

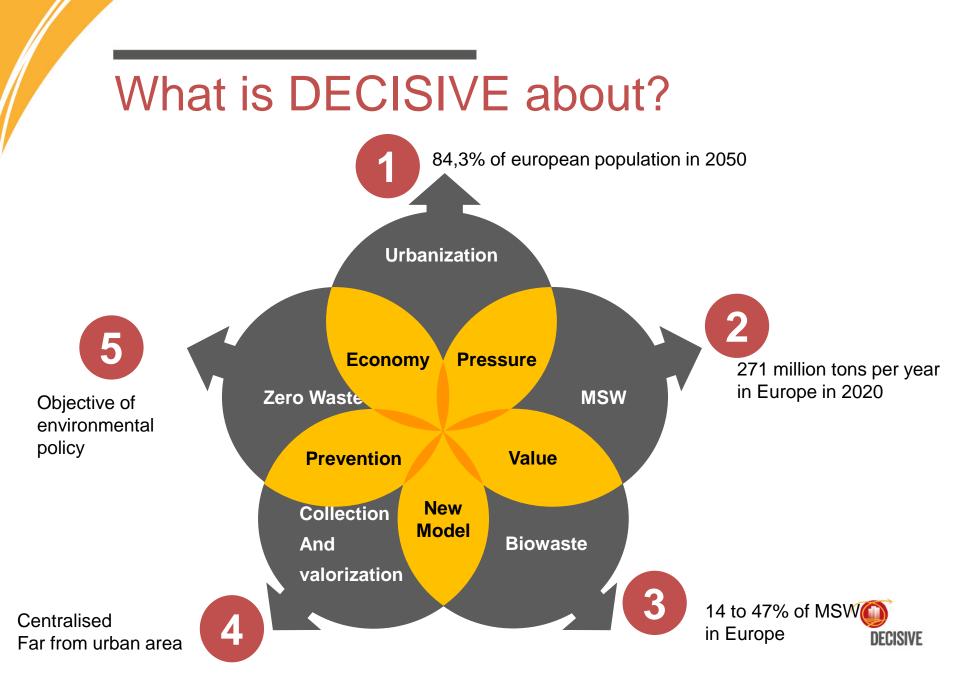
Working for a circular bioeconomy at local and regional level

# Innovations proposed by the DECISIVE project





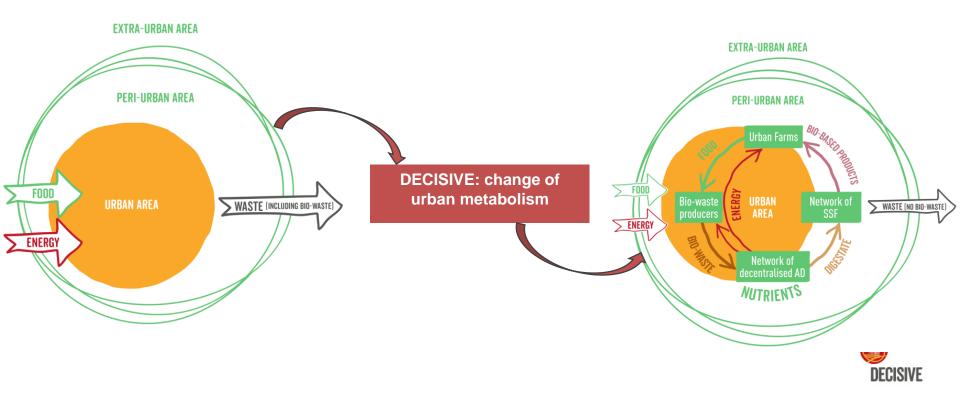
This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 689229.



## What is DECISIVE about?

A new paradigm of urban organic waste management :promotion of decentralized treatment points networks

short circuits and circular economy in the urban space

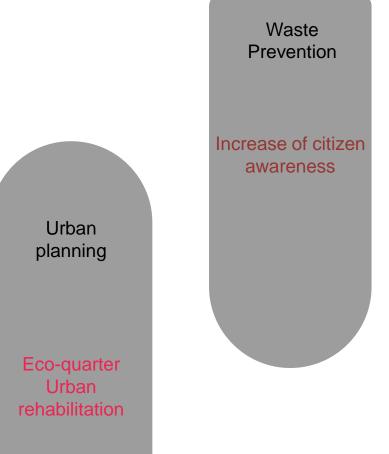


### What impact on a local/regional level?

Renewable energy

Local valorization of heat and electricity Circular economy

Concept of a resilient city using organic waste to develop urban farming and circular economy

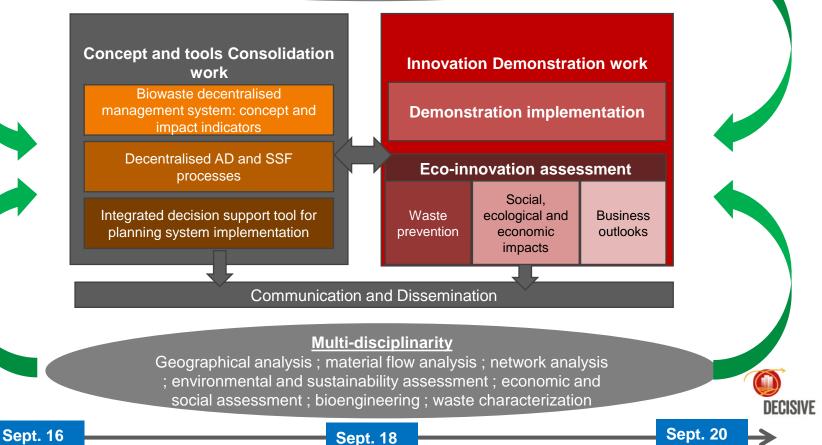




## How do we do this?

#### Multi-stakeholders

Research organisations ; public service ; association and foundation working with cities ; waste operator ; process sellers ; urban farm ; expert committee (public authorities, citizens, politicians)



## **DECISIVE:** partnership































### Proposed innovation in DECISIVE?

#### **Organisational innovation:**

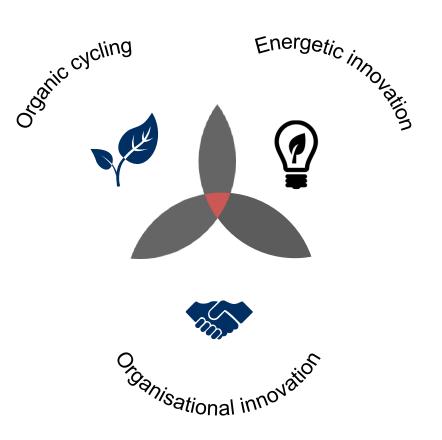
 A method to plan efficient (enough simple and accurate) decentralised management scheme for urban organic solid waste based on urban metabolism study

#### **Technological innovations:**

- Micro-AD and biogas local valorisation
- SSF

#### **Policy and economic innovation**

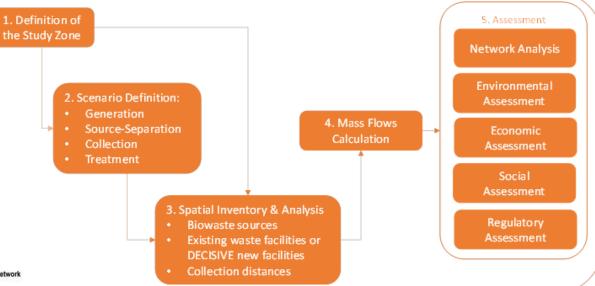
- Guidelines/advices for environmental Policy
- Urban farm concept
- New waste business



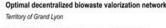


## Project progress: DST for decentralised management planning

- Decision support tool
  - Current situation
  - Scenario proposals
  - Assessment



Lyon M Boxaste sources Oudets for the digestate



The network treats 10% of the biowaste produced in the area (household kitchen waste, restaurant, collective catering, etc.) while minimizing the transportation distances.



- Spatial optimization of decentralised networks
  - Inventories of sources, locations, valorization points, surrounding farming

DECISIVE

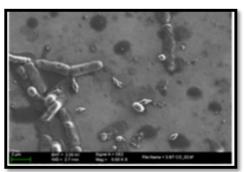
• Optimization on distance, regulatory obligations, etc.

## Project progress: technologies

- Micro-anaerobic digestion (mAD)
  - Target 50 to 200 t biowaste / y
  - Existing offer => challenge for lowest scale
  - New development for robust dry mAD in progress at pilot scale



- Solid Substrate Fermentation
  - Post-valorization of digestate
  - Lab-test OK; pilot scale in test
  - Product target: Biopesticide (Bt)



Bt and paraesporal crystals.

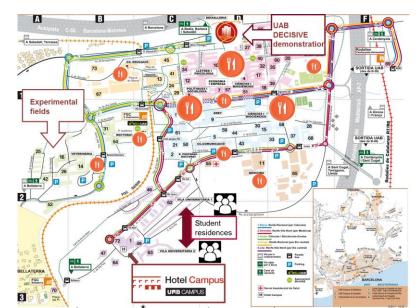


# Project progress: Demonstrations in preparation

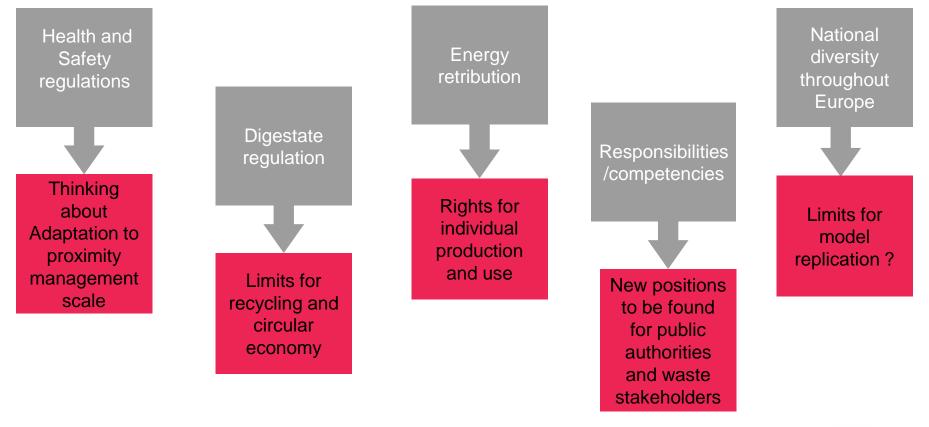
- France, Lyon
  - Urban Farms Refarmers horticol school
  - Restaurant and school canteens => 50 t/y
  - Valorization on the farm

- Spain, Barcelona
  - UAB Campus
  - Campus restaurants; Residencies => 100-200 t/y
  - Valorization on the campus





## Current limits for advancing the innovations





To overcome limits: synergy with over projects ; proposals for policy makers

### Contact

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