Global & Regional Experiences on Electrification of Public Transport

UITP’s mission to advance innovation

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THE INTERNATIONAL ASSOCIATION OF PUBLIC TRANSPORT
Research and innovation projects for Bus electrification

- Assured
- Clean Bus Europe Platform
- Solution+
- TUMI
Boosting large-scale uptake of electric vehicles in cities with key innovations

Interoperable high power fast charging solutions, tools for smart charging & energy storage, grid integration and stability

€ 18.65 million 5 Year EU funded
finalized March 2022
ASSURED innovations

1. Standardisation & interoperability of high-power fast charging (up to 600 kW)
2. Smart charging strategies and energy storage systems
3. IT intelligence for optimised fleet operation & its integration into the data-driven system

Source: Stadtwerke Osnabrück
1. Enables the testing of interoperability and conformance by operators

2. Describes standards & definitions used in ASSURED
   - Mechanical interface
   - Electrical interface
   - Communication
   - Deviations & additional specifications

ASSURED Clean Bus Report

Inspiring cities to be part of the clean bus movement

125+ CITIES, OEMs & SUPPLIERS

The Clean Bus Europe Platform is financed by the European Union.
A PLATFORM AS ENABLER OF LARGE SCALE DEPLOYMENT OF CLEAN Fleets

- **Beyond technologies of electrification** (include fuel cells & hydrogen, Natural gas)
- **Include all stakeholders** (including Funding & Financial institutions, energy providers...)
- **Concrete work plan** to support cities and operators to make the transition to clean fleets
- **Twining European advanced cities** ("Hosts") with **learning cities** ("Targets")
  - Follower cities can sign up to participate to some activities proposed by the platform
- **Timeframe** July 2019-June 2023
CLEAN BUS EUROP PLATFORM ACTIVITIES, SERVICES, PRODUCTS

Webinars
Study Tours
Marketplaces Industry & Financing
Technical support
Social Dialogue
Market evolution
Targeted publications & materials

Continuous learning & exchange process
MARKETPLACES

Industry

• Supported by bus OEMs, charging and refuelling infra suppliers, energy operators, etc.

Financing

• Supported by financing and funding institutions
• Overview Recovery Plans, funding tools, mechanisms.
UPCOMING: STUDY TOUR MADRID

October 2022
Hosted by EMT Madrid
  • Classroom seminar + Technical visit
More info coming soon!
CLEAN BUS TOOLKIT

www.cleanbusplatform.eu

Subscribe to the newsletter & stay up to date!

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Integrated Urban Electric Mobility Solutions in the Context of the Paris Agreement, the Sustainable Development Goals and the New Urban Agenda

InCo flagship project on “Urban mobility and sustainable electrification in large urban areas in developing and emerging economies”
Overall objective of SOLUTIONSplus

Accelerate transformational change towards sustainable urban mobility through innovative and integrated electric mobility solutions.

**VEHICLES**
- Development, remodelling, retrofitting of 2- and 3-wheelers
- Business models and roll-out concepts for E-buses, E-taxis & shared fleets

**OPERATIONS**
- Innovative charging solutions
- Mobility as a Service application and business models

**INTEGRATION**
- Innovative integration solutions
- Business models for innovative E-mobility services

**SUSTAINABLE URBAN MOBILITY SOLUTIONS**

**BUSINESS OPPORTUNITIES, INDUSTRY PARTNERSHIPS, ALLIANCES OF LOCAL AND NATIONAL GOVERNMENTS, BANKABLE PROJECTS**
SOLUTIONSplus concept: five-pillar conceptual approach

A range of tools, methods and guides and adapts them for a comprehensive toolbox on e-mobility solutions across all modes.

Exchange among city officials, transport operators and entrepreneurs to share their experiences on specific technologies, policy and infrastructure measures, implementation processes, operations, business and financing solutions.

Initiate partnerships among local and European companies and facilitates the joint development of business models, building on sound assessments of economic, social and environmental costs and benefits.

Support cities in implementing innovative, sustainable e-mobility solutions, which include technical feasibility, cost-benefit assessments for up-scaling institutional and governance analysis, organisational aspects, stakeholder dialogue, and development of finance options.

Help integrate the innovations initiated and tested by the project into local, national and global policy, finance and business decision making processes.
## Business models and associated tools

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<th>VEHICLES</th>
<th>OPERATION</th>
<th>INTEGRATION</th>
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<td>Innovative charging solutions of high-capacity bus-systems</td>
<td>Mobility as a Service (MaaS) solutions</td>
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<td>Electric buses, e-BRT, mini-buses, taxis</td>
<td>Use of existing systems and grids for the charging of electric vehicles</td>
<td>Eco-routing</td>
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<td>Retro-fitting Electric (mini)-buses</td>
<td>Seamless Charging</td>
<td>Fleet Bundling</td>
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<td>(Smart) charging and charging services</td>
<td>Inner city &amp; last Mile E-delivery shared services</td>
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Capacity Building and Peer-to-Peer Exchange

- Practice sessions
- Moderated E-learning courses
- Webinars
- Materials and factsheets
- Peer-to-peer exchange (Study tours, secondment, staff exchanges)
- Global, Regional trainings and events
- Database of expert trainers
Start-up Incubator

A virtual space to learn, connect and grow

Business support and training to local innovators

On-demand services and trainings

Partnership development

Connect
- Assessment
- Networking
- Match-making

Innovate
- Business
- Marketing
- Capacity building

Grow
- Pitch
- Opportunities
- Replication & scaling
Cities learning from cities

The TUMI E-Bus Mission supports **20 deep dive cities** in their transition towards electric bus deployment.

National and regional core groups help to upscale efforts to **50+ mentee cities** by the end of 2022.

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**1. Global and city specific coalition building**

A. Establish a global community of practice of private & public sector partners

B. Establish twenty city-specific sub-coalitions to support their respective cities advance towards mass adoption of e-buses

**2. Roadmaps and technical assistance for the deep dive cities**

C. Develop and implement strategic e-bus acceleration work plans for the deep dive cities including tailored technical assistance

D. 20 deep dive cities define e-bus targets that are timebound, ambitious and achievable

**3. Upscaling and dissemination in the TUMI E-Bus Mission Cities Network**

E. Engage 20 deep dive cities to inspire over 100 cities in the TUMI E-Bus Mission Cities Network towards e-bus deployment

F. Create and disseminate training materials and workshops for cities on various aspects of e-bus planning, procurement, and operation
Deep-dive cities

- **20 deep-dive cities + 55 mentee cities worldwide**: 20 South America, 9 India, 7 Indonesia, 9 Mexico, 10 Africa.
- High level of commitment from the City administration
- Assessment of the current state of play: regulatory framework, deployment plans, bus network, and facilities
- Specific guidance and assistance: Training on operational aspects and requirements of e-bus operations
- Roadmap for scaling up, procuring, and operating e-buses in the local context
UITP focus areas

- **Coalition building**
  Build on UITP’s network to foster the creation of cities and groups coalitions, including private, financial and social partners.

- **Mission roadmaps**
  Provide technical assistance to develop an e-bus deployment plan for Nairobi.

- **Preparation for upscaling**
  Support the sharing of knowledge and capacity building for and among deep-dive cities and an extended group of mentee cities.
Market dialogue (online)

*Deep-dive cities + mentee cities*

**Bus sector market dialogue,** to bring cities, transport authorities, and operators together with relevant private sector stakeholders.

**Financial market dialogue,** to bring cities, transport authorities, and operators together with relevant financial stakeholders.

- Africa
- India + Indonesia
- Latin America

September 2022
Knowledge sharing and capacity building

20 deep-dive cities + 55 mentee cities worldwide: 20 South America, 9 India, 7 Indonesia, 9 Mexico, 10 Africa.

Activities:

- **Kick-off webinar session focusing on basics of e-bus as a solution to urban transport**
  - 3 June 2022 for India and Indonesia (in EN)
  - 14 June 2022 for Latin America (in ES + PT)

- **Training course on electric buses**: procurement, commissioning, and operations (July / August 2022)

- **Training course on diversity and inclusion** in electric bus operations (July 2022)

- **10 Technical workshops (90 min)** on selected topics proposed by the cities (program currently under development)

- **Virtual Study Tour** – 4 deep dive videos showing the experience of other established cities
QUESTIONS?
THANK YOU!

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