

Objectives of the measure

- **At measure level:**
 - Improve the air quality inside the buses through air purifiers.
 - Improve the feeling of safety inside the buses.
 - Purify the air inside the buses in an energy-efficient way.
 - Attract former public transport users who had stopped using it due to the Covid pandemic.
- **Contributing to city level objectives of:**
 - Reduce the use of private transportation.

Description of the measure

- **Situation before:**

Due to the pandemic, many regular users of PT have stopped using it for fear of possible infection. This, together with the non-compulsory use of masks inside the PT, has led this part of the population to return to using private transport as their usual means of transportation. Although the pandemic has a very low incidence rate at the moment, what has not changed so much is the importance that users give more and more to air quality in closed environments, especially crowded ones.

- **General description:**

The aim of this measure is to increase the number of PT users by improving the perceived safety inside buses. The means for achieving this goal is through the installation of air-purifying technology in combination with the vehicle's own HVAC system. Additionally, the air quality level will be monitored and displayed to the user through various means. The presentation of this information should be simple and clear for all the PT users (with special focus on vulnerable users), emphasizing the improvement of air quality and, consequently, the increase in safety. The purifying system must be energy-efficient, sustainable and easily replicable in public transportation in general.

- **Measure outputs:**

This measure will deliver:

- Air-purifying system deployed in buses.
- Information system (APP, display,...) to inform PT users in real time about the air quality inside the bus.

- **Supporting activities:**

The population will be informed through campaigns about the implementation of this new technology in buses and, consequently, the improvement in air quality inside them. This information will be shared through various channels, such as the U-Tools, the social media accounts of Valencia/EMT, and so on.

- **Interaction with other CITY measures: UPPER and non-UPPER measures**

This measure is not directly linked to other measures implemented in Valencia.

Target groups and/or geographical impact areas

- **Target groups:** PT users and potential PT users, especially those who have stopped using PT due to the pandemic.
- **Geographic implementation area:** This measure will be implemented in the buses circulating around the entire city.

Stakeholders

The following stakeholders will be required for the implementation of this measure.

- **ETRA:** Technology providers. Installation of air purifiers in the buses, monitoring of air quality, and display of data on screens, mobile devices, etc.
- **EMT:** Decision maker. PTO (bus owner).

U-tools support

The implementation of this measure will be actively supported by two IT tools from the UPPER toolkit:

- **U-TWIN:** U-TWIN can collect real time information of the air quality inside the bus and then, be shared with the PT users (to improve the feeling of safety) and also to the PTOs and bus drivers (to initiate corrective actions in case the air quality is poor).
- **U-GOV** to support the validation of the measure. Acceptance of the measure and its promotion.

Link to other UPPER measures

There are no similar UPPER measures implemented in other cities.

Process of implementation of the measure

Stages	Description	Intermediate milestones
Design	Choice of the adequate model of air purifier and air sensor and study how they will be installed.	<ul style="list-style-type: none"> - Study of available room in buses. - Connection between purifiers and sensors. - Data collection methods.
Preparation	Assembly of the system and create the data-results showing methods.	<ul style="list-style-type: none"> - Test the system. - Fix possible failures.
Implementation	Installation of these systems in buses.	<ul style="list-style-type: none"> - Install the system - Implementation of corrective strategies - Monitoring of corrective strategies

Sub-measures and preliminary indicators

Measure	Sub-measure (If applicable)	Impact indicators
VAL_09		<ul style="list-style-type: none"> - Satisfaction with public transport indicator in terms of "safety"