The Possibilities for Application of Telework in Water Transport

Mogućnost primjene telework-a u pomorskom prijevozu

Summary

Transportation is a key factor of modern economy. Lawmakers and employers are forced to rethink their approach to the form of employment concerning the state of the environment and an increasing number of accidents and traffic jams. One option, how to mitigate the negative effects, in the globalisation process, is to apply telework as a flexible form of work organisation. The purpose of this paper is to highlight the benefits that telework brings. Moreover, it points out the conditions that must be met in its implementation. In addition, there is an analysis of legislative aspect of and comparison of current state of telework in different countries. To conclude, the paper offers the analysis of the suitability of teleworking application for its position in water transport, because it poses an important role for the future of Europe in the development of transport infrastructure.

INTRODUCTION / Uvod

The economic rationalisation of production processes, technological progress and the development of information and communication technologies encourage dynamic development of teleworking. Rising processes of production flexibility and globalisation have driven this expansion. Transport is a key to economic growth and social cohesion, and it is factor forming the basis of modern economies in mentioned processes (Poliak, 2013). Requirements for transport services grow with economic growth and living standards. By 2020, it foresees a doubling of road transport within the EU new member countries. As results, we can expect more traffic jams, environmental damage, accidents and danger of loss of competitiveness of European industry, which must have cost-effective and reliable transportation systems due to supply chain management (Lednický, et al, 2010). It is in the interest of the EU to have and use more energy efficient transport system and transport stable economy. In regard of the state of the environment, it is necessary to be taken into account the condition of the greening transport (Križanová, et al, 2013). The literature review pointed out that road transport belongs to main sources of air pollution and causes major damage to the environment (Rypáková, Kornařáková, 2013). For this reason, it is required to get the growth of road traffic under control and provide other, more environmentally friendly modes of transport resources in order to become competitive alternatives. The European continent is a maritime power thanks to the two-thirds of its maritime boarders, especially after the last enlargement.
Europe's long coastline and large number of ports predetermine the maritime sector to become a valuable alternative to land transport (Lednický, et al., 2010). Sea shipping in recent decades has demonstrated its ability to reach levels of competitiveness, which is usually attributed to road transport. From 1995 to 2004 performance in maritime coastal transport increased (in tonne-kilometres) in the 25 member countries by 32%, while the performance of road transport increased by 35% (EU, 2013).

The growth performance of sea transport still continued, only exception was 2009, when it was significantly impacted by the global economic crises. Figure 1 presents the development of sea and road transport, which are almost identical what highlights the weight of sea transport in recent years.

Maritime transport accounts for 90% of EU external trade, the shipbuilding industry has an annual turnover of more than 20 billion € (Stanivuk, 2013). In addition, there is a positive trend in terms of the number of employees.

Estimates suggest that the total employment in blue economy may exceed the number 7 million jobs by 2020, if this is supported by training measures that are aimed at guarantee the presence of a mobile workplace with sufficient skills and experience (Zarnay, Dávid, 2007). Current number of employees, number of enterprises and total turnover dedicated to waterway are shown in Table 1. Slovak republic is an inland country, Croatia is a coastal country, there is possible to see differences between the inland water transport and sea transport. We pointed the inland waterways, because for inland countries they have a great importance as well. If International River flows through the country and connects it with a number of seaports, transhipment cargo from seagoing ships on river vessels at sea port allows to get the goods to the inland effectively and environmentally preferred. Water transport presents a sustainable, viable and profitable mode of transport and plays an important role in transport infrastructure not only in Europe (Klieštik, et al., 2013).

Integral part of the approved project NAIADES (Navigation and Inland Waterway Action and Development in Europe) represents mainly investments in human capital, what means to support the development of education and training as a precondition of creating a healthy and competitive labour market (Sosedová, 2005). The development of water transport thus goes hand in hand with an increasing employment in this sector. Considering the large distance from the ports to corporate domiciles and employees' homes, there is a room for the application of flexible managerial concept – teleworking, as a type of flexible work arrangement, which can include other non-traditional setups (Hrašková, Rolková, 2012).

Large distance is just one, but the main of the numerous reasons why application of teleworking (also known as telecommuting, virtual work, e-work, remote work) is suitable. People use transport as passenger mostly for commuting to work. Following table 2. shows the volume by modes of transport in the world. Employees drive several billion kilometres a year. As could be seen in table, the most of them are using their own cars. Telework aims at changing travel habits and reducing commuter and business driving as cost saving alternatives to building ever-increasing highway and public transit capacity. Reduced driving also lessens air and water pollution, energy consumption and highway maintenance costs. These can have a great impact to the environment at all.

The results of teleworking indicate benefits that include increased productivity, reduced absenteeism, reduced time and costs in service delivery and increased employee motivation and morale (Lendel, 2009). Many road and maritime companies encourage teleworking to facilitate flexible work practices that enable staff to balance their work and family commitments.

<table>
<thead>
<tr>
<th>Employment by water transport (thousand)</th>
<th>Number of enterprises</th>
<th>Turnover by water mode of transport (million €)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inland water</td>
<td>sea</td>
<td>Inland water</td>
</tr>
<tr>
<td>SK</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>HR</td>
<td>0.0</td>
<td>3.8</td>
</tr>
<tr>
<td>EU27</td>
<td>42.0</td>
<td>182.2</td>
</tr>
</tbody>
</table>

Figure 1. EU 27 Performance by road and sea for freight transport 1995-2011
Slika 1. EU27 vozarine cestovnog i pomorskog prijevoza 1995-2011
### TELEWORKING PROS AND CONS / Teleworking za i protiv

Teleworking and telecommuting nowadays rapidly get into the consciousness of workers in various sectors of business services increasing numbers of teleworkers also present a future in EU (Telework in EU, 2011). The short and clearly definition says, “teleworking refers to a working arrangement or work style where an employee regularly does his or her work off-site, or outside of principal office. Teleworkers typically work from home one or more days a week and communicate with the office using telephones and over the Internet” (Štofková, et al., 2011). EU defines Telework as „a form of organising and/or performing work, using information technology, in the context of an employment contract/ relationship, where work, which could also be performed at the employer’s premises, is carried out away from those premises on a regular basis” (Telework in EU, 2011).

The principle of telework is so limitation of the need to commute to the company and to perform the work at agreed hours and days of the week. Instead of a fixed time and the local mode teleworking allows optimize individual performing of work according to the needs of worker in terms of time and space (place of work is most often at home). Limitation of physical presence in the workplace can be partial or almost one hundred percent, depending on the type of work and the employer requirements. The teleworking includes following modes of work: work of mobile workers – businessmen, engineers, consultants, other professionals in the field, the work of distributed virtual teams with members in several locations, telecentre work close to home, uniting more workers of different professions, the work of students at universities who can study with all supporting documents «at hand» without having to physically go to school etc. (Lendel, 2009).

Currently, the performance of dependent work of employee that is made somewhere else than in the location of his employer, has some specific features that require different legislation than the employment of an employee who performs work at the employer. According to the agreement with the employer there can be a place of work different than the employer’s workplace, this place could be a home or other place of work as well. There are jobs that are specifically connected to the employer’s workplace, for example: administration in government - because of business hours or hours for the public, work of receptionist and others. When working at home - teleworking essence lies in the fact that its performance is in the working time, but these working hours can employee establish usually by himself (Hrašková, Rolíková, 2012). Consequently, for these forms of employment are specified deviations of the rules of employment in place of work in the employer’s workplace, such as provisions of the determined weekly working time and downtimes are not applicable to teleworking, with important personal obstacles to work. The company does not pay wages to employees, except for the death of a family member, it does not pay employees for overtime, wage surcharge for work on holidays, wage advantage for night work and wage compensation for the difficult job performance.

Teleworking is an innovative work conception, a form of employment which allows employees to work productively and provides the following benefits for the employee, the employer and the company (Hrašková, 2013; Lendel, 2012; Telework in EU, 2011; Telework uptake by industry, 2013)

<table>
<thead>
<tr>
<th>PASSENGER TRANSPORT (billion person-kilometres) in 2012</th>
<th>EU27</th>
<th>US</th>
<th>Japan</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passenger car</td>
<td>4822.1</td>
<td>5866.7</td>
<td>766.7</td>
<td>1676.0</td>
</tr>
<tr>
<td>Bus + trolley bus + coach</td>
<td>512.2</td>
<td>470.4</td>
<td>87.0</td>
<td>145.5</td>
</tr>
<tr>
<td>Railway</td>
<td>407.1</td>
<td>36.7</td>
<td>394</td>
<td>961.2</td>
</tr>
<tr>
<td>Tram + metro</td>
<td>92.9</td>
<td>17.3</td>
<td>49.6</td>
<td></td>
</tr>
<tr>
<td>Waterborne</td>
<td>36.6</td>
<td>0.6</td>
<td>4.4</td>
<td>0.7</td>
</tr>
<tr>
<td>Air (domestic/ intra EU27)</td>
<td>575.1</td>
<td>908.9</td>
<td>75.7</td>
<td>453.7</td>
</tr>
</tbody>
</table>

Table 2. Passenger transport in 2012

Source: Self processed based on EU: EU transport in figures – Statistical pocketbook, 2013.

**For the employee:**
- reduces time needed to commute to work
- reduces stress situations (avoid rush hour, conflicts in a team, office politics, cubicles and harsh lighting)
- reduces costs related to job
- provides better and more productive working environment
- increases the possibility of better organization of work and private responsibilities as well
- improves quality of life, health of employee
- provides the opportunity to work for disadvantaged (disabled) people.

As also our survey showed, most employees who have experience with teleworking, perceive improvement of quality of their lives. Behind this view is a number of factors such as higher job satisfaction, less stress, greater flexibility in organizing work-time or opportunity to spend more time with family.

**For the employer:**
- offers the opportunity to acquire and retain
- skilled workers,
- reduces absenteeism, sick leave,
- reduce overheads in the company (for energy, equipment),
- saves office space,
- increases productivity and employee satisfaction,
- increases loyalty to the organization.

Teleworking is so useful for example for foreign companies to start their activities in waterways transport or for new companies, it is preferable to create well equipped home office for their representative than to rent the entire building along with a full service personnel, or for distribution companies as well. Although teleworking is not suitable for all categories of employees, many employers would allow their employees to
According to market research, the 57% of workers in the U.S. prefer working at home and only 36% prefer to work in the office. In Europe, it is exactly the opposite situation. E.g. in Sweden 49% of employees prefers an office environment and only 34% the home office (Telework in EU, 2011; Lister, Harnish, 2011). Different situation is in Japan, where the share of teleworkers varies only about 1% (Kalina, 2008).

In U.S., there are also telecommuters who are working for local (1.1%) state (2.2%) and federal government (3.2%). In 2011, there were commuters who were working for private profit organisation (2.4%) and private non-profit organisation (2.7%) of total non-self-employed population (Transportation implications of telecommuting, 2011; Lister, Harnish, 2011).

In EU countries is situation very heterogeneous. The figure 2 shows incidence of telework in the EU and Norway.

Further development is difficult to predict because of tradition and conservatism in the way of working (Telework in EU, 2011).

For the whole society:

- reduces amount of traffic during the hours of increased traffic, it may also help reduce the costs of roads and their maintenance
- reduces air pollution
- increases employment and labour flexibility
- contributes to reducing of social exclusion
- improves of working engagement of disabled people
- contributes to development of marginalized regions.

For some organizations and individuals, teleworking can represent a dramatic shift in how they perceive the workplace and the job itself. Although in Slovakia teleworking is not much spread, in Western Europe this way of employment is already extended. Most popular is teleworking in Scandinavia, but it is used increasingly in the UK and even The Ireland, where people prefer traditional forms of employment recently. Because this type of work brings for certain type of people some cons, not all Europeans inclined to teleworking, this form of employment is refused especially because of following:

- limiting the possibility of direct communication with colleagues at work – isolation of employee is setting the stage for better concentration and thus higher productivity, but some people miss the interaction with colleagues in the office
- work exceeding the limit can cause stress - shift to teleworking opens access to work 24 hours a day, teleworkers can be lured to work more hours, than obligatory working hours
- teleworker must determine the rules in relation to work - teleworking provides more flexibility in program of personal issues, work from home can be carried out only under the condition that the employee will not be disturbed at work by family members,
- distrust of superiors - the management believe that teleworking is a good idea, but still doubt about whether working from home is the best for their company, many of them are suspicious of employees, of their ability to organize working hours outside the traditional workplace.

Advocates of teleworking, however, highlight many benefits of working from home - environmental, social and economic (Majerčák, 2013). They argue that the environment and, finally, the traffic situation, especially in big cities would be helpful if all the people do not go to work every day. Although the work from home for an employer is generally assessed positively, the results of research show that it works to the mutual satisfaction, if an employee spends some day of the week in the company to have a feeling that remains in the center of company life, does not feel lonely when working alone, has no sense of exclusion from the team.
SUITABILITY OF TELEWORK IN WATERWAY TRANSPORT / Prikladnost telework-a u vodenom transportu

Mentioned facts are reason why men less frequently do working from home, or it is done usually later in lifetime. Women generally use their maternity leave to transition to teleworking, after maternity leave they often struggle to adapt again to work and teleworking can help them shorten the time spent away from work, or allow them to work at least part-timely and not lose working habits. Working from home can greatly help disabled people or parents who care for young children. There is great possibility of geographic organizational development, by using remote workers from all over the world, which is associated with a greater pool of employees, higher educated people or specialists. Teleworking is also ideal for professionals who work independently on tasks and they do not need special equipment, computer or laptop with required software, Internet connection and telephone are enough.

A suitable job for telecommuting application must meet the following criteria:

- work must be “portable” (everything needed for the work can be taken home, or can be available by the means of communication),
- work does not require too much personal contact with colleagues, partners or customers,
- work has well defined beginning and end (outputs), so everyone knows what is the expected outcome (report, financial balance sheet, website, graphics, etc.).

Therefore, there is a list of job position in water transport that may be administrated in-home (private profit companies responsible for shipping goods or transport people or government organisations); there for instance: programmers, document translator, logistic manager, customs agent, accountant, actuary, administrative assistant, advertising executive, agent, analyst, appraiser, auditor, shipbroker, CEO, clerk typist, consultant, contract monitor, data search specialist, economist, financial analyst, researcher, telephone operator, receptionist (sending/ receiving electronic mail), logistic software engineer, telemarketer, telephone operator.

Our survey also has shown what employees, who have already contact with telework, are doing:

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>General duties</td>
<td>7%</td>
</tr>
<tr>
<td>Reports/plans</td>
<td>8%</td>
</tr>
<tr>
<td>Financial statements</td>
<td>10%</td>
</tr>
<tr>
<td>Sales</td>
<td>12%</td>
</tr>
<tr>
<td>Research</td>
<td>12%</td>
</tr>
<tr>
<td>Administration</td>
<td>19%</td>
</tr>
<tr>
<td>Communications/e-</td>
<td>23%</td>
</tr>
<tr>
<td>Servicing customers</td>
<td>24%</td>
</tr>
</tbody>
</table>

MEASURABLE INDICATORS – ENVIRONMENTAL, SOCIAL, ECONOMIC / Mjerljivi indikatori – ekološki, socijalni, ekonomski

The economic benefit of teleworking is not easy to measure because a number of factors are the reasons for increase in productivity. The benefits of teleworking, however, can be measured in cases where the results are electronically monitored (Cisko, et al., 2013). Possibility of working remotely brings not only higher employee productivity and savings on travel, but the staffs also offers great flexibility, which significantly contributes to employee satisfaction, thereby increasing their work effort and quality of work.

POSSIBLE TRANSPORTATION INFLUENCES OF TELECOMMUTING / Mogući utjecaji telecommuting-a

In Australia, government supports all possibilities of telework. It counted the impact more than 163 000 employees. Nearly all (94%) pledges came from the federal government, enabling federal employees to save a collective 13 million $ in commuting costs, avoid 14 million miles of travel and gain back more than 716 000 hours (Sensis Business Index, 2008).

REAL APPLICATION / Stvarna primjena

As was mentioned in introduction, by 2020 water transport sector should employ 7 million employees. Let imagine that just one quarter of them will be teleworkers.

Data for calculation:

- 70% of teleworkers are using their own cars,
- they are commuting to work (port or to office) about 100kilometres a day in average,
- one way takes 1.5 hour,
- 210 working days,
- CO2 emissions of fuel consumed 2500g/l,
- average price of gasoline is 1.5€.

Table 3 presents results.
Table 3. Transportation impacts of telework

<table>
<thead>
<tr>
<th>Transportation impacts</th>
<th>Calculated data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saving car km travelled (millions)</td>
<td>28 000</td>
</tr>
<tr>
<td>Saving in gallons of gasoline (millions litres)</td>
<td>46.7</td>
</tr>
<tr>
<td>Value of gasoline saved (millions)</td>
<td>70</td>
</tr>
<tr>
<td>Saving CO2 emissions (tonnes)</td>
<td>16666.7</td>
</tr>
<tr>
<td>Annual hours saved for average telecommuter</td>
<td>630</td>
</tr>
<tr>
<td>Total annual hours saved (millions)</td>
<td>7640</td>
</tr>
</tbody>
</table>

Source: Self processed

THE LEGAL STATUS OF TELEWORKER / Zakonski status teleworker-a

Teleworking is a way of working, which is quite close to nature “freelance work”, work on the business license, work of the contractor, work under the agreement for work etc. However, it is not like that in many ways. From all aspects, especially in terms of legal rights and obligations of a remoted employee, there are different rules and statutory provisions (with respect to the Labour Code, trade laws, tax laws, social security laws, health insurance, pension insurance etc.). Teleworker is in easier situation, because like for any other employee the employer is fully responsible for him to many authorities.

In European Union, there is one important differentiation with regard to the implementation of the European Framework Agreement on Telework is whether it creates „hard“ or „soft“ law in the respective Member States.

„Soft law“is the term applied to EU measures such as guidelines, declarations and opinions. In contrast to ‘hard law‘ instruments such as regulations, directives and decisions, soft law measures are not binding on those to whom they are addressed. However, soft law can produce some legal effects and is sometimes presented as a more flexible instrument in achieving policy objectives. In the typology of Marginson and Sisson (2010), hard law involves standard rights and obligations, while regulating core issues – such as pay and working time. It relies on sanctions, is complete and compulsory. Soft law, on the other hand, involves minimum provisions only, regulates „soft issues“ such as stress and telework, is incomplete, open-ended and permissive.

As the “autonomous route” of implementation gives actors in the Member States the choice of how to transpose the European Framework Agreement, a variety of instruments have been used. The 21 countries that reported some form of implementation of the agreement can be grouped into three main clusters. The most widespread way of implementing the European Framework Agreement has been through collective agreements. Nine countries used collective agreements and these had been concluded mainly at national or intersectional level. In a second cluster of six Member States, implementation was achieved through various forms of „voluntary“ measures – such as joint guidelines, codes and recommendations on telework which are based on the proposals and policies set forth in the agreement. In a last group of six other Member States, national legislation has been enacted in order to implement the European Framework Agreement.

HOW TO APPLY THE TELEWORK / Kako primijeniti telework

HOW TO PROCEED: / Kako nastaviti dalje:

- It is not always the intention of the organization itself to build employment policy that supports telecommuting. If the employee feels that his case is correct or even the only appropriate way, then he must persuade the employer about the following matters:
  - how much will be saved for employees transferred to work in remote mode, compared to finding substitutes for office work,
  - there is a possibility to try out a new style of work during a probationary period,
  - there is no need to lose contact with other employees, as it will maintain effective telephone and electronic


Note: blue: implementation through national legislation, orange: implementation through collective agreement, violet: implementation through soft law mechanisms
communication with a focus on specific tasks without loss of time and money, and according to personal needs regular communication (the presence in team meetings and meetings with management and so on), or at least by voice or video conferencing.

For employee own agreement with the employer it is appropriate to apply for the following requirements:

- reimburse the operating costs for telephone and other connections (ISDN, cable TV with the possibility of data transmission and internet access) or to pay the installation of a telephone connection (cheaper in the name of the owner households than of the employer), the best use of call-back for communication with corporate network and the internet,
- reimburse the additional costs associated with work - own office equipment, hardware and small articles of consumption clearly applied only to work for the employer, an alternative way is to use only the company’s computer equipment, both because it is covered by corporate support (repair, reinstallation, upgrading software, etc.), and secondly, the company will gradually depreciate it,

- distinguish between own costs, which would exist in maritime and inland water transport performance goes hand in hand with the demand for new labour. However, since education in this area is specific, workforce may be different deployment and future employer does not have to meet with the willingness of employees to relocate or commute to work every day. Workforce will need to be effectively deployed. In field of water transport and shipbuilding industry it is a room where telework can find its place and where it is even recommended. It is not only because of increasing labour productivity, but also in terms of ecological aspect as could be seen several times in our paper.

REFERENCES / Literatura