

Objectives of the measure

- Improve the quality of bus service
- Better understand the mobility patterns of bus passengers
- Enhance user satisfaction and passengers' comfort during travel

Description of the measure

This measure aims to carry out a development that enables passenger counting within a vehicle, as well as the possibility of locating the boarding and disembarking stops of each passenger to calculate the Origin/Destination matrices of the transport. To that aim, this measure will implement an advanced camera-based passenger counting system with artificial intelligence on buses. The output of this measure will allow:

- Providing real-time information on bus occupancy to EMT (so as to adapt the offer, if needed) and to third applications (to improve passengers' experience during travel).
- Identify passenger entry and exit patterns to feed/improve the calculation of detailed origin-destination matrices.

Measure outputs:

This measure will deliver:

- An advanced camera-based passenger counting system with artificial intelligence

Related UPPER tools:

None

Steps to ready-to-demo measure

Steps	Description	Involved partners/externals	City contact person	Category of action	Deadline	Monitoring indicator	Comments
1	Definition of technical requirements and architecture	ETRA	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Technical	November 2023	List of requirements and architecture of the system defined	Done
2	Revision of EMT of ETRA's proposal	ETRA, EMT	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Technical, social	January 2024	Proposal validation	Done
3	Software development for AI-based passenger counting	ETRA	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Software	June 2024	Software developed	
4	Software validation	ETRA	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Software	September 2024	Software tested and validated	
5	Purchase of equipment	ETRA	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Infrastructure	December 2024	Equipment purchased	
6	Permits request to install the equipment on the buses	EMT	Raquel Alario (ETRA I+D) Ralario.etraid@grupoetra.com	Legal	December 2024	Permits given	
LAUNCH OF THE DEMO (January 2025)							

