29-30 October 2026 | Filoxenia Conference Centre
Nicosia, Cyprus

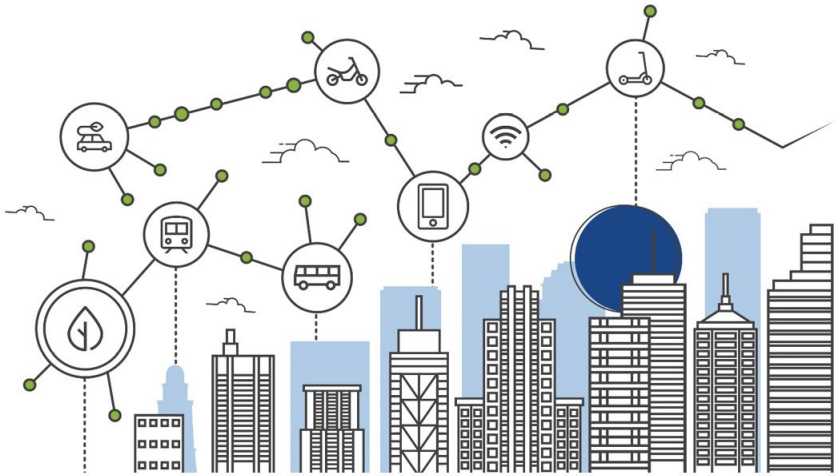
AutoTRUST

AutoTRUST: Autonomous self-adaptive services for TRansformational personalized inclUsivenesS and resilience in mobiliTy

8th Conference
Sustainable Mobility and Intelligent Transport Systems

Dr. Leonidas Katelaris
Research Associate

KIOS Research and Innovation Center of Excellence
University of Cyprus



The Conference is implemented within the framework of the Cohesion Policy Programme "THALIA 2021–2027", Co-financed by the European Union.

Co-funded by the European Union

REPUBLIC OF CYPRUS

DEPARTMENT OF PUBLIC WORKS

AutoTRUST at a Glance

AI-enabled, self-adaptive vehicle technologies designed around passenger accessibility, comfort, safety and trust

AutoTRUST

Horizon Europe

May 2024 - April 2027

Grant Agreement **No 101148123**

Grant Amount : **€3 999 850**

4 pilots

10 countries

14 partners



#1 Padua Italy



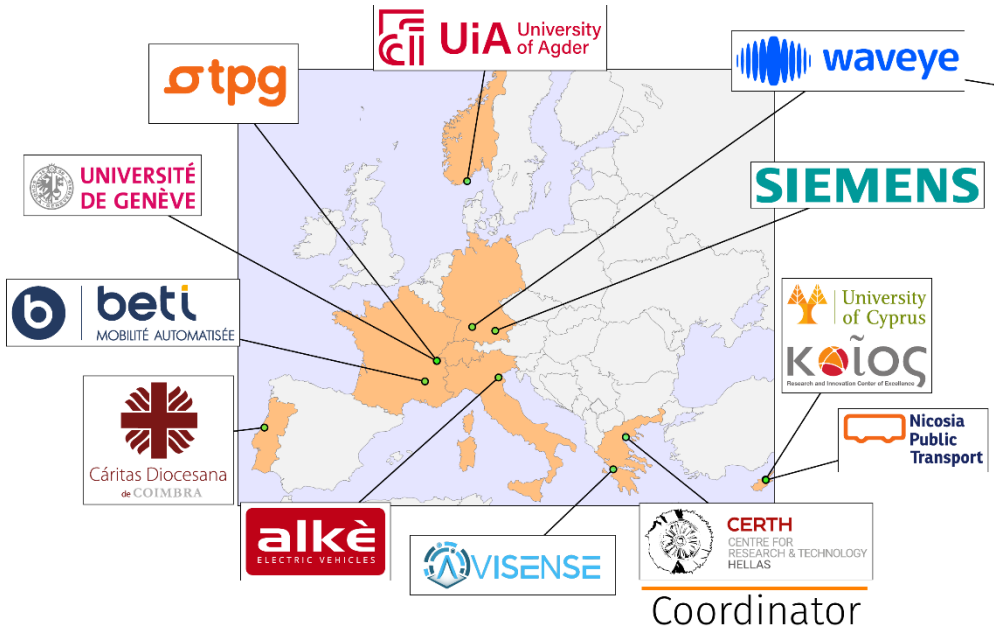
#2 Nicosia Cyprus



#3 Geneva Switzerland



#4 Crest France



KIOS/UCY contribution as the bridge

AutoTRUST
Horizon Europe

Integrate

- WP Leader - Framework integration, validation and evaluation

Assure

- Integration, security and safety
- Project quality and risk management

KIOS
Research and Innovation Center of Excellence
University of Cyprus

Develop & Apply

- Cyprus pilot technologies
- In-cabin understanding and environmental monitoring

AutoTRUST: Putting Users First

Understand User Needs

ACCESS Accessible and inclusive vehicle interaction

TRUST Safety, comfort and confidence in the journey

Respond to User Needs

ADAPT AI-enabled understanding and vehicle adaptation

ASSIST Personalised information and passenger support

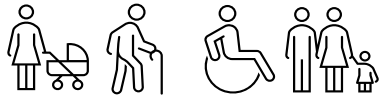
Sense the passenger and the travelling environment → understand the situation → adapt and assist

Understand User Needs

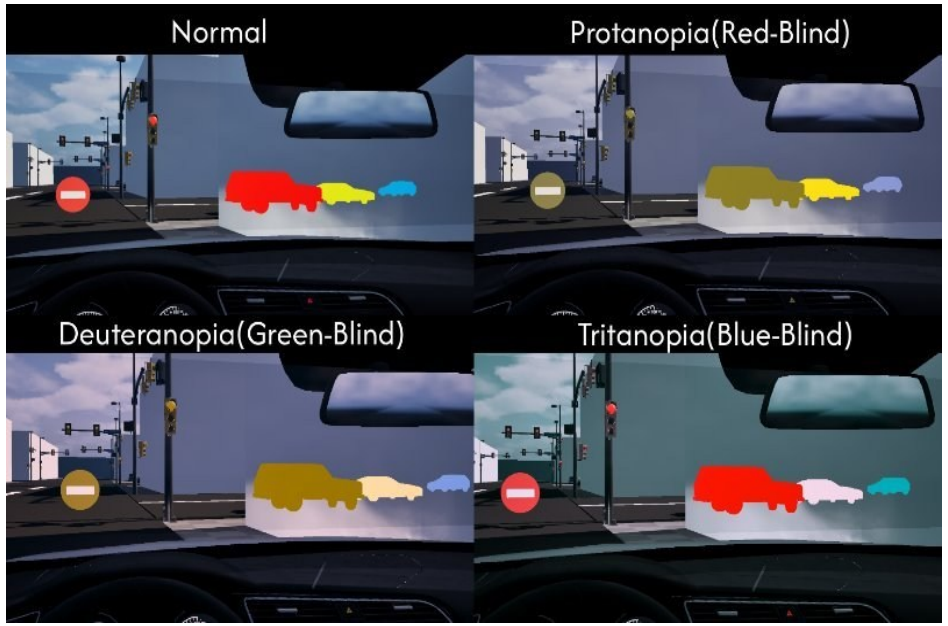
AutoTRUST

ACCESS

Accessible and inclusive vehicle interaction



Testing interface visibility across different colour-vision conditions



TRUST

Safety, comfort and confidence in the journey

Virtual ergonomic assessment of vehicle controls, seating and interior layouts





Understand user needs and journey conditions

Respond to User Needs

ADAPT

AI-enabled understanding and vehicle adaptation

Understanding the situation and adapting the vehicle response



Interpreting passenger and environmental data to support adaptive responses

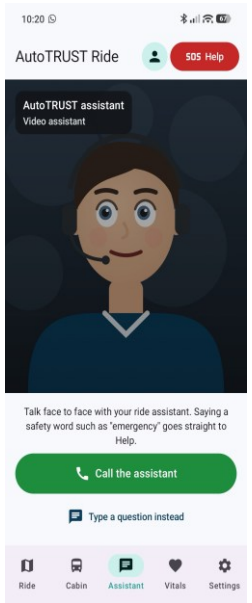


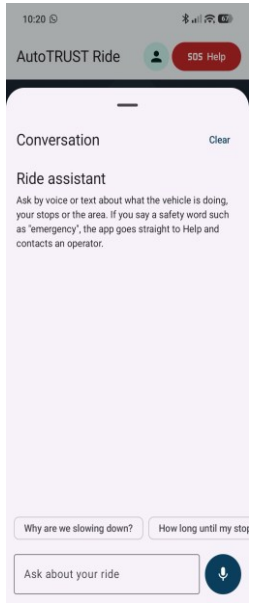


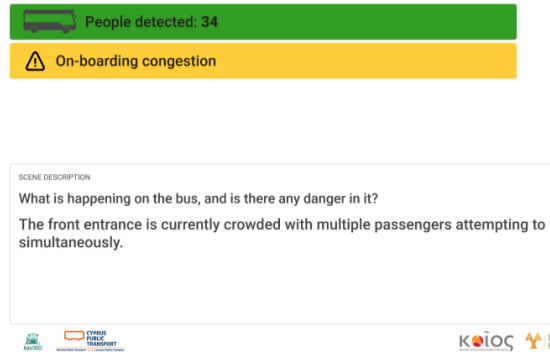
ASSIST

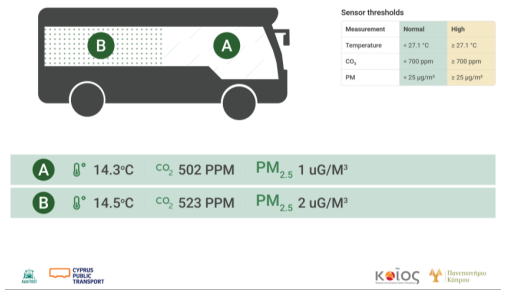
Personalised information and passenger support

Delivering personalised information and passenger assistance









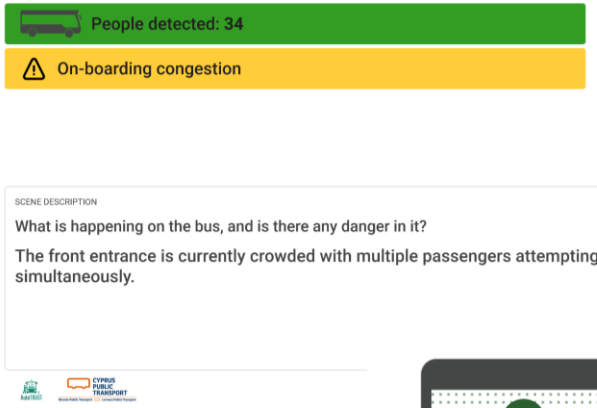
Adapt and assist

DRT and cabin understanding

DRT Bus Service



Situational awareness for passenger assistance and operator support







Sensor thresholds

Measurement	Normal	High
Temperature	< 27.1 °C	≥ 27.1 °C
CO_2	< 700 ppm	≥ 700 ppm
PM	< 25 µg/m³	≥ 25 µg/m³

A	14.3°C	CO_2 502 PPM	$PM_{2.5}$ 1 uG/M³
B	14.5°C	CO_2 523 PPM	$PM_{2.5}$ 2 uG/M³

In-cabin video sensors

- People and object recognition
- Textual scene descriptions
- Safety-event recognition

Environmental sensors

- Environmental monitoring
- Air quality and thermal comfort
- Temperature, PM2.5 and CO_2

INTENDED VALUE

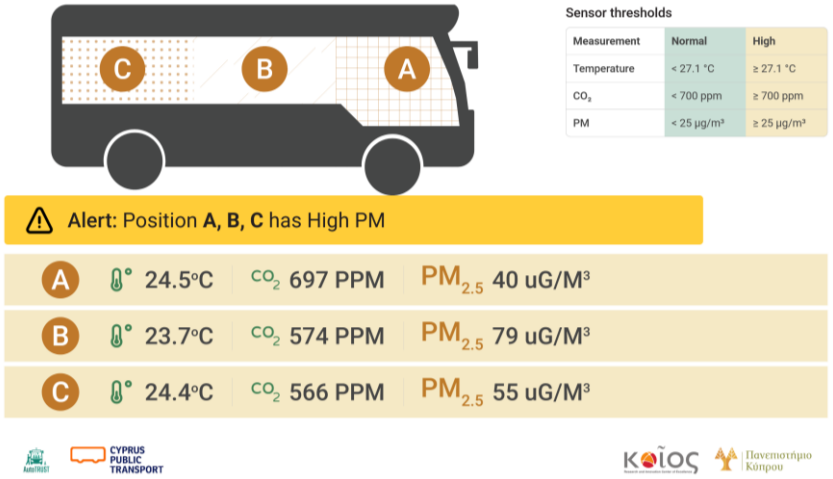
Situational awareness for passenger assistance and operator support

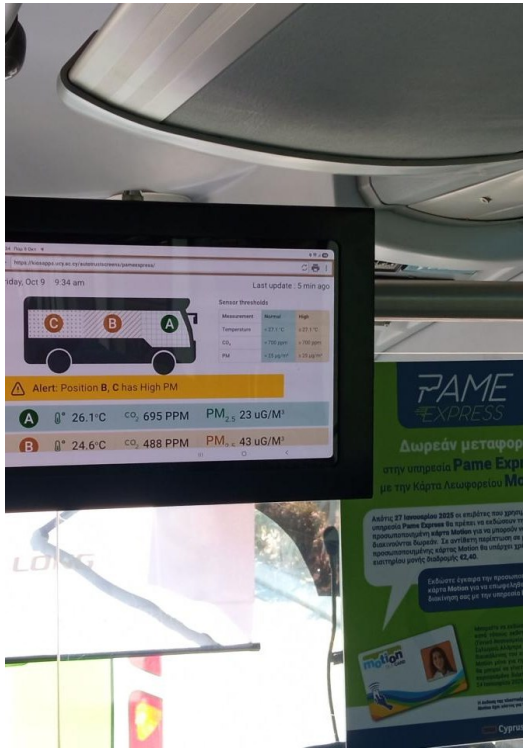
PameExpress and environmental monitoring

PameExpress Bus Service



Evidence to assess cabin conditions and support a more comfortable journey





Environmental sensors

- Environmental monitoring
- Air quality and thermal comfort
- Temperature, PM2.5 and CO_2





INTENDED VALUE

Evidence to assess cabin conditions and support a more comfortable journey

Towards More Trustworthy Mobility

User first

- Automation should support diverse passenger needs

Integrated intelligence

- Sensing becomes valuable when translated into understanding and useful services

Evidence from operation

- Real public-transport data support development and evaluation



Trustworthy mobility starts with understanding passengers and their travelling environment

autotrust-he.eu

Organisers

Ministry of Transport, Communications and Works

DEPARTMENT OF PUBLIC WORKS

SUSTAINABLE MOBILITY

Co-Organisers

University of Cyprus

KOÏOS Research and Innovation Center of Excellence

Σύλλογος Συγκοινωνιολόγων Κύπρου

Supporters

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Thank you for your attention!

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