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life2m
Long Life to Micromobility

The LIFE2M project

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Goals of the Life2M project

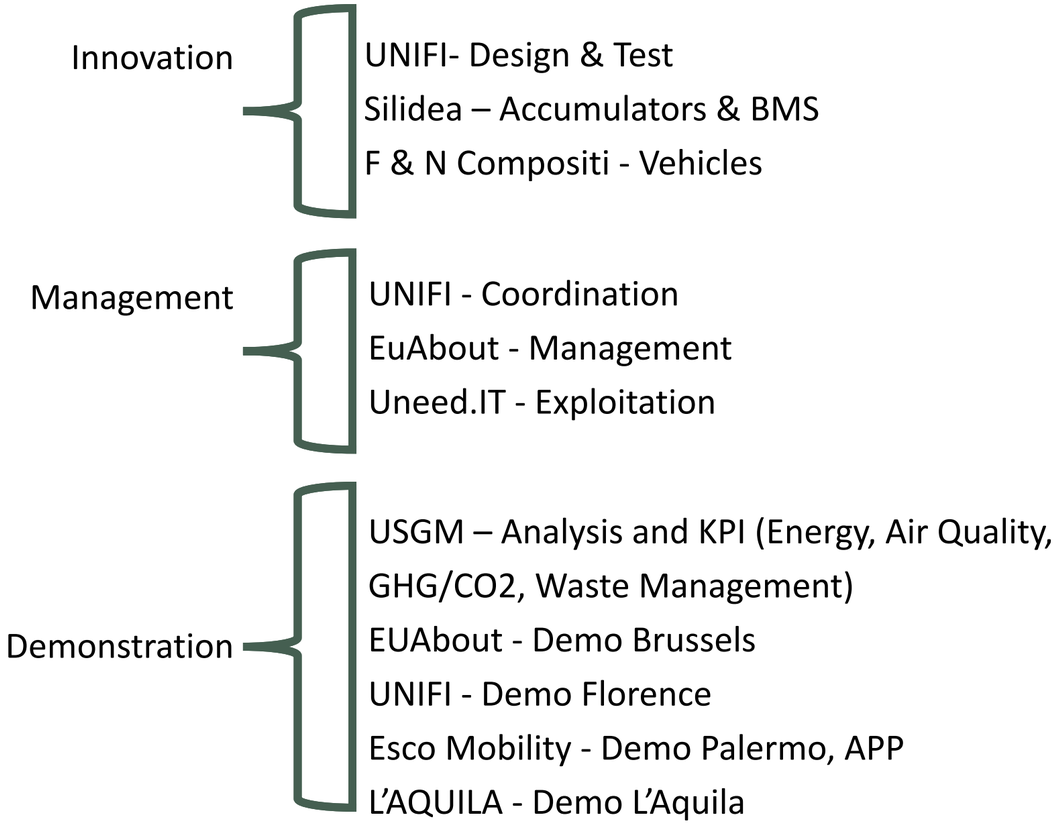
Spreading the use of hybrid supercapacitors in:

- **Micro-vehicles** for sharing
- **Micro-vehicles** for personal use
- **Charging stations** for **fast** and **ultrafast** recharges

Demonstration in cities where accumulators are installed in:

- Charging stations
- E-kick scooters
- E-bikes and refitted muscular bikes
- Cargo bikes

Structure



WP	Title
WP1	Management and coordination
WP2	Monitoring and evaluation
WP3	Demo-design and development
WP4	Dissemination and communication
WP5	Demo implementation
WP6	Sustainability, replication, and exploitation of project results

WP2: Monitoring and Evaluation

Measure, calculate and estimate the environmental benefits achieved by the use of LIFE2M innovations (in Brussels, Florence, L'Aquila, Palermo)

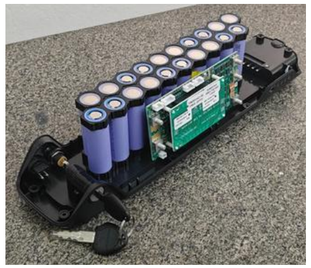
					BASELINE	End Of Project	3 years beyond End Of Project	5 years beyond End Of Project	Reduction between baseline and 5 years beyond End Of Project (%)
					Total sharign fleet=9600 microvehicles	800 microvehicles retrofitted	4800 microvehicles retrofitted plus 1% of private car travels replaced	9600 microvehicles retrofitted plus 2% of private car travels replaced	
KPI1	Wp2	Primary energy used(GWh/year)			35.62	35.60	18.99	2.36	93.39%
KPI2	Wp2	Air quality (emissions in ton/year)							
			Nox		4.63	4.62	2.56	0.50	89.27%
			COVNM		8.04	8.04	4.13	0.21	97.35%
			CO		61.76	61.76	30.99	0.22	99.64%
			PM10		0.06	0.06	0.03	0.01	88.66%
KPI3	Wp2	GHG - CO2 (emissions in ton/year)			6896.67	6890.80	3937.69	978.70	85.81%
KPI4	Wp2	Waste management (ton)							
			Copper		6.53	5.98	3.18	0.00	100.00%
			Graphite		8.45	7.74	4.11	0.00	100.00%
			Lithium		0.77	0.70	0.37	0.00	100.00%
			Cobalt		1.15	1.06	0.56	0.00	100.00%
			Nichel		5.76	5.28	2.80	0.00	100.00%
			Aluminium		3.25	2.98	1.58	0.00	100.00%
			Plastics		1.15	1.06	0.56	0.00	100.00%

WP3: Demo Design and Development

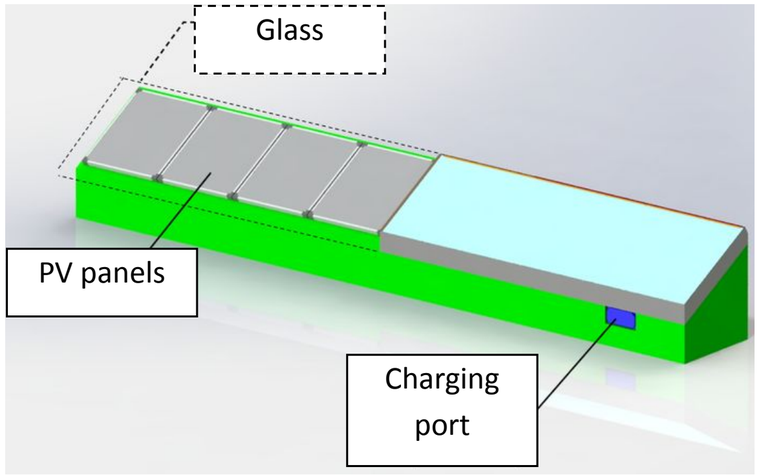
Design of supercapacitor-based

Accumulators






Charging stations (arbor and kerb)



WP3: Demo Design and Development

E-kick scooters

E-bikes

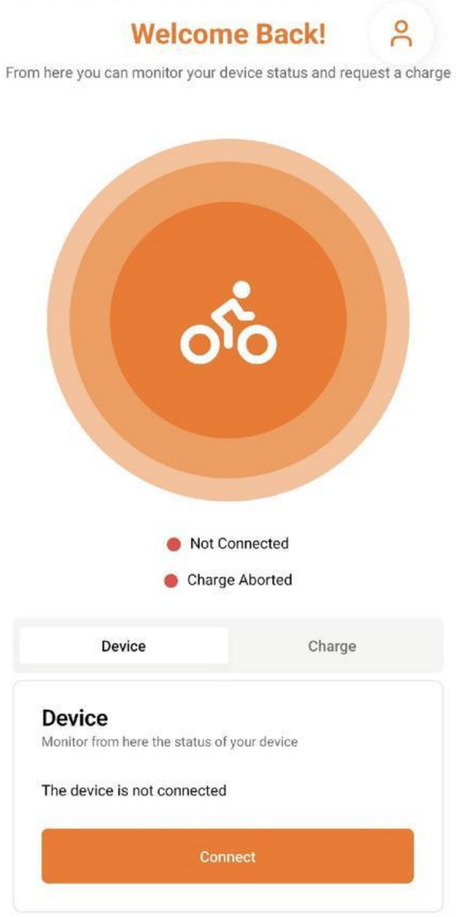
WP3: Demo Design and Development

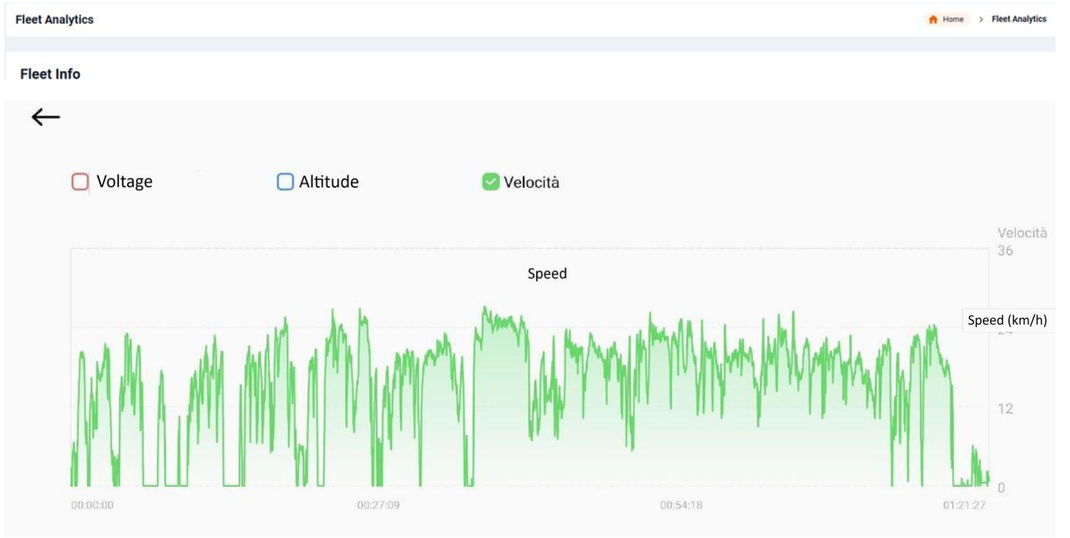
Refitted muscular bikes

Cargo bikes

WP3: Demo Design and Development

Life2M **app for use monitoring**





WP5: Demo Implementation

Demonstration activities already started with:

- One arbor charging station at each site
- First 10 City Bike recovered/recycled in Florence
- First 10 refitted bikes in L’Aquila

One kerb-charging station at each site soon

Other vehicles almost ready, 260 in total with 50 kick scooters for Brussels (circulation limitations in Italy)

Supercapacitors for ultra-fast charge under investigation for inclusion on cargo and refitted bikes

Monitoring of key usage parameters by app

WP5: Pilot Activities Started in Brussels and Florence

Key achievements:

- LIFE2M micromobility vehicles are now being used by real users in operational environments.
- Pilot activities started in: Brussels (BE) and Florence (IT)
- E-scooters equipped with LIFE2M technologies are available for daily mobility trips.
- Users are actively testing the vehicles under real-world conditions.
- Usage data are being collected through the LIFE2M monitoring platform and mobile application.

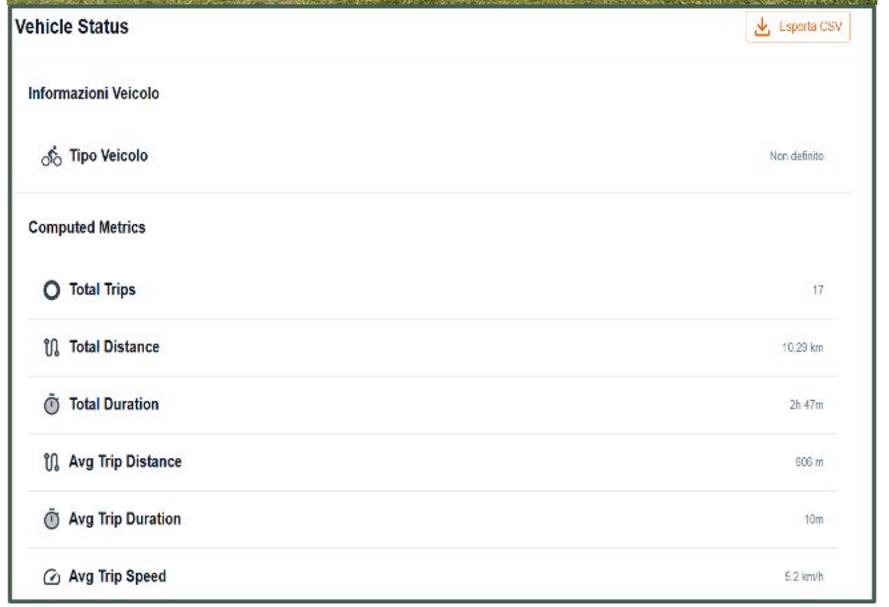
WP5: User Engagement and First Feedback

Current observations:

- Users are regularly using the LIFE2M vehicles during pilot activities.
- Real-world trips are being monitored through the project platform.
- Feedback is being gathered to support further optimization of:
- Vehicle design
- User experience
- Charging solutions
- Operational management

Data collected will contribute to:

- WP2 Monitoring & Evaluation
- Environmental impact assessment
- Replication and exploitation activities

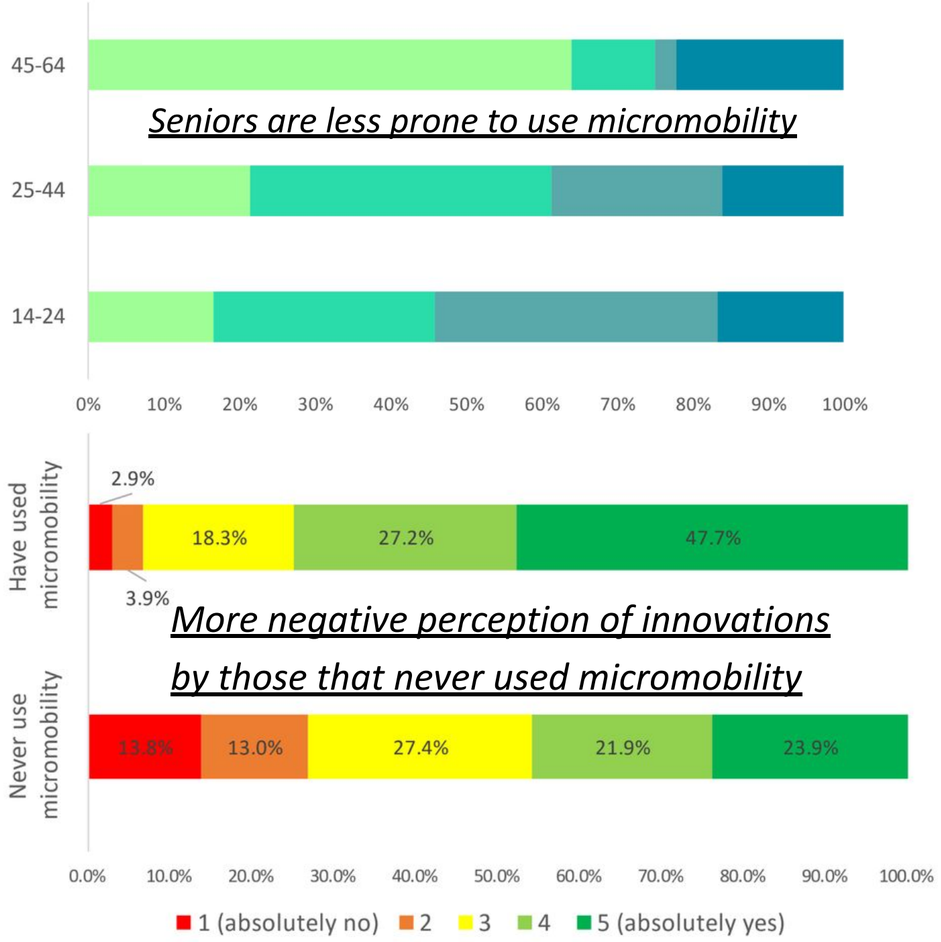


WP6: Sustainability, replication, and exploitation of project results

Questionnaires to determine relevance for the market (respondents in Florence n=124, Palermo n=192, L'Aquila n=735)

Identified issues from users' perspective:

- **Safety**: lack of suitable micromobility infrastructure
- **Comfort**: micromobility is perceived uncomfortable, also from the charging infrastructure standpoint
- **Cost**: high initial costs of private vehicles and unlocking/per-minute costs of shared vehicles
- **Accessibility**: in L'Aquila is particularly critical



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Thank you for your attention

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