

Future trends in transport workforce based on demographic, behavioural, cultural and socioeconomic factors

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Structure of presentation

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- Scope
- Methodology
- Current situation
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- Conclusions



Background



- A study conducted *in the framework of the "SKILLFUL - Skills and competences development of future transportation professionals at all levels" project, financed by the European Commission*

Dealing with transport workforce skills and challenges emerging from the new adopted needs of the society

Generally, workforce will be shaped by the prevailing social trends in Europe:

- Such as ageing of the workforce, resulting in the need to integrate immigrants into the workforce and the fight against the exclusion within certain groups, such as people with disabilities, computer illiterate people, etc.
- The sychromodality and multimodality of the emerging market trends that will undeniably affect the future social norms.

Background

In this study, the analysis of the future social norms is mainly focused on four critical aspects namely:

- ❑ Demographic
- ❑ Behavioural
- ❑ Cultural
- ❑ Socioeconomic

Which are deemed to be correlated to existing and emerging professions in the transport sector.

The different aspects and their impact on transport workforce are considered, nowadays, to be key-issues regarding the evolution of the workforce and the future market needs.



Background

To shape the conditions of the transport sector, the following sub-sectors have been examined:

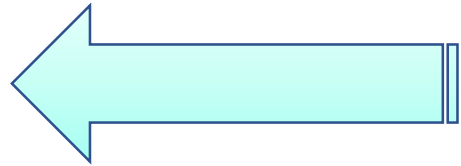
- Truck Transport
- Transit and Ground Passenger Transport (including urban transit-privately and publicly operated, taxis and bus, school and employee transportation)
- Air Transport (including airport operations, aircraft maintenance, and other support activities)
- Highway Construction and Maintenance
- Rail Transport
- Maritime Transport (deep sea, coastal, great lakes, and inland water transport, ports)



Scope

The scope of the paper is to map the major trends of the transport workforce with regards to demographic, behavioural, cultural and socioeconomic factors, in the:

- ✓ Current situation
- ✓ Short/mid -term
- ✓ Long-term/Future challenges



The analysis in different terms and their impact on transport workforce are considered to be key-issues regarding the evolution of the dynamic of the transport workforce and the future market needs.



Methodology

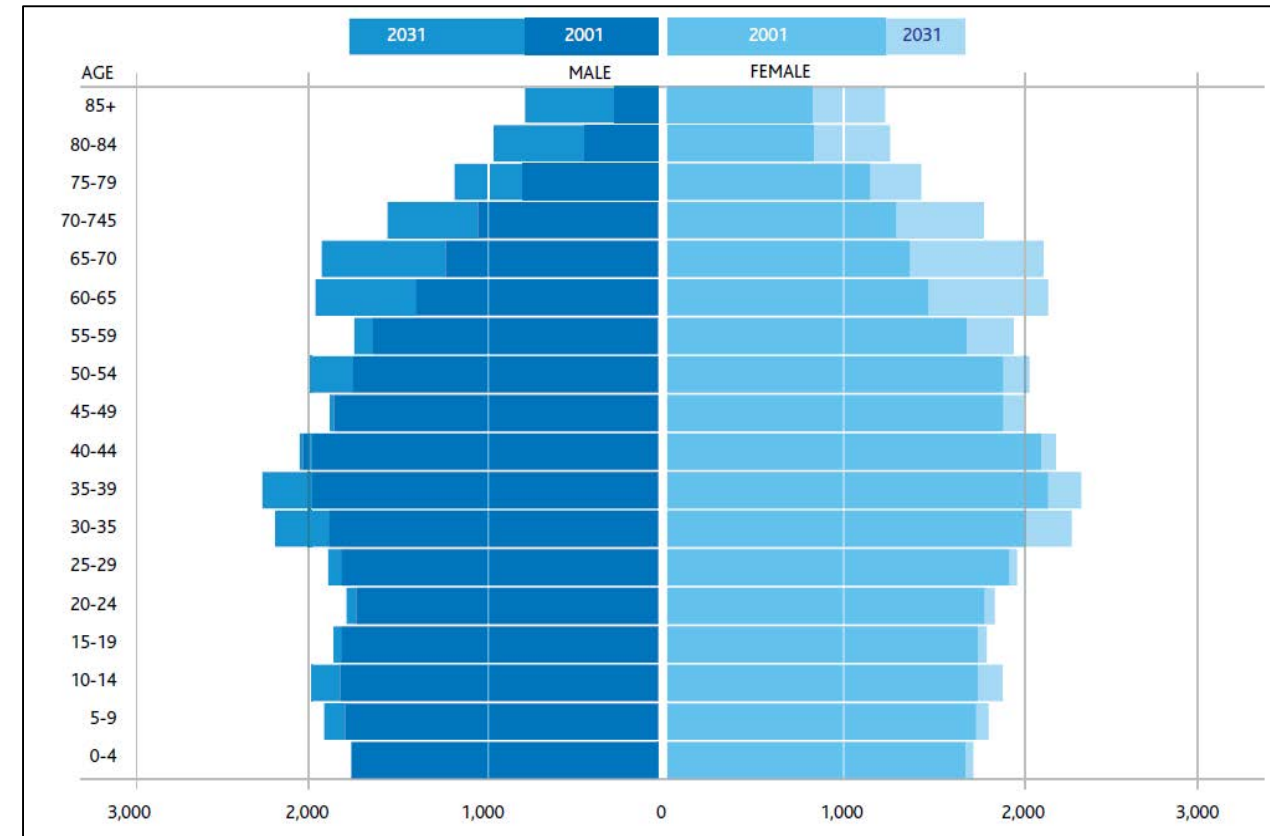
- For mapping each factor, core and recent literature sources were analysed and the main related findings have been synthesized.
- Furthermore, key-input and ideas from the SKILLFUL experts and the results of the related interactions have been embodied.
- The results are presented for each of the factor first, based on the current situation and short-term challenges and second, on future challenges.



Current situation

Demographics

- Ageing of the workforce results in reluctance to follow technology evolution.
- Youth unemployment reaches high levels all over Europe.
- Women workers seem to be highly under-represented.
- Immigration is an issue that EU has to face in all sectors.

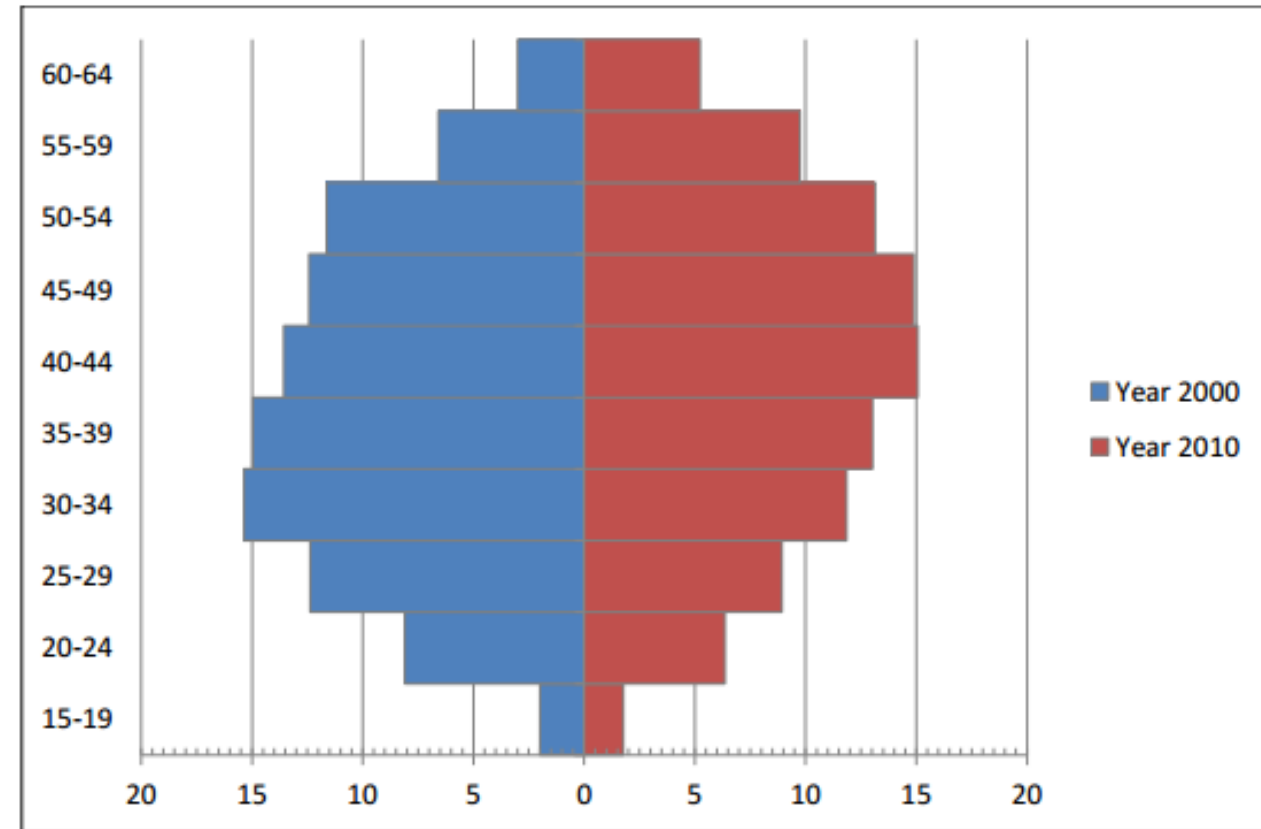


Evolution of workers distribution in UK by age as a percentage of total transport workers (years 2001 and 2031) (Baster 2012)

Current situation

Demographics

Nowadays, women comprise 47% of the total employment. However, women workers are highly underrepresented throughout the transportation industry



Evolution of workers distribution in EU by age as a percentage of total transport workers (years 2000 and 2010) (Christidis et al. 2014)

Current situation

Behavioural

- Technology-driven innovation (new services are invented simply because the technology permits them).
- Employees adopt collaboration agreements in various cases (i.e. car-pooling or car-sharing)
- Youngster may change or manipulate their interests following the potential job market trends.

Driving apps



Current situation

Cultural

- *Some people seem to be reluctant in following new market trends.*
- *Towards this, upskilling and training campaigns will prove to be effective, and this by itself, opens new horizons for other vacancies.*



Current situation

Cultural

- *Older people do not accept changes to their transport choices, only if making the decision by themselves.*
- *A rise in the number of people living by themselves will in a way transform the transport needs. Around 60% of women and nearly 30% of men over the age of 75 live alone today. Based on this, semi-autonomous or autonomous vehicles are a hot transport topic and their use is expected to increase rapidly in the coming years.*



Current situation

- *Mobile applications and social networking have created a totally new industry.*
- *Autonomous vehicles are a hot transport topic.*
- *Freight transport is at an ever increasing rate creating new vacancies and needs.*

Future challenges



Future challenges

Demographics



- No discrimination in physical abilities of the employee.
- Robotics provides a fair opportunity to people with disabilities.
- Different patterns of family structure causing mobility patterns.
- Changes in workforce age caused by the extending retirement age.

Future challenges

Demographics



- Employers are expecting that older workers will work the same as the younger or middle-age people, but due to elderly people behaviour (especially on driving) and health condition, some positions increase the risk of reduced travel safety or less effective work.
- There should be developed strategies / procedures / recommendations for older people recruitment



Future challenges

Behavioural

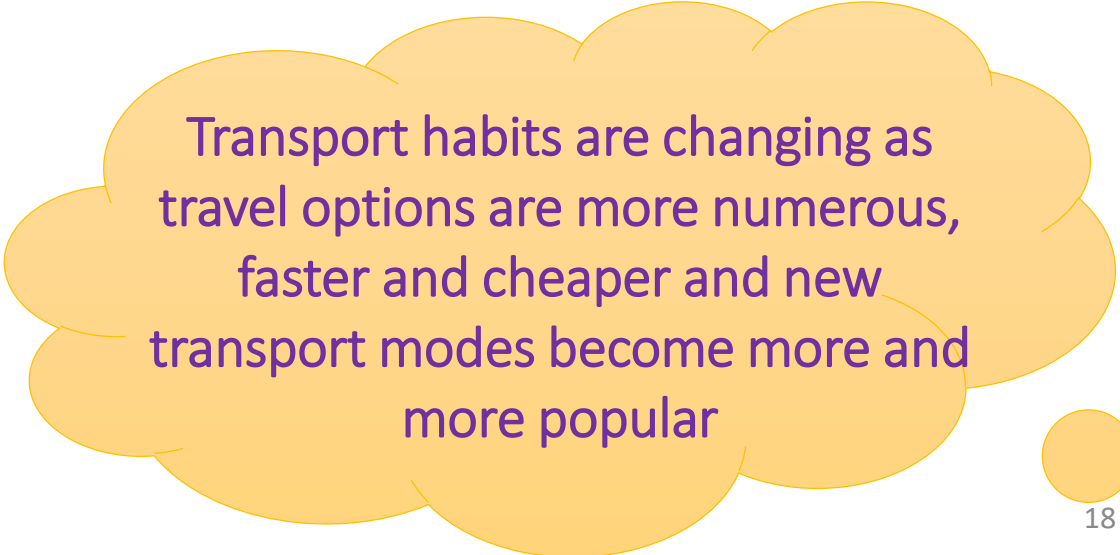
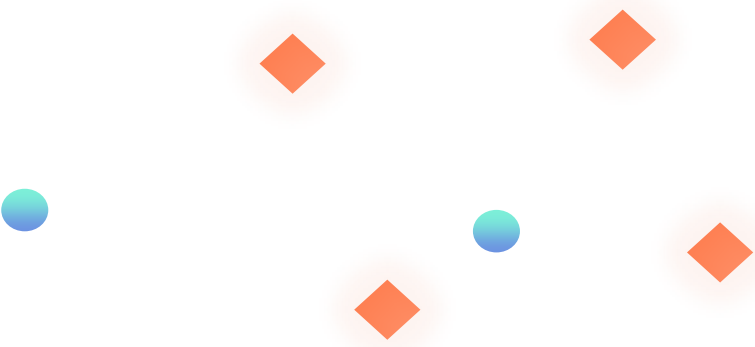
- Demand for workforce skilled in digitalization.
- Advanced commuting technology will affect both the nature of vehicles and the environment.
- Choosing green transport modes or to redesign infrastructure in a more environmentally friendly way.



Future challenges

Cultural

- Diversity and exploitation of multicultural talent.
- Less ownership and more shared usage of the different means of transport.
- Emphasis should be given to transport safety culture.
- The safety culture perspective is quite new to the transport sector, more research is needed.



Transport habits are changing as travel options are more numerous, faster and cheaper and new transport modes become more and more popular

Future challenges

Socio-economic

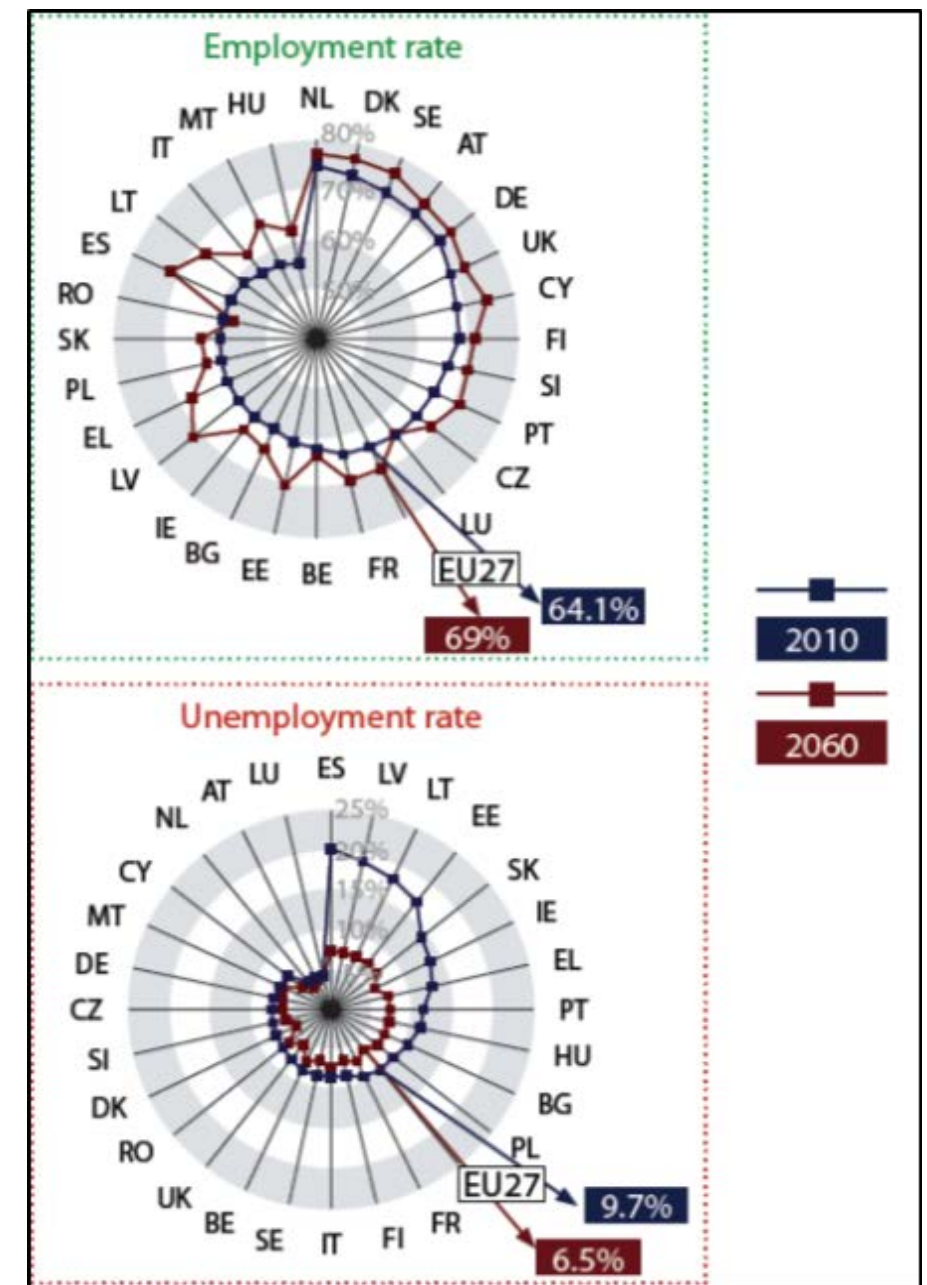
- New education schemes focused on strategic skills that students need to get a job.
- Need for experts and skillful employees will characterize the jobs needed.
- Climate challenges and energy storage will totally affect the new transport patterns.

Future challenges

Socio-economic

The employment and unemployment rate for each of the 27 Member States and EU in total in 2010 and 2060:

- **Employed persons** comprise persons aged 15-64 years who during a reference week worked for at least one hour for pay or profit or family gain or were temporarily absent.
- **Unemployed persons** comprise persons aged 15-64 years old who were not employed, were currently available for work and were actively seeking work.
- **Projections for the 2060** rates have been made by the EC based on trends in employment patterns of women, older workers and young people



Employment and unemployment rate for ages 15 to 64 years old, in EU27, in 2010 and 2060 (Sabbati 2013)

CONCLUSIONS

BEHAVIOURAL



CULTURAL



DEMOGRAPHICS



SOCIO-ECONOMIC



Current situation

Future challenges



CONCLUSIONS

- On **demographics**
 - ✓ Ageing of the workforce results in reluctance to follow technology evolution. At the same time, youth unemployment reaches high levels all over Europe.
 - ✓ Women workers seem to be highly underrepresented throughout the transport industry. Immigration is an issue that EU has to face in all sectors.
 - ✓ Transport should be a working field on which immigrants can expertise and work.
 - ✓ Future workforce needs qualified people, appropriately educated in new technologically advanced areas, without any discrimination based on physical abilities of the employee.
 - ✓ The fact that jobs related to physical abilities (manual jobs) are being constantly reduced and the emergence of robotics provide a fair opportunity to people with disabilities to be better integrated in the future workforce.

CONCLUSIONS

- Regarding **behavioural factors**:
 - ✓ Technology innovation based on digitalisation and autonomy will transform the transport market needs both in terms of workforce numbers and new skills (digitalisation literate workforce).
 - ✓ New trends in the workforce need to be adopted smoothly by the potential new workers in order for them to become keen on following and handling the new market needs.
 - ✓ Regarding climate change, new targets will be posed from each country either to inform people on the significance of choosing green transport modes or redesigning infrastructure in a more environmentally friendly way.

CONCLUSIONS

- Concerning **cultural factors**:
 - ✓ Digitalisation skills will be of pivotal importance not only for the employees but also for employers leading to expertise and upskilling of the potential workforce.
 - ✓ Transport services will be integrated with the other sectorial services, requiring thus, an inter-disciplinary workforce.
 - ✓ Society will witness an inevitable shift in cultural attitudes spreading across the digital society and manifested by less ownership and more usage of the different means of transport.

CONCLUSIONS

- Finally, on **socioeconomics**:
 - ✓ Good and life-long education and training (with emphasis on vocational training) is a key to fight unemployment in low socioeconomic status neighbourhoods and groups.
 - ✓ New manufacturing trends such as designing of new modes using new sustainable materials will provide new vacancies.
 - ✓ The need for a nation to invest on emerging technologies and new patterns will encourage and push workforce on new and why not innovative jobs.

OVERALL

Society will witness a shift in cultural attitudes spreading across the digital society and manifested by ownership and usage of the means of transportation. This will also fundamentally change the way transport will be designed and operated. The total mobility structure is changing.

The core competencies in traditional transport came from the basic mobility needs. Applied research and innovation still define new processes and services.



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THANK YOU!

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