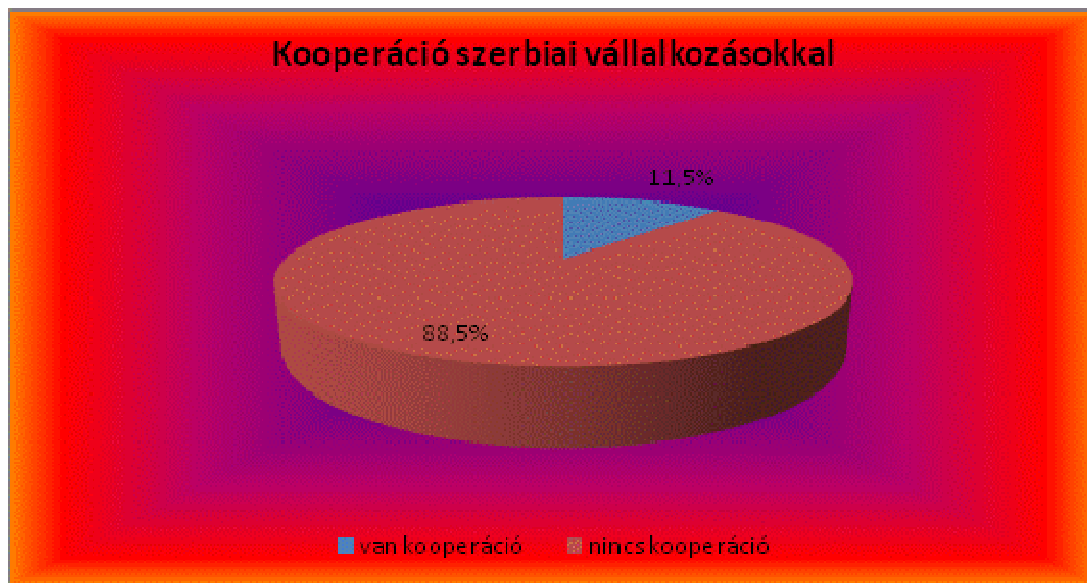
The table and pie-chart below show the absolute or relative frequencies in relation to the cooperation with Serbian enterprises:

22. table: Cooperation with Serbian enterprises at the responding enterprises

Cooperation with Serbian enterprises	Number of respondents	Ratio of enterprises
There is cooperation	12	11,5%
There is no cooperation	92	88,5%
Total	104	100,0%

21. graph: Cooperation with Serbian enterprises at the responding enterprises





We get a slightly better picture of Hungarian-Serbian cross-border cooperation if we examine to what extent do the enterprises plan cooperation with Serbian companies in the following two years. The results show that about a third of the responding enterprises plan cooperation with Serbian enterprises. So, in the near future, **potentially favourable tendencies are expected in the area of cooperation between Hungarian and Serbian enterprises, however it is necessary to raise awareness among the widest possible circle of entrepreneurs about the business opportunities of cross-border cooperation.** Through promoting the importance of cooperation more Hungarian enterprises could incorporate cooperation with Serbian enterprises into their business plans. In case of many companies however, this could be **preconditioned by the development of logistics centres in the Dél-Alföld Region.**

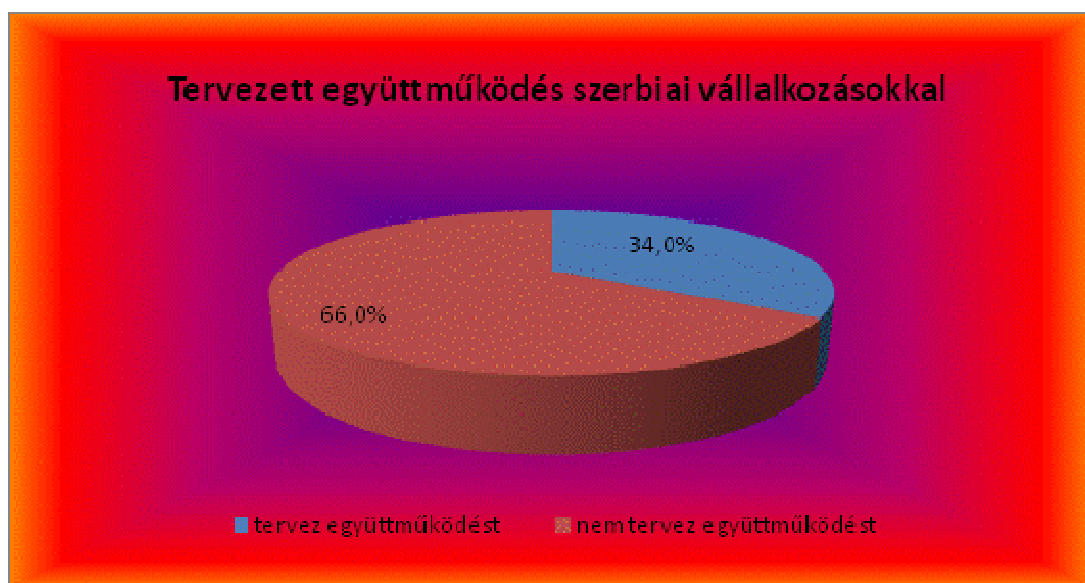
The table and pie-chart below show the absolute or relative frequencies in relation to the planned cooperation with Serbian enterprises:

23. table: Planned cooperation of responding enterprises with Serbian enterprises



Planned cooperation with Serbian enterprises	Number of respondents	Ratio of enterprises
Plan cooperation	35	34,0%
Do not plan cooperation	68	66,0%
Total	103	100,0%

22. graph: Planned cooperation of responding enterprises with Serbian enterprises



Only a negligible part, about 3% of the responding enterprises uses the services of logistics centres in the border region of Serbia. The extremely low ration also shows the unexploited opportunities of cooperation among the enterprises of the two countries. This low ratio however also shows that **the logistics centres in the border region of Serbia need significant development measures**. Possible sources for these developments are provided through the **growing resources of EU funds that gradually become accessible through the consolidation of the Serbian political system and its improving EU accession policy**. It should also be added, that it would also be **recommended to use more of the accessible EU funds for the**



development of logistics centres in Hungary including the development of the logistics centres in the Dél-Alföld Region.

The table and pie-chart below show the absolute or relative frequencies in relation to the use of logistics centres in the border region of Serbia:

24. table: The use of logistics centres in the border region of Serbia

The use of logistics centres in the border region of Serbia	Number of respondents	Ratio of enterprises
Use services	3	2,9%
Do not use services	101	97,1%
Total	104	100,0%

23. graph: The use of logistics centres in the border region of Serbia



A further proof for the above stated facts is that despite of the negligible use of the services of logistics centres in the border region of Serbia, about 20% of the responding enterprises

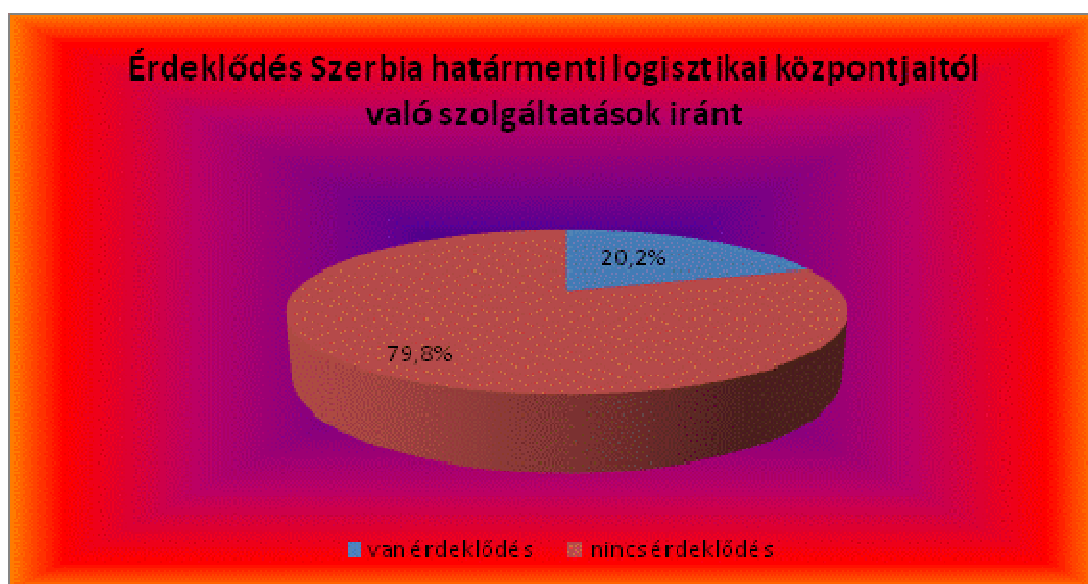
are interested in using the services of logistics centres in the border region of Serbia. This much more favourable percentage shows that in the near future we can **potentially expect the strengthening of cross-border cooperation and cooperation in the region, however, it is primarily conditioned by the increase in the number of logistics centres in the border region of Serbia and by improvement of their services.**

The table and pie-chart below show the absolute or relative frequencies in relation to the interest in the services of logistics centres in the border region of Serbia:

25. table: Interest in the services of logistics centres in the border region of Serbia

Interest in the services of logistics centres in the border region of Serbia	Number of respondents	Ratio of enterprises
There is interest	21	20,2%
There is no interest	83	79,8%
Total	104	100,0%

24. graph: Interest in the services of logistics centres in the border region of Serbia



Similarly to the results presented above **attention is drawn to the importance of service development at the logistics centres in the border region of Serbia** also by the fact that most of the responding enterprises **would consider the use of Serbian logistics centre services if more value added services were available.** Relatively many companies suggest the financial rationalization of the logistics centres in the border region of Serbia. There are relatively few enterprises, however, that would require services related to the delivery of scarcely used materials or the introduction of strict regulations regarding the transport of large mass cargo in the urban areas.

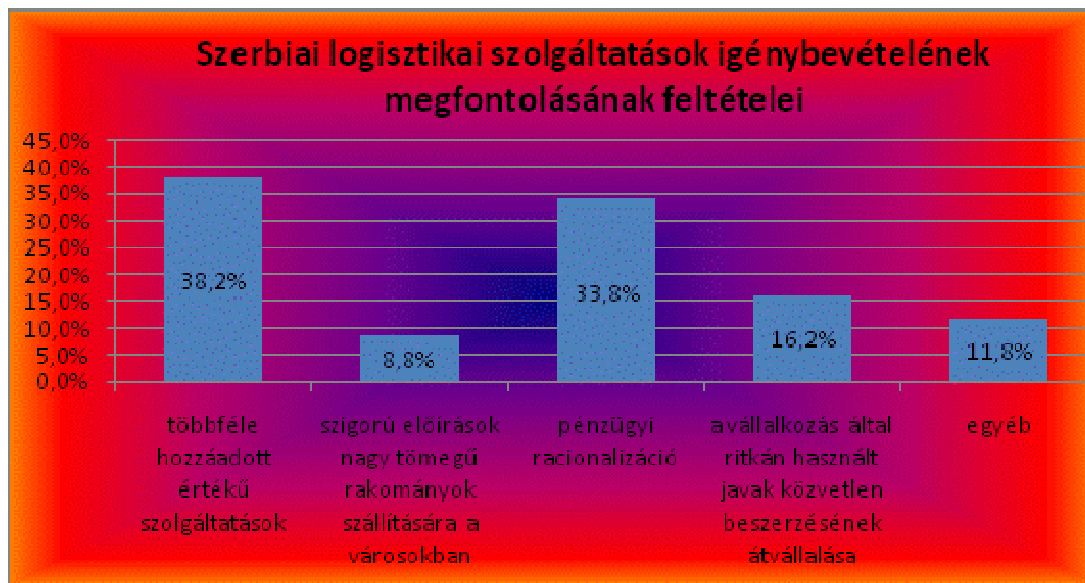
The table and chart below show the absolute or relative frequencies in relation to the conditions of considering the use of Serbian logistics centre services:

26. table: Conditions of considering the use of Serbian logistics centre services

Conditions of considering the use of Serbian logistics centre services	Number of respondents	Ratio of enterprises
Various value added services	26	38,2%
Strict regulation of large mass cargo transport in urban areas	6	8,8%
Financial rationalization	23	33,8%
Services related to the delivery of scarcely used materials	11	16,2%
Other	8	11,8%
Total	74	

25. graph: Conditions of considering the use of Serbian logistics centre services





There was a five level scale introduced for the enterprises to assess the importance of harmonized logistics centre development between Hungary and Serbia. Quite many enterprises marked the number indicating the lowest level of importance (1) as well as the number indicating the highest level of importance (5), however, the most characteristic was the value for medium level importance. On average the value of importance was 3,04, a medium level importance. This means that **enterprises in general do not consider the harmonized development of logistics centres between Hungary and Serbia negligible but they do not find it vitally important either**. It should be added, however, that **after getting introduced to the available opportunities they considered harmonized logistics development more important**.

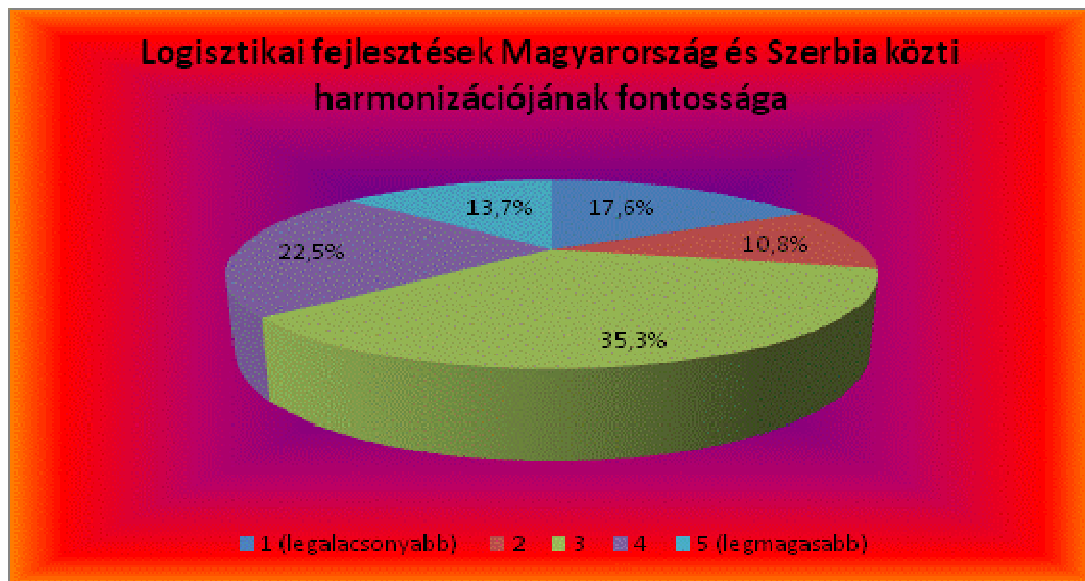
The table and pie-chart below show the absolute or relative frequencies in relation to the importance of harmonized logistics development in Hungary and Serbia:

27. table: Importance of harmonized logistics development in Hungary and Serbia



Importance of harmonized logistics development in Hungary and Serbia	Number of respondents	Ratio of enterprises
1 (the least important)	18	17,6%
2	11	10,8%
3	36	35,3%
4	23	22,5%
5 (the most important)	14	13,7%
Total	102	100,0%

26. graph: Importance of harmonized logistics development in Hungary and Serbia



3.4. Statistical cross tab analyses

The analysis of cross tabs supports our assumption that **enterprises with significant export share in their revenue use the services of logistics centres more. Therefore, logistics centres in the Dél-Alföld region should focus more on export-oriented enterprises.** It should be noted however, that in a peculiar way the most export-oriented companies use



the services of logistics centres to a somewhat lesser extent than those enterprises where the share of export makes 11%-50%.

The table and chart below present the use of logistic centre services according to the share of export in the total revenue:

28. table: Use of logistic centre services according to the share of export

Share of export	use	Do not use
Over 50%	6	11
11%-50%	9	7
1%-10%	1	18
Under 1%	6	51
Total	22	87

27. graph: Use of logistic centre services according to the share of export



Examining the time period passed since the foundation of responding enterprises we can conclude that enterprises operating for a longer time use the services of logistics centres more. We can notice a relatively strong connection here that is also supported by the fact that none of the enterprises founded in the period of the last two years use any of the logistics centre services. An explanation for these results could be that younger enterprises could usually be smaller and the need for using the services of logistics centres has not emerged yet. This indicates that **logistics centres in the Dél-Alföld Region should primarily count on longer existing enterprises, where they can rely on lasting cooperation** as the operation of such companies may be more stable than the operation of younger enterprises.

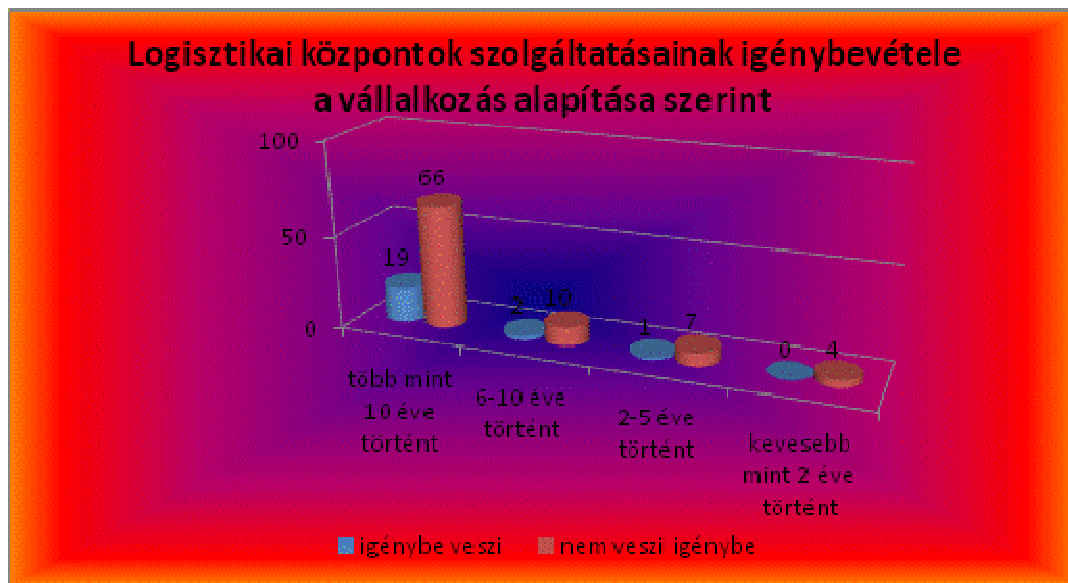
The table and the chart below show the use of logistics centre services according to the foundation time of enterprises:

29. table: The use of logistics centre services according to the foundation time of enterprises

Foundation of enterprises	use	Do not use
More than 10 years ago	19	66
6-10 years ago	2	10
2-5 years ago	1	7
Less than 2 years ago	0	4
Összesen	22	87

28. graph: The use of logistics centre services according to the foundation time of enterprises





A strong connection can be observed between the type of activity of enterprises and the use of logistics centre services. It is well illustrated by the two extreme cases. The enterprises involved in large-scale industrial production use far the most frequently the services of logistics centres, which is understandable considering the type of their activity. The other extreme case however, might be considered surprising, namely, that enterprises active in the field of agriculture use the services of logistics centres the least frequently. The latter statement is true to the level that not a single enterprise involved in agricultural production uses any logistics centre service. This result could indicate that the **logistics centres in the Dél-Alföld Region should target the agricultural enterprises more, with special regard to the fact that they are located in a primarily agricultural region.**

The table and the chart below show the use of logistics centre services according to the enterprise activity type:

30. table: The use of logistics centre services according to the enterprise activity type

Enterprise activity type	use	Do not use
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53



Small scale industrial production	3	14
Large scale industrial production	7	9
Agricultural production	0	4
Trade	6	16
Other services	6	44
Total	22	87

29. graph: The use of logistics centre services according to the enterprise activity type



The analysis of cross-tabs confirms our assumption that bigger enterprises need the services of logistics centres more, as they are more often likely to have an activity that requires the cooperation of logistics centres. This connection is well illustrated by the data according to which about 43% of enterprises with more than 200 employees and about 13% of enterprises with less than 10 employees use the services of logistics centres. This fact however, can also indicate that the **logistics centres in the Dél-Alföld Region should address the needs of small enterprises more intensely as there are significant development opportunities in this field.**

The table and the chart below show the use of logistics centre services according to the number of employees at enterprises:

31. table: The use of logistics centre services according to the number of employees at enterprises

Number of employees	use	Do not use
Over 200	6	8
50-200	5	12
10-49	5	27
Under 10	6	40
Total	22	87

30. graph: The use of logistics centre services according to the number of employees at enterprises



The analysis of cross tabs also confirms our assumption that enterprises with bigger transport capacity have a stronger need to use the services of logistics centres. Such results were absolutely expected as bigger transport capacity are normally accompanied by bigger logistical requirements. Only a little more than one tenth of enterprises with small transport capacity or no transport capacity use the services of logistics centres while about half of the companies with the biggest transport capacity (over 200 tons) use the services of logistics centres. Nevertheless it is worth noting that **logistics centres in the Dél-Alföld region have valuable development opportunities in the area of addressing the needs of enterprises with both big and small transport capacity.**

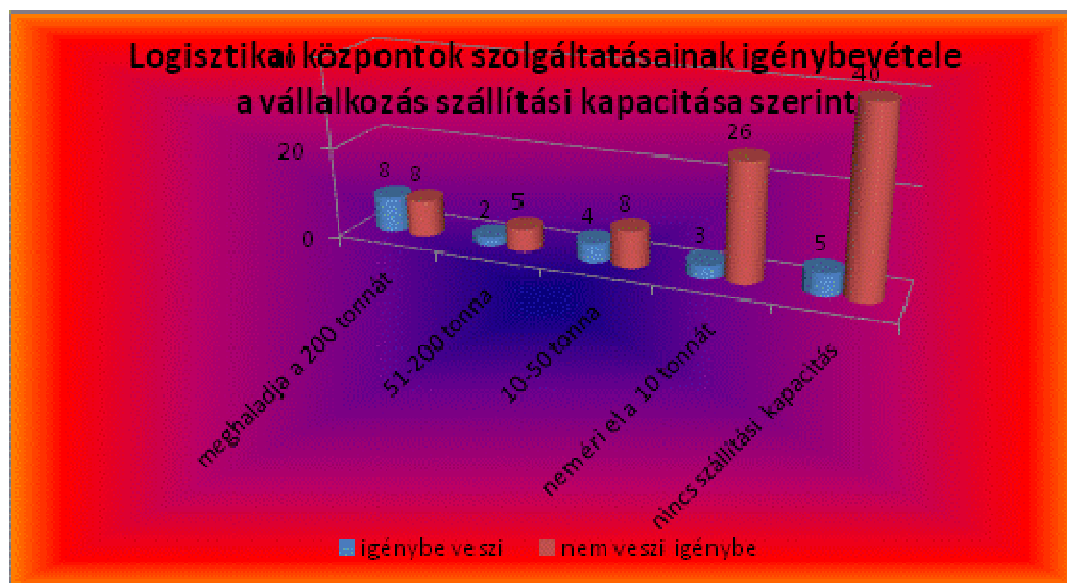
The table and the chart below show the use of logistics centre services according to transport capacity of enterprises:

32. table: The use of logistics centre services according to transport capacity of enterprises

Transport capacity of enterprises	use	Do not use
Over 200 tons	8	8
51-200 tons	2	5
10-50 tons	4	8
Under 10 tons	3	26
No transport capacity	5	40
Total	22	87

31. graph: The use of logistics centre services according to transport capacity of enterprises





According to the cross tab analyses, our assumption that enterprises with storage capacity need the services of logistics centres more than enterprises without storage capacity can be verified. There is a considerable difference to observe between these two types of enterprises. Namly, about 27% of enterprises with storage capacity use the services of logistics centres while in case of enterprises without storage capacity this ratio is under 6%. An explanation for this phenomenon could be that the activity type of enterprises without storage capacity could differ from the activity type of enterprises with storage capacity.

The table and the chart below show the use of logistics centre services according to the existence of storage capacity:

33. table: The use of logistics centre services according to the existence of storage capacity

Existence of storage capacity	use	Do not use
There are storage capacity	20	54
There are no storage capacity	2	33
Total	22	87

32. graph: The use of logistics centre services according to the existence of storage capacity



According to the cross-tab analysis **enterprises that have a significant share of export in their revenue plan the use of logistics centre services in a greater extent. Thus the logistics centres in the Dél-Alföld Region should focus more on the needs of export-oriented companies.** One should note, however, that in a peculiar way, the mostly export-oriented companies plan the use of logistics centre services somewhat less than those enterprises where the share of export in the total revenue is 11%-50%. So we can establish that the examination of export-orientation with regard to the planned or actual use of logistics centre services gave rather similar results.

The table and the chart below show the planned use of logistics centre services according to the share of export:

34. table: The planned use of logistics centre services according to the share of export

Share of export in revenue	plan	do not plan
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More than 50%	2	7
11%-50%	2	5
1%-10%	1	11
Less than 1%	2	35
Total:	7	58

33. graph: The planned use of logistics centre services according to the share of export



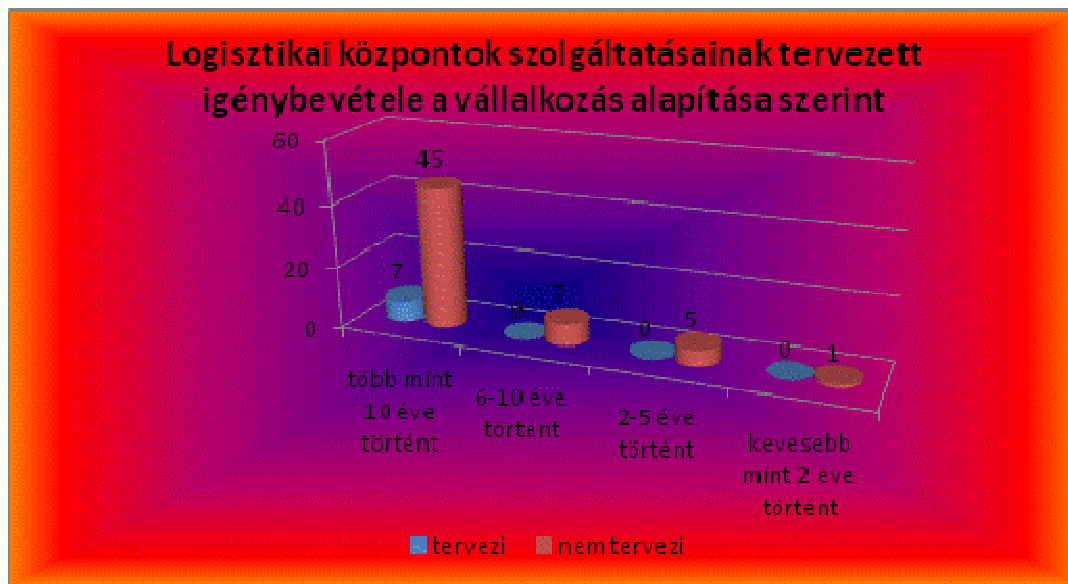
Examining the time passed since the foundation of the responding enterprises we can establish that enterprises operating for a longer time plan the use of logistics centre services more. In this field however, we got some peculiar results as none of the enterprise founded less than 10 years ago plan the use of logistics centre services. This result again indicates that **the logistics centres in the Dél-Alföld Region could primarily count on longer existing enterprises, where they can rely on lasting cooperation.**

The table and the chart below show the planned use of logistics centre services according to the foundation time of enterprises:

35. table: The planned use of logistics centre services according to the foundation time of enterprises

Foundation of enterprises	plan	Do not plan
More than 10 years ago	7	45
6-10 years ago	0	7
2-5 years ago	0	5
Less than 2 years ago	0	1
Total	7	58

34. graph: The planned use of logistics centre services according to the foundation time of enterprises



A connection could be observed between the activity type of the responding enterprises and the planned use of logistics centre services. It is well illustrated by two extreme cases. Enterprises with large-scale industrial production plan the use of logistics centre services the most frequently. Considering the aforementioned we could not find surprising any more the

other extremity, namely, that enterprises involved in agricultural production plan the use of logistics centre services the least frequently. The latter statement is true to the level that not a single enterprise involved in agricultural production uses any logistics centre service. This result could indicate again that the **logistics centres in the Dél-Alföld Region should target the agricultural enterprises more.**

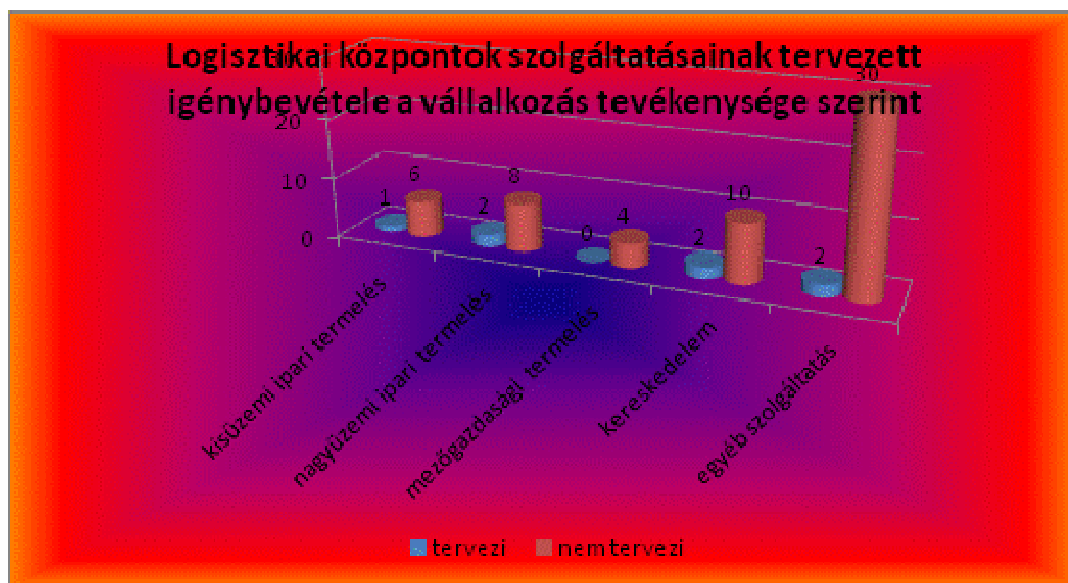
The table and the chart below show the planned use of logistics centre services according to the enterprise activity type:

36. table: The planned use of logistics centre services according to the enterprise activity type

Enterprise activity type	plan	Do not plan
Small scale industrial production	1	6
Large scale industrial production	2	8
Agricultural production	0	4
Trade	2	10
Other services	2	30
Total	7	58

35. graph: The planned use of logistics centre services according to the enterprise activity type





Based on the cross-tab analyses it would be difficult to find a connection between the size of enterprises and the planned use of logistics centre services, as this ratio is 20% in case of enterprises with more than 200 employees, and this is the highest ratio, while it is 12% in case of enterprises with less than 10 employees which is the second highest ratio. Because of the latter results we cannot conclude that the bigger number of employees involves potential bigger use.

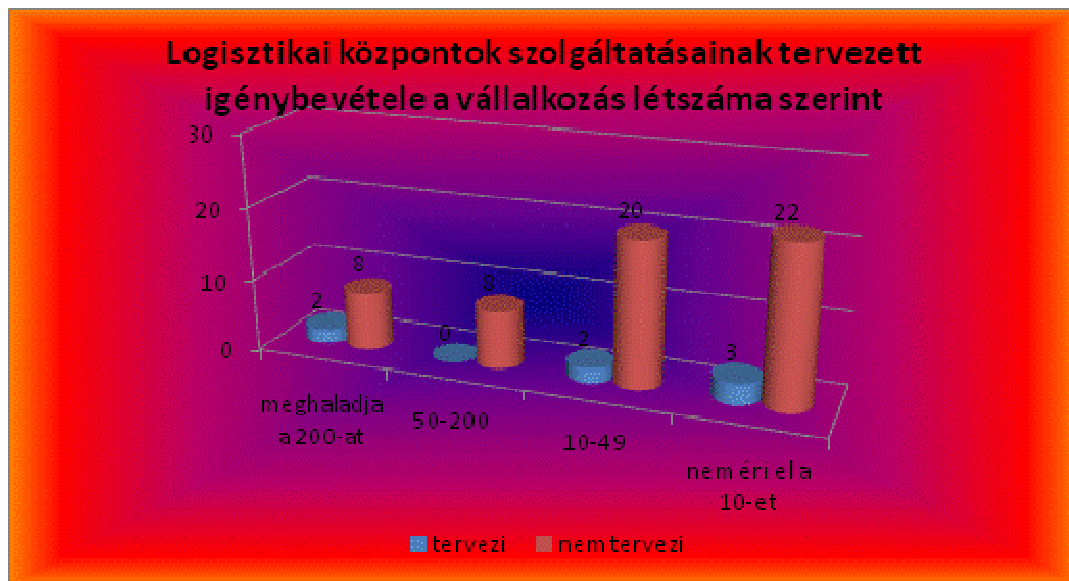
The table and the chart below show the planned use of logistics centre services according to the number of employees at enterprises:

37. table: The planned use of logistics centre services according to the number of employees at enterprises

Number of employees	plan	Do not plan
Over 200	2	8
50-200	0	8
10-49	2	20

Under 10	3	22
Total	7	58

36. graph: The planned use of logistics centre services according to the number of employees at enterprises



It would also be difficult to find a connection between the transport capacity of enterprises and the planned use of logistics centre services. While the ratio is one-third, the highest ratio, by enterprises with transport capacity over 200 tons, it is 17,6% by enterprises with transport capacity under 10 tons, which is the second highest ratio. Because of the latter result we cannot establish that bigger transport capacity mean more intense future use.

The table and the chart below show the planned use of logistics centre services according to the transport capacity of enterprises:

38. table: The planned use of logistics centre services according to the transport capacity of enterprises

Transport capacity of enterprises	tervezi	nem tervezi
Over 200 tons	3	6
51-200 tons	0	3
10-50 tons	0	8
Under 10 tons	3	14
No transport capacity	1	27
Total	7	58

37. graph: The planned use of logistics centre services according to the transport capacity of enterprises



According to the analysis of cross-tabs, enterprises with storage capacity plan the use of logistics centre services more than enterprises without storage capacity. There is a considerable difference to observe between these two types of enterprises. About 16% of enterprises with storage capacity plan the use of logistics centre services, while in case of enterprises without storage capacity this ratio is 0%. Thus we can conclude that the

examination of the availability of storage capacity gave similar results both in the case of real and planned use of logistics centre services.

The table and the chart below show the planned use of logistics centre services according to the existence of storage capacity:

39. table: The planned use of logistics centre services according to the existence of storage capacity

Existence of storage capacity	plan	Do not plan
There are storage capacity	7	37
There are no storage capacity	0	21
Total	7	58

38. graph: The planned use of logistics centre services according to the existence of storage capacity



Based on cross-tab analyses we did not find any direct connections between the share of export in the revenue and the awareness of the logistics centres in the Dél-Alföld Region. The difficulty in finding such connections is well illustrated by the result that while only 20% of the most export-oriented companies are aware of the logistics centres in the Dél-Alföld Region, in case of enterprises where the share of export in the revenue is 11%-50% the same ratio makes 56,25 %. In spite of this we cannot state that minor export-orientation is accompanied by better awareness of the logistics centres in the Dél-Alföld region because by companies in which the share of export in revenue is 1%-10% the discussed ratio is only 11 %. In any case, the aforementioned data indicate that **awareness of logistics centres in the Dél-Alföld Region should primarily be raised among strongly export-oriented enterprises.**

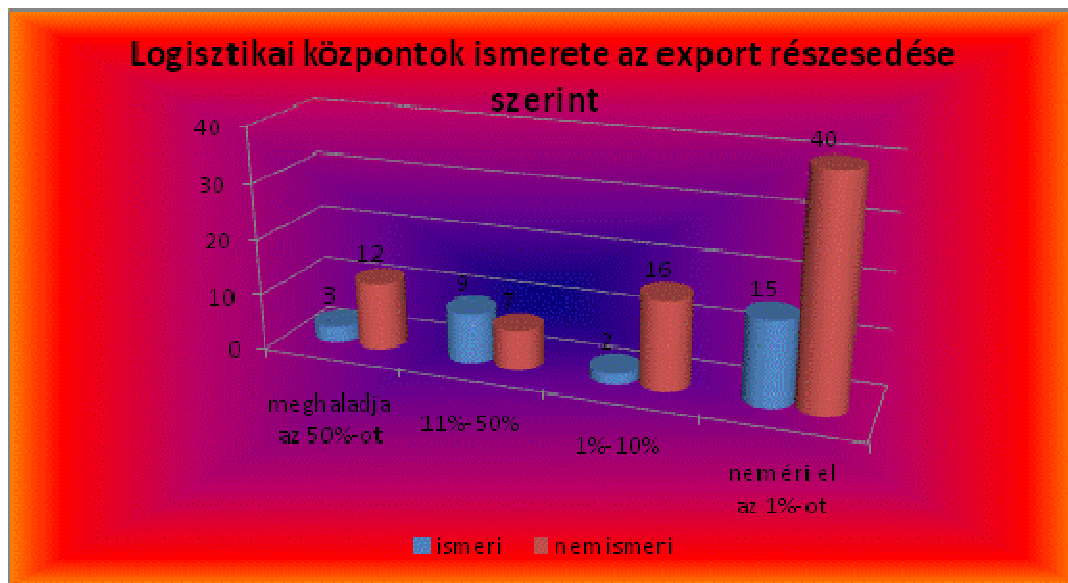
The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to the share of export:

40. table: Awareness of logistics centres according to the share of export

Share of export in revenue	Aware	Not aware
More than 50%	3	12
11%-50%	9	7
1%-10%	2	16
Less than 1%-	15	40
Total:	29	75

39. graph: Awareness of logistics centres according to the share of export





Examining the time passed since the foundation of responding enterprises we can establish that enterprises operating for a longer time know the logistics centres in the Dél-Alföld Region more. An explanation for this connection could be that the enterprises existing for a shorter period of time had less time to learn about logistics centres. However, the connection in this area is rather weak. Although it is true that none of the enterprises founded less than 2 years ago know the logistics centres in the Dél-Alföld Region, and this fact supports the connection, not the enterprises founded more than 10 years ago are those that are in the most cases acquainted with the logistics centres in the Dél-Alföld Region. Companies founded 6-10 year ago know the logistics centres the most. In their cases the awareness is 58 % convincingly the highest. These results indicate that **logistics centres in the Dél-Alföld Region should primarily improve their visibility among the enterprises existing for a shorter period of time.**

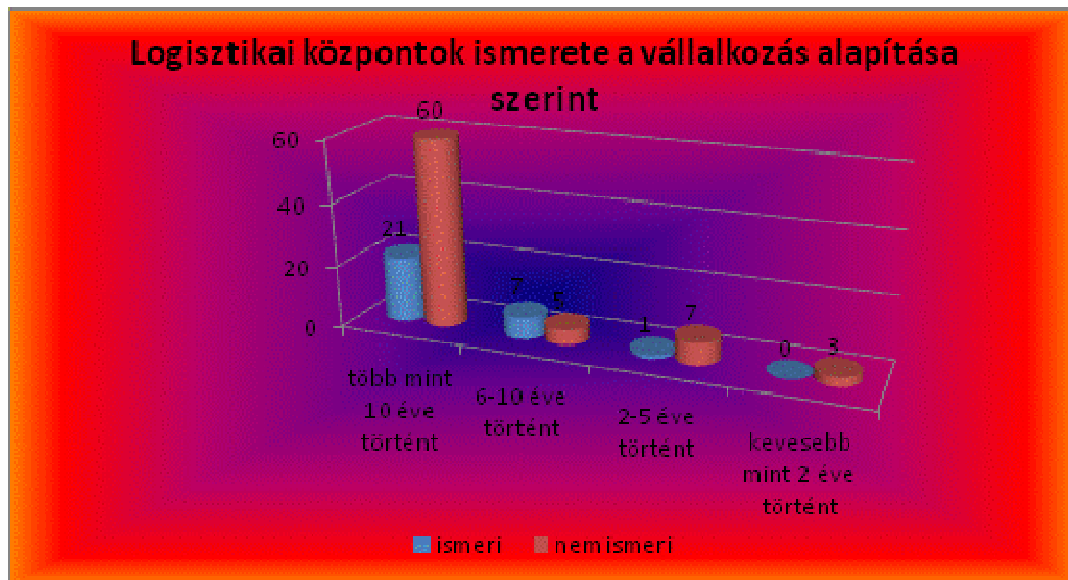
The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to enterprise foundation time:



41. table: Awareness of logistics centres according to enterprise foundation time

Foundation of enterprises	Aware	Not aware
More than 10 years ago	21	60
6-10 years ago	7	5
2-5 years ago	1	7
Less than 2 years ago	0	3
Total	29	75

40. graph: Awareness of logistics centres according to enterprise foundation time



No direct connection can be observed between the activity type of responding enterprises and their awareness of the logistics centres in the Dél-Alföld Region. Logistics centres in the Dél-Alföld Region are the best known among enterprises involved in large-scale industrial production and companies active in the area of agricultural production. Here should be remarked, however, that the response of the latter type of enterprises was very low so we can not jump to any conclusion related to the topic. In general we can say that the **visibility**

of logistics centres in the Dél-Alföld Region should be increased regardless of the activity type of enterprises.

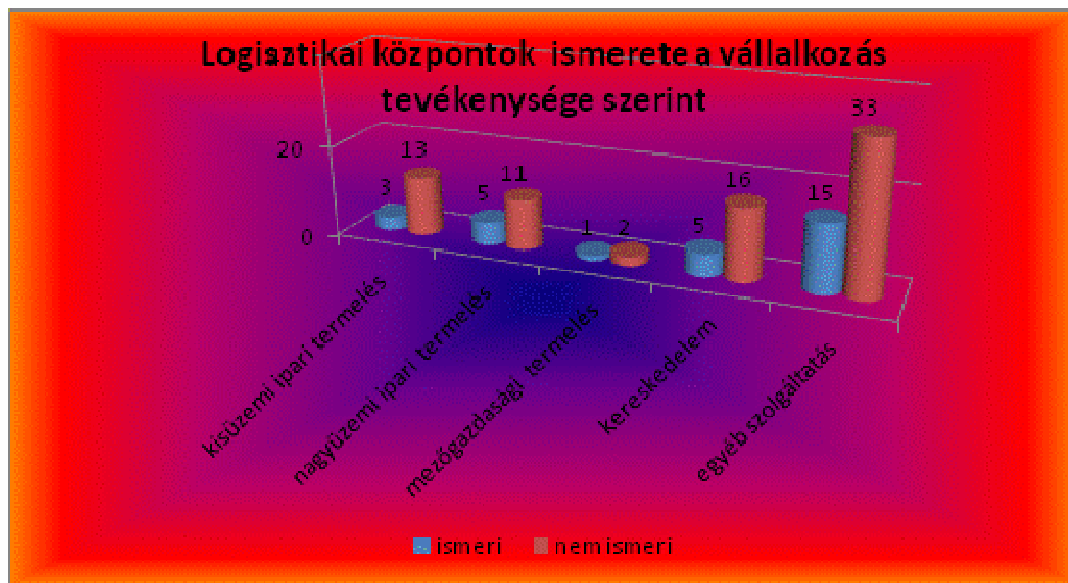
The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to the activity type of enterprises:

42. table: Awareness of logistics centres according to activity type of responding enterprises

Enterprise activity type	Aware	Not aware
Small scale industrial production	3	13
Large scale industrial production	5	11
Agricultural production	1	2
Trade	5	16
Other services	15	33
Total	29	75

41. graph: Awareness of logistics centres according to activity type of responding enterprises





According to the analysis of cross-tabs bigger enterprises know the logistics centres in the Dél-Alföld Region better. An explanation for this could be that they are more likely to have an activity that requires knowledge about logistics centres. This connection is well illustrated by the fact that 43% of enterprises with more than 200 employees and only 18% of enterprises with less than 10 employees know the logistics centres in the Dél-Alföld Region. This fact can however also indicate that **the logistics centres in the Dél-Alföld Region should make themselves more visible in the circle of small enterprises as significant deficiencies can be experienced in this area.**

The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to the number of employees at enterprises:

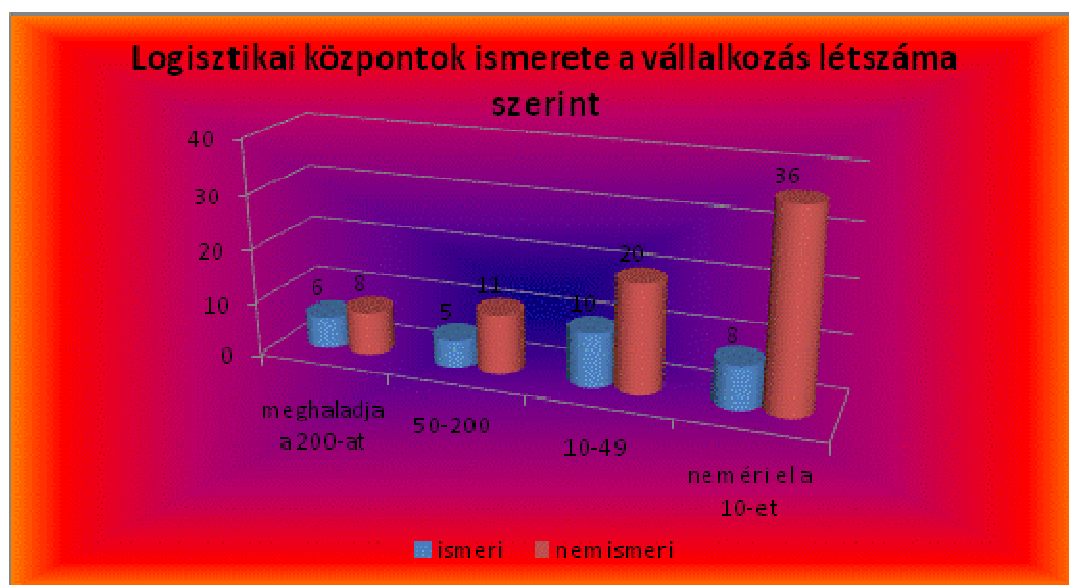
43. table: Awareness of logistics centres according to the number of employees of responding enterprises

Number of employees	Aware	Not aware
Over 200	6	8



50-200	5	11
10-49	10	20
Under 10	8	36
Total	29	75

42. graph: Awareness of logistics centres according to the number of employees of responding enterprises



According to cross-tab analyses enterprises with bigger transport capacity know the logistics centres in the Dél-Alföld region better. Such results were to expect, because as we have already pointed out, bigger transport capacity result in bigger logistical requirements what is logically accompanied by better knowledge of the logistics centres. Only a little over one-tenth of enterprises with minor transport capacity or no transport capacity know the logistics centres in the Dél-Alföld Region. Compared to that more than half of the enterprises with the biggest transport capacity (over 200 tons) know the logistics centres in the Dél-Alföld Region. It is worth noticing, however, that the connection between the transport capacity and the awareness of the logistics centres in the Dél-Alföld Region is not too strong,

as only 14% of the enterprises with relatively big transport capacity (51-200 tons) know the logistics centres in the Dél-Alföld Region. This shows that **logistics centres in the Dél-Alföld region should be made more visible in the circle of enterprises with both big and small transport capacity.**

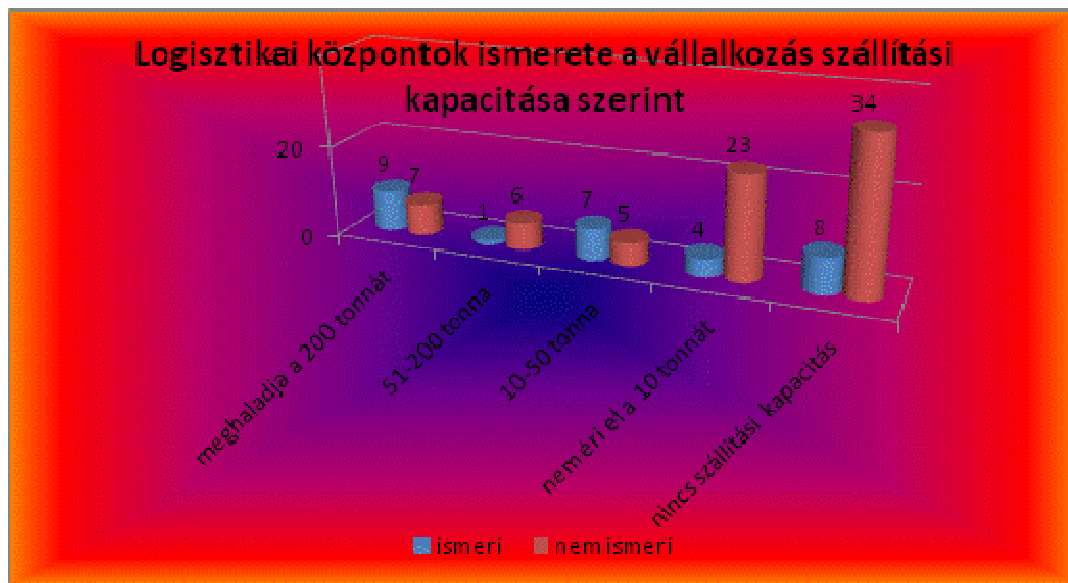
The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to transport capacity of enterprises:

44. table: Awareness of logistics centres according to transport capacity of responding enterprises

Transport capacity of enterprises	Aware	Not aware
Over 200 tons	9	7
51-200 tons	1	6
10-50 tons	7	5
Under 10 tons	4	23
No transport capacity	8	34
Total	29	75

43. graph: Awareness of logistics centres according to transport capacity of responding enterprises





According to the cross-tab analyses enterprises with storage capacity and enterprises without storage capacity have approximately the same level of knowledge (about 27%) about logistics centres in the Dél-Alföld Region. This means that we found no connection between enterprise awareness of the logistics centres in the Dél-Alföld Region and their ownership of storage capacity. There are no significant differences between these two types of enterprises. About 28,6% of enterprises with storage capacity know the logistics centres while 26,5 % is the ratio in case of enterprises without storage capacity.

The table and chart below show enterprise awareness of the logistics centres in the Dél-Alföld Region according to ownership of storage capacity:

45. table: Awareness of logistics centres according to enterprise ownership of storage capacity

Existence of storage capacity	Aware	Not aware
There are storage capacity	20	50
There are no storage capacity	9	25

Total	29	75
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44. graph: Awareness of logistics centres according to enterprise ownership of storage capacity



According to cross-tab analyses enterprises that have a large share of export in their revenue use the services of logistics centres in the border region of Serbia more. **Thus logistics centres in the border area of Serbia should concentrate more on the needs of export-oriented enterprises.** It should be noted, however, that the mostly export-oriented enterprises, in a peculiar way, use the services of logistics centres less than those enterprises with 11%-50% share of export in revenue. At the same time, it is important to stress that very few enterprises use the services of logistics centres in the border area of Serbia, so, statistically, there is no significant relationship between export orientation and the use of logistics centres in the border region of Serbia.

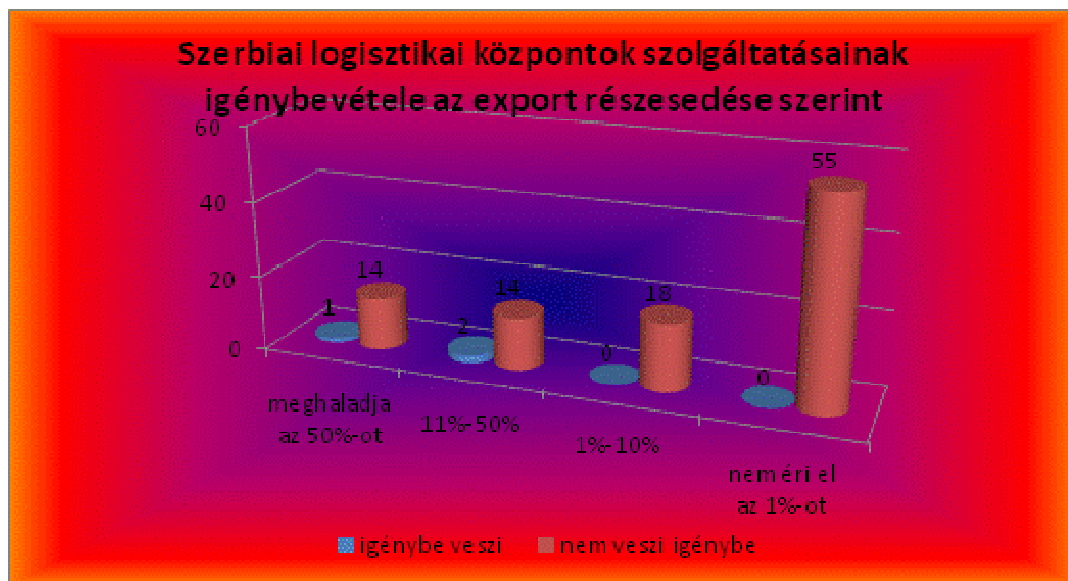
The table and chart below show the use of logistics centre services in the border region of Serbia according to the share of export:



46. table: The use of logistics centre services in the border region of Serbia according to the share of export

Share of export in revenue	Use	Do not use
More than 50%	1	14
11%-50%	2	14
1%-10%	0	18
Less than 1%	0	55
Total:	3	101

45. graph: The use of logistics centre services in the border region of Serbia according to the share of export



Examining the time passed since the foundation of the responding enterprises we can establish that the enterprises operating for a longer time use the services of the logistics centres in the border region of Serbia more. It should however be noted again that very few enterprises use the services of the logistics centres in the border region of Serbia, so there is



no statistically significant connection in this respect. The small number of enterprises is also visible through the fact that none of the companies founded less than 10 years ago uses the services of the logistics centres in the border region of Serbia and at the same time there are only 3.7% among the enterprises founded more than 10 years ago that use these services.

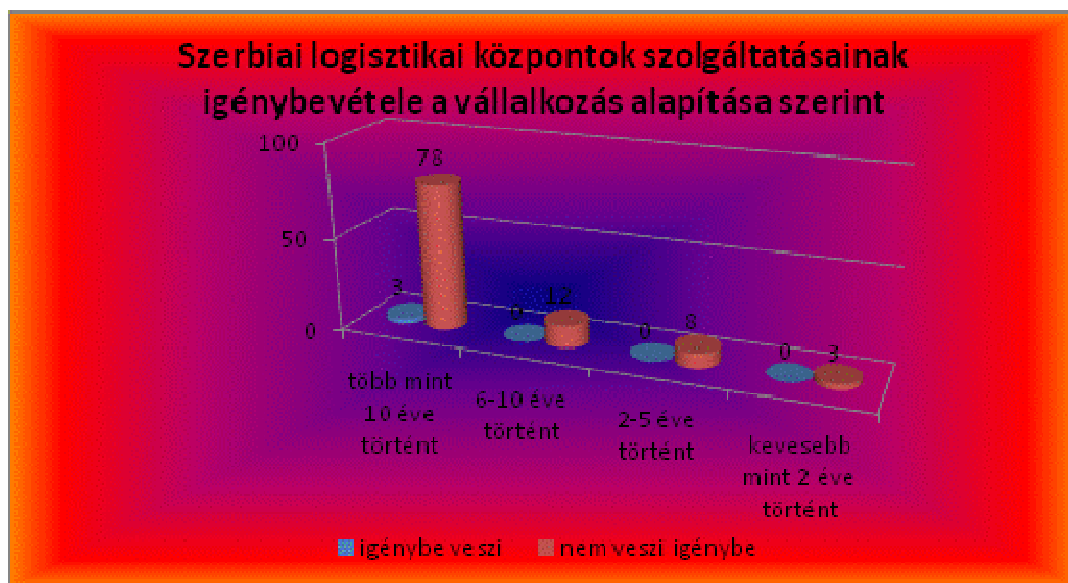
The table and chart below show the use of logistics centre services in the border region of Serbia according to the foundation of enterprises:

47. table: The use of logistics centre services in the border region of Serbia according to the foundation of responding enterprises

Foundation of enterprises	Use	Do not use
More than 10 years ago	3	78
6-10 years ago	0	12
2-5 years ago	0	8
Less than 2 years ago	0	3
Total	3	101

46. graph: The use of logistics centre services in the border region of Serbia according to the foundation of responding enterprises





Due to the aforementioned situation no statistically significant relationship could be observed between the activity type of the responding enterprises and the use of logistics centre services in the border region of Serbia. It is surprising however that enterprises involved in agricultural production use of logistics centre services in the border region of Serbia the most that is contrary to the situation in Hungary related to the use of logistics centres. These results are affected by the response of a single company involved in agricultural production so they could be a mere accident.

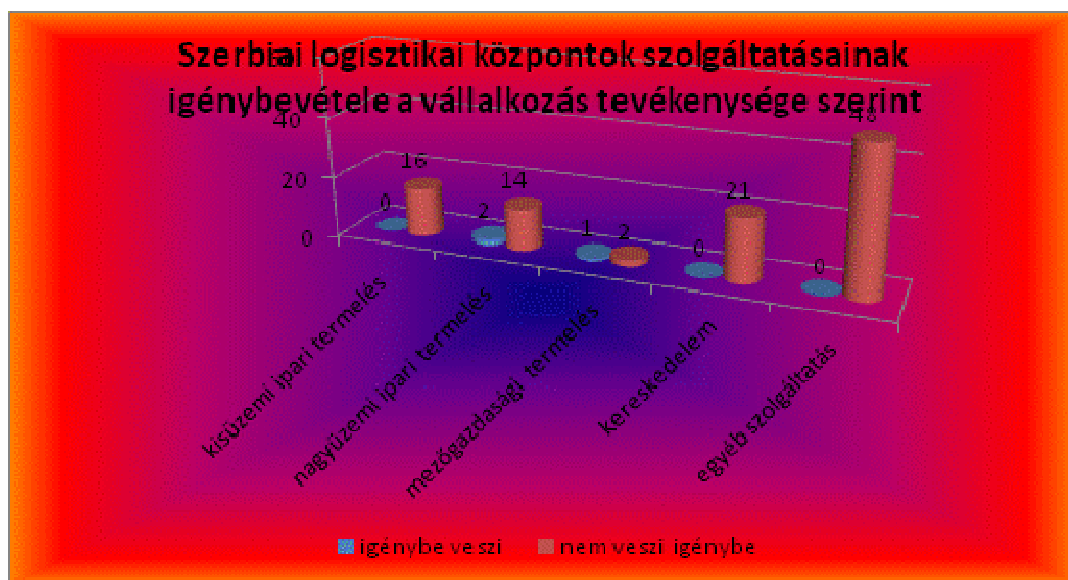
The table and chart below show the use of logistics centre services in the border region of Serbia according to the type of activities of enterprises:

48. table: The use of logistics centre services in the border region of Serbia according to the type of activities of responding enterprises

Enterprise activity type	Use	Do not use
Small scale industrial production	0	16

Large scale industrial production	2	14
Agricultural production	1	2
Trade	0	21
Other services	0	48
Total	3	101

47. graph: The use of logistics centre services in the border region of Serbia according to the type of activities of responding enterprises



Our data indicate that bigger enterprises have a stronger need for services of logistics centres in the border region of Serbia. This relationship is shown by the fact that 7% of the enterprises with more than 200 employees and 12,5% of the enterprises with 50-200 employees use the services of logistics centres in the border region of Serbia, while enterprises with less than 50 employees do not use the services of logistics centres in the border region of Serbia at all.

The table and chart below show the use of logistics centre services in the border region of



Serbia according to the number of employees of the enterprises:

49. table: The use of logistics centre services in the border region of Serbia according to the number of employees of the responding enterprises

Number of employees	Use	Do not use
Over 200	1	13
50-200	2	14
10-49	0	30
Under 10	0	44
Total	3	101

48. graph: The use of logistics centre services in the border region of Serbia according to the number of employees of the responding enterprises



Based on cross-tab analyses we did not find a connection between transport capacity and the use of services of logistics centres in the border region of Serbia. Less than one tenth of enterprises with big and small transport capacity as well as enterprises with no transport

capacity use the services of logistics centres in the border region of Serbia. It is worth noticing that **there are important development opportunities for the logistics centres in the border region of Serbia in the area of servicing enterprises with both big and small transport capacity.**

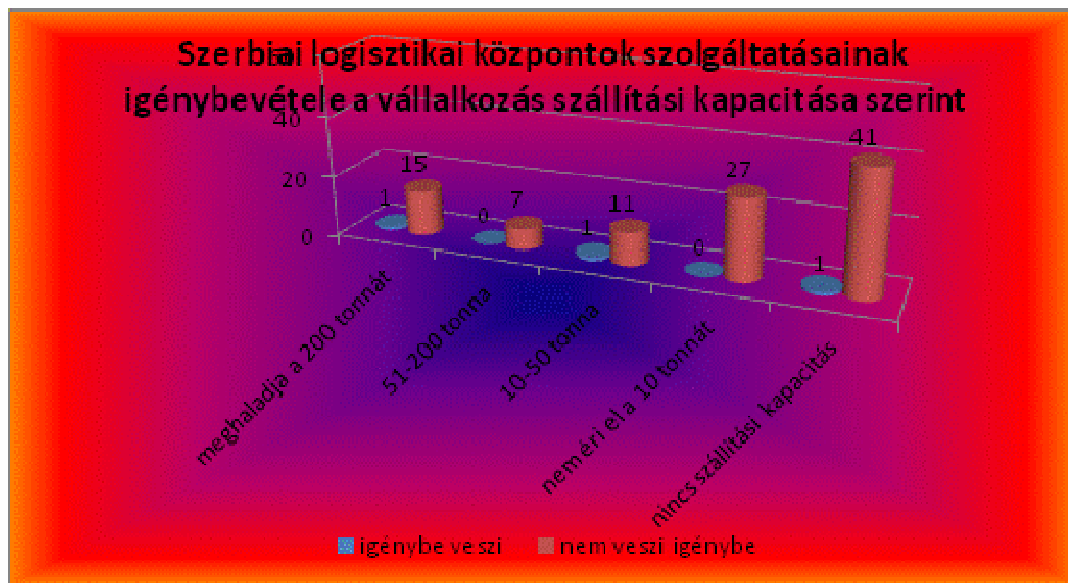
The table and chart below show the use of logistics centre services in the border region of Serbia according to transport capacity of enterprises:

50. table: The use of logistics centre services in the border region of Serbia according to transport capacity of responding enterprises

Transport capacity of enterprises	Use	Do not use
Over 200 tons	1	15
51-200 tons	0	7
10-50 tons	1	11
Under 10 tons	0	27
No transport capacity	1	41
Total	3	101

49. graph: The use of logistics centre services in the border region of Serbia according to transport capacity of responding enterprises





According to the cross-tab analyses enterprises with storage capacity express a stronger need for the services of logistics centres in the border region of Serbia than the enterprises without storage capacity. However, there is no statistically significant difference between these two types of enterprises. Namely, only 4,3% of enterprises with storage capacity use the services of logistics centres in Serbia, though in case of enterprises without storage capacity the ratio is 0%.

The table and chart below show the use of logistics centre services in the border region of Serbia according to storage capacity:

51. table: The use of logistics centre services in the border region of Serbia according to storage capacity of responding enterprises:

Existence of storage capacity	Use	Do not use
There are storage capacity	3	67
There are no storage capacity	0	34

Total	3	101
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50. graph: The use of logistics centre services in the border region of Serbia according to storage capacity of responding enterprises:



According to the cross-tab analyses there is no connection between the interest in the services of logistics centres in the border region of Serbia and the share of export in revenue. However, it should be noted that in a peculiar way, the most export-oriented companies show somewhat less interest in the services of logistics centres than those companies having 1%-10% share of export in revenue. At the same time it is important to point out that much less enterprises use the services of logistics centres in the border region of Serbia than show interest for these logistics centres. It potentially means that **logistics centres in Serbia could face a significant development in the near future, above all through the enterprises with a sizeable share of export.**

The table and chart below show the interest in services of logistics centre in the border region of Serbia according to the share of export:



52. Table: The interest in services of logistics centre in the border region of Serbia according to the share of export

Share of export in revenue	érdeklődik	nem érdeklődik
More than 50%	5	10
11%-50%	3	13
1%-10%	7	11
Less than 1%	6	49
Total:	21	83

51. graph: The interest in services of logistics centre in the border region of Serbia according to the share of export



Examining the time passed since the foundation of the responding enterprises we can establish that the enterprises operating for a longer time show more interest for the services of logistics centres in the border region of Serbia. None of the enterprises founded less than

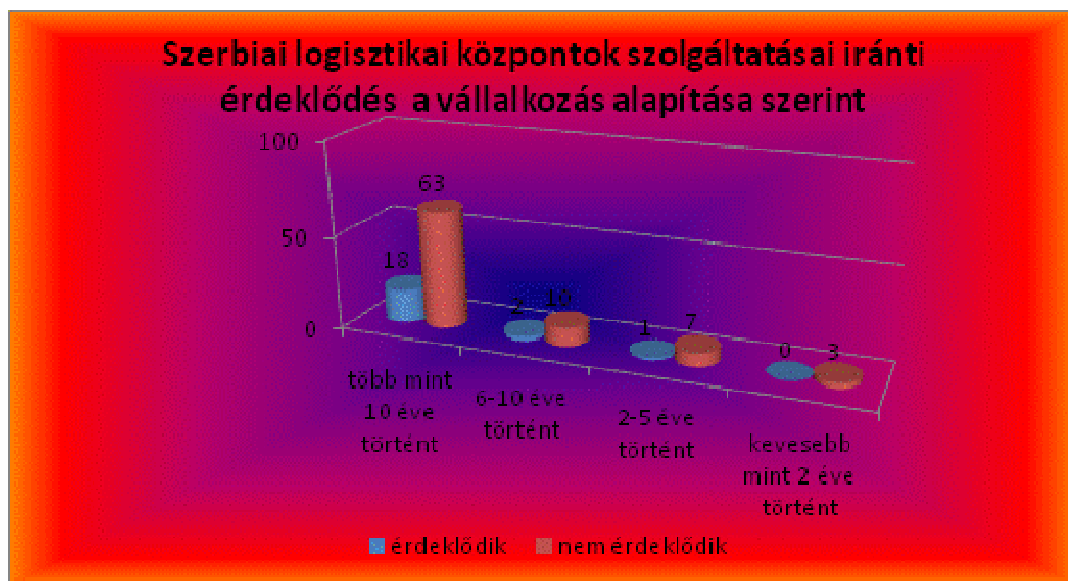
2 years ago shows any interest for the services of logistics centres in the border region of Serbia, while in the case of enterprises founded more than 10 years ago the interest is 22 %.

The table and chart below show the interest in services of logistics centres in the border region of Serbia according to the foundation of enterprises:

53. table: The interest in services of logistics centres in the border region of Serbia according to the foundation of responding enterprises

Foundation of enterprises	interested	Not interested
More than 10 years ago	18	63
6-10 years ago	2	10
2-5 years ago	1	7
Less than 2 years ago	0	3
Total	21	83

52. graph: The interest in services of logistics centres in the border region of Serbia according to the foundation of responding enterprises



No statistically significant connection could be observed between the activity type of responding enterprises and their interest in the services of logistics centres in the border region of Serbia. About one-third of the enterprises involved in agricultural or industrial production show interest for the services of logistics centres in the border region of Serbia. Only enterprises active in the field of services lag a little behind the aforementioned ones.

The table and chart below show the interest in services of logistics centres in the border region of Serbia according to activity type of the enterprises:

54. table: The interest in services of logistics centres in the border region of Serbia according to activity type of the responding enterprises

Enterprise activity type	interested	Not interested
Small scale industrial production	5	11
Large scale industrial production	5	11
Agricultural production	1	2
Trade	5	16
Other services	5	43
Total	21	83

53. graph: The interest in services of logistics centres in the border region of Serbia according to activity type of the responding enterprises





Our data indicate that between the size of enterprises and the interest in services of the logistics centres in the border region of Serbia no connection can be observed. This lack of connection is made visible through the facts that about 14% of enterprises with more than 200 employees and 31,25% of the enterprises with 50 - 200 employees show interest for services of the logistics centres in the border region of Serbia, while only a tenth of enterprises with a number of employees between 10 and 49 show interest services of the logistics centres in the border region of Serbia.

The table and chart below show the interest in services of logistics centres in the border region of Serbia according to the number of employees at enterprises:

55. table: Interest in services of logistics centres in the border region of Serbia according to the number of employees at responding enterprises

Number of employees	interested	Not interested
Over 200	2	12

50-200	5	11
10-49	3	27
Under 10	11	33
Total	21	83

54. graph: Interest in services of logistics centres in the border region of Serbia according to the number of employees at responding enterprises



Based on cross-tab analyses we did not find any relationship between transport capacity and the interest for the services of logistics centres in the border region of Serbia. Enterprises with 51-200 tons of transport capacity show the most interest for the services of logistics centres in the border region of Serbia. They are followed by enterprises with 10-50 tons of transport capacity so we could say that the interest in the services of logistics centres in the border region of Serbia is somewhat higher by enterprises with medium transport capacity.

The table and chart below show the interest in services of logistics centres in the border region of Serbia according to the transport capacity of enterprises:

56. table: Interest in services of logistics centres in the border region of Serbia according to the transport capacity of responding enterprises

Transport capacity of enterprises	interested	Not interested
Over 200 tons	3	13
51-200 tons	3	4
10-50 tons	3	9
Under 10 tons	5	22
No transport capacity	7	35
Total	21	83

55. graph: Interest in services of logistics centres in the border region of Serbia according to the transport capacity of responding enterprises



According to the cross-tab analyses enterprises with storage capacity express more interest for the services of logistics centres in the border region of Serbia than the enterprises without storage capacity. There is a relatively big difference between these two types of



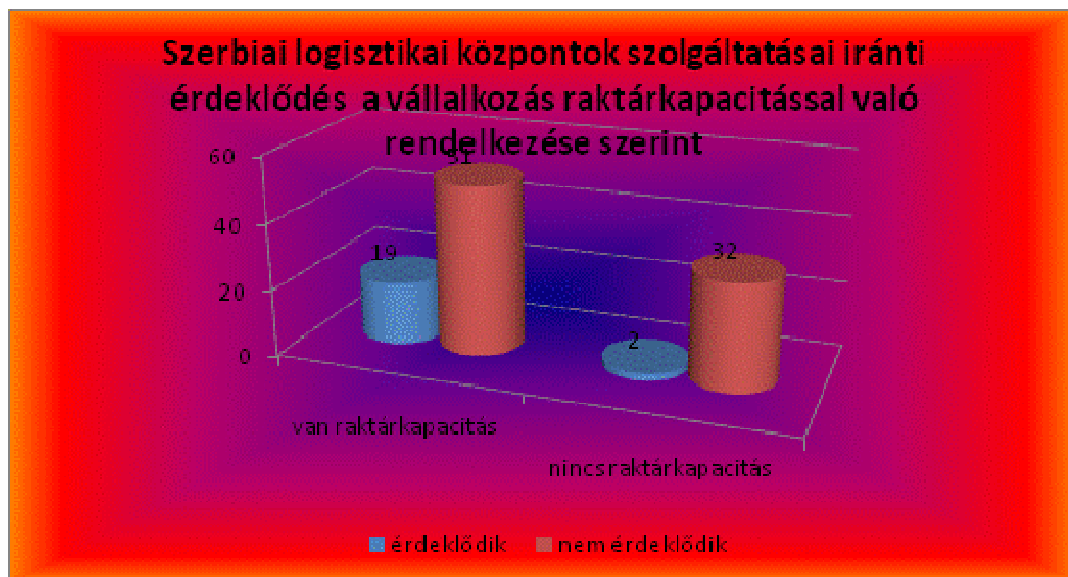
enterprises. Namely, 27% of enterprises with storage capacity shows interest for the services of logistics centres in the border region of Serbia, while in the case of enterprises without storage capacity the percentage is only 5,9 %.

The table and chart below show the interest in services of logistics centres in the border region of Serbia according to storage capacity:

57. table: Interest in services of logistics centres in the border region of Serbia according to the storage capacity of responding enterprises

Existence of storage capacity	interested	Not interested
There are storage capacity	19	51
There are no storage capacity	2	32
Total	21	83

56. graph: Interest in services of logistics centres in the border region of Serbia according to the storage capacity of responding enterprises



4. Conclusions

The data collected during the research confirmed or did not contradict our initial assumptions. In the following we present our conclusions related to the aforementioned assumptions.

1. The utilization of services of logistics centres in the Dél-Alföld Region is not on a satisfactory level

Only one-fifth of the responding enterprises uses the services of logistics centres so our results confirm that the **utilization of services of logistics centres in the Dél-Alföld Region is really not on a satisfactory level**. These data also show that logistics centres in the Dél-Alföld Regio have rather significant opportunities if, through improving their services they become able to reach to a wider circle of enterprises.

2. Enterprises do not know enough about logistics centres in the Dél-Alföld Region

Almost three-quarters of the responding enterprises do not know any logistics centres in the Dél-Alföld Region, so based on our data **enterprises do not know enough about logistics centres in the Dél-Alföld Region**. These data clearly indicate that the wider promotion of their services provides important opportunities for the logistics centres in the Dél-Alföld Region.

3. Relatively few enterprises intend to use the services of logistics centres in the Dél-Alföld Region

Among the responding enterprises that do not use the services of logistics centres there were only 10,8 % that plan to use the services of logistics centres in the following two years, so our results confirm that **relatively few enterprises intend to use the services of logistics**



centres in the Dél-Alföld Region. This is an unfavourable result as it indicates that at present, relatively few enterprises plan to use the services of logistics centres, though by the improvement of these services the situation could probably be changed.

4. Enterprises are satisfied with the services of logistics centres in the Dél-Alföld Region. The average level of satisfaction was not low. Only one respondent marked the value 1 expressing the lowest possible satisfaction. The general level of satisfaction was 3,42 so the results basically correspond to the assumption that **Enterprises are satisfied with the services of logistics centres in the Dél-Alföld Region.** It should be added, however, that the value 5, expressing the highest level of satisfaction was also only marked by a few respondents. We can conclude that enterprises are relatively satisfied with the services of logistics centres in the Dél-Alföld Region, however there is significant space for improvement.

5. When using the services of logistics centres in the Dél-Alföld Region the main concern of enterprises are costs

Our data **do not confirm our assumption that when using the services of logistics centres in the Dél-Alföld Region the main concern of enterprises are costs**, as about half of the responding enterprises considers reliability most important factor when using the services of logistics centres. Costs are also considered important by many companies but not so many as reliability. azonban kevesebb mint amennyi a megbízhatóságot. These results indicate that logistics centres in the Dél-Alföld Regio should primarily improve their reliability and reduce the costs of their services in order to encourage as many enterprises as possible to use these services.

6. The demand for services of logistics centres in the Dél-Alföld Region is related to the export orientation of enterprises



In general, enterprises with significant export share in their revenue use the services of logistics centres more. Therefore, logistics centres in the Dél-Alföld region should focus more on export-oriented enterprises. According to the cross-tab analysis enterprises that have a significant share of export in their revenue plan the use of logistics centre services in a greater extent. We can establish that the examination of export-orientation with regard to the planned or actual use of logistics centre services gave rather similar results. **Our data confirm that the demand for services of logistics centres in the Dél-Alföld Region is related to the export orientation of enterprises.**

7. The demand for services of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises

Examining the time period passed since the foundation of responding enterprises we can conclude that enterprises operating for a longer time use the services of logistics centres more. We can notice a relatively strong connection here. An explanation for these results could be that younger enterprises could usually be smaller and the need for using the services of logistics centres has not emerged yet. This indicates that logistics centres in the Dél-Alföld Region should primarily count on longer existing enterprises, where they can rely on lasting cooperation as the operation of such companies may be more stable than the operation of younger enterprises. Examining the time passed since the foundation of the responding enterprises we can establish that enterprises operating for a longer time plan the use of logistics centre services more. This result again indicates that the logistics centres in the Dél-Alföld Region could primarily count on longer existing enterprises. To sum up we can conclude that **the demand for services of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises.**

8. The demand for services of logistics centres in the Dél-Alföld Region is related to the type of activities of enterprises



A strong connection can be observed between the type of activity of responding enterprises and the use of logistics centre services. It is well illustrated by the two extreme cases. The enterprises involved in large-scale industrial production use far the most frequently the services of logistics centres, which is understandable considering the type of their activity. The other extreme case however, might be considered surprising, namely, that enterprises active in the field of agriculture use the services of logistics centres the least frequently. The latter statement is true to the level that not a single enterprise involved in agricultural production uses any logistics centre service. This result could indicate that the logistics centres in the Dél-Alföld Region should target the agricultural enterprises more, with special regard to the fact that they are located in a primarily agricultural region. By examining the planned use of logistics centre services we got similar results as by examining the real use so the **demand for services of logistics centres in the Dél-Alföld Region is related to the type of activities of enterprises.**

9. The demand for services of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises

The analysis of cross-tabs confirms our assumption that bigger enterprises need the services of logistics centres more, as they are more often likely to have an activity that requires the cooperation of logistics centres. This fact however, can also indicate that the logistics centres in the Dél-Alföld Region should address the needs of small enterprises more intensely as there are significant development opportunities in this field. Based on the cross-tab analyses it would be difficult to find a connection between the size of enterprises and the planned use of logistics centre services. For this reason we cannot state that the bigger number of employees involves potential bigger use. To sum up, we **could not clearly confirm that the demand for services of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises as there were significant differences in the real and planned use of logistics centre services.**



10. The demand for services of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises

The analysis of cross tabs also confirms our assumption that enterprises with bigger transport capacity have a stronger need to use the services of logistics centres. Such results were absolutely expected as bigger transport capacity are normally accompanied by bigger logistical requirements. Nevertheless it is worth noting that logistics centres in the Dél-Alföld region have valuable development opportunities in the area of addressing the needs of enterprises with both big and small transport capacity. It would also be difficult to find a connection between the transport capacity of enterprises and the planned use of logistics centre services. Because of the latter result we cannot establish that bigger transport capacity mean more intense future use. Summing up the aforementioned aspects **we could not confirm that the demand for services of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises because there were big differences in the real and the planned use of logistics centre services.**

11. Awareness of logistics centres in the Dél-Alföld Region is related to the export orientation of enterprises

Based on cross-tab analyses **we did not find any direct connections between the share of export in the revenue and the awareness of the logistics centres in the Dél-Alföld Region and we could not confirm our assumption.** In any case, the results indicate that awareness of logistics centres in the Dél-Alföld Region should primarily be raised among strongly export-oriented enterprises.

12. Awareness of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises



Examining the time passed since the foundation of responding enterprises we can establish that enterprises operating for a longer time know the logistics centres in the Dél-Alföld Region more, so our data confirm that **awareness of logistics centres in the Dél-Alföld Region is related to the length of operation of enterprises**. An explanation for this connection could be that the enterprises existing for a shorter period of time had less time to learn about logistics centres. However, the connection in this area is rather weak. These results indicate that logistics centres in the Dél-Alföld Region should primarily improve their visibility among the enterprises existing for a shorter period of time.

13. Awareness of logistics centres in the Dél-Alföld Region is related to the type of activities of enterprises

No direct connection can be observed between the activity type of responding enterprises and their awareness of the logistics centres in the Dél-Alföld Region, so we cannot confirm our assumption. Logistics centres in the Dél-Alföld Region are the best known among enterprises involved in large-scale industrial production and companies active in the area of agricultural production. In general we can say that the visibility of logistics centres in the Dél-Alföld Region should be increased regardless of the activity type of enterprises.

14. Awareness of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises

According to the analysis of cross-tabs bigger enterprises know the logistics centres in the Dél-Alföld Region better which **confirms our assumption that awareness of logistics centres in the Dél-Alföld Region is related to the number of employees at enterprises**. An explanation for this could be that they are more likely to have an activity that requires knowledge about logistics centres. This fact can however also indicate that **the logistics centres in the Dél-Alföld Region should make themselves more visible in the circle of small enterprises as significant deficiencies can be experienced in this area**.



15. Awareness of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises

According to cross-tab analyses enterprises with bigger transport capacity know the logistics centres in the Dél-Alföld region better. This **confirms our assumption that awareness of logistics centres in the Dél-Alföld Region is related to the transport capacity of enterprises.** Such results were to be expected, because as we have already pointed out, bigger transport capacity result in bigger logistical requirements what is logically accompanied by better knowledge of the logistics centres. It is worth noticing, however, that the connection between the transport capacity and the awareness of the logistics centres in the Dél-Alföld Region is not too strong. This shows that logistics centres in the Dél-Alföld region should be made more visible in the circle of enterprises with both big and small transport capacity.

16. There are unexploited opportunities in the area of railway, water or air transport both in relation to supplies and transport of goods produced by enterprises

In the area of distribution, road transport dominates by the responding enterprises in the majority of cases. Only a few companies report about the significant role of combined or water transport. Similarly to distribution the supply of various products and raw materials is also primarily linked to road transportation. By the majority of the companies transportation happens exclusively by road. These results **confirm our assumptions that there are unexploited opportunities in the area of railway, water or air transport both in relation to supplies and transport of goods produced by enterprises.**

17. Cooperation between Hungarian and Serbian enterprises is weak

Only a little over tenth of the responding companies has cooperation with Serbian enterprises. It confirms that **cooperation among Hungarian and Serbian enterprises is really weak.** This is a relatively low percentage, considering that the headquarters of the most are



located in counties bordering with Serbia. All these show that there are still significant opportunities in the area of cooperation between Hungarian and Serbian enterprises. One of the tools for this could be the development of logistics centres that play an important part in the flow of goods between Hungary and Serbia.

18. Few Hungarian enterprises use the services of logistics centres located in the border region of Serbia

Presently, only a negligible part, about 3% of the responding enterprises use the services of logistics centres in the border region of Serbia. **Our assumption that few Hungarian enterprises use the services of logistics centres located in the border region of Serbia was confirmed.** The extremely low ratio also shows the unexploited opportunities of cooperation among the enterprises of the two countries and it also shows that the logistics centres in the border region of Serbia need significant development measures. Possible sources for these developments are provided through the growing resources of EU funds that gradually become accessible through the consolidation of the Serbian political system and its improving EU accession policy. It should also be added, that it would also be recommended to use more of the accessible EU funds for the development of logistics centres in Hungary including the development of the logistics centres in the Dél-Alföld Region.

19. Enterprises do not find harmonized development of logistics centres in Hungary and Serbia important

Quite many enterprises marked the number indicating the lowest level of importance (1) as well as the number indicating the highest level of importance (5), however, the most characteristic was the value for medium level importance. The average value of importance was also medium (3,04) so our **results do not confirm our assumption that enterprises do not find harmonized development of logistics centres in Hungary and Serbia important.**





Enterprises in general do not consider the harmonized development of logistics centres between Hungary and Serbia negligible but they do not find it vitally important either. It should be added, however, that after getting introduced to the available opportunities they considered harmonized logistics development more important.

