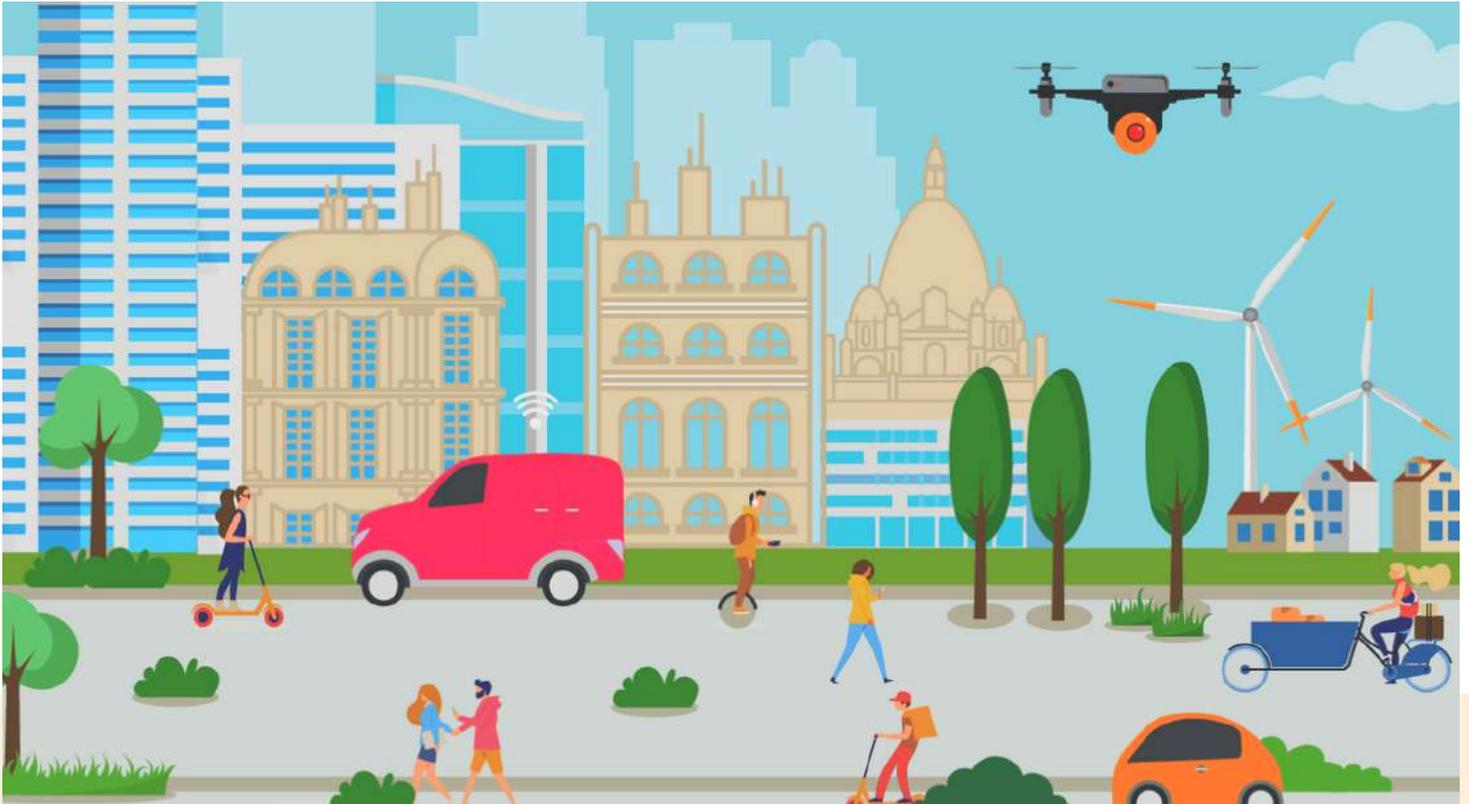




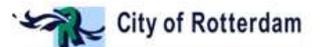
HARMONY

SPATIAL & TRANSPORT PLANNING FOR A NEW MOBILITY ERA



HARMONY DEMONSTRATED

HARMONY is starting to reap the first benefits towards a new a more sustainable mobility era. The technology is being tested in some metropolitan areas with positive outcomes. The change is already here!



THE DRONE DEMONSTRATION IN TRIKALA



HARMONY organised its first **demonstration** of **urban air mobility** services on 21st September 2021. It consisted of a **drone delivery service** for medicines from the city centre to the pharmacies in the surrounding rural areas, serving primarily the needs of vulnerable social groups with limited access to mobility services.

SETTING UP THE DRONE DEMONSTRATION

In 2020, the local HARMONY partner, e-Trikala, along with the scientific support of the University of the Aegean and University College London (UCL), started the setup of the demonstration with the local stakeholders and the community. The **Hellenic Aviation Authority** collaborated closely with HARMONY to approve some drone flight routes that would not endanger citizens. At the same time, HARMONY cooperated with the local **Association of Pharmacists** to address several challenges about the delivery of medicines. Through this co-creation process, HARMONY revised the demonstration concept: in urgent situations, when a pharmacy in a village runs out of a medicine, the drone would pick it up from the warehouse and deliver it to the pharmacy in the villages.

THE LAUNCH OF THE DRONES DEMONSTRATION

Several local and national authorities participated in the initial event launching the demonstration on the 21st September 2021, as part of the **European Mobility Week**. The event closed with the “first flight” of the drone, transferring medicines from Trikala to the pharmacy in Leptokaria village, covering a distance of 2.4 km (1.2 km each way).

NEXT STEPS

The demonstration will last for **two months** and will test **three routes**:

1. The Trikala – Leptokaria village that is 1.2 km (each way);
2. The Trikala – Megalo Kefalovriso that is 3.4 km (each way);
3. The Trikala Mikro Kefalovriso that is 5.7 km (each way).

The net weight that the drone will transfer is up to 1.5 kilos.

The data collected during this timeframe will inform **policy recommendations** and **SUMP guidelines** to enable such services that could improve health, social inclusion, environment protection, all while improving urban mobility and promoting entrepreneurship.

DRONE DELIVERIES: WHAT ARE YOUR PREFERENCES?

HARMONY launched a survey to explore the users' preferences on drone deliveries.

There are several **concepts for drone deliveries**. The coordinator University College London (UCL) is conducting a survey on the **social acceptance** of citizens as regards drone deliveries and their attributes. The uses cases presented in the survey came out through the HARMONY co-creation activities, especially in Upper Silesian-Zagłębie, Poland.

This game presents several **scenarios where drones deliver goods**. Drones may deliver goods within cities, to rural areas or villages. They may or may not be certified. They may deliver food, mail, organs, blood, or they may simply be used for surveillance. Drones may be noisy or quiet. They may deliver goods to you or to your neighbours. The survey is available in English, Polish, Greek, Spanish and Chinese.

HARMONY is demonstrating **electric automated vehicles and drones** in real-life conditions integrating them with the traditional transport modes to understand the requirements, reactions, barriers and collect real-world data. HARMONY works with the stakeholders from the six project

metropolitan areas and beyond to identify requirements, barriers and opportunities in terms of regional spatial and transport planning, multimodality, and integration of traditional and **new mobility services**. Public authorities, transport and freight operators, mobility-related companies, infrastructure, construction/real-estate and investment companies, and local and national public bodies for major development in the health and education sector are being involved.

The requirements collected through this and more surveys will feed the design of stakeholders' requirements for regional spatial and transport planning, the co-created scenarios to be simulated using the HARMONY Model Suite, and the first round of SUMP revision requirements.

Want to have your say? Visit our [website](#), take part in the survey and share it with your contacts in the public and private sector.

Don't miss the opportunity to shape the new mobility era!



**THERE ARE SEVERAL CONCEPTS
FOR DRONE DELIVERIES.
WHAT ARE YOUR PREFERENCES?**





HARMONY SECOND CROSS-METROPOLITAN WORKSHOP

HARMONY held the second cross-metropolitan workshop on 20th October 2021, within the CIVITAS Forum 2021 in Aachen, Germany.

The main goal of the workshop was to **exchange the experiences** of the six HARMONY metropolitan areas based on the initial results of **surveys, co-creation activities**, and simulations of different components of the **Model Suite**. Additionally, the workshop gave urban and regional authorities from the CIVITAS community the possibility to express their needs and challenges related to sustainable spatial and transport planning, multimodality and integration of **new mobility services and technologies**.

Parallel Session 1 “*Parking management, planning for e-charging infrastructure and innovative planning decision support*” gave the opportunity to exchange expertise, ideas and best practices among the Horizon H2020 projects Park4SUMP, Green Charge, and HARMONY. In fact, the application and evaluation of the impact of different spatial or transport planning scenarios will generate evidence-based recommendations

to update Sustainable Urban Mobility Plans (**SUMPs**) not only in the HARMONY cities and regions but also in other metropolitan areas on a European scale. Likewise, the challenges faced during the first demonstration with drones in Trikala, Greece and the upcoming demonstrations with drones and automated vehicles in Oxfordshire (UK) and Rotterdam (NL), along with the findings of simulations of the Model Suite, will inform roadmaps to promote and enable new forms of mobility for both passenger and freight throughout Europe.

The workshop will ultimately contribute to the identification of challenges and opportunities in terms of urban and regional transport planning, multimodality and integration of traditional and new mobility services at the European level.

Next cross-metropolitan workshop is envisaged in Autumn 2022.



**PUBLIC AUTHORITIES,
POLICYMAKERS,
AND TRANSPORT
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CURRENTLY IN NEED
OF THE TOOLS FOR
SUSTAINABLE
SPATIAL AND
TRANSPORT
PLANNING IN THE
NEW MOBILITY ERA**



A SOFTWARE-AGNOSTIC AGENT-BASED PLATFORM FOR MODELLING EMERGING MOBILITY SYSTEMS

University College London (UCL), Aimsun, and MobyX published a paper on the IEEE Xplore journal.

Due to the rapidly accelerated innovation cycle in transport and the emergence of new mobility concepts and technologies, public authorities, policymakers and transport planners are currently in need of the tools for sustainable spatial and transport planning in the new mobility era.

In this paper, a new modular, software-agnostic and activity-based spatial and transport planning platform is designed, i.e, the **HARMONY Model Suite**, that facilitates a novel integration of new and existing spatial and transport modelling tools. The paper focuses on describing the architecture of the platform and its passenger mobility simulation framework, which integrates -in an interoperable manner- activity-based models, mobility service management, and traffic simulation tools for evaluating new mobility system dynamics. The service management controllers for new mobility concepts are discussed in more detail with regards to their functionality and applicability.

The focus of this paper is to provide an initial description of the overall envisioned **architecture** of the new platform that facilitates agent-based passenger mobility simulations for emerging multimodal transport systems. While some of its components have been designed, ongoing research activities are being conducted towards its completion including extensive data collection for network model updates and demand estimation. The ultimate goal is to develop the proposed framework and apply it in Oxfordshire County for evaluating the impact of MaaS and autonomous Demand Responsive Transit services.

Visit our [website](#) to read the full paper!

SAVE THE DATE!

HARMONY organises dedicated sessions in international conferences and events as part of its dissemination activities. Join our next ones!



POLIS CONFERENCE 2021

The POLIS Annual Conference provides an opportunity for cities and regions to showcase their transport achievements to a large audience of mobility experts, practitioners and decision makers.

HARMONY will participate in two sessions:

- Urban air mobility: A co-creation experience.
- A holistic impact evaluation framework for autonomous vehicles and drone demonstrations: The case study of Oxfordshire.

TRANSPORT RESEARCH BOARD 2022

The Transportation Research Board (TRB) covers all transportation modes, with sessions and workshops addressing topics of interest to policymakers, administrators, practitioners, academic researchers, and representatives of government, industry, and academic institutions. The spotlight theme for the 2022 meeting is: *Innovating an Equitable, Resilient, Sustainable, and Safe Transportation System*.

HARMONY will present the paper "Covid-19 Impacts on Transport Policy Priorities: Barriers and Opportunities for Sustainable Urban Mobility Planning".



FACTSHEET

Duration: 1 June 2019 - 30 November 2022

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