

Holistic Approach For Providing Spatial & Transport Planning Tools And Evidence To Metropolitan And Regional Authorities To Lead A Sustainable Transition To A New Mobility Era





HARMONY consortium





























moby













21 partners from 9 European countries





Background

- Submitted to the call Mobility for Growth 2018-2020
- Only proposal funded under topic LC-MG-1-2 Sustainable multi-modal inter-urban transport, regional mobility and spatial planning (RIA)
- Budget: 7,649,645.25 Euro
- Duration: 06/2019 11/2022





Vision

Enable metropolitan area authorities to lead the transition to a low carbon mobility through **new** harmonised spatial and multimodal transport **planning tools.**





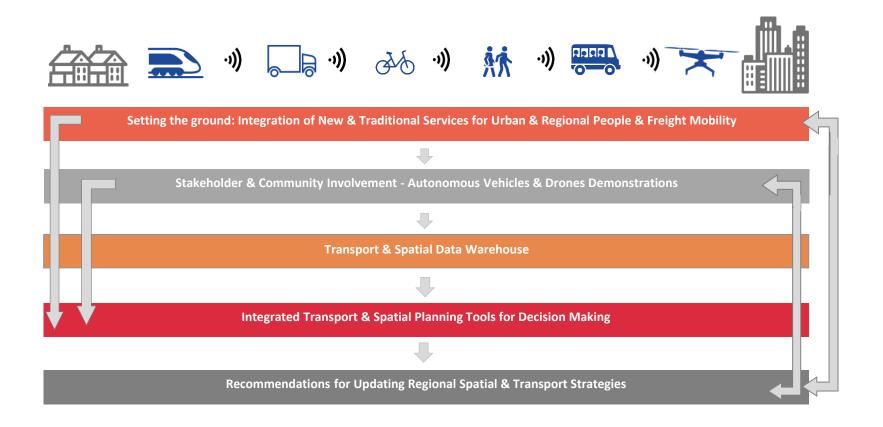
Objectives

01	• new mobility services, concepts and technologies for people and freight
02	• co-creation labs for people and freight
O3	 Integration of AVs and drones integrating with traditional transport modes Collect data from citizens and freight operators
O4	 Develop methodologies to combine and integrate multidisciplinary data related to new forms of mobility, collective transport and planning
O5	• new spatial and transport planning model suite (MS)
O6	Apply the HARMONY MS to support metropolitan planners and decision-makers
O7	• Link the HARMONY MS (metropolitan-level to EU -wide transport models
O8	Recommendations to update spatial and transport strategies and SUMPs
09	disseminate the developed model suite





HARMONY conceptual architecture







Estonia

Latvia

Belarus

Moldova

Lithuania

Romania

Bulgaria

Poland

HARMONY Metropolitan Areas' Activities

Rotterdam

- Electric AV demonstration freight
- **HARMONY MS Freight**

Oxfordshire

- Electric AV demonstration Passenger & freight
- **Drones demonstration Freight**
- HARMONY MS Passenger

Athens

HARMONY MS - Freight

Turin

HARMONY MS - Passenger

Trikala

HARMONY MS - Passenger

GZM

HARMONY MS - Passenger

Trailblazing

AFFIVAL

Portugal Madrid



Germany

France

Austria



Aspiring

Follower





HARMONY methodology

PHASE 1 Regional spatial and transport planning Review of services and stakeholders engagement co-created HARMONY MS planning practices activities requirements & scenarios architecture scenarios PHASE 2 Demonstrations, data electric AVs and drones Accessing existing Passenger & data collection collection freight surveys demonstrations transport models PHASE 3 **Development of** Integrations of Simulators Prognostic & diagnostic **HARMONY** data warehouse simulators: the MS development tool development model suite software PHASE 4 Roadmaps & Training **Application &** MS applications & co-created Recommendations Commercializa course and business tion plan commercialization scenarios simulations for updating SUMPs conference cases





Main outcomes

- The HARMONY MS (software)
- Training material and activities for using the HARMONY MS
- Recommendations for SUMPs update (AVs & drones included)



Thank you for your kind attention!

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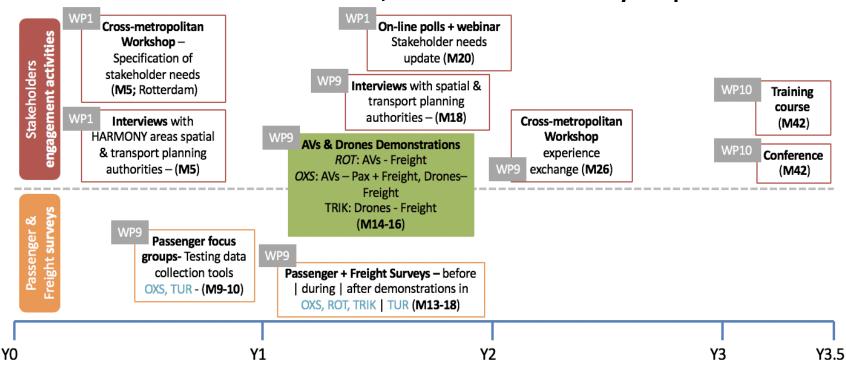








Stakeholder engagement activities, demonstrations, and surveys plan







HARMONY Model Suite

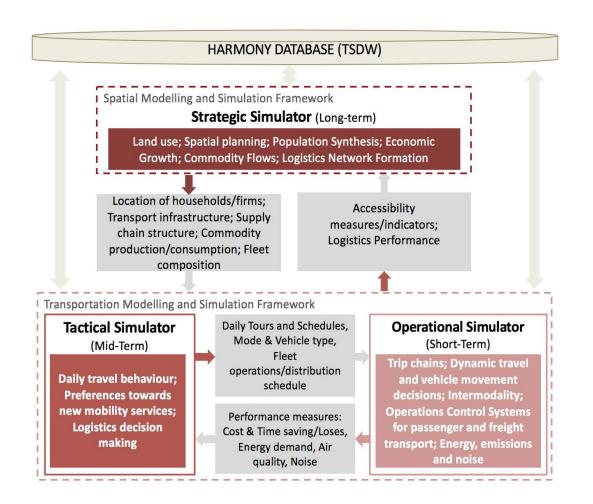
Spatial Low tax redesign areas				x industrial		Green belt zoning policies			Regional growth boundaries			
Large scale transport infrastructure					New residential areas (towns/ villages)				Regional industrial areas			
Mobility technologies & services					Electric AVs for passenger and freight					Mobility-as- a-Service		
Crowdshipping				(Heavy-lift) cargo drones				demand otransit				
Soft policies (Incl. scenarios) Parking location (park&ride)							terrupted Tra			nsit hubs		
			ns	ns Loading/unloadin g locations			Provision of real- time information					
a trace should give to depresent and the same of the s				Network (lanes and speed)				charging structure			ations Stops	
Drone landing Consoli pads centres			olidati				ign of transport ructure			Cycling highways		

Land-Use & Infrastructure	Environment	Regional Economy	Inclusive communities
Change in inter-	Noise levels (e.g. Persons	Change in population	Transport
/intraregional transport	highly annoyed)	density	affordability/poverty
infrastructure capacity			
Mode sharing infrastructure/	Carbon intensity (CO2,	% change in number of	Transit accessibility /
Public space	NOx emissions)	VAT registered business	desserts
Increase of risk mitigation	VMT per mode	Investments attracted in €	Measures of well-being
measures (resilience)			





HARMONY Model Suite







HARMONY conceptual architecture

