# TRANSPORTATION 2014 AND BEYOND

## POTHOLES OR OPEN HIGHWAYS?

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EUROPEAN CONFERENCE ON ICT
FOR TRANSPORT AND LOGISTICS
7 NOVEMBER 2014

## AGENDA

A little background

European transport challenges

- Declining growth rates
- Increasing costs
- Personnel shortages
- Increasing regulations

Implications and opportunities

Summary and questions

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# A SHORT INTRODUCTION

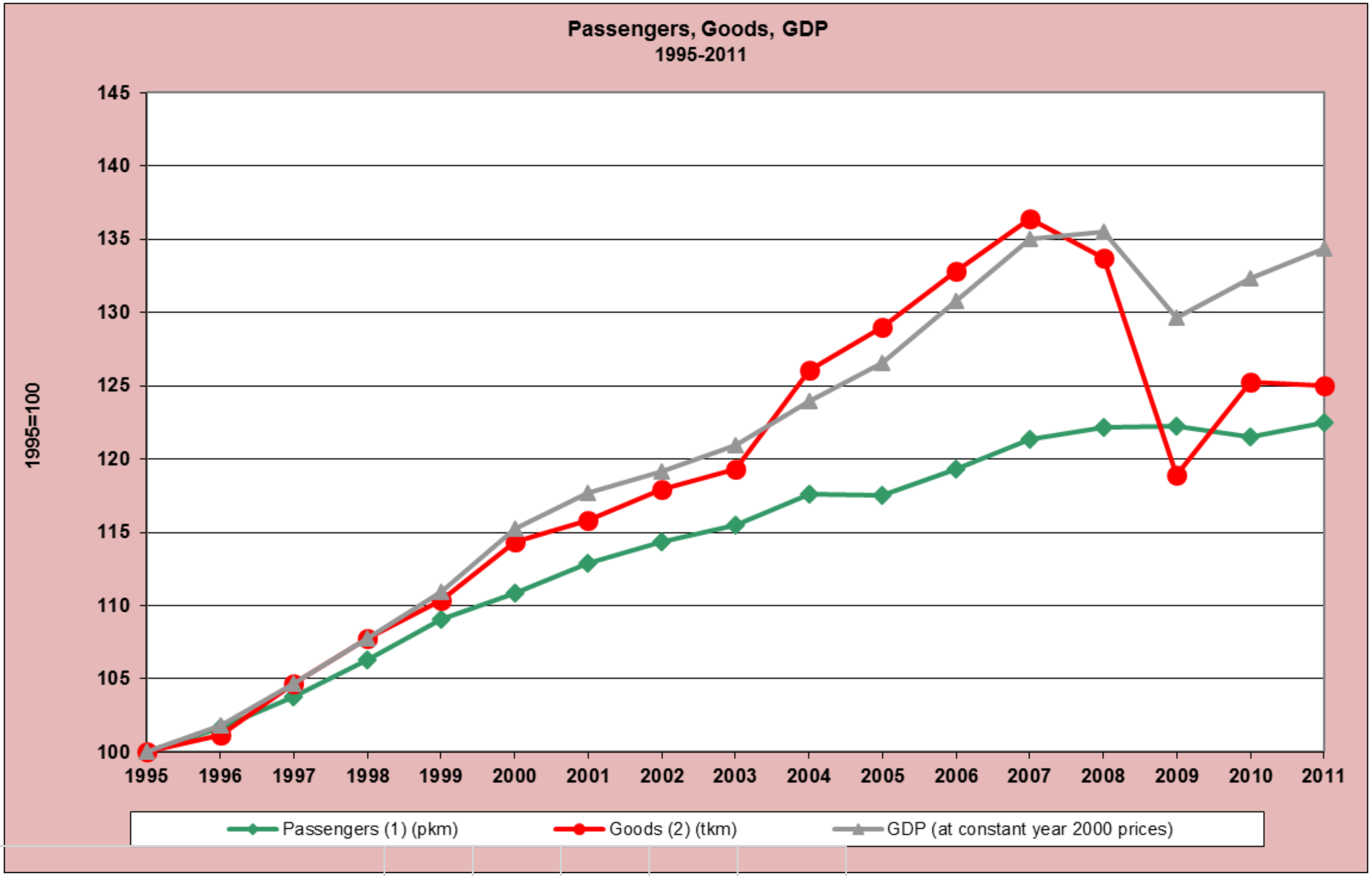
## The Kuehne Logistics University

- Founded in 2010 as a private, independent, **state-recognized** university with English as the chosen research and teaching language
- THE KLU is a Business University focusing on **logistics and management**
- The university is dedicated to **excellence in teaching and research**; its operations cover the whole spectrum of university and executive education
- **International university standards** and practices from course content, teaching methods and exchange programs
- Located in **Hamburg's Hafen City** providing students with a clear view of logistics operations and practices
- Founded and supported by the Kuehne Foundation of the Kühne family

## Me

- Academic Director, Executive Education and Adjunct Professor of Logistics
- From practice, not the academy
  - Kuehne + Nagel
  - USCO Logistics
  - Viacore
  - ENTEX Information Services
  - Digital Equipment Corporation
  - Daily Instruments
  - Cameron Iron Works
  - General Motors Corporation
- Also consulting
  - Theodore Barry & Associates
  - Booz-Allen and Hamilton
  - Arthur Young
- Academically challenged ☺
  - Case Western Reserve University – Doctorate in Management
  - Harvard Graduate School of Business - MBA
  - Stanford University - MSME
  - Purdue University - BSME

# THE EUROPEAN TRANSPORT INDUSTRY HAS GROWN AT AN EXCEPTIONAL RATE OVER THE PAST SEVERAL DECADES

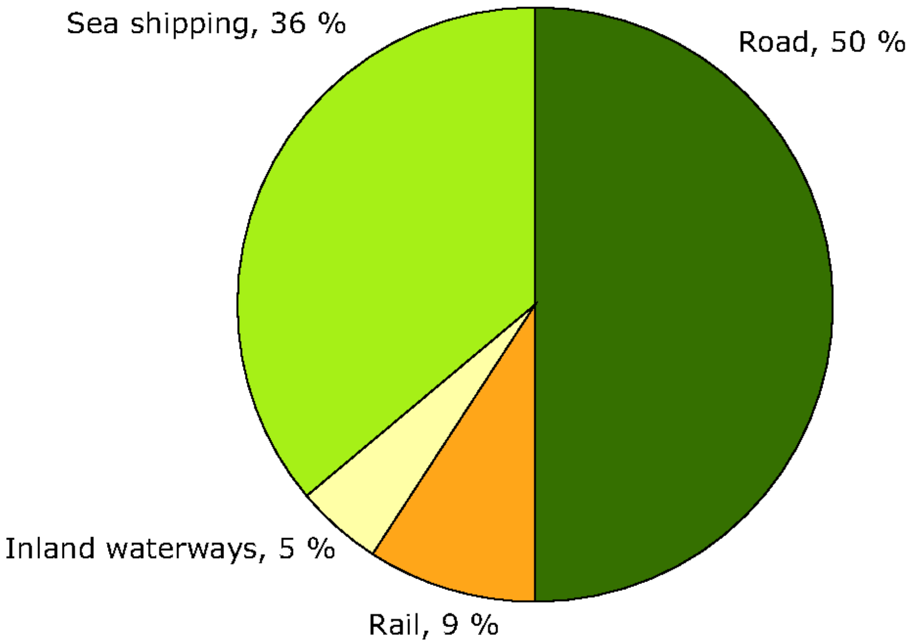



| |
|---|
| **Source**: Eurostat, tables 2.2.2 and 2.3.2 |
| **Notes :** |
| (1) : passenger cars, pow ered tw o-w heelers, buses & coaches, tram & metro, railw ays, intra-EU air, intra-EU sea |
| (2) : road, rail, inland w aterw ays, oil pipelines, intra-EU air, intra-EU sea |
| GDP: at constant year 2000 prices and exchange rates |

# TRANSPORTATION SERVICES TODAY CONTRIBUTE SIGNIFICANTLY TO THE ECONOMIC PROSPERITY OF THE EU

- Employment – Transportation accounts for approximately 5% of total employment
- Revenue – Freight transportation and warehousing turnover exceeds €1.2 trillion
- Companies – There are over 750,000 companies who indicate that their primary business is either freight transport or warehousing
- Taxes – Transportation related operations pay almost 5% of total taxes collected in the EU, and
- Environment – Transportation related operations pay environmental taxes that account for almost 2% of the EU 27’s GDP (note that since corporate taxes account for less than 40% of GDP this figure is almost 5% of total corporate tax collected)

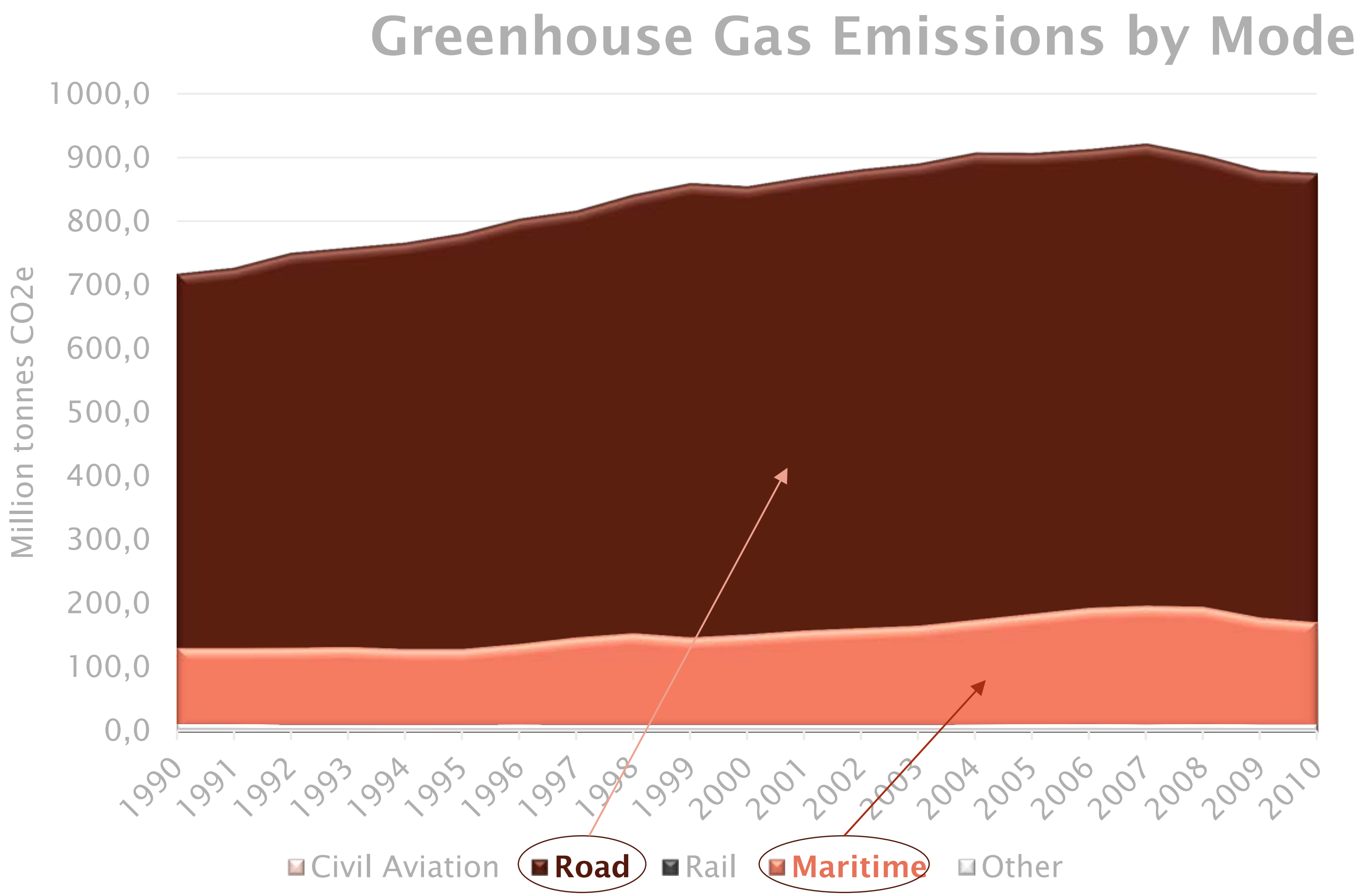
**Transport Mode Split for Intra-EU Shipping**






Source: All data from Eurostat

# UNFORTUNATELY, TRANSPORT ALSO HAS SOME NEGATIVE IMPACTS ON SOCIETY




Emissions from road and sea based transport are the primary transport GHG sources. All other sources are small compared to them.

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# TRANSPORTATION OPERATORS WILL FACE A NUMBER OF SPEED BUMPS IN THE NOT TOO DISTANT FUTURE

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**Declining Growth Rates** → Freight volumes are not expected to grow at historical rates due to lower GDP and population growth

**Increasing Costs** → Fuel, road taxes, salaries, equipment and compliance costs are all expected to increase faster than revenues

**Personnel Shortages** → Qualified personnel will become difficult to find, attract and train due to alternative opportunities

**Increasing Regulations** → Congestion, safety, noise, environmental and other operating impacts will result in increasingly strict and costly regulations

| Changing Competitive Dynamics | Increasing Emphasis on Sophisticated ICT | Need for More Skilled and Educated Teams |
|---|---|---|

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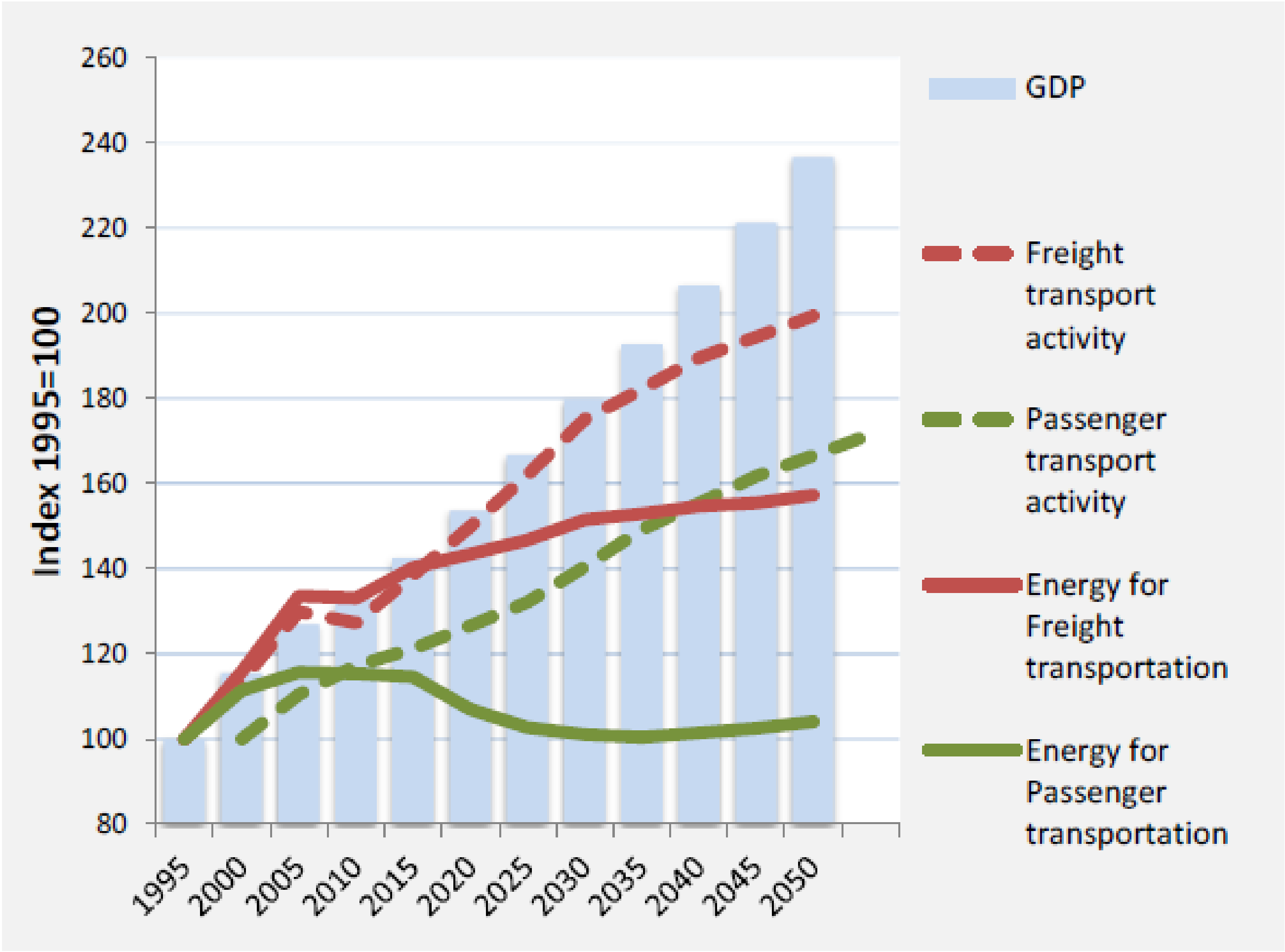
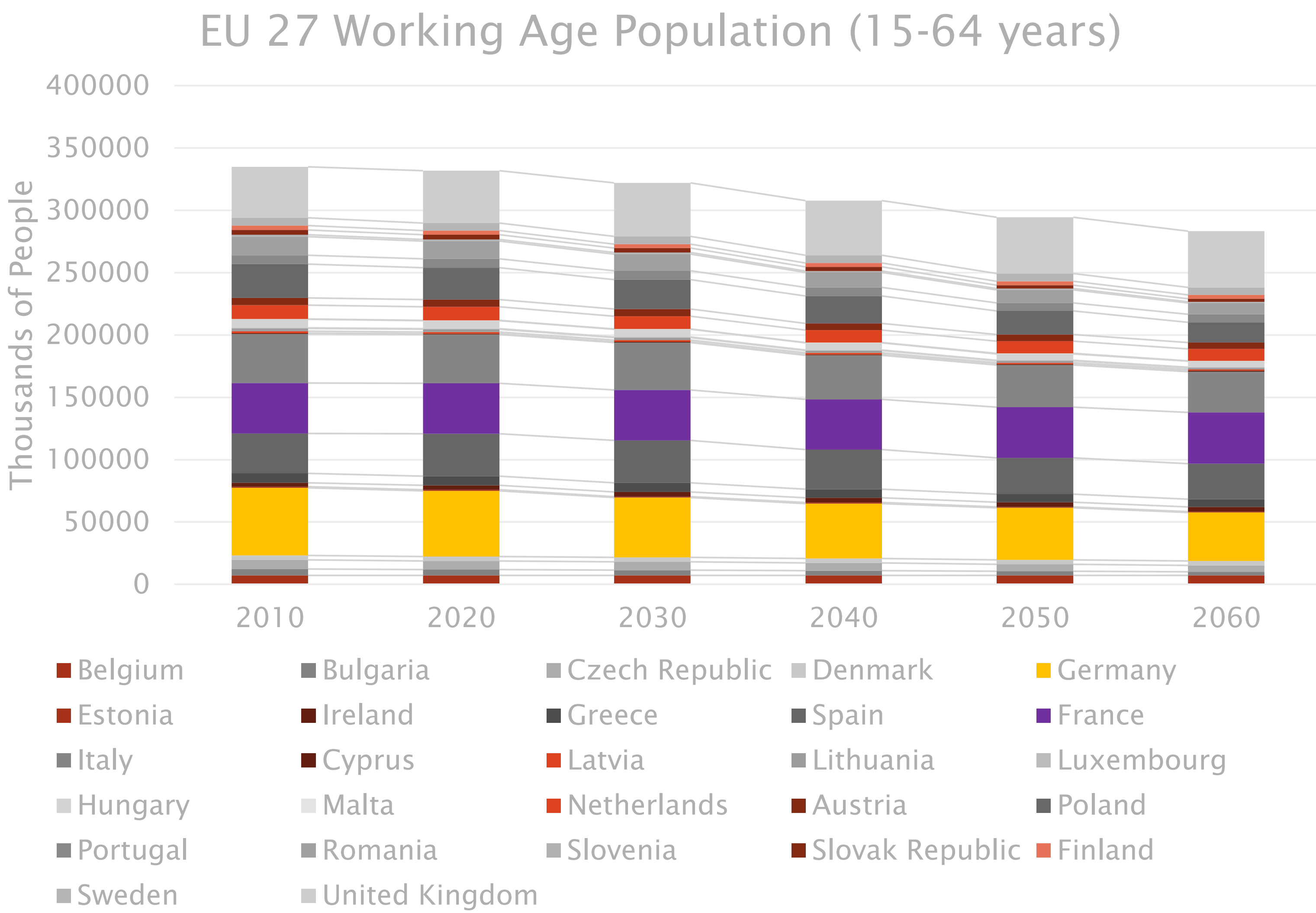
# THE WEAK ECONOMIC GROWTH PREDICTED FOR EUROPE, ALONG WITH SLOWING DEMAND IN EMERGING MARKETS, MEANS THAT OVERALL TRANSPORT VOLUMES WILL SLOW






Source: EU Energy, Transport and GHG Emissions Trends to 2050 Reference Scenario 2013

# AN AGING POPULATION IN EUROPE WILL ALSO SLOW GROWTH IN THE FREIGHT TRANSPORT SECTOR AS DISPOSABLE INCOME IS SPENT ON LEISURE AND HEALTH






Source: Eurostat Statistics in Focus

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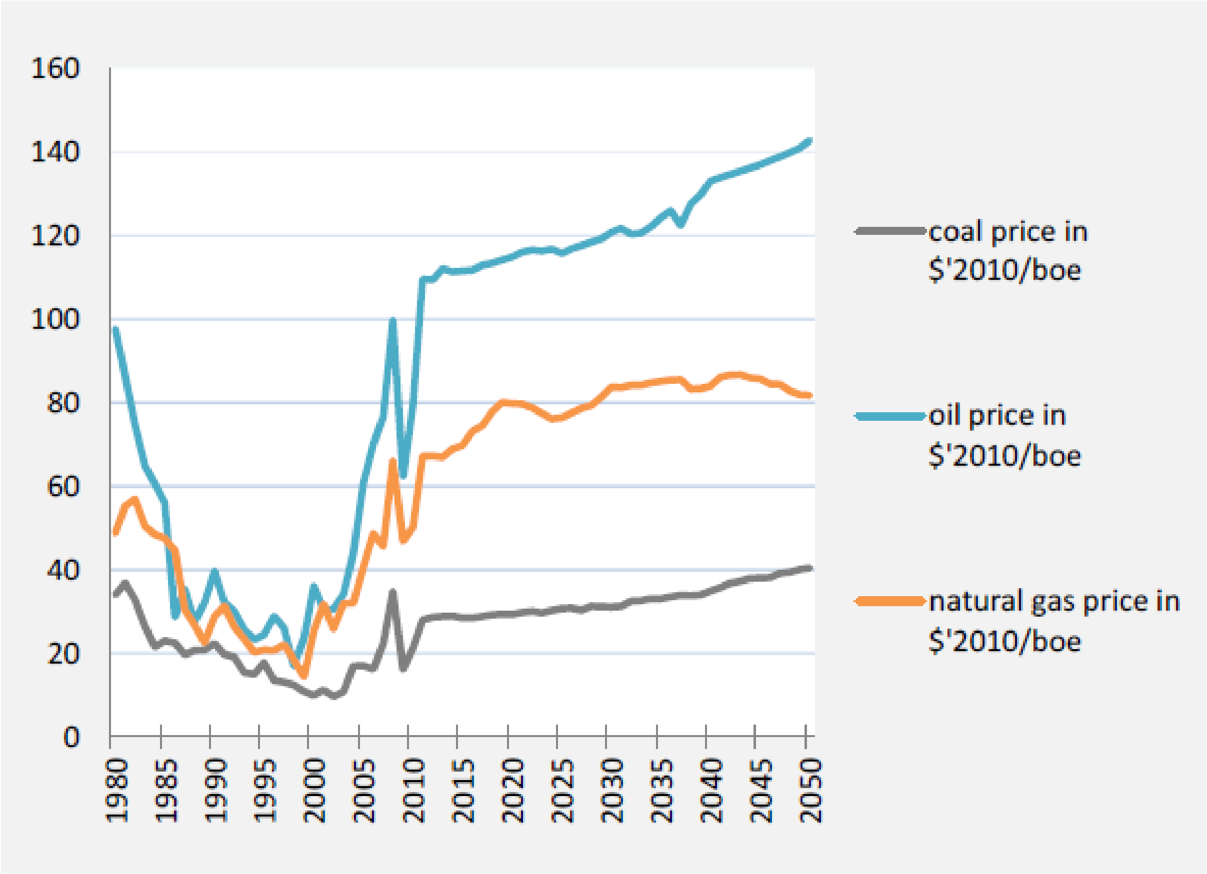
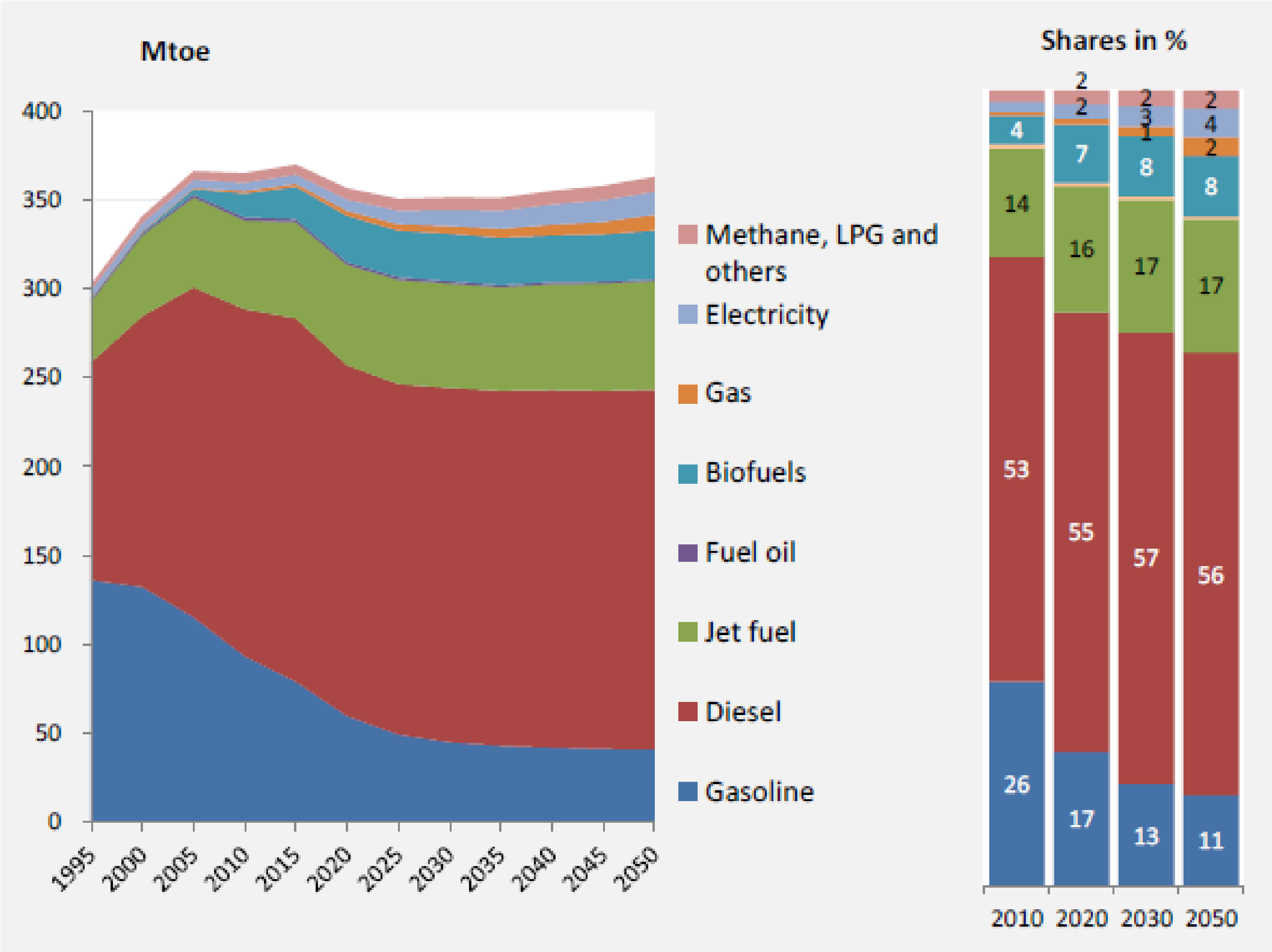
# COST PRESSURES WILL INCREASE AS DEMAND SLOWS AND FACTOR INPUT COSTS, PARTICULARLY FUEL, INCREASE






Source: EU Energy, Transport and GHG Emissions Trends to 2050 Reference Scenario 2013

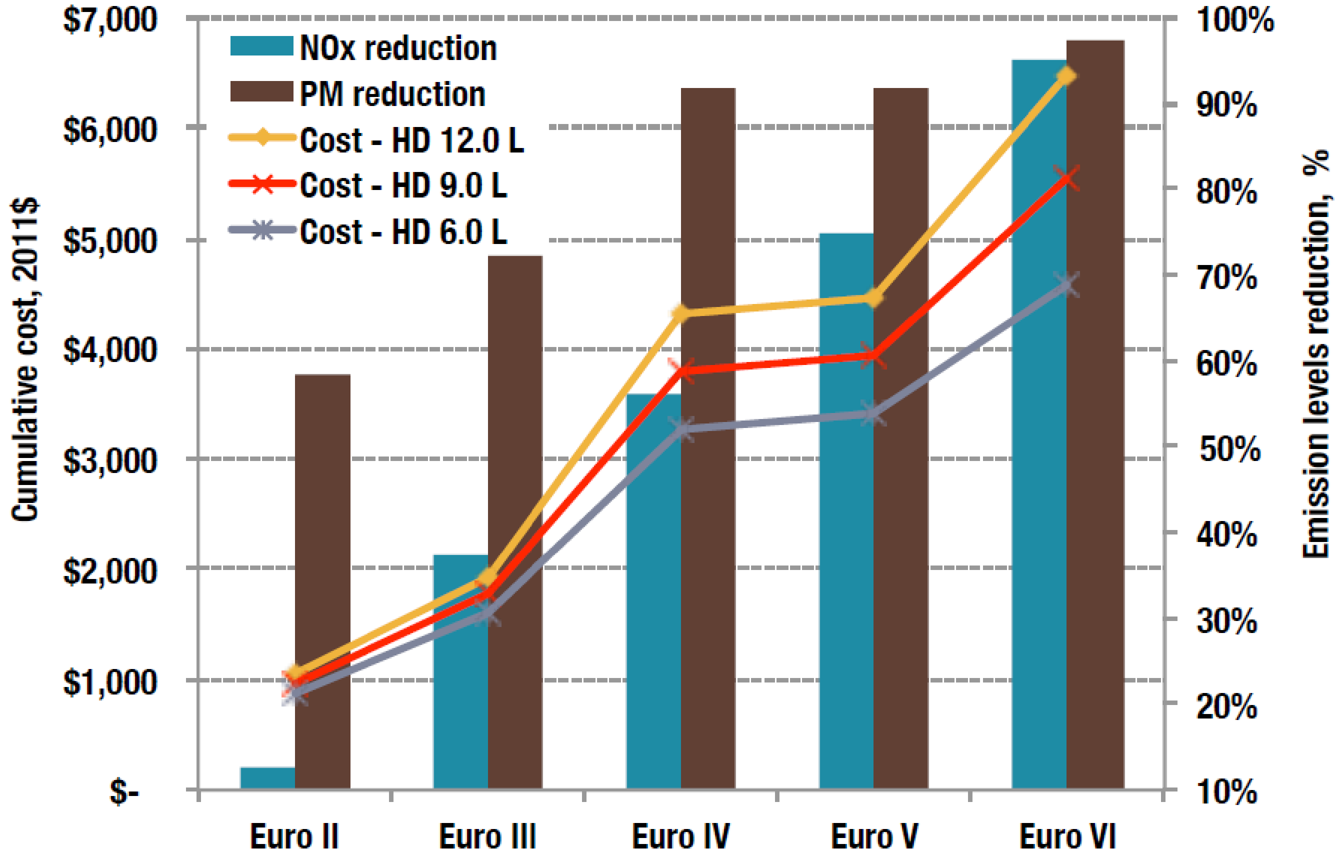
# WHILE THERE MAY BE SOME CONVERSION TO HYBRID OR FULL ELECTRIC TRANSPORT, THE MAJORITY OF ENERGY USED IN TRANSPORT WILL COME FROM FOSSIL FUELS






Source: EU Energy, Transport and GHG Emissions Trends to 2050 Reference Scenario 2013

# BESIDES FUEL, CAPITAL REPLACEMENT COSTS ARE EXPECTED TO INCREASE AS EMISSIONS REGULATIONS TIGHTEN




Per vehicle manufacturing cost estimates to comply with EU engine emissions regulations



Source: International Council on Clean Transportation

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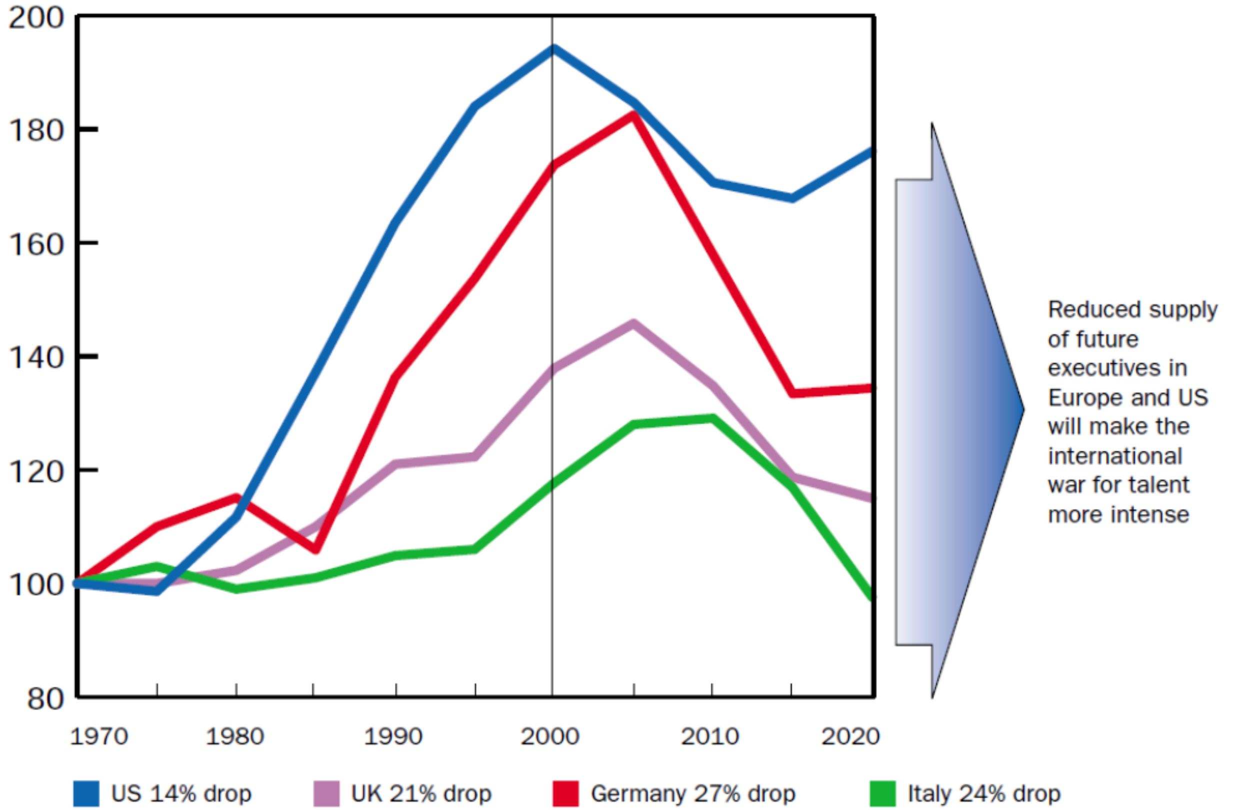
# DEMOGRAPHIC CHANGES, AS WELL AS MORE ATTRACTIVE ALTERNATIVES, WILL MAKE FINDING QUALIFIED WORKERS DIFFICULT…

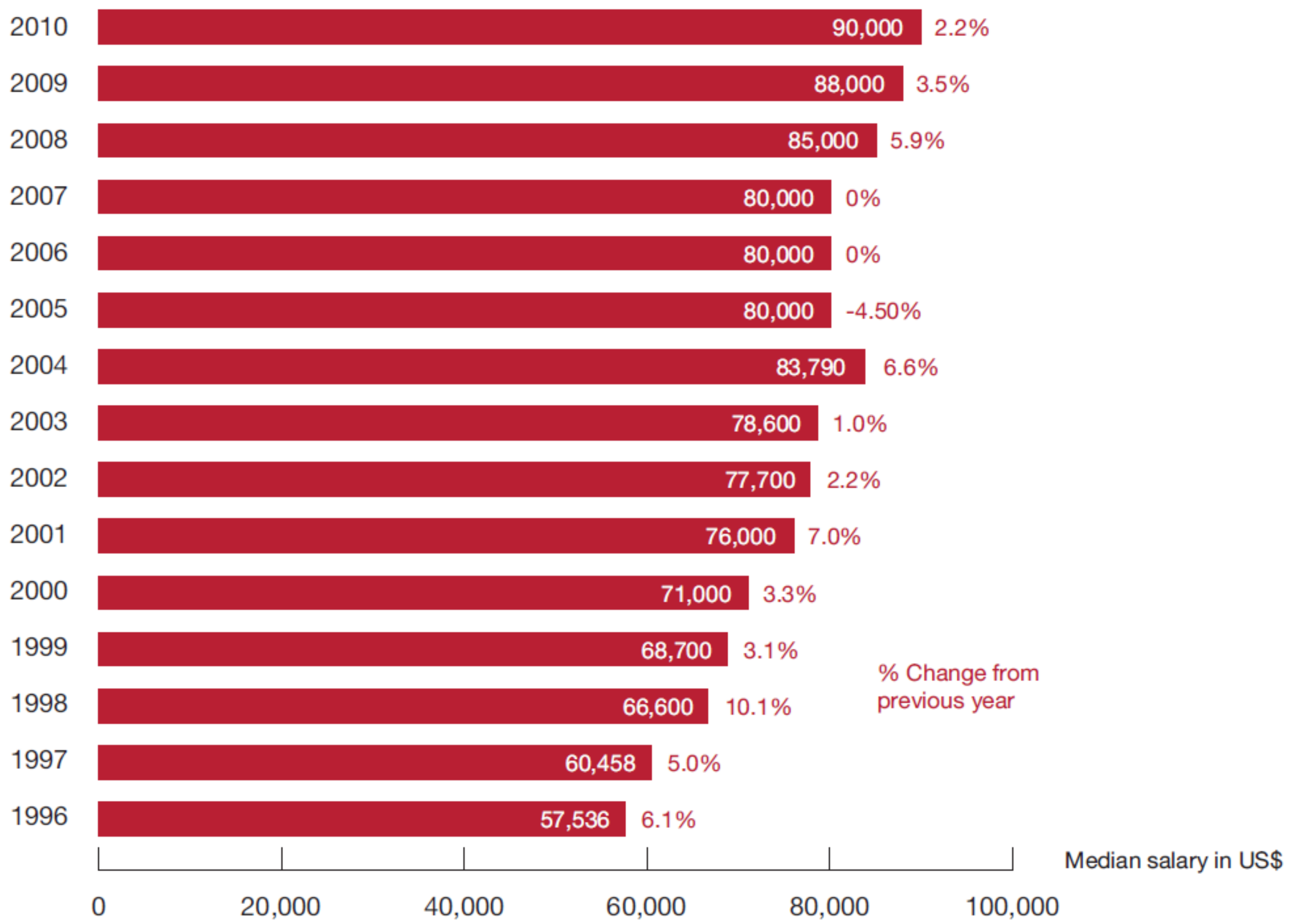
Number of 35 – 44 year olds, index 1970 = 100




Footnote: Percentage drop is peak to trough decrease over the period 2000-2020
Source: U.S. Bureau of the Census, International Data Base

# … AND MORE EXPENSIVE

Salary Development in the US Logistics Sector






Source: Logistics Management Magazine, 27th annual salary survey

# TO A CERTAIN EXTENT, THE TRANSPORT AND LOGISTICS SECTOR HAS BEEN VERY POOR AT MARKETING ITSELF

Transport jobs are viewed as:

- Labor intensive
- Intellectually undemanding
- Repetitive
- Requiring long hours
- Requiring significant time away from home
- Unglamorous
- Low wage
- Demeaning
- Dirty
- Lacking in career opportunities
- Etc.

Transport companies are viewed as:

- Limited
- Bureaucratic
- Male dominated
- Not innovative
- Conservative
- Backward looking
- Penny pinching
- Boring
- Lacking interest in employees
- Etc.

**Transport and logistics companies have a serious image problem, at least in the eyes of young recruits**



Source: Price Waterhouse Coopers, Transportation & Logistics 2030

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# ADDING TO THE BUMPS IN THE ROAD AHEAD ARE THREATS OF INCREASED REGULATIONS BASED ON THE SOCIETAL AND ENVIRONMENTAL IMPACTS OF TRANSPORT OPERATIONS


**Top 10 cities**

| Rank | CI change | City | Country | Congestion | Morning peak | Evening peak | Highways | Non-Highways |
|---|---|---|---|---|---|---|---|---|
| 1 | --- | Istanbul | Turkey | 52% | 64% | 119% | 58% | 45% |
| 2 | ▼ | Hamburg | Germany | 36% | 45% | 62% | 37% | 36% |
| 3 | ▼ | Marseille | France | 36% | 57% | 64% | 23% | 45% |
| 4 | --- | Stuttgart | Germany | 35% | 58% | 68% | 38% | 31% |
| 5 | --- | Palermo | Italy | 34% | 53% | 67% | 27% | 41% |
| 6 | ▼ | Warsaw | Poland | 34% | 60% | 72% | 30% | 39% |
| 7 | ▼ | Paris | France | 28% | 52% | 57% | 27% | 30% |
| 8 | ▲ | Leeds-Bradford | United Kingdom | 27% | 47% | 60% | 25% | 30% |
| 9 | ▼ | Berlin | Germany | 27% | 37% | 48% | 24% | 30% |
| 10 | ▼ | London | United Kingdom | 27% | 46% | 55% | 16% | 33% |



Source: TomTom

# URBAN FREIGHT OPERATIONS CAUSE NOT ONLY CONGESTION, BUT NOISE AND ENVIRONMENTAL POLLUTION. THIS WILL ONLY GET WORSE AS E-COMMERCE DRIVES MORE CITY DELIVERIES



Free
Home Delivery


homeDELIVERY
WORLD 2013
CANADA

# PRESSURE FROM CITIZENS TO RELIEVE CONGESTION, ELIMINATE NOISE, AND IMPROVE AIR QUALITY IS DRIVING GOVERNMENTS TO IMPLEMENT NEW REGULATIONS

When considering the most relevant policy recommendations. . ., there is tension between the principle of subsidiarity… and the specific characteristics of the freight industry where "last mile" deliveries in urban areas are only the final leg in national, international and even intercontinental transport chains. Given the nature of these long-distance door-to-door transport chains… the European Union has a clear role in promoting sustainable urban distribution while respecting the principle of subsidiarity.

The recommendations focus therefore on influencing the business environment. . ., in particular, facilitating the take-up of private sector-led measures that increase logistical efficiency and. . . reduce the impacts of UFT.  In our opinion, the EU should also focus on introducing legislation that provides the private sector with appropriate price signals that encourages it to collaborate in the demand for and supply of UFT and promotes the widespread take-up of low emission vehicle technology.

The EU is actively examining both "carrot and stick" approaches to encourage transport and logistics companies to minimize their impacts on urban environments by sharing assets and coordinating deliveries, using non-polluting vehicles, operating at "off peak" hours and using non-traditional delivery models.



Source:  Study on Urban Freight Transport – Final Report (210041R4_final report) 2012

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# THE IMPLICATIONS OF THESE CHALLENGES TO THE INDUSTRY APPEAR TO INDICATE THAT BUSINESS TOMORROW WILL NOT LOOK QUITE LIKE BUSINESS TODAY

Hypothesis 1:

- Increasing cost pressures, driven by stagnating demand and rising factor costs will result in an increasingly competitive business environment in which only the most efficient and innovative of companies will be able to make sustainable returns on their investments

Best company response:

- Companies will need to increase their efficiency and innovative service offerings by selectively upgrading personnel skills, implementing advanced ICT to more efficiently manage assets and, in some instances, merge with other organizations to achieve sufficient scale and scope to operate in the changed competitive landscape

# THE NEED FOR MORE SKILLED AND TALENTED PERSONNEL WILL REQUIRE THINKING DIFFERENTLY ABOUT THE BACKGROUND EDUCATION OF NEW HIRES AND THEIR ROLES IN OPERATIONS

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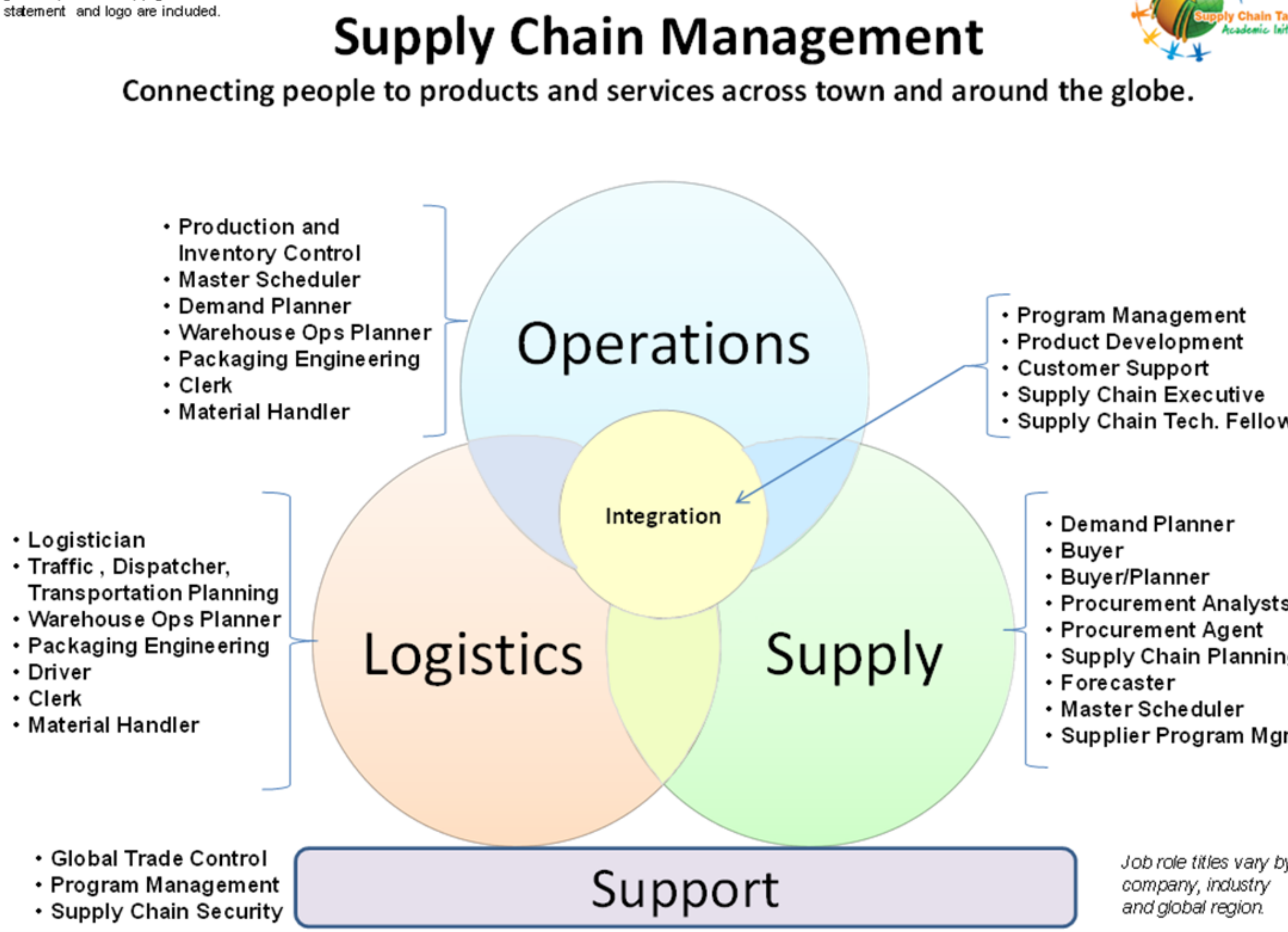

## COMPETITION WILL FORCE SUCCESSFUL ORGANIZATIONS TO SEEK OUT ONLY THE "BEST AND THE BRIGHTEST" TO ENSURE THEIR LONG TERM SUCCESS

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### Hypothesis 2:

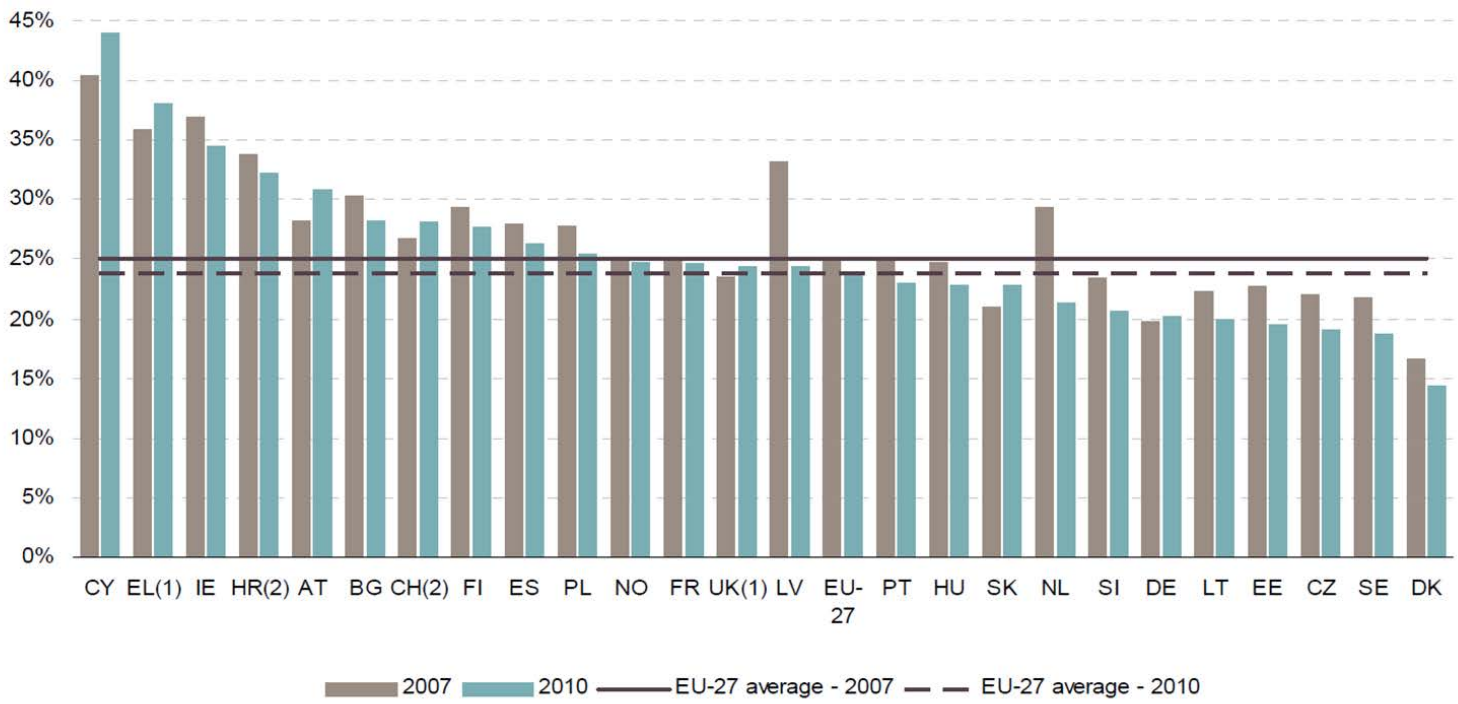
- Companies will begin to promote transport and logistics as a profession where young talent can exercise their intellectual, entrepreneurial and creative skills to create value for the organization, society and themselves

### Best company response:

- Companies seeking to win the "war for talent" will begin changing hiring practices, hiring university educated students to fill entry positions, sending current managers back to school to update their operational and managerial skills and promoting their organizations as innovative and entrepreneurial enterprises where individuals can achieve their personal goals while pursuing the business of the company.

# ASSET UTILIZATION IN TRANSPORT MUST IMPROVE IF EFFICIENT OPERATIONS ARE TO BE REALIZED AND CONGESTION PROBLEMS AVOIDED

## Percent of Truck km run empty in EU Countries 2007 - 2010






Source: Eurostat

# TO MANAGE THE COMPLEXITIES OF THE FUTURE, COMPANIES WILL HAVE TO UTILIZE INFORMATION FAR MORE STRATEGICALLY TO ENSURE SUCCESS FOR THEIR OPERATIONS

Hypothesis 3:

- Organizations will employ more sophisticated ICT to ensure that assets are utilized to the greatest extent, that routes are properly optimized, that emissions are controlled and reported, that operations are as efficient as possible, and new services are developed so as to create the greatest value for customers, the organization and society

Best company response:

- Successful organizations will hire personnel capable of operating and managing sophisticated ICT,
- Management will become conversant in the operation and use of ICT, and
- ICT will be selected based on a firm understanding of requirements, ICT capabilities and leverage opportunities for the ICT

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WE ARE LIVING IN INTERESTING AND VERY EXCITING TIMES. OUR BUSINESSES WILL BE CHANGED FOR BETTER OR WORSE. LET'S HOPE THAT IT IS FOR THE BETTER☺

# THANK YOU FOR YOUR ATTENTION

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