



A **DEC**entralized management **S**cheme for **I**nnovative **V**alorization of urban biowaste**E**



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DECISIVE

A DECENTRALISED MANAGEMENT SCHEME FOR
INNOVATIVE VALORISATION OF URBAN BIOWASTE



A european project: H2020-Waste-6a-2015

Title of the call:

Promoting eco-innovative waste management and prevention as part of sustainable urban development

Objectives of the call:

- Boosting eco-innovative solutions to prevent waste generation and promote the use of waste as a resource
- Enhancing the natural and living environment in urban and peri-urban areas
- Integrated urban metabolism approach with active engagement of all stakeholders

Specific expectations in terms of Eco-innovative solutions

- Demonstration at an appropriate pilot scale, and market replication, of integrated eco-innovative cost- and energy-efficient technologies, processes and services for waste prevention, treatment, enhanced collection, recycling and recovery of high-grade valuable materials from waste.
- Technological and non-technological solutions: economic and social approach

Project launched
on 1/09/2016

Project
coordination:
Irstea, France



The proposal of the DECISIVE project



Context

- Growing urbanisation (84,3% European population in 2050)
- Increasing production of MSW (271 MT/year in Europe in 2020),
- Different type of materials in MSW and different recycling yields (collection + valorisation rates):
 - Organic waste = 14 to 47 % of MSW in Europe ; more than 60 % in developing countries
- Centralised and macro-scale valorization always preferred in developed countries
 - Pro: Economic arguments
 - Cons: Collection issues, environmental impacts
- The decentralised way of thinking
 - Domestic composting demonstrated prevention impact on waste production
 - Decentralised valorization and micro-scale AD: a solution in developing countries
- Context of environmental policy: towards "Zero waste"

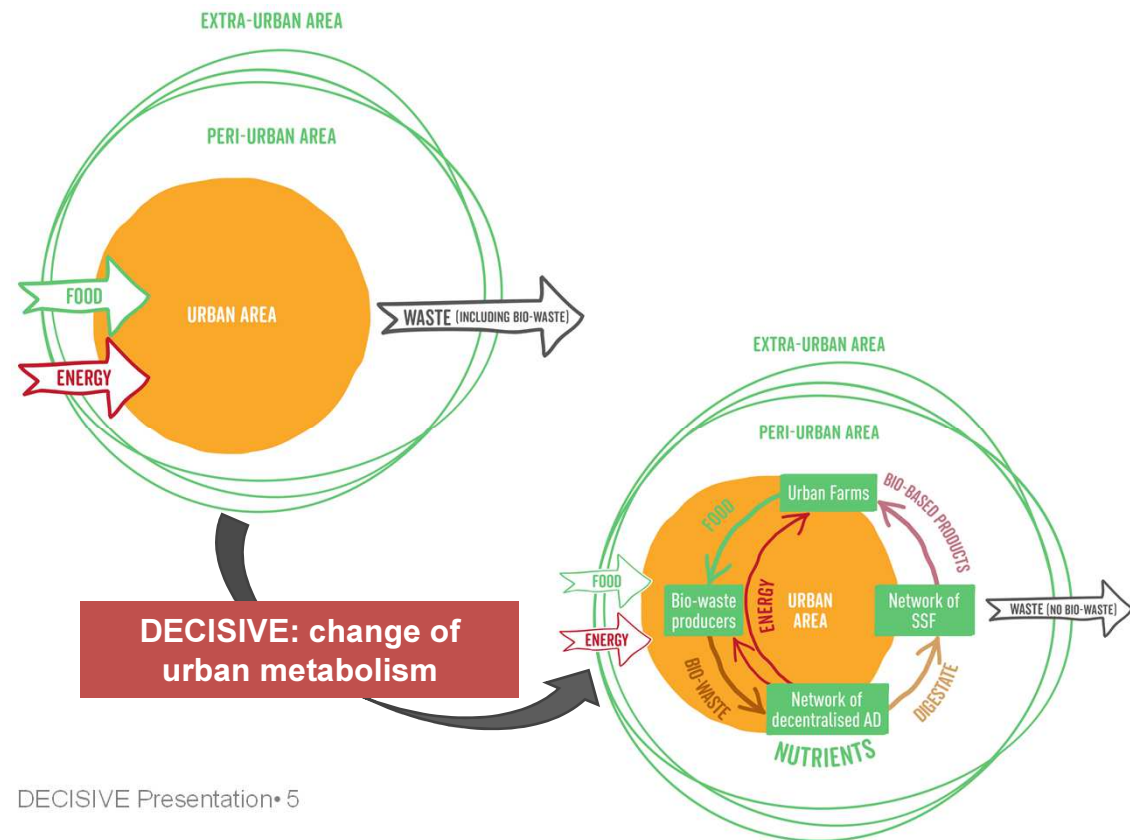
The DECISIVE concept

A new paradigm of management / recycling of urban organic waste by promoting the establishment of decentralized treatment points networks favoring short circuits and circular economy in the urban space

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

Local sustainable energy supply
Waste biotreatment
New business opportunities

Spatial planning
Sustainable design





Expected results

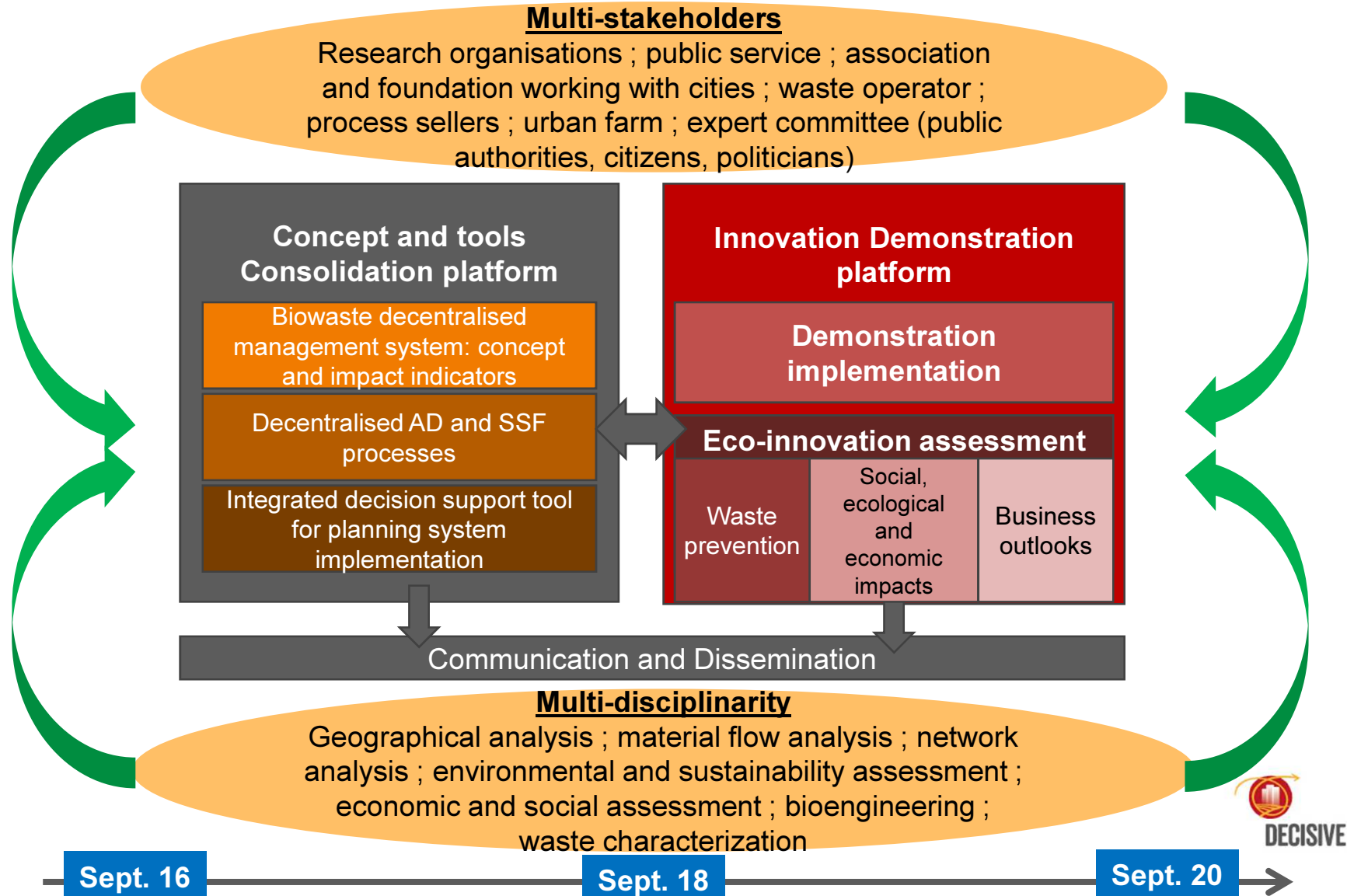
- Organisational innovation:
 - A method to plan efficient (enough simple and accurate) decentralised management scheme for urban organic solid waste based on urban metabolism study
- Technological innovations:
 - Micro-AD and biogas local valorisation
 - SSF
- Social results:
 - Business and employment development
 - Guidelines/advices for environmental Policy



Expected impacts on a mid-term

- Waste prevention:
 - Residual waste reduction between 10 and 40%
- Biowaste capture rate:
 - Up to 80%
- Energetic valorization:
 - Energy recovery of 90% of the produced biogas
- Environmental impacts:
 - Reduce fossil-fuel consumption: Waste transport reduction; Replacement of fossil-energy by bioenergy
 - Reduce landfills emissions
 - Replacement of chemical molecules production
- Economic impacts:
 - Business and employment development: sale of technologies; take off for urban farms business concept; new offer of waste management
 - Decrease of waste management cost

The project method: an integrated approach

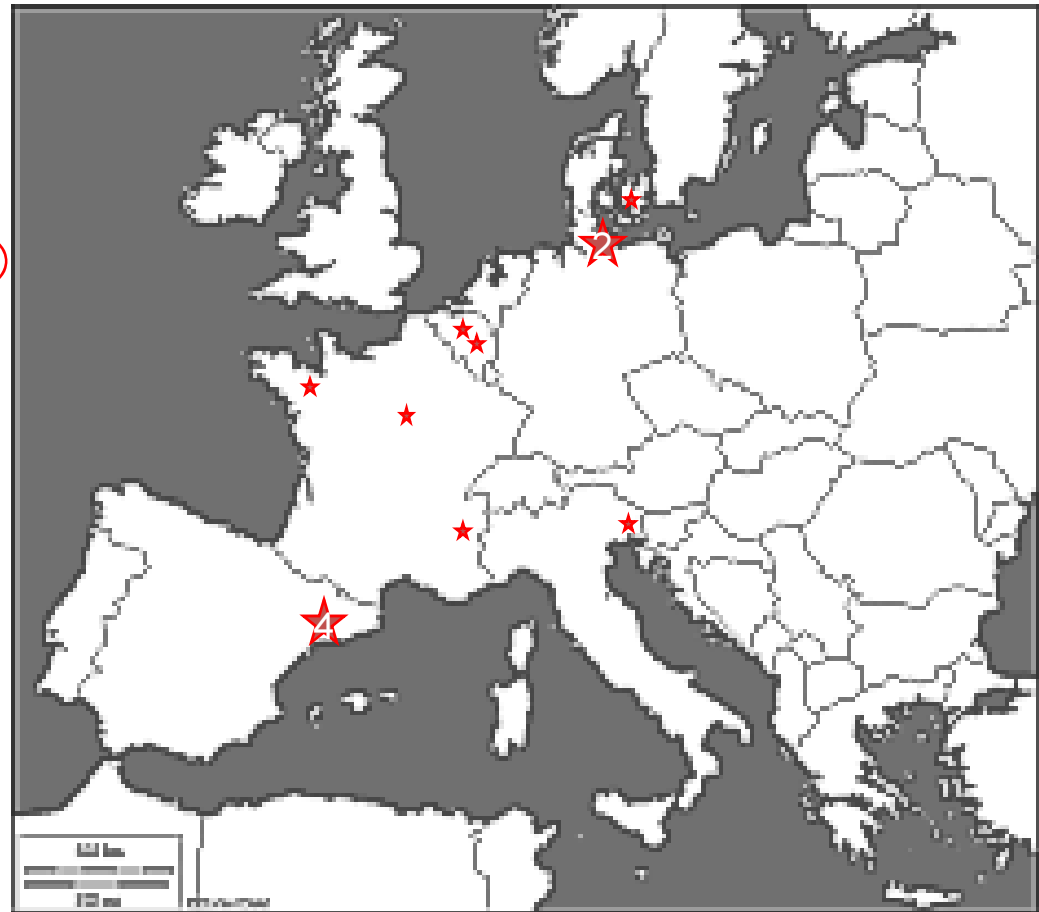


DECISIVE: partnership



DECISIVE: a complementary partnership

Concept and tools development	France Irstea, SE, Refarmers
Technologies development	Spain UAB, AERIS, ENT, ARC
Lead Users	Belgium PSUtec, ACR+
Communication/ impact politique	Denmark Univ. Aarhus – ENVS
	Germany TUHH, GEOMAR
	Italy ITS



Contact

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