SULPiTER Open Training Webinar
Webinar | 15th May 2017

SULPiTER Open Training | Introduction

SULPiTER | Giuseppe Luppino | Institute for Transport and Logistics - ITL

Interreg CENTRAL EUROPE
European Union
European Regional Development Fund

SULPiTER

LOW CARBON CITIES AND REGIONS

7 FUAS
FUNCTIONAL URBAN AREAS

14 PARTNERS

START DATE
01.06.2016

32% SHARE OF ENERGY CONSUMPTION BY TRANSPORT SECTOR

END DATE
30.05.2019

0% CO2 CITY LOGISTICS BY 2030

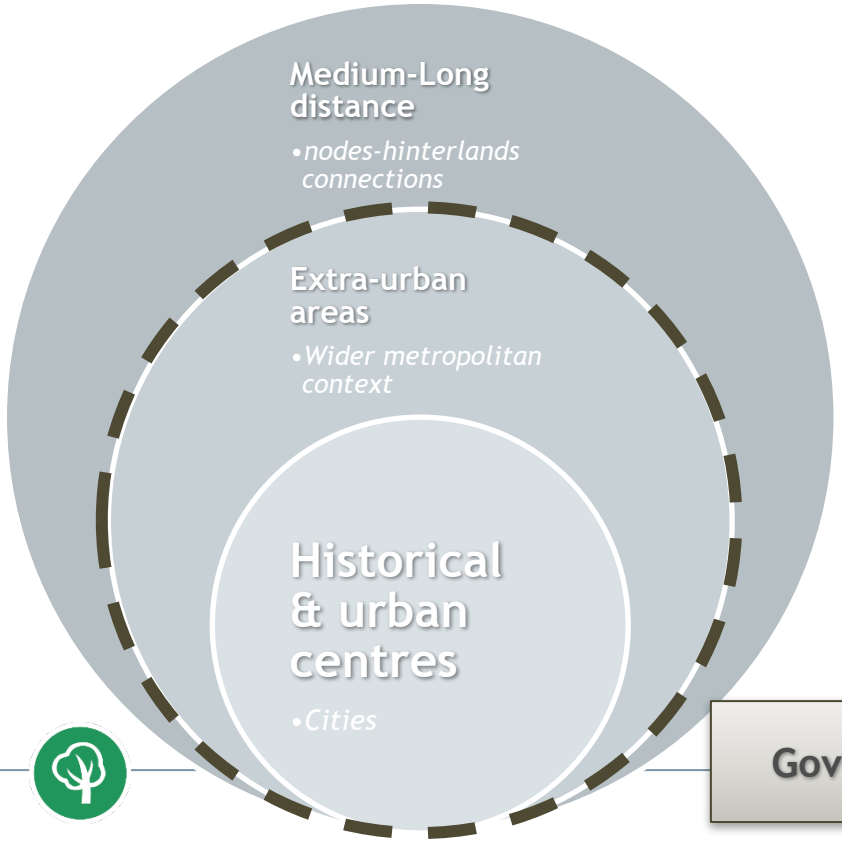
LEAD PARTNER

INSTITUTE FOR TRANSPORT AND LOGISTICS FOUNDATION - ITL Viale Aldo Moro 38, 40127 Bologna, Italy
Giuseppe.Luppino@regione.emilia-romagna.it • www.fondazioneitl.org

CITY LOGISTICS IN A FUA PERSPECTIVE

- A city logistics project with a wider territorial approach, the Functional Urban Area (FUA).
- SULPiTER takes into consideration

1. the functional transport & economic relations between inner urban centres (the usual and limited territorial target of public regulations)
2. the surrounding urban territories,
3. the functional transport & economic relations within FUAs not affecting downtowns.



Intermodal transport

- solutions, road-rail and all road transport

B2B – B2C Short distance

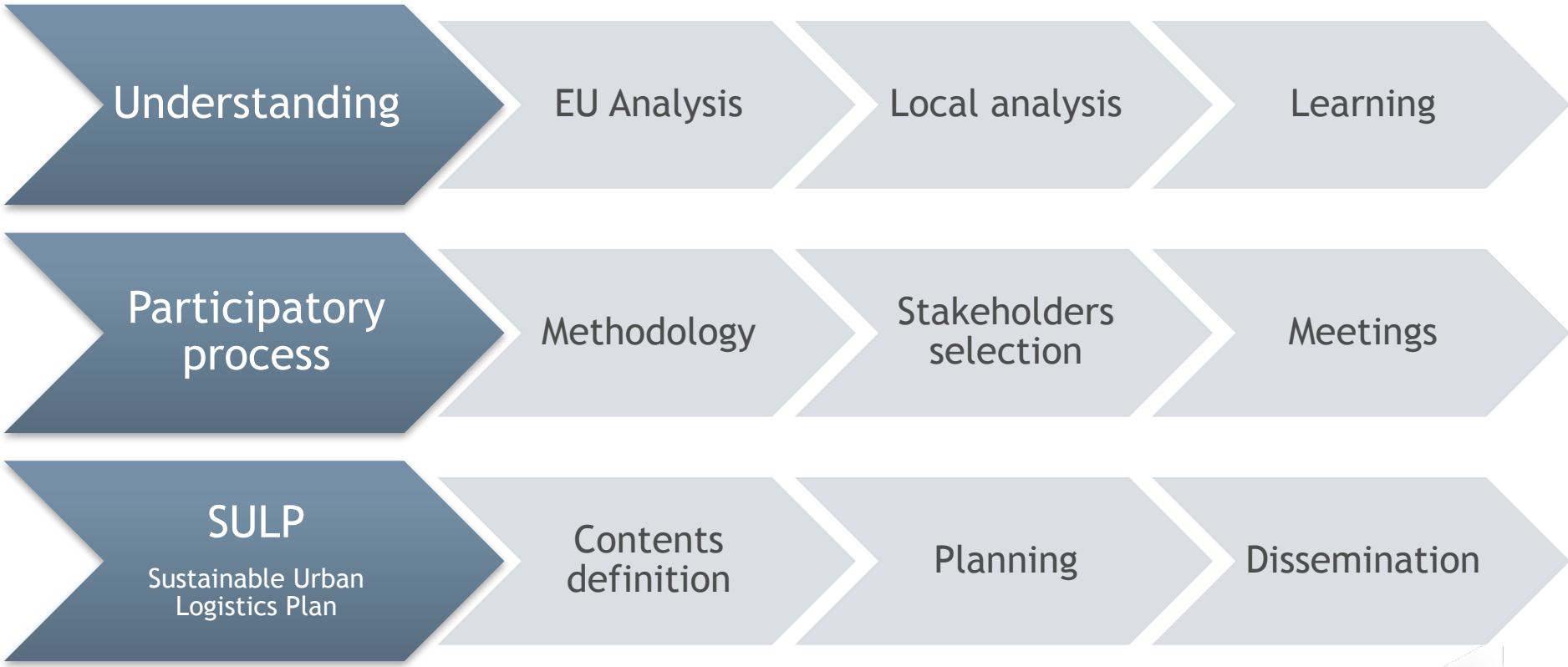
- flows - not optimised

City logistics solutions

- congestion and pollution reduction

Governing city logistics on wider territorial scale

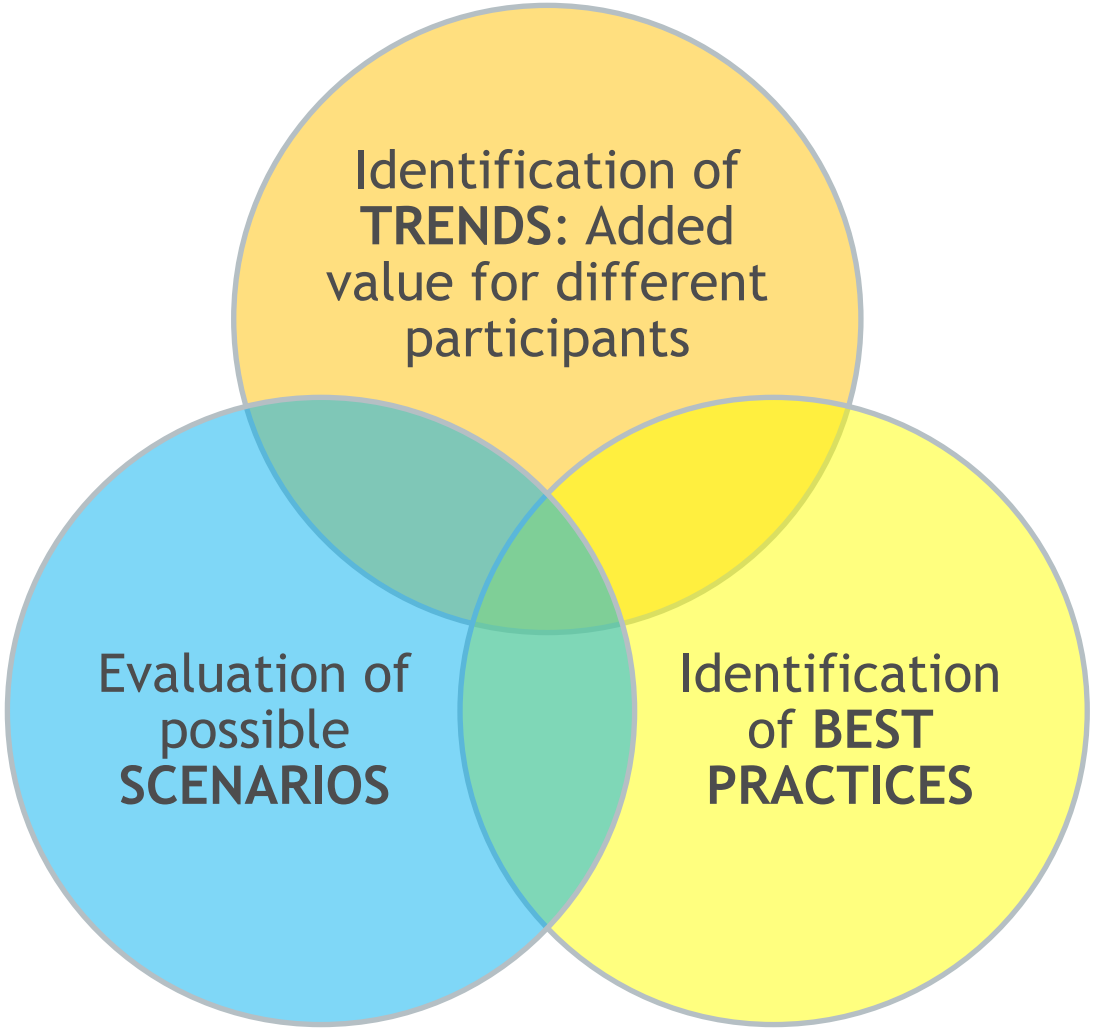
SULPiTER's ACTIVITIES



PROBLEMS VS ACTIONS

Urban freight problems	Public actions
Before 1980s in the region, low level of congestion and air pollution in urban areas	Public authorities' actions focused mainly on **specific measures** dealing with emergencies.
After 1980s urban traffic and congestion increased.	Public administrations **affronted with problems** of urban freight distribution, traditionally managed only by the transportation carriers.
Between the 1990s and the beginning of the twenty-first century several studies and pilot tests	Most of these studies oriented to **support public authorities** decisions / freight transp. planning. These studies resulted with **increasing number of restrictive measures** for urban freight deliveries.
Despite huge efforts of all those projects and specific pilot cases, **urban freight transport problems still exists**.	**Possible reason**: measures mainly related **only to city centres** (last mile of classical supply chains). Need to tackle urban freight **on the level of entire supply chain** (including enterprise's strategies) and from the perspective of FUAs.

INTRODUCTION – ADDED VALUE FOR PARTICIPANTS



Definitions

TRENDS
Statistical analysis of specific behaviors based on new technologies

BEST PRACTICES
Proved successful initiatives which already provided tangible and measurable results

SCENARIOS
In planning, possible alternative futures depending on decisions taken today

INTRODUCTION – ADDED VALUE FOR PARTICIPANTS

Public Authothies

- Efficient planning
- List of city logistics measures

Logistics Providers

- Alignement with future services

Logistics Users

- Expected level of service

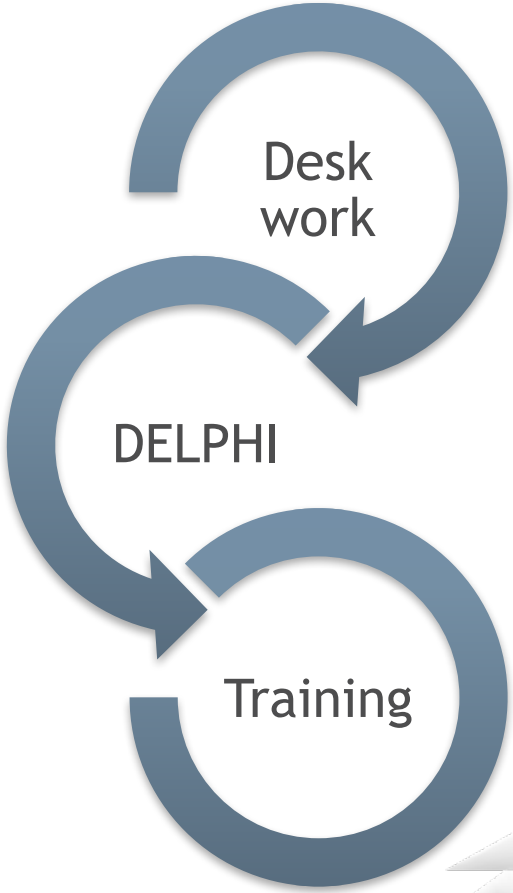
Research Organizations

- New research topics
- Research projects
- Literature

ROAD TO THE TRAINING

- Training is a result of 2 reports:
  - Desk Work, developed by University of Maribor
  - DELPHI Analysis, developed by the Institute for Transport and Logistics, ITL

In addition, this training takes as examples also the results from the Benchmark analysis (developed by ITL), a list of measures which are used by administrations around the world.



DESK WORK

What is

- Freight transport in Functional Urban Areas (FUAs) is expected to develop along global trends having important impact on the Central Europe logistics efficiency.
- Desk work aims to
  - identify and summarize freight transport trends
  - understand their influence on development of FUAs supply chains in the future

Methodology

- trends grouped on 4 different categories
- additional assessment, based on indications identified in the literature on their potential impact on FUA freight transport.
- divided into short term (less than 5 years) and long term (more than 5 years).

Developed by:

Univerza v Mariboru

Fakulteta za gradbeništvo, prometno inženirstvo in arhitekturo

DELPHI ANALYSIS

What is

- Results of a DELPHI survey on scenarios and trends in urban freight transport
  - Conducted worldwide to gather the view of experts and institutions/organisations with competencies in technical areas relevant to urban freight transport.
- The analysis wants to inform and support Authorities in developing Sustainable Urban Logistics Plans

Methodology

- Selection of relevant topics and identification of survey's questions; One or more drivers for each topic
- Selection of experts and contact modalities;
- Characteristics of the panel of respondents;
- Analysis of results;
- Experts' workshop

Developed by:

ITL ISTITUTO sui TRASPORTI e la LOGISTICA

With the support of:

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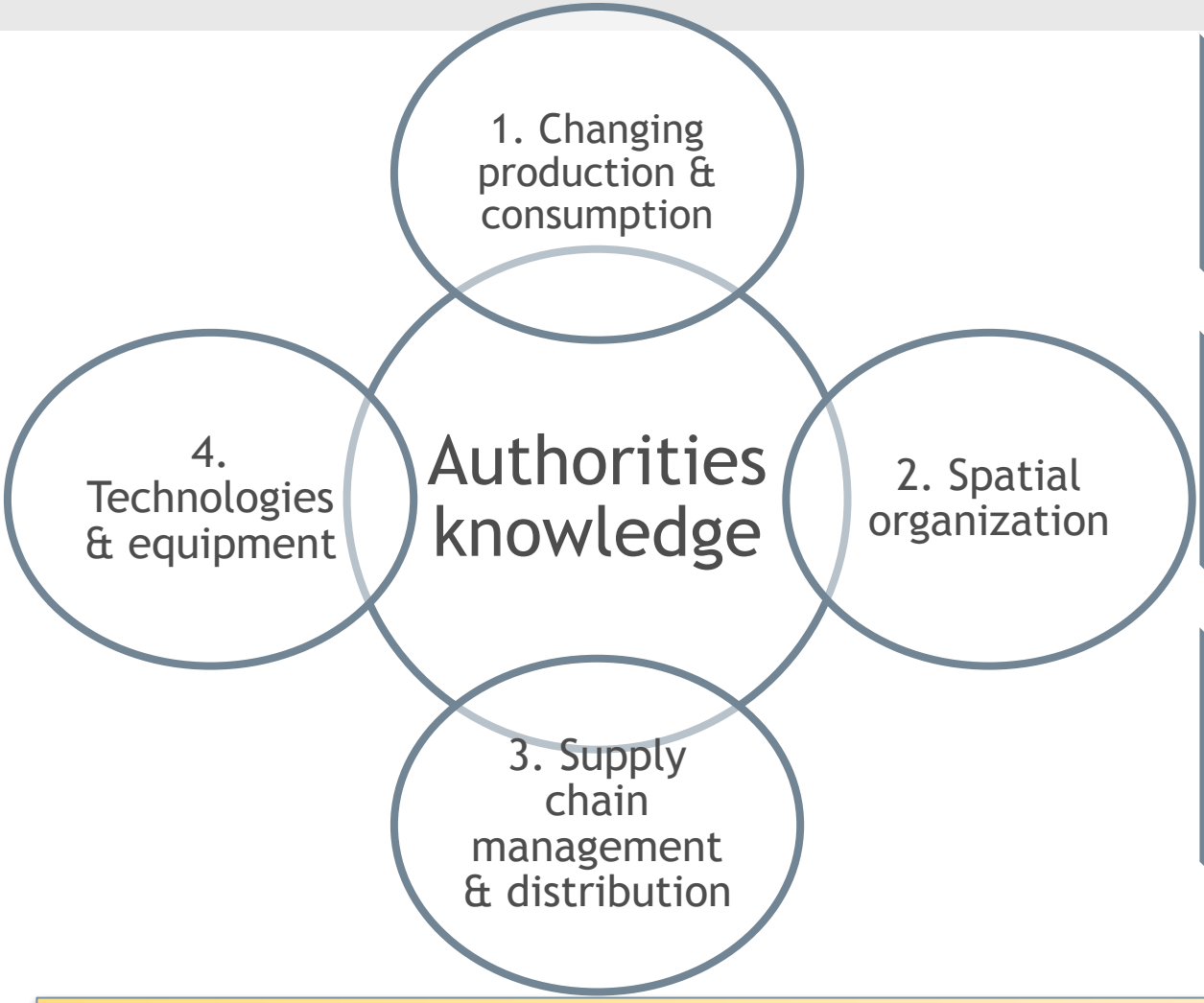
CONTENTS OF THE WEBINAR



Categories
- Both DELPHI and Desk work considered the same categories

Desk Work
- Extensive list of logistics trends + best practices + scenarios

DELPHI
- Selected logistics drivers + experts + workshop

On trends and scenarios with a territorial impact on FUA's

CATEGORIES AND TRENDS

Day 1 – 15th May 2017 h 14:00CET

1. CONSUMPTION AND PRODUCTION

- 1.1. Production is being brought closer to the end user
- 1.2. Regional food supply
- 1.3. 3D printing-> digitalization of logistics
- 1.4. Batch size one production
- 1.5. E-commerce growth *
- 1.6. The sharing economy *
- 1.7. Circular economy
- 1.8. Demographic trends -> Grey power logistics *

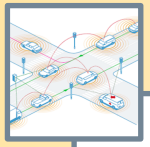
2. SPATIAL ORGANIZATION

- 2.1. Logistics sprawl
- 2.2. Spatial centralisation of stockholding *
- 2.3. Spatial planning coupled with coherent spatial and transport policy *
- 2.4. Urban distribution/consolidation centres *
- 2.5. Construction consolidation centres *
- 2.6. Multi-story logistics facilities in dense areas
- 2.7. Pick-up point networks *
- 2.8. Integration of public and freight transportation networks
- 2.9. Management of logistics transhipment facilities
- 2.10. Direct Injection

Day 2 – 22th May 2017 h 14:00CET

3. Supply chain management & distribution

- 3.1. Logistics industry consolidation *
- 3.2. Vertical and horizotnal collaboration
- 3.3. Green supply chain principles
- 3.4. Omni-chanel logistics *
- 3.5. Freight Quality Partnerships - FQP *
- 3.6. Off peak hours deliveries
- 3.7. Unbundling of logistics services - on demand
- 3.8. Delivery to the trunk of a car



4. Technologies & equipment

- 4.1. Clean vehicles *
- 4.2. ICT and ITS systems
- 4.3. Internet of Things *
- 4.4. Big data and data mining techniques *
- 4.5. Physical internet
- 4.6. Automated systems & autonomus vehicles *
- 4.7. Transport/logistics optimization (tools)
- 4.8. Tube underground and long distance systems
- 4.9. Other frontier technologies

* - *Expert survey results only for selected topics*

WEBINAR RULES

Interaction: You will contribute actively!

- You'll be asked to answer to specific questions
- You are asked to give importance to each trend: use 1 for less important and 5 for most important

1 - Very low importance

5 - Highest importance

Questions to the speakers

- Please write your questions in the chat.
- Questions should be clear, concise and complete
- Answers will be provided during the webinar or written after the webinar

Survey with reward

- After the webinar you will receive a survey. After the answer you can download the list of sources and relevant information used to make the presentation
- PDF version of the presentation and material will be shared with participants after the webinar to the registration e-mail (+ link to recording)

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DI BOLOGNA


POZnań


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Region Stuttgart


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Kooperationszentrum
Logistik e. V.


MESTNA OBČINA
MARIBOR

SULPiTER Open Training Webinar
Webinar | 15th May 2017

SULPiTER Open Training | Part 1

SULPiTER | Piotr Nowak & Marcin Foltynski| ILiM - Institute of Logistics and Warehousing

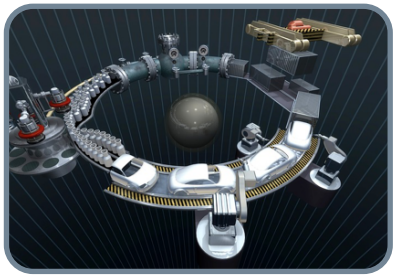
1. CONSUMPTION AND PRODUCTION

1.1. Production is being brought closer to the end user	1.2. Regional food supply	1.3. 3D printing-> digitalizatio n of logistics	1.4. Batch size one production	1.5. E-commerce growth *	1.6. The sharing economy *	1.7. Circular economy	1.8. Demographi c trends -> Grey power logistics *

1 - CONSUMPTION AND PRODUCTION

- Consumption is best described as the final purchase of goods and services by individuals
- Main patterns of how and what we consume have changed over last 10 years
- Individualisation, the belief in the individual and the desire for ownership and personal freedom, means that by consuming, we can express ourselves
- Production is defined as a process of combining various material and immaterial inputs (raw materials, know-how) in order to make something for consumption (the output)
- Consumer driven concept is leading towards pull logistics strategy and calling for responsive production with highly optimized and rationalized processes
- Goods deliveries for professional and private customers generate an important flow of vehicles, from small vans to trucks

1.1 PRODUCTION IS BEING BROUGHT CLOSER TO THE END USER



Description

- Increased freight flows with distributed production - Globalization
- Companies have started considering investments in the opposite direction
- Increased labour and transportation costs in Asia
- Production are being brought closer to the end user

Best Practices: Lenovo announces to move manufacture enterprise and data center products in Europe. Decission should result in:

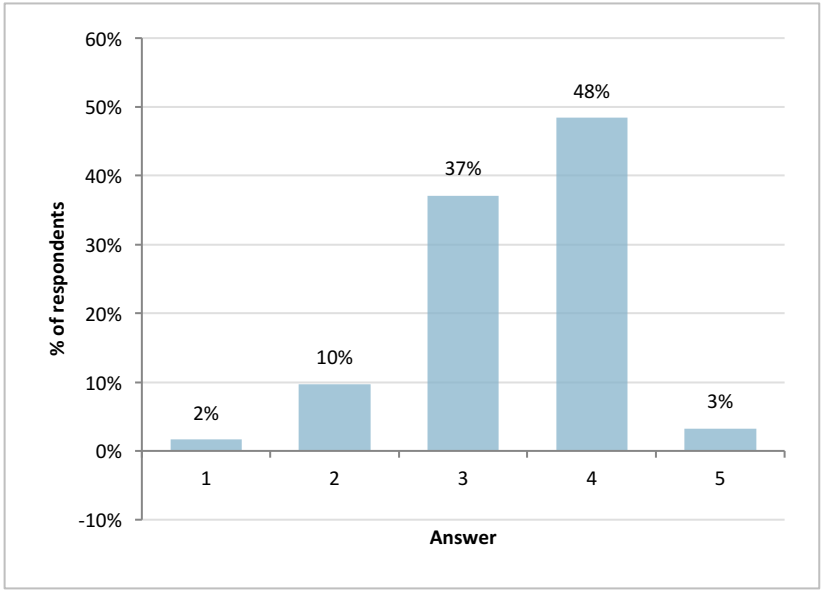
- Improvement of up to five days on delivery times to customers
- Lower operation costs (eg reduced freight costs) that can be passed on to customers and partners
- Customers will receive the same market-leading products faster and more efficiently, with no loss in quality

Key findings for FUA's

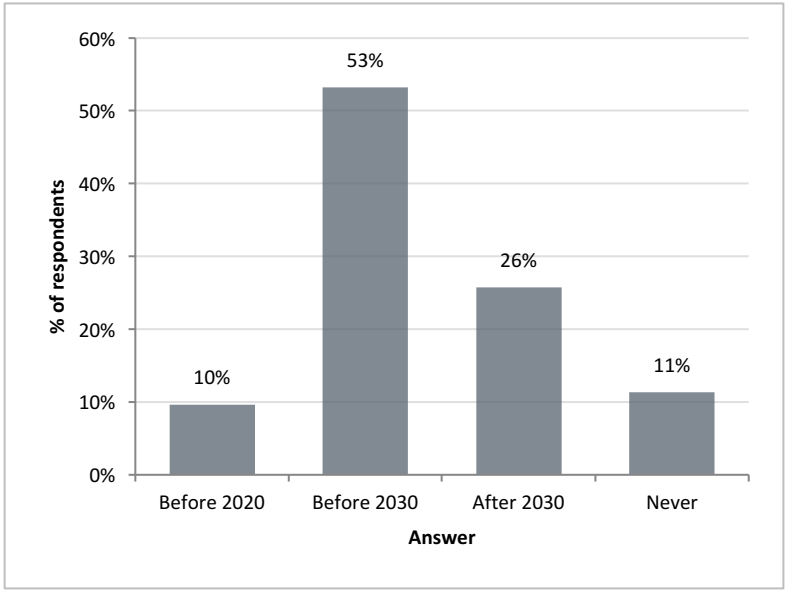
- Bringing the production closer to the end user results in:
  - shorter lead times
  - easier planning of logistics flows
  - making corrections to shipping plans
- Expected impact on FUA should be significant

1.1 PRODUCTION IS BEING BROUGHT CLOSER TO THE END USER EXPERT'S VIEW

Expected intensity of trend on city logistics



Impact time horizon



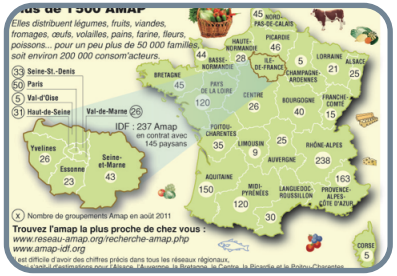
1.2 REGIONAL FOOD SUPPLY

Description

- Demand for a trusted local and regional food supply is growing
- A powerful local and regional food movement is growing inside e.g. the United States and the EU
- Movement that directly connects consumers with how, where and by whom their food is grown
- The Sustainable Environments Programs support efforts to restore regional aggregation and distribution of food that will strengthen urban and rural connections and provide environmental, economic, and community benefits
- This will effect also the inter FUA transport /logistics processes

Best Practices:

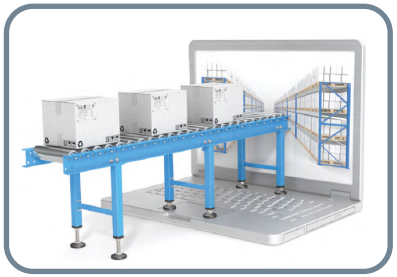
- Strengthening Local Food Systems and Organic Agriculture in USA



Key findings for FUA's

- The increase in sales of fresh products outside the big chain stores (supermarkets) – e.g. local bazaars
- The increase in the importance of direct sales (retail) by farmers in consumer locations
- Wholesale markets increasing importance for retailers
- Shopping at source - at the farm (self service)

1.3 3D PRINTING



Description

- 3D printers have the potential to replace traditional manufacturing and change the structure of manufacturing industries and supply chain. 3D printing can be used to create specialized products at distributed location
- Manufacturing lead times will be substantially reduced (think minutes, not days)
- Customer demand will be met more quickly and materials will be used more efficiently
- Logistics will adjust to print-on-demand, eliminating the need to carry inventory.

Best Practices:

- Designed by students at TU Delft the attractive Arc Bicycle was 3D printed
- Those wanting to print medium- to large-scale objects there are still significant limitations in the technology
- This method of 3D printing makes possible to produce medium- to large-scale metal objects with almost total form freedom

Key findings for FUA's

- 3D printers can reduce freight transport particularly the distribution of goods.
- They can also reduce storage at warehouses and retail outlets as well as waste such as packaging.
- Transport will be still required for the raw materials for producing goods
- Customer self service in 3D Point-of-Sale Production - 3D printing enables decentralized production close to or directly at the point of sale.

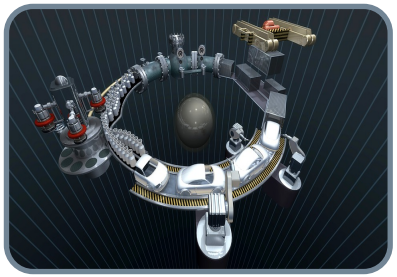
1.4 BATCH SIZE ONE PRODUCTION

Description

- Hypercustomization – manufacturing industry change
- Batch size one (only one item is produced)
- Product personalization will change manufacturing and retail strategies
- New requirements on supply chains

Best Practices

- The sportswear company currently outsources the majority of its production to China and other countries in Asia
- New Adidas' robotic shoe manufacturing plant
- Adidas is planning to finish 500 prototypes
- In the longer term, Adidas could benefit from the lower cost of robot-driven factories
- The idea with robot factories is to make faster fully customized shoes on demand



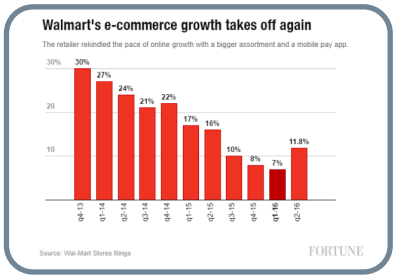
Key findings for FUA's

- Agile supply chains ready to adapt to changes in time/place
- Retail strategies will change so the product flows in FUA's will be different
- Increase of significance of small local factories
- New kinds of delivery services will be created in FUA's
- Logistic providers will take over final assembly and/ or product customization - new warehouse services
- More fragmented transportation of cargo – less coordination

1.5 E-COMMERCE

Description

- Double digit growth over the past years
- Changing consumer's shoping experience
- Consumer defining the e-logistics
- Challanges for logistic service providers
- Increase of the numer of freight movements
- Huge impact on city logistics



Best Practices, Walmart (World's Largest Retailer) Is Reigniting Its E-Commerce Growth

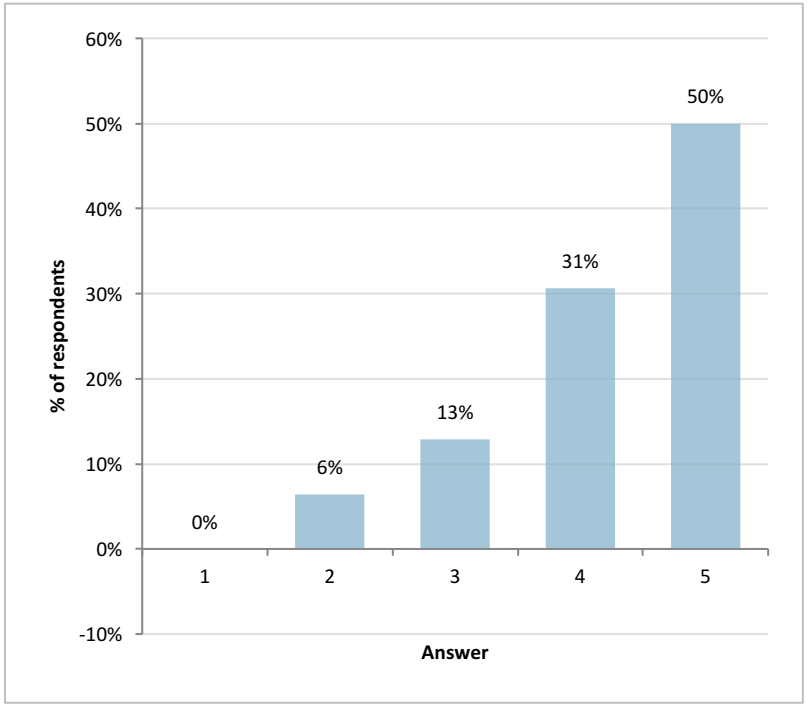
- Bigger assortment on-line
- Online grocery
- Prime-like subscription service
- Walmart pay
- Staff raises

Key findings for FUA's

- Fast and flexible deliveries needed and smaller lot sizes
- More home and office delivery services (increased number of delivery points)
- Increasing freigh volumes and siginificant grow of reverse logistics
- Increase of environmental friendly vehicles (electric, hybrid, mopeds) usage in FUA's
- The growing importance of: parcel Lockers as the elements of delivery service in the cities and transport courier companies

1.5 E-COMMERCE GROWTH – EXPERTS' VIEW

Expected intensity of e-commerce on city logistics



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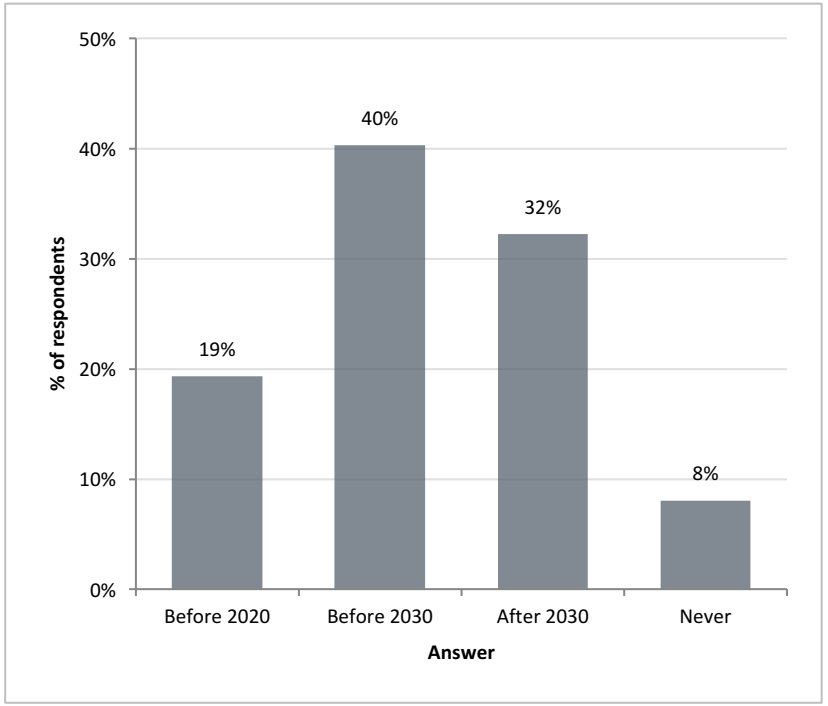


1.6 THE SHARING ECONOMY

Description

- Two variants of the sharing economy: collaborative consumption and collaborative business
- Collaborative consumption refers to a class of economic arrangements in which participants share access to products or services, rather than having individual ownership and is facilitated by the internet and mobile technology
- Collaborative business involves sharing logistics infrastructure and services with competitors

Best Practices:

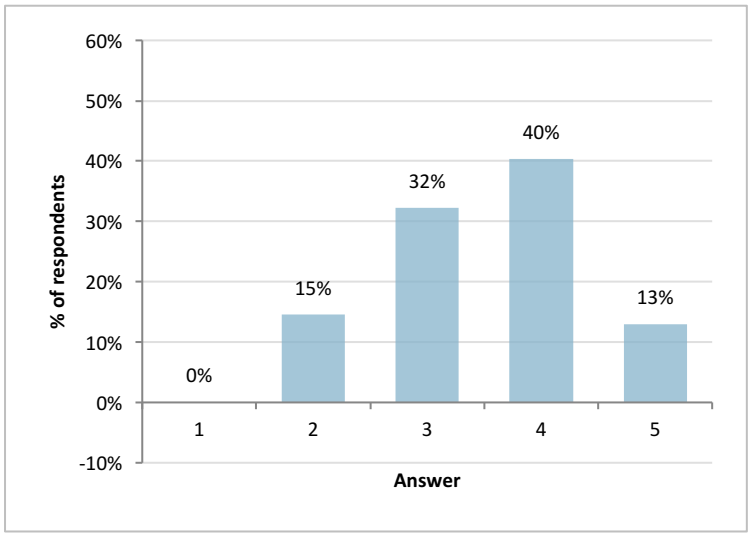
- **Tupperware and Procter & Gamble:** Mixing light & Heavy Products
- **Parkatmyhouse**: Users can rent out their private parking spots to those looking to avoid exorbitant parking fees. Especially handy for making a bit of extra cash for those who live near a rail station or airport.
- **Uber**: Uber delivers car transportation services for individuals by individuals who offer their own cars to work for Uber
- **BMW**'s "Drive Now" is a car rental service that offers an alternative to owning a car. Users can access a car when and where they need them and pay for their usage by the minute.

Key findings for FUA's

- Increased consolidation and higher capacity utilization
- Freight movements and fleet size reduction
- Reduced congestion and pollution, reduced consumption, less waste

THE SHARING ECONOMY – EXPERTS' VIEW

Expected intensity of impact of sharing economy on city logistics



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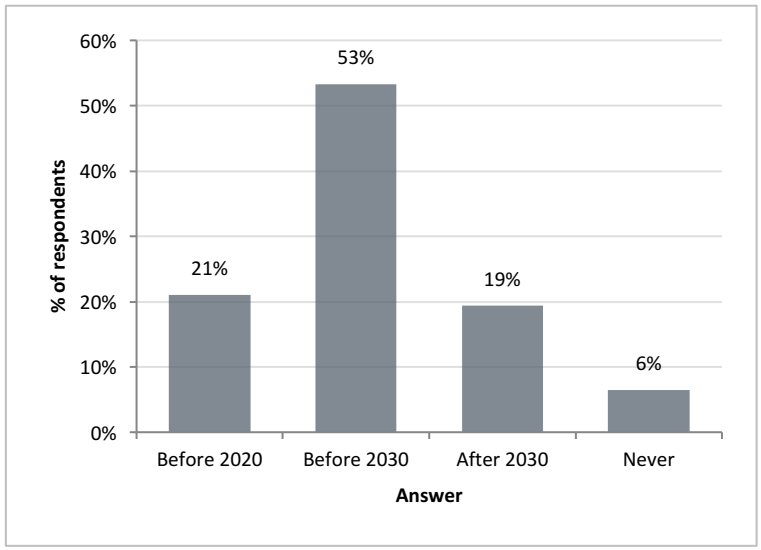
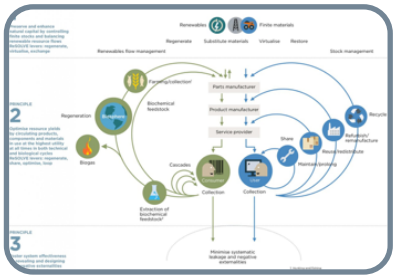


1.7 CIRCULAR ECONOMY

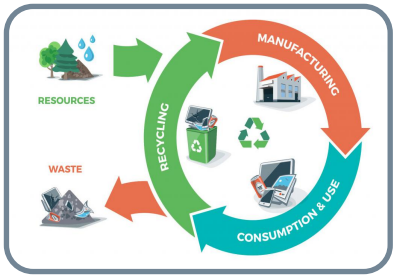
Description

- In the evolving circular model, we strive to keep resources in use for as long as possible
- To be successful, this model will require a fundamental rethinking of products, materials and systems of commerce
- Growth of capacities for regionally recyclable materials and growth of collecting points are expected.
- The current use of the phrase circular economy is reminiscent of the early days of sustainability
- Adoption of circular economy will depend partly on the ability to introduce take-back systems/reuse products.



Best Practices:

- Nespresso as an example where UPS plays a role. Consumers can drop off prepaid recycling bags [for coffee capsules] at one of the 88,000 UPS drop-off locations or give them to any of UPS drivers.
- Nespresso capsules are collected at consolidation facilities, where coffee grounds and aluminum capsules are separated. The aluminum is melted down and used in new products, and the spent coffee grounds are composted into high-quality soil amendments that go to landscapers, garden centers, municipalities and homeowners.



Key findings for FUA's

- Logistics plays a critical role in implementing successful and sustainable circular strategies. As e-commerce and just-in-time delivery strategies have grown, so has the "last mile" challenge to deliver products to a consumer's home or the loading dock of a manufacturing plant at a reasonable cost. Logistics can offer customers unique value by helping to incentivize greater participation in the circular economy through a seamless and convenient take-back model.
- The growing importance of the reverse logistics

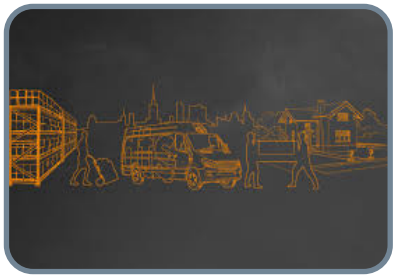
1.8 DEMOGRAPHIC TRENDS - GREY POWER LOGISTICS

Description

- Grey power logistics, that is the logistics for an aging society
- Population aging - key driver of demographic trends in Europe
- Aging of the population - adoption of new consumer technologies
- Certain goods, such as groceries are just starting to be sold by the Internet

Best Practices:

- Project „Homecare Services“ in the EffizienzCluster LogistikRuhr by Fraunhofer IML
- Platform for health care products that focusses on the requirements of elderly people
- Seniors can for example indicate their mobility impairments or the names of their neighbours who are allowed to accept deliveries – all parameters to improve the quality of delivery as result.
- In the background of the platform is a so-called „control centre“: Here, the suppliers organise and coordinate the delivery.
- The platform started as a pilot in Dortmund (approx. 580,000 inhabitants) in the Ruhr district. The system worked well but could not be operated economically with the participating local partners
- Consumers are not (yet) prepared to pay in addition for the delivery. For other bigger players, for example health insurances, such a platform remains interesting.

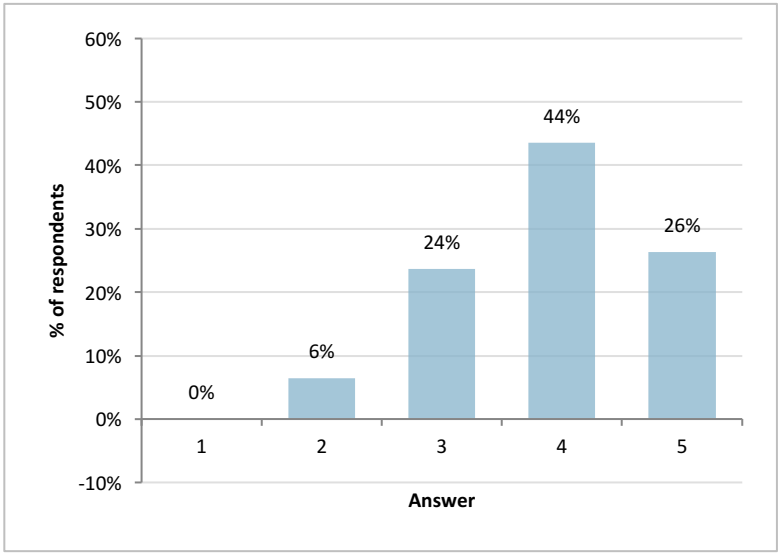


Key findings for FUA’s

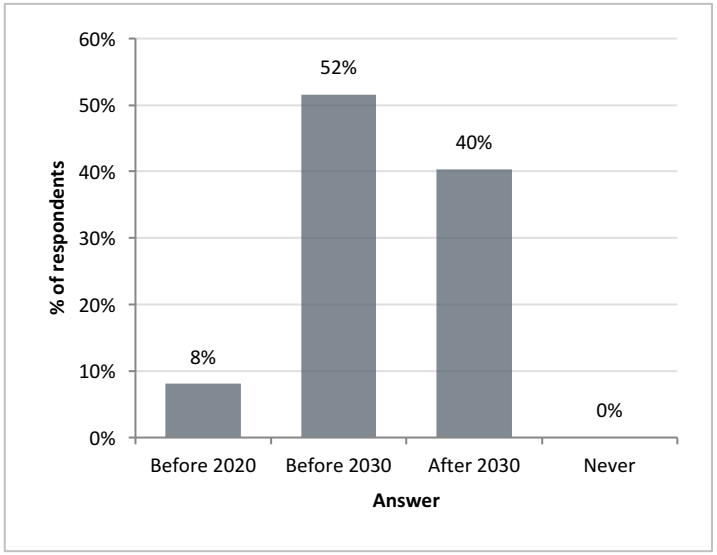
- More home delivery services, scheduled, temperature controlled delivery of medicines to homes
- Preventative care supported by logistics
- Specially trained delivery employees
- New value-added last mile services such as: parcel pick-up, home delivery of groceries, health checks

GREY POWER LOGISTICS – EXPERTS' VIEW

Expected intensity of influence of grey power logistics



Impact time horizon



INTERACTIVE PART RULES

- At the beginning please indicate category of your organization.
- You are asked to vote in terms of importance for each trend on ‘Consumption and production’ category.
- You can use each number from 1 to 5

1 - Very low importance

5 - Highest importance

CONSUMP. & PRODUCT. TRENDS

PRODUCTION CLOSER TO END USER */***

European producers realise that they can maintain the same low costs and high level of quality, regardless of whether their production plants are located offshore in Asia or nearshore in Europe.

E-COMMERCE **/***

With the trends of e-commerce the consumer is allowed, more and more, to take part in defining the e-logistics that suits him or her, in terms of price, quality, time, green and/or fair.

3D PRINTING /**

Is an emerging manufacturing technology that can be used to create specialized products at distributed locations such as retail outlets or even within households.

REGIONAL FOOD SUPPLY */**

The rise in farmers markets shows that demand for a trusted local and regional food supply is growing. Regional food supply is growing and is expected to increase in the future.

BACH SIZE ONE PRODUCTION */**

Batch size one (i.e., only one item is produced) requires highly automated production sites and imposes complex new requirements on supply chains.

GREY POWER LOGISTICS */**

Grey power logistics is the logistics for an aging society. Population ageing will become one key driver of demographic trends in Europe and is likely to drive consuming and logistics.

SHARING ECONOMY */***

Two important aspects of sharing economy: collaborative consumption (consumer to consumer networks) and collaborative business (sharing logistics infrastructure and services with competitors).

CIRCULAR ECONOMY */**

Today, linear economy: make, use, dispose.

In circular model: we strive to keep resources in use for as long as possible, extract the maximum value from them while in use, then recover and regenerate products and materials at the end of each service life.

TIME: <5 years / > 5 years *IMPACT: * low, ** medium, *** high*

2. SPATIAL ORGANIZATION

- 2.1. Logistics sprawl
- 2.2. Spatial centralisation of stockholding *
- 2.3. Spatial planning coupled with coherent spatial and transport policy *
- 2.4. Urban distribution/consolidation centres *
- 2.5. Construction consolidation centres *
- 2.6. Multi-story logistics facilities in dense areas
- 2.7. Pick-up point networks *
- 2.8. Integration of public and freight transportation networks
- 2.9. Management of logistics transhipment facilities
- 2.10. Direct Injection

2. Spatial Organization

Cities formed as an urban system

Spatial structure can be divided in 3 basic components:

- A set of locations of specialized industries
- A set of service industry locations
- A pattern of transport nodes and links

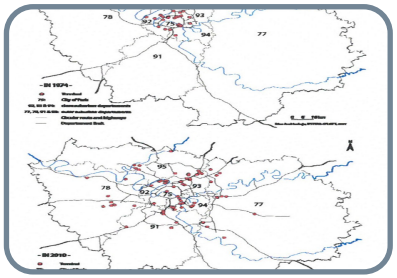
Jointly, these components define the spatial order of a region, mostly its organization in a hierarchy of relationships involving flows of people, freight and information

The majority of Central European freight has its origin and destination within the Functional Urban Areas (FUAs)

2.1 LOGISTIC SPRAWL

Description

- Urban place in cities (metropolitan areas) is becoming an increasingly scarce resource
- Companies were forced to relocate warehouses to locations with relatively lower prices
- Logistic sprawl is suburbanisation of warehousing, being relocated to the edge of the urban area
- Logistics sprawl can increase the distance travelled by freight vehicles
- Drift of freight facilities to the outer metropolitan region can add to congestion and environmental impacts



Best Practices:

- Logistics Sprawl in Paris – location of LTL and parcel transport terminals in Paris between 1974 and 2010

Key findings for FUA's

- Increase of congestion and enviromental impact related to this issue
- Consultations with private stakeholders and coordination of cargo flows needed
- Very important role of regulating commercial vehicles traffic and parking
- Night deliveries for large vehicles or alternative ways of delivery to the center by rail or river
- Local harmonization of delivery rules is needed

2.2 SPATIAL CENTRALIZATION OF STOCKHOLDING

Description

- Adopted by manufacturers and retailers to achive cost savings
- Result is the use of fewer, large-scale national and regional distribution centres that serve a far larger geographical area
- Centralization is possible thanks to the development of motorway network
- Companies have fewer stock holding points - extremely large warehouses at strategic points with good accessibility to their hinterlands

EE's Most Desirable Logistics Locations

	2016	2013
	Central Poland	Central Poland
	Istanbul	Krakow
	Prague	West Poland
	Bucharest	Warsaw Periphery
	Budapest	Upper Silesia
	Rest of Romania	North Poland
	Wroclaw	Wroclaw
	Krakow	Warsaw City
	SW Czech Republic	-
0	West Poland	-

Best Practices:

- Central Poland – Aglomeration of Lodz at the crossroad of main 2 polish highways North – South and East – West (A1 and A2)
- Magnet for investors, especially from the retail and logictic sector (e.g. Raben Group , Leroy Merlin, Castorama, Hellmann)

Key findings for FUA's

- Smaller distribution centres within urban areas have been discontinued
- The spatial and structural changes in the location of logistics facilities have altered the geography of freight in urban areas
- Increase of the role of good connection of the FUA to national transport network
- Increasing need of creation of clear rules of deliveries to the FUA's
- Need of special places for trucks in the outskirts of FUA's

2.3 SPATIAL PLANNING COUPLED WITH COHERENT SPATIAL AND TRANSPORT POLICY

Description

- FUAs three relevant levels are to be managed: international accessibility, connectivity between FUAs and the connectivity within FUAs
- Regional connectivity and accessibility is related to FUA's
- Improving accessibility for different modes of transport is a basic requirement for further economic development of a FUA
- Spatial planning determines business site locations attractiveness

Best Practices, Coherent urban planning and sustainable transport in Netherlands

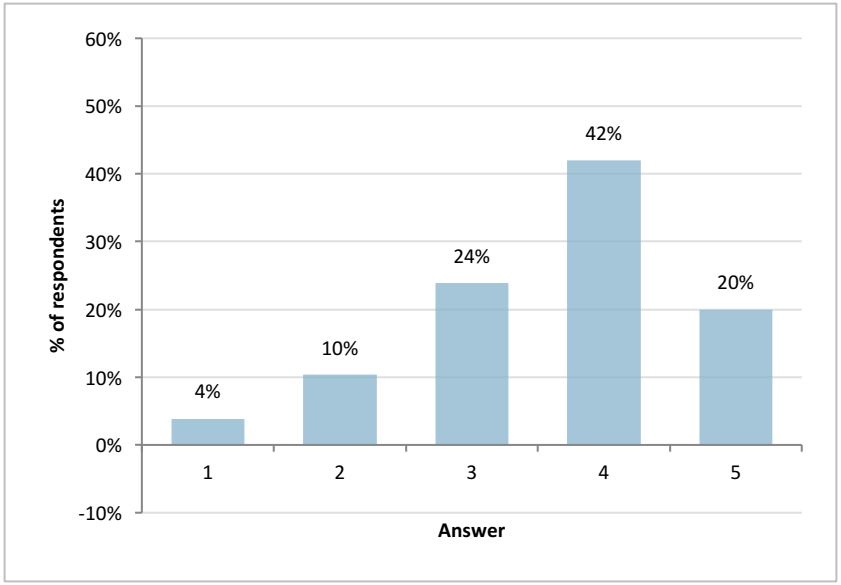
- Spatial planning policy and its implementation are, in so far as possible, shaped at the municipal level.
- The municipalities are able to set appropriate regulations based on their knowledge of the local situation
- The state focuses on subjects that are of importance to the entire country, such as improving accessibility
- Sustainable development policy is to combine the urban polices

Key findings for FUA's

- FUA-level planning and strategy development needs trust between the municipalities
- Ensuring enough time and resources for planning, and mentoring the process at city/FUA level are necessary conditions for participatory and integrated planning.
- Very important horizontal and vertical institutional cooperation
- Citizens and stakeholdres participation in planning needed

COHERENT SPATIAL PLANING AND TRANSPORT POLICY – EXPERTS' VIEW

Expected intensity of impact of 'Public planning'



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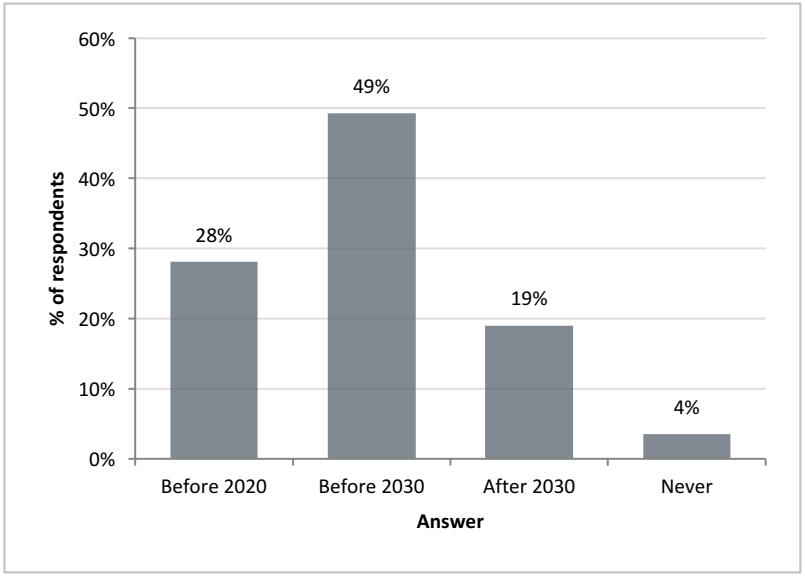


2.4 URBAN DISTRIBUTION/ CONSOLIDATION CENTRES

Description

- UCC is a logistics facility for the last mile collection and distribution
- Collects shipments in a specialized warehouse at the edge of the city, where they are consolidated before being shipped into the city for last mile delivery
- The objective is to increase truck usage to optimize the total distance travelled by trucks, which benefits the city's congestion level and air quality
- The centres can vary from large consolidation centres to centres on neighbourhood or street scale (micro depos/micro distribution platforms)
- Allow to reduce the number of delivery vehicles in the area served by the UCC
- Give the opportunity for added value services to retailers

LuccaPort, Toscana Region, Italy

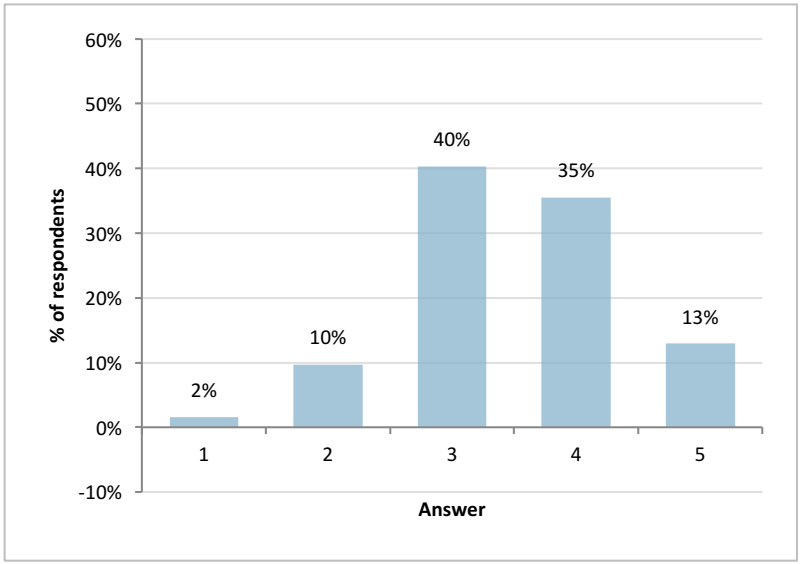
- LuccaPort is Urban Consolidation Centre (platform for load consolidation) easily accessible and fairly close to the city centre (2,5 km)
- LuccaPort is being able to make more than 120 daily deliveries
- Use only electric vehicles
- 100% load factor
- Reduction of the number of commercial vehicles accesses to the historic centre of 44%
- Developed under national and EU funds

Key findings for FUA's

- The UCC's impact depends mainly on the extent to which it can increase truck usage, which is influenced by the nature of the goods, the transporters and the local density
- Strong involvement of transport comapanies that deliver to the shops in urban areas is crucial
- Consolidation of loads – load factor increase
- Reductions in greenhouse gas emissions
- Performance can be observed with use of vehicle kilometre reduction indicator

URBAN DISTRIBUTION/ CONSOLIDATION CENTRES – EXPERTS' VIEW

Expected intensity of impact of driver 'Industry plans'



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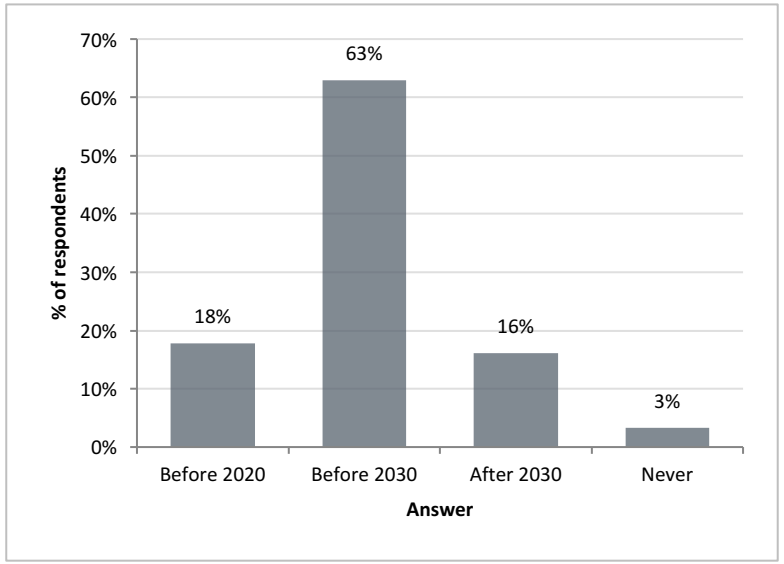


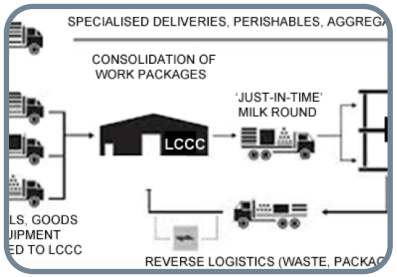
2.5 CONSTRUCTION CONSOLIDATION CENTRES

Description

- Construction Consolidation Centre' operates much like any regional distribution centre
- Specifically located and geared to service the needs of an urban area with tight logistical constraints
- In Construction Consolidation Centres, multiple bulk material deliveries are stored and transported to construction sites

Best Practices:

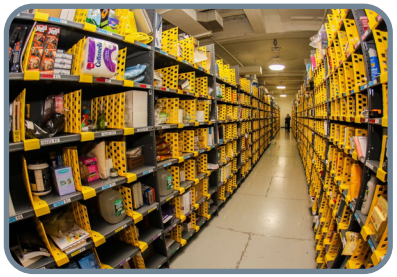
- Transport for London's (TfL's) Construction Logistics Programme aims to improve the coordination, collaboration and sustainability of logistics to improve safety, efficiency and planning.



Key findings for FUA's

- Significant reduction in the number of vehicles delivering to the sites being served
- Reductions in supplier journey times
- High delivery reliability from Construction Consolidation Center to the construction sites
- Increased productivity of labour force on the construction sites
- Significant reduction of CO_2 emissions as a result of the reduction in vehicle movements
- Reduction of noise polution and potential casualities form car accidents

2.6 MULTISTORY LOGISTIC FACILITIES IN DENSE AREAS



Description

- Multi-story logistcs facilities mixing logistics activities and other types of activities (data centre, offices)
- Chapelle International (Paris), a three story 45,000 m2 facility mixing logistics activities and other types of activities
- More than 35 urban logistics facilities exist today in Paris

Best Practices:

- Amazon distribution centre in Manhattan, New York

Key findings for FUA's

- Provision of logistic services close to the market
- Speed of deliveries and consolidation of loads
- Reductions in greenhouse gas emissions
- Multi-storey logistic facilities growth resulting e-commerce development
- Strict land use regulations in Europe – difficulties with transferability

2.7 PICK-UP POINT NETWORKS

Description

- Pickup points are locations where customers can pick up their orders.
- The kind and number of goods that can be stored in locker boxes, but also the services offered at a station, depend on the features of the boxes and the layout of the stations.
- Examples of pickup point networks include E-box (France), Locker Bank (UK), DHL PackStation (Germany), Tower24 (Germany), Kiala (Belgium), and de Buren (The Netherlands).
- Pickup point networks are one of the prime examples of differences between Europe and the United States.

Best Practice, Inpost:

- InPost has a national network of fully automated parcel lockers that are accessible 24/7, meaning no more queues or waiting in, enabling customers to collect, send and return parcels at their earliest convenience.
- All of InPost's 1,100 + lockers are located at a variety of safe and secure locations including Morrisons supermarkets, Esso petrol stations and transport for London sites as well as outside retailers such as Toys R Us.

Key findings for FUA's

- Reduction of deliveries to the offices and private houses – decrease of traffic
- Popularity of the solution will increase due to e-commerce growth
- Good answer for the last mile delivery problem
- Solution is more enviromentally friendly than courier deliveries
- Transport planning policy in FUA's should include incentives for pick-up points companies

2.8 INTEGRATION OF PUBLIC AND FREIGHT TRANSPORT NETWORKS

Description

- Combining people and freight flows
- Different people-based modalities for freight flows, i.e., using spare capacity in public transport systems (e.g., rail, bus, and subway) for retail store replenishment
- Integration in long-haul freight transportation, e.g., passenger planes and ferries often carry freight as well
- In an integrated system, depending on the origin, destination and availability and due time of freight, it is to be decided whether to use a pure freight transportation network, a combination of people and freight transportation networks or a pure people transportation network

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Best Practice,Cleaner cargo distribution in Dresden:

- The CarGoTram is a freight tram in Dresden, Germany
- It supplies Volkswagen's "Transparent Factory" with parts for car assembly
- Manufacturing site near to the city centre and the Old Town
- CarGoTram: bidirectional vehicle, total capacity is the equivalent of three trucks

Key findings for FUA's

- Integration of public and freight transport may result in:
  - *easier logistic management*
  - *increased reliability of deliveries*
  - *safer and more reliable transport*
- Involvment of engaged stakeholders like VW in Dresden

2.9 MANAGEMENT OF LOGISTIC TRANSHIPMENT FACILITIES

Description

- Competition for street space is becoming more and more intense.
- Making better use of the capacity available for urban freight and finding smarter solutions to sharing space in cities is becoming increasingly important.
- Different measures and interventions for more efficient and effective management of loading/unloading areas, drop-off/pick-up points and transhipment areas are being implemented.

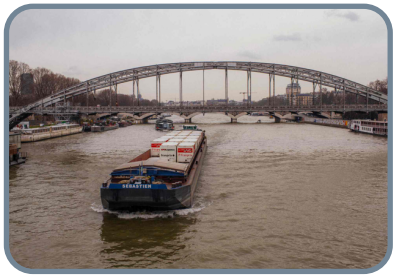
Best Practice, Traffic lane/drop-off space reservation in Barcelona

- Creation of dedicated loading/unloading areas and traffic lanes for freight transport. Case example of Barcelona
- Multi-use lanes used as parking spaces (night time),
- Unloading spaces (between peak hours) and as priority bus lane (in peak hours).

Key findings for FUA's

- Municipality is the key stakeholder with the strongest interest
- Legal basis is needed
- Critical sucess factor is enforcement and effective control
- Existing road network must be wide enough in order to avoid circulation of remaining traffic
- Automated enforcement should be taken into consideration

2.10 DIRECT INJECTION



Description

- Direct Injection brings goods directly into the city using alternative mass transportation means, for example rail, barge
- The last mile delivery is carried out by smaller vehicles, for example. vans, cargo bikes

Best Practice, Delivering via rail through central injection point – Monoprix case:

- Monoprix, a major French retailer (62 supermarkets)
- Delivery with trains and CNG trucks for last-mile deliveries (Compresed Natural Gas)
- Significant reductions in CO2 and NOx emissions
- Positive public 'green' image for the retailer

Key findings for FUA's

- Initiated by municipality with logistic operator and key business partner ready to change its delivery process
- Reduction of lorries on the roads
- Pollution reduction (CO2 and noise)
- Road wear and road accidents reduction

INTERACTIVE PART RULES

- At the beginning please indicate category of your organization.
- You are asked to vote in terms of importance for each trend on ‘Spatial organization’ category.
- You can use each number from 1 to 5:

1 - Very low importance

5 - Highest importance

SPATIAL ORGANIZATION TRENDS

Interreg CENTRAL EUROPE SULPiTER European Union European Regional Development Fund

LOGISTICS SPRAWL **/**

Relocation and concentration of logistics facilities (warehouses, cross-dock centres, freight terminals etc.) towards suburban areas outside city centre boundaries

SPATIAL PLANNING */***

Spatial planning determines business site locations and it need to be coupled with transport policy. FUA-level planning and strategy development needs trust between stakeholders.

INTEG. OF PUB AND FREIGHT TRANSP. NETWORKS */**

Combining people and freight flows using different people-based modalities for freight flows, i.e., using spare capacity in public transport systems (e.g., rail, bus, and subway)

CONSTRUCTION CONSOLIDATION CENTRES /*

A 'Construction consolidation Centre' is specifically located and geared to service the needs of an urban area with tight logistical constraints (housing developments, in-city developments and renovations).

MANAG. OF LOGISTICS TRANSH. FACILITIES /*

Making better use of streets' capacities available for urban freight, smarter solutions for sharing space in cities, management of l/u bays, drop-off/pick-up points, transhipment area, mixed-use lanes.

PICK-UP POINT NETWORKS */***

Locations where customers can pick up their orders. They can be unattended, e.g. locker boxes, or attended, e.g. fuel stations.

DISTRIBUTION /CONSOLIDATION CENTRES */**

Urban distribution/consolidation centre collects shipments in a specialized warehouse at the edge of the city, where they are consolidated before being shipped into the city for last mile delivery.

SPATIAL CONCENTRATION / STOCKING **/*

Use of fewer, large-scale national and regional distribution centres that serve a far larger geographical area.

MULTI-STORY LOGISTICS FACILITIES /*

Multi-story logistics facilities mixing logistics activities and other types of activities (data centre, offices, sport, urban agriculture) located within dense urban areas.

DIRECT INJECTION /**

Transporting goods directly into the city using alternative mass transportation means (e.g. ships and freight trains), after which vans and other last mile delivery transportation means must cover only very short distances.

TIME: <5 years / > 5 years *IMPACT: * low, ** medium, *** high*

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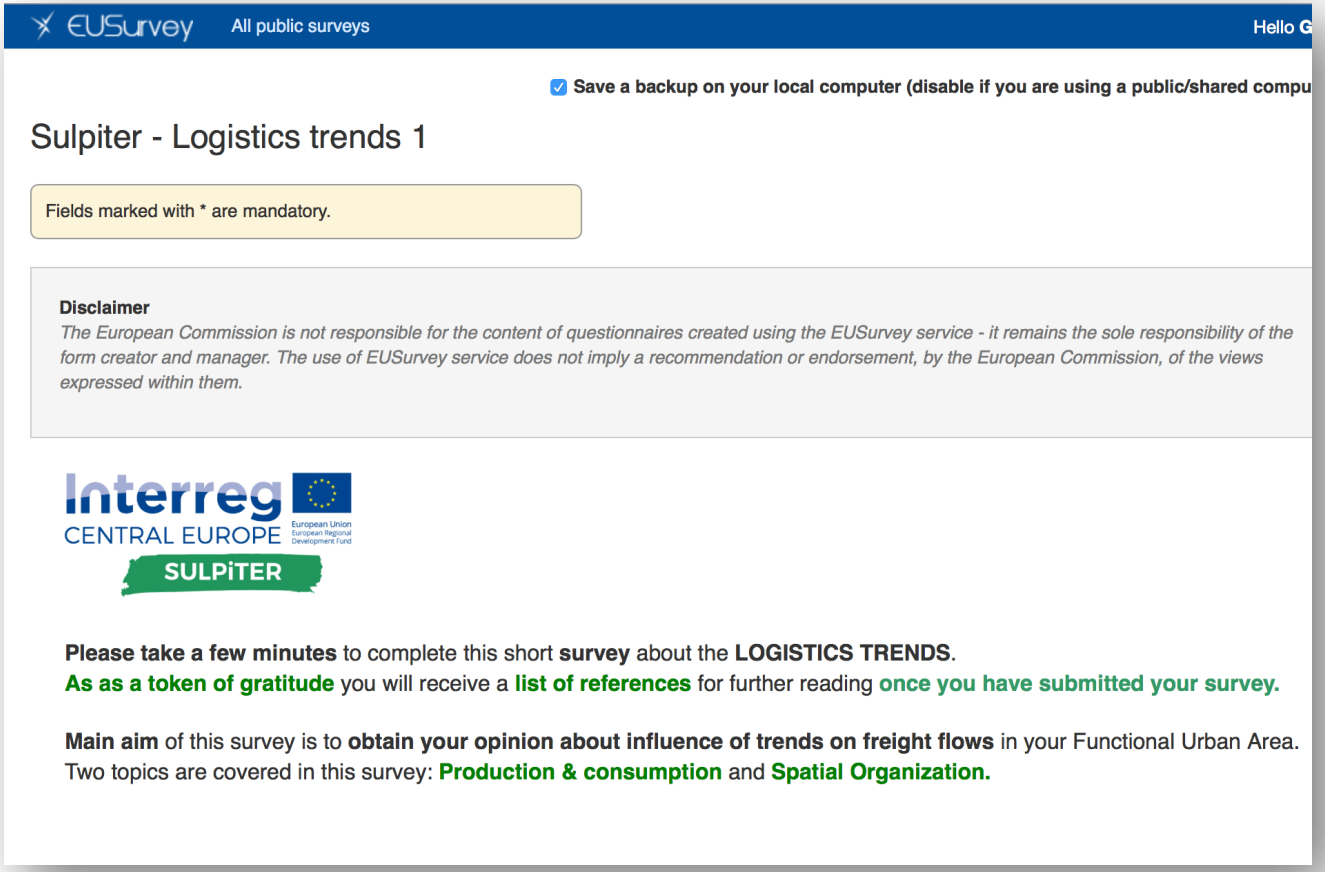
ELECTRONIC FOLLOW-UP SURVEY

On Wednesday we will deliver link to the electronic survey

You are kindly asked to ansewer questions in this survey

Reward for filling in electronic survey will be the list of resources used in SULPITER research



NEXT WEBINAR

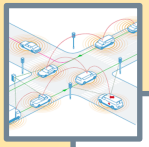
Second part of the **SULPiTER Transnational Open Training** on 22th May 2017 H14:00CET

Thank You!

Day 2 - 22th May 2017 h 14:00CET

3. Supply chain management & distribution

- 3.1. Logistics industry consolidation *
- 3.2. Vertical and horizotnal collaboration
- 3.3. Green supply chain principles
- 3.4. Omni-chanel logistics *
- 3.5. Freight Quality Partnerships - FQP *
- 3.6. Off peak hours deliveries
- 3.7. Unbundling of logistics services - on demand
- 3.8. Delivery to the trunk of a car



4. Technologies & equipment

- 4.1. Clean vehicles *
- 4.2. ICT and ITS systems
- 4.3. Internet of Things *
- 4.4. Big data and data mining techniques *
- 4.5. Physical internet
- 4.6. Automated systems & autonomus vehicles *
- 4.7. Transport/logistics optimization (tools)
- 4.8. Tube underground and long distance systems
- 4.9. Other frontier technologies

** - Expert survey results only for selected topics*