



# SUCCESS

Sustainable Urban Consolidation CentrES  
for conStruction

Innovative Urban Freight Management Systems

Paris, 26/05/2016

Presented by:  
David Evaristo



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 633338.

# SUCCESS Id card



- **SUCCESS:** Sustainable Urban Consolidation CentRES for conStruction
- **Funding tools:** H2020-Societal Challenges
- **Topic:** MG-5.2-2014: Reducing impacts & costs of freight & service trips in urban areas
- **Duration:** 36 months (**Start 01/05/15**)
- **Total budget:** 3.2 M €
- **LIST's role:** **Coordinator**
- **Partners:** 11 partners

## Societal Challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture and the bio-based economy
- Secure, clean and efficient energy
- **Smart, green and integrated transport**
- Climate action, resource efficiency and raw materials
- Inclusive, innovative and secure societies



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# SUCCESS consortium



Luxembourg Institute of Science and Technology (LIST)  
Valenciaport Foundation (VPF)  
Institute for Transport and Logistics Foundation (ITL)  
En&Tech Reseach Centre (EN&TECH)



Tralux  
Federation of Construction Companies (FEVEC)  
Cooperativa Muratori e Braccianti di Carpi (CMB)  
Vinci Construction France (VCF)



Emilia Romagna Region (RER)  
Foundation of the Valencian Community for Strategical Promotion,  
Development and Urban Innovation (INNDEA)  
Association pour la Formation professionnelle dans les Transports (AFT)



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# 4 Living labs



## Luxembourg (Luxembourg)

- 11 400 m<sup>2</sup>
- 21 M €
- Residential, shops, offices

## Paris (France)

- 55 475 m<sup>2</sup>
- 144 M €
- 1<sup>st</sup> Minister headquarter, public auditorium



## Valencia (Spain)

- 7 772 m<sup>2</sup>
- 16 M €
- Railway station, park, shops

## Verona (Italy)

- 85 3 914 m<sup>2</sup>
- 126 M €
- 2 hospitals



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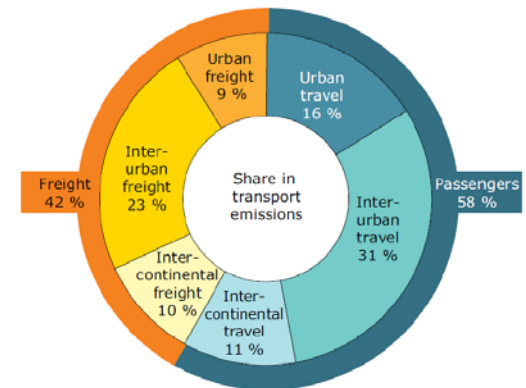
# Urban challenges



- CO2-free city logistics in major urban centres by 2030\*



- Urban freight logistics:
  - 20% of the road congestion
  - 25% CO2 emission (42% of the GHG emissions)
  - 20% of the transportation costs



\*Transport White Paper, European Commission 2011



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# Urban freight logistics



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# SUCCESS objectives



DECREASE

- Negative externalities of urban freight transportation: congestion, pollution, noise and accidents
- Building and renovating costs and impacts on urban environment

IMPROVE

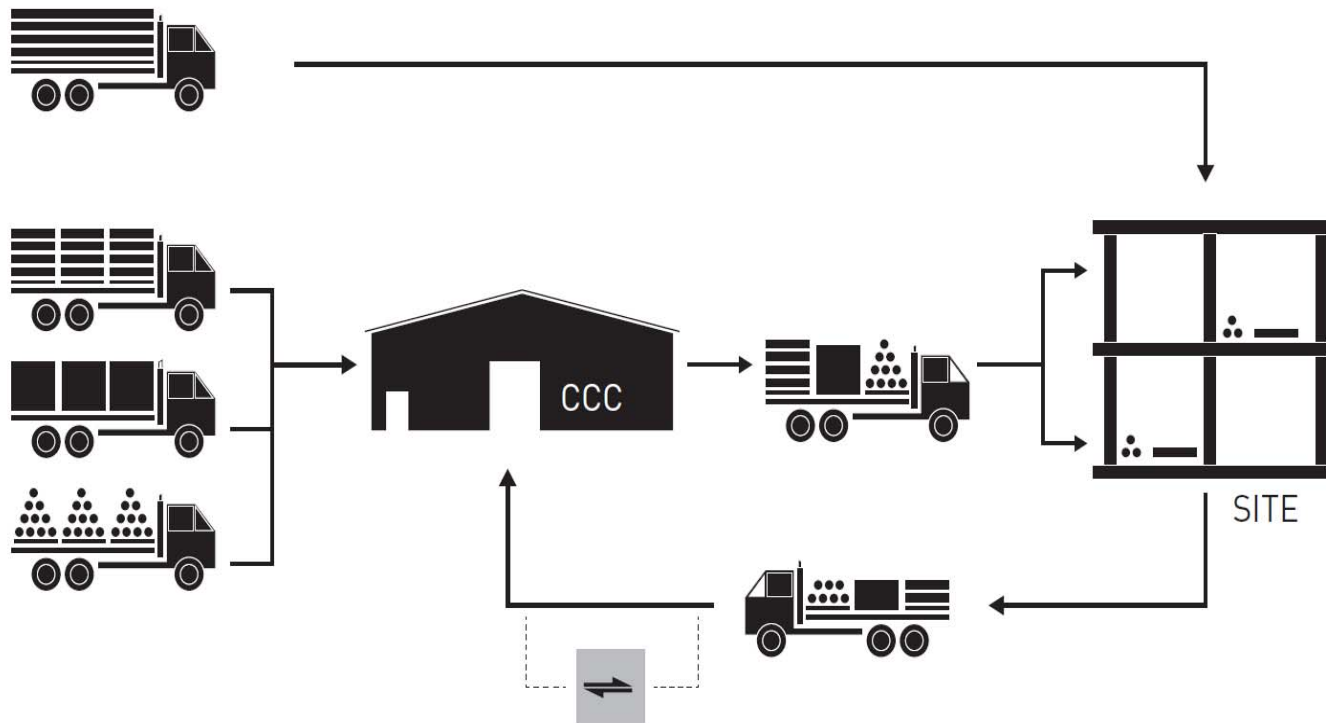
- Use of the existing transport infrastructures
- Level of cooperation and coordination among all the stakeholders of the supply chain

- Reusable methods and tools



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# Leverage: Consolidation Centre



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# Need to find answers ...

Who pays?

For which products / materials?

CCC organizational processes

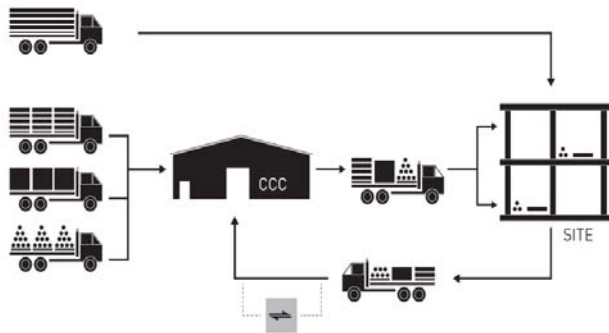
What financial gains and for whom?

What type of construction site?

For and with whom?

Societal impact  
CO<sup>2</sup> emission reduction

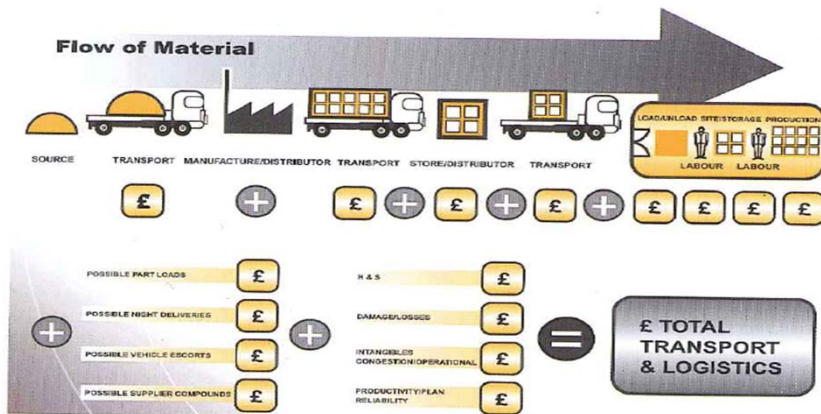
What organization on site is needed?



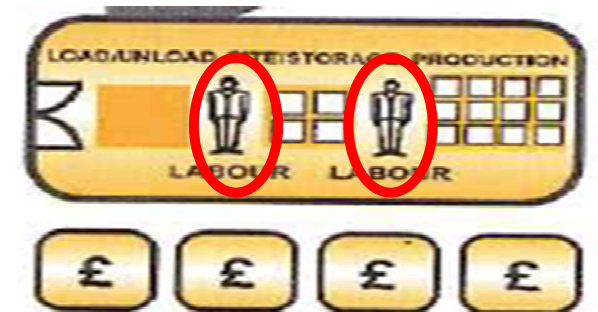
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# Through our pilots

- Construction supply chain analysis
- Cost breakdown for logistics activities



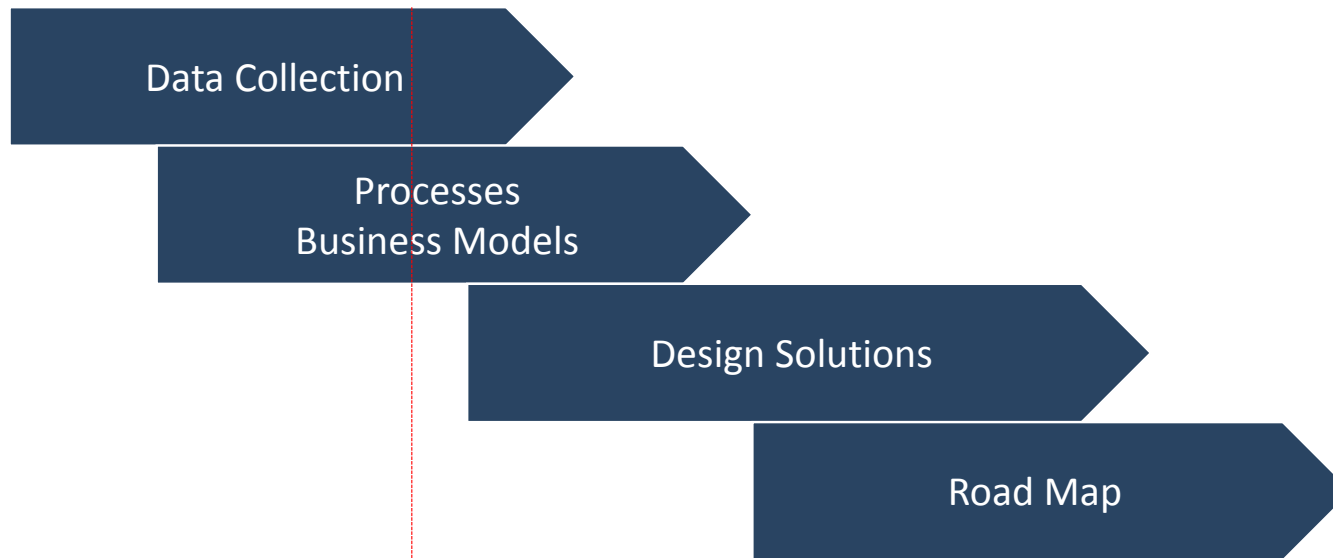
*Managing Construction Logistics, G. Sullivan 2010*



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# Pathway



AS-IS

To Be



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# Data collection



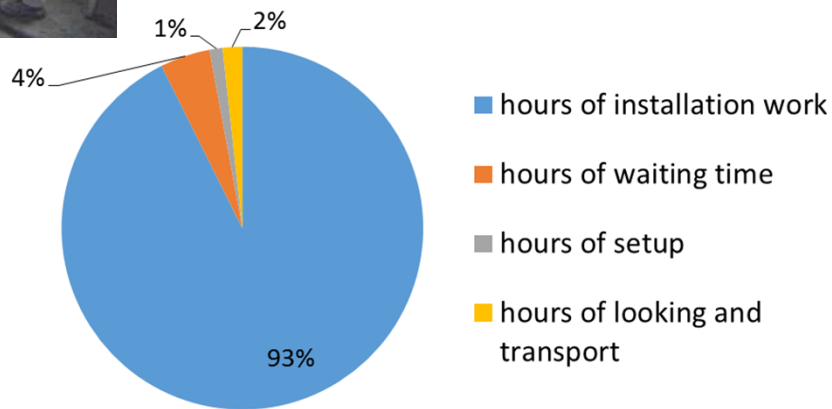
- Define data to collect
- Define tools to collect
- Define KPIs
  
- Delivery tracking board
  - All information about material in/out construction site
- Activity monitoring report
  - Track material use and productivity on site



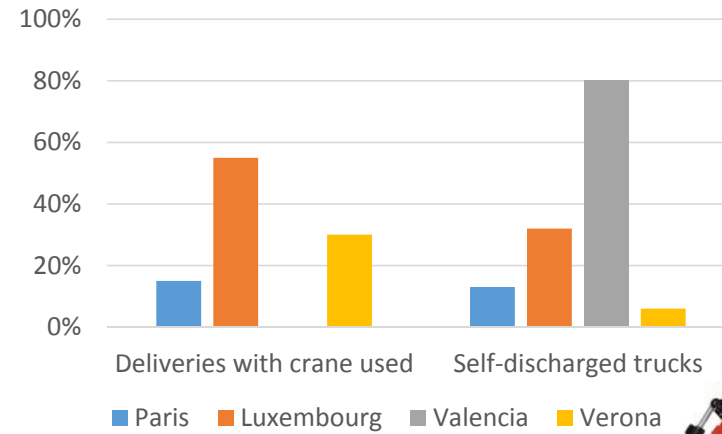
# Samples collected



Plaster coating work



Unloading equipments



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# Process mapping



- Main processes
  - Distribution Network
  - Construction Site
  - Reverse Logistics
- SWOT analysis
  - Process improvement, best practises
  - Potential saving sources
  - ...



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# Business models



- Stakeholders relationships introducing a CCC
  - Economic
  - Organisational



- Factors identification for a viable Business Model



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# Design solutions



- Solutions proposed
  - Operational management
  - Business models
  - ICT Tools
- CCC under SUCCESS will be virtual
  - Simulations
- Tools
  - Define methods and tools to optimise the Construction Supply Chain
  - Develop modelling and simulation tools



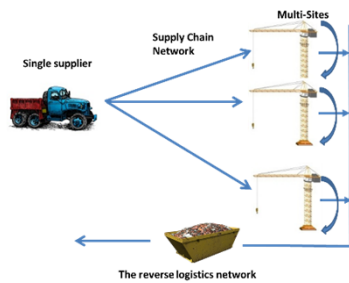
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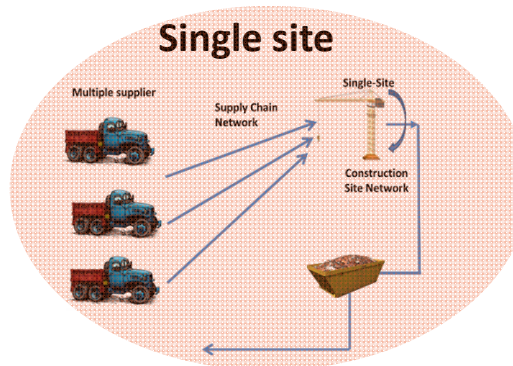
# Examples of scenarios



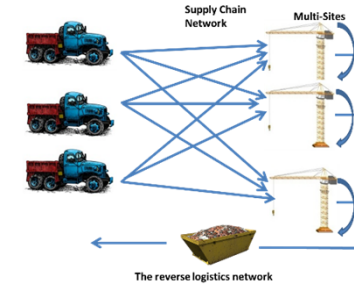
**Single supplier**



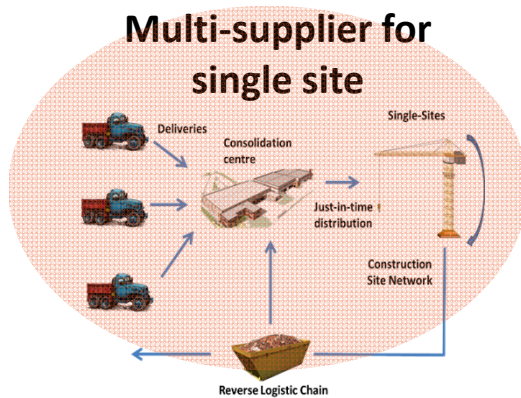
**Single site**



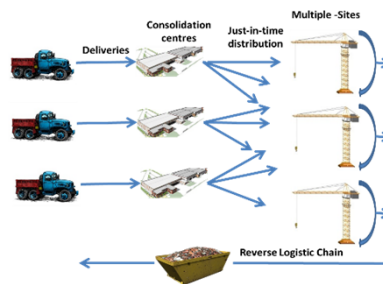
**Multi-site/multi supplier**



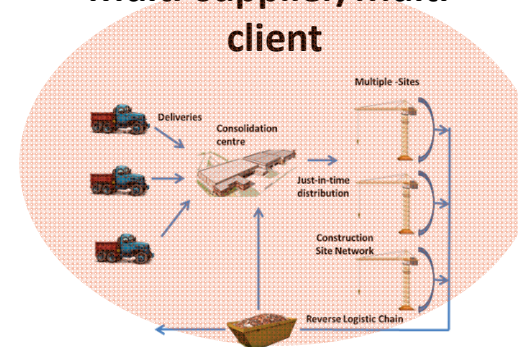
**Multi-supplier for single site**



**Multi-client CCC for supplier**



**Multi-supplier/Multi-client**



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# Road map for a CCC



Select **good practices** already developed in EU and USA



Show the **replicability** of the project solutions



Develop **action plans** with related **Road Maps** to be applied to non-partner cities



Take up the **SUCCESS** results through a **European-wide enlarged transfer programme**



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## Expected results



**Sustainable business models** to address problems in the **construction supply chains**, focusing on distribution networks, construction sites and reverse logistics



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# And impacts



New policies, new regulations, infrastructure design improvement



Transportation cost reduction assessment (CCCs implementation)



Strengthened ROI estimation facilitating the investment



Refine scientific data on CCCs overall performance



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# SUCCESS neighbourhood



- Sharing information, expertise
- EU guidance documents on urban logistics
- Prepare new research framework programme



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# Thank you for your kind attention!

