

Community Building Event

17th April 2018 UNIMED - Palazzo Baleani Rome, Italy

Session 1: Low Carbon Transport Modes / Services

Integrated Modeling Tool of REMEDIO

Technical Partners: University of Seville, Aristotle University of Thessaloniki, Instituto Superior Técnico, ARPA Veneto - Regional Agency for Environment Protection in Veneto Region



















REMEDIO Main Actions

Soft actions on Low Carbon Mobility
Solutions

SUMPs

Small scale investments

Integrated Modelling Tool

Energy
transport
efficiency,
noise impact,
air pollutant
emissions &
carbon
footprint, air
dispersion &
freight
streamlining
cost & health
effects

Present and
Future
Scenarios

Horizontal Condominium

Participatory
Governance

Local
agreements
Protocols
MoUs



















Integrated Modelling Tool (IMT)

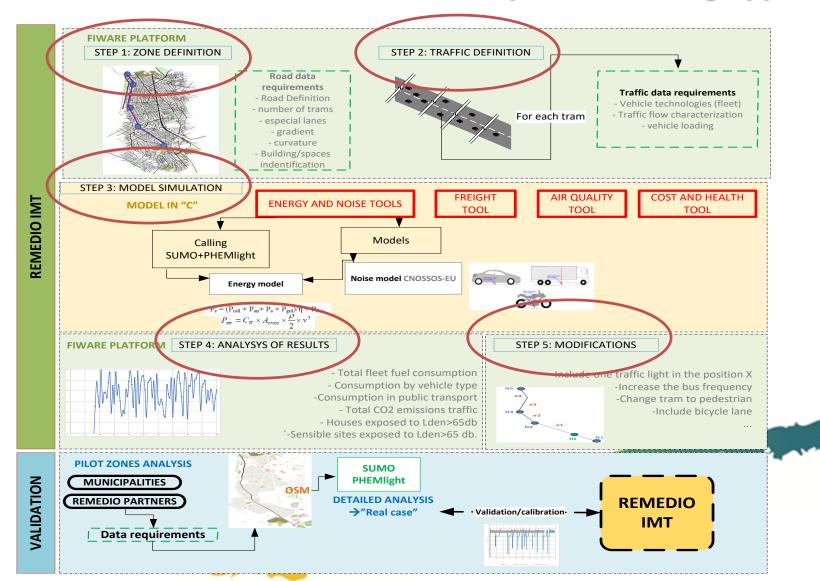
Customized modelling tool to evaluate the transport, energy and environmental-related performance of low-carbon actions to be implemented.

- At local street level
- Includes models for tailpipe emissions, carbon footprint, dispersion, energy, noise, freight, cost and health
- Validated in selected roads participant regions (Treviso) Charles Contract of the Contra
- Structure based on FIWARE platform

THE COMPLETE PICTURE fuels What is the • SCR average local DPF driving cycles hvbrid technology · GPS emission? downsizina cruise control dynamometer settings weight Vehicle technology Driving and usage short trips air conditioning trip advice speed limits Congestion Road type lane widths traffic lights intersections road capacity road layout sianallina travel times



Conceptual Modelling Approach





IMT Modules

Traffic simulation

SUMO – Simulation of Urban Mobility

Freight module

Energy module

Pollutant Emissions module

Carbon Footprint module



VADIS model

Air Dispersion module



Wind Flow Module FLOW

3D wind fields

Dispersion Module
DISPER

3D air pollutant concentrations



IMT Modules



Noise module

CNOSSOS-EU: Common Noise Assessment Methods in Europe

VADIS

Health module

Generalized Additive Models (GAMs): Statistical models to relate air pollution, temperature, barometric pressure to health events (deaths, hospitalization)

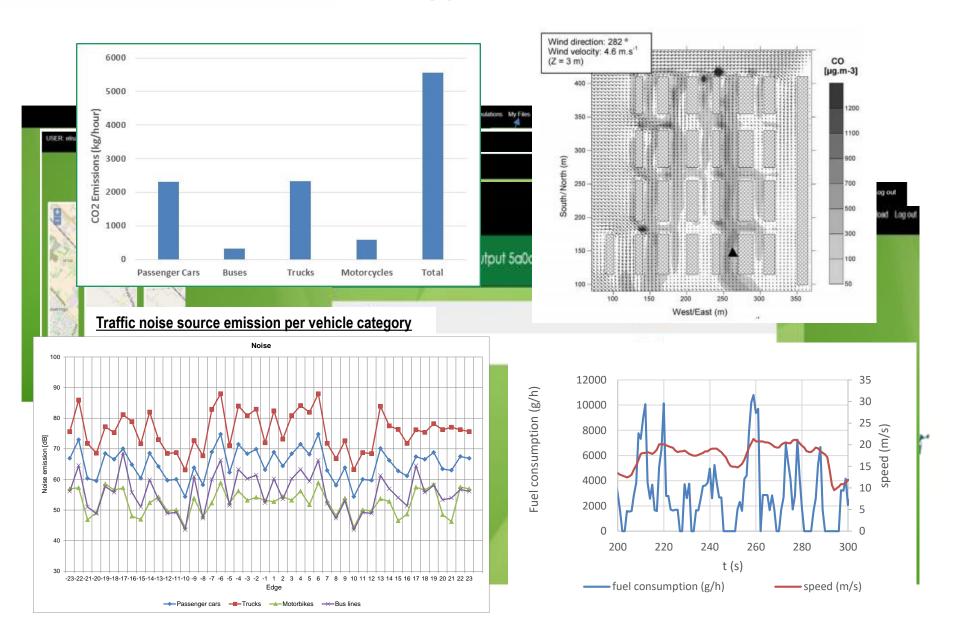
Cost module



Under Development

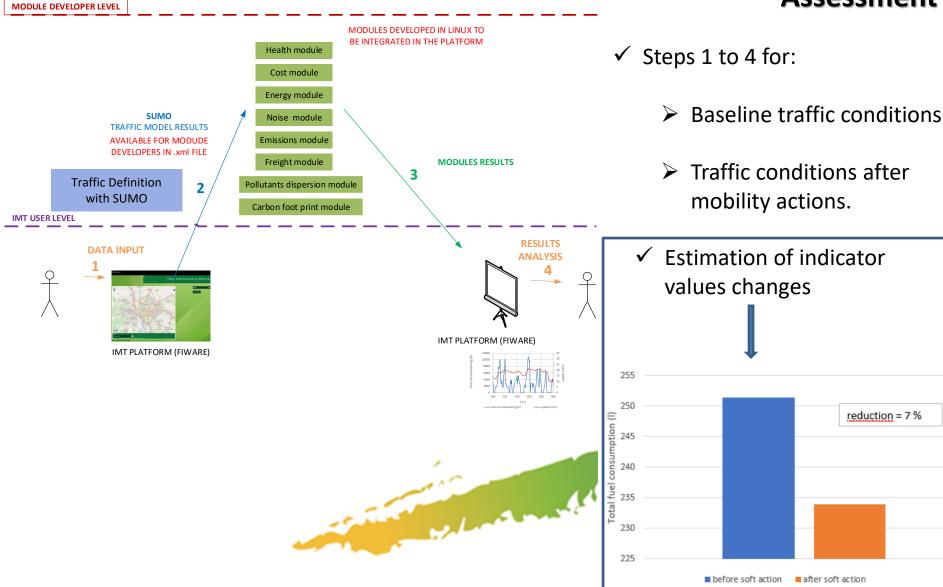


Application of IMT- Results Presentation





Application of IMT – Mobility Scenarios Building and Assessment





By all REMEDIO partners















ARPA Veneto

Instituto Superior Tecnico

Municipality of Loures

City of Split

Metropolitan Development Agency of Thessaloniki

S.A

Municipality of Treviso

Aristotle
University
of Thessaloniki

University of Seville

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