



# SUCCESS PROJECT

Sustainable **U**rban **C**onsolidation  
**CentrES** for **conS**truction

[www.success-urbanlogistics.eu](http://www.success-urbanlogistics.eu)

Tackling the challenges of urban freight logistics  
in the construction sector to reduce negative impacts  
and improve the construction supply chain



THE CIVITAS INITIATIVE  
IS CO-FINANCED BY THE  
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## C ONTEXT

Cities are by far the fastest growing areas of our times. For the near future, they will have to become more sustainable and citizen-friendly while remaining internationally attractive. This development fuels the need to build new buildings and infrastructures and to renovate existing ones.

Construction work often leads to significant inconvenience for citizens of neighbouring areas: congestion, safety hazards, noise, air pollution, dust, etc. Many of these problems are caused or exacerbated by logistics activities in and around construction sites. Long waiting times for trucks, often in front of the sites, lack of space to receive and store materials, insecurity, as well as the risk of damage and loss of goods due to exposition to bad weather make for a real conundrum. This challenge is aggravated by the fragmentation of the construction sector and the great number of actors involved.

According to the European Commission, today the construction industry accounts for 40% of the European Union's total energy consumption and produces about 35% of all greenhouse gas emissions. The challenge to be taken up by the local authorities is thus considerable and requires all actors involved to find sustainable solutions to deal with highly complex construction sites in sensitive areas and to ensure well-functioning building material flows.

## T HE SUCCESS PROJECT

Against this backdrop, the SUCCESS project targets the construction industry and aims to make the most of this sector's enormous potential for improvement by exploring and testing new tools and methods. Funded by the H2020 programme, SUCCESS encompasses 4 pilot sites in Luxembourg, Paris, Valencia and Verona. It includes a consortium of 11 partners from the public and private sectors: research groups, construction companies, local authorities and professional organisations.

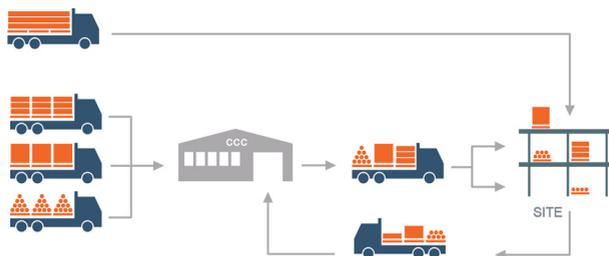
## PROJECT OBJECTIVES

- Decrease the negative externalities of urban freight transport associated with construction: congestion, pollution, noise and accidents.
- Reduce building and renovation costs.
- Improve the use of the existing transport infrastructures.
- Increase cooperation and coordination among all stakeholders in the construction supply chain.
- Develop reusable methods and tools.

## APPROACH

To face these challenges and improve the construction supply chain, one possibility could indeed be implementing smart storage centres to optimise the delivery of materials by consolidating them in dedicated areas. These “Construction Consolidation Centres” (CCCs) are hubs close to urban centres with easier access for suppliers to deliver their goods and enough space for big trucks to perform manoeuvres and unloading operations. In these centres, construction materials can be safely stored, and deliveries can be better organised to increase their fluidity and react to urgent needs from the construction sites.

The SUCCESS project assesses the feasibility and potential positive impacts of these CCCs in order to provide replicable solutions and improve the use of existing transport infrastructures and the level of cooperation among the different stakeholders in the construction supply chain. A more innovative approach to construction logistics and supply chain management could help reduce negative impacts and increase productivity and transport efficiency in the sector.



# MAIN OUTPUTS AND PROJECT RESULTS

## IMPLEMENTATION OF A CCC TO REDUCE THE NEGATIVE IMPACTS OF THE CONSTRUCTION SUPPLY CHAIN

The final results of the SUCCESS project clearly demonstrate that implementing CCCs can bring about a 65% reduction in the number of daily trips to the construction site, which has a major impact on congestion and safety in the city. The simulation results show that this gain in transport efficiency leads to an important reduction in pollutant emissions: 28% outside and about 35% inside cities. CO<sub>2</sub> emissions can even be decreased by more than half thanks to the use of a CCC. These results could still be optimised by using more environmentally friendly vehicles for deliveries from the CCC to the construction sites.

## CCC - A VIABLE SOLUTION FOR ALL ACTORS CONCERNED

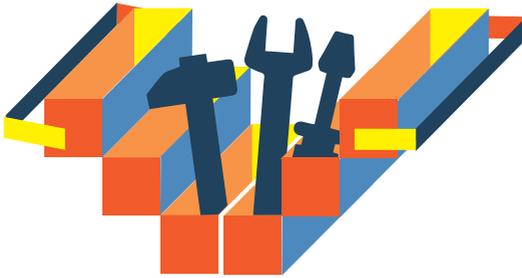
Cities and citizens would not be the only beneficiaries of CCCs. One of the main arguments often put forward against logistics hubs is the risk of economic inefficiency. However, the different scenarios and business models developed within the framework of the SUCCESS project show that a CCC can provide added value for both suppliers and construction companies. The CCC operator can propose additional services such as pre-assembly of parts and kitting of materials to smooth construction activities and increase their cost-effectiveness. A positive return on the overall budget of the construction project is therefore possible.

## CHANGING HABITS FOR A MORE SUSTAINABLE CONSTRUCTION SUPPLY CHAIN

Discussions with the different stakeholders showed that the main barriers arise today from the current habits and management of the supply chain. This underlines the important role local authorities play in this context to encourage companies to reorganise the supply chain based on use of a CCC. The SUCCESS project provides some suggestions and a toolkit to evaluate the benefits of a CCC in a specific context

## ■ ■ ■ SUCCESS TOOLKIT ADDRESSING ALL STAKEHOLDERS WITH TARGETED ADVICE

Indeed, the case for a CCC strongly depends on the context. SUCCESS thus provides a toolkit that addresses all relevant stakeholders: it allows construction and transport companies, as well as local authorities, to self-evaluate the complexity of their future construction project(s) and to decide if, how and where to implement one or more CCC(s), while also proposing suitable improvements for each specific construction site, based on best practices collected all over Europe and the US.



The SUCCESS toolkit is made up of three items:

- A Cost/Benefit Analysis for the implementation of a Construction Consolidation Centre;
- A solution selector for identifying the most appropriate practices to implement;
- An optimal CCC location tool for deciding on the best locations of a CCC among a given set of options;
- A best practices guide inspired by the most authoritative practices in Europe and the US.

These tools, as well as the SUCCESS project deliverables, offer a range of studies and reports to provide a complete mapping and analysis of current construction logistics processes, propose fitting solutions and define new methods and resources. All these public reports and documents are available for download at:

[www.success-urbanlogistics.eu](http://www.success-urbanlogistics.eu)

## ■ ■ ■ ANALYSIS OF CURRENT CONSTRUCTION LOGISTICS PROCESSES

- Extensive data collection on four pilot sites
  - **Neudorf, Luxembourg:** Refurbishment and construction of apartments, shops and offices
  - **Paris, France:** Refurbishment, conversion of two buildings into a single complex with offices
  - **Valencia, Spain:** Urbanisation of a park and refurbishment of historic buildings and construction of new ones
  - **Verona, Italy:** Extension and renovation of two hospitals
- Mapping the organisation of the pilot sites with regard to three main aspects: inbound logistics, internal logistics, outbound logistics

## ■ ■ ■ PROCESSES AND BUSINESS MODELS

- Analysis of possible improvements in main processes (inbound, internal and outbound logistics), potential sources of savings, etc.
- Identification of the relevant factors for a viable business model taking into account CCCs and their influence on stakeholder relationships

## ■ ■ ■ SOLUTION DESIGN

- Defining methods and tools to optimise the construction supply chain
- Proposed solutions: operational management tools, business models, ICT tools
- Testing the possible advantages of CCCs using a modelling and simulation approach

## ■ ■ ■ EXPLOITATION OF PROJECT RESULTS

- Demonstrating the replicability of the project solutions
- Developing action plans to be applied in non-partner cities
- Take-up programme through European-wide workshops to transfer SUCCESS results to stakeholders

## **P**ARTICIPATION IN THE **CIVITAS** NETWORK

The CIVITAS network is an initiative funded by the European Commission with the aim of promoting innovative policies and technologies to encourage sustainable mobility in urban areas. Every year, the European Commission chooses several scientific projects to join the network. The SUCCESS project was one of ten H2020 projects selected in 2015.

This association created the opportunity to stimulate exchanges between the CIVITAS community of urban mobility practitioners and the scientific projects dealing with key urban mobility challenges (e.g. congestion, urban freight, public transport) while also promoting cross-fertilisation among the projects.

## **C**IVITAS URBAN FREIGHT CLUSTER

### ■ CITYLAB

The CITYLAB project aims to develop knowledge and solutions that result in up-scaling and roll-out of strategies, measures and tools for emission-free city logistics in urban centres by 2030.

→ [www.citylab-project.eu](http://www.citylab-project.eu)

### ■ SUCCESS

The SUCCESS project targets the construction sector and aims to identify new methods and tools taking into account the possible implementation of Construction Consolidation Centres in order to improve construction logistics and decrease negative externalities.

→ [www.success-urbanlogistics.eu](http://www.success-urbanlogistics.eu)

### ■ NOVELOG

Enable knowledge and understanding of urban freight distribution and service trips to help cities implement effective and sustainable policies and measures and to facilitate stakeholder collaboration for sustainable city logistics.

→ [www.novolog.eu](http://www.novolog.eu)

### ■ U-TURN

The U-TURN project aims to identify new models for urban food transport and to develop and propose innovative business models from a new focused toolkit to achieve more efficient operations – both environmentally and economically.

→ [www.u-turn-project.eu](http://www.u-turn-project.eu)

# SUCCESS CONSORTIUM

The project consortium includes European partners from France, Italy, Luxembourg and Spain representing construction companies, a university, research centres, public administrations and professional associations.

## PROJECT COORDINATOR

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## PROJECT PARTNERS



## FOR MORE INFORMATION

Visit our website: [www.success-urbanlogistics.eu](http://www.success-urbanlogistics.eu)

Join our LinkedIn group: **Sustainable Urban Consolidation  
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