Digitalizing E-Bus Projects

Learning on the Mobility Academy

tumi
E-Bus Mission
What does the course offer?

- Detailed information on how to implement future ready e-bus projects with the latest digital tools and services.
- A focus on the use of digital tools at three project stages: planning & procurement, operations monitoring & management and project evaluation.
- A look at the data sharing challenges that transit agencies face and potential approaches to deal with them.
Who is the course for?

- Decision makers in public transport authorities and electric bus project managers/operators!
Course overview

17.10.2022 – 21.10.2022
Fundamentals on E-Buses and their Challenges
Vehicles and Infrastructure: Get a common understanding of electromobility

0 Module 0
Launch Event
Get to know the team and what to expect in the next four months

Module 1
24.10.2022 – 04.11.2022
Fundamentals on IT Systems for PT
Tooling up for digitalization of Public Transport

Module 2
07.11.2022 – 18.11.2022
System Design for Electric Buses
Transition planning, battery and charging strategies to meet the operational requirements

Module 3
21.11.2022 – 02.12.2022
Scheduling for Electric Buses
Efficient block building despite technical constraints

Module 4
05.12.2022 – 16.12.2022
Depot and Charging Management for Electric Buses
Enabling Operations: dispatch smartly charged buses

Module 5
16.01.2023 – 27.01.2023
Operations Control
Keeping range under control, managing day-to-day operations on the road

Module 6
30.01.2023 – 10.02.2023
Evaluating Electric Bus Operation
Improve your operations using technical insights

Module 7
13.02.2023 – 17.02.2023
Virtual Study Tour
Get to know some of the front runners in electromobility

Study Tour
Future-ready e-bus system

required
optional
required
required
2 of 4 required
## Time commitment

<table>
<thead>
<tr>
<th>Module 0</th>
<th>Module 1</th>
<th>Module 2</th>
<th>Module 3</th>
<th>Module 4</th>
<th>Holidays</th>
<th>Module 5</th>
<th>Module 6</th>
<th>Virtual Study Tour</th>
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<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td><strong>Week 2 + Week 3</strong></td>
<td><strong>Week 4 + Week 5</strong></td>
<td><strong>Week 6 + Week 7</strong></td>
<td><strong>Week 8 + Week 9</strong></td>
<td><strong>Week 10 - Week 13</strong></td>
<td><strong>Week 14 + Week 15</strong></td>
<td><strong>Week 16 + Week 17</strong></td>
<td><strong>Week 18</strong></td>
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<td>Opening webinar (live)</td>
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<td>Recorded lectures</td>
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<tr>
<td>Discussion questions and moderated exchange in the discussion forum</td>
<td>10 - 20 min / day</td>
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<td>Virtual visit to three cities</td>
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<td>1,5 hours</td>
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<td>Quiz</td>
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<td>Recorded Case Study</td>
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<tr>
<td>Summary of key lessons and messages</td>
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<td><strong>Total time commitment per module</strong></td>
<td>3,5 hours</td>
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Live webinar now available in recorded version. Whole course can now be taken on self paced basis by enrolling [here](#).
Course lectures

Attractive, emission-free public transport to satisfy future mobility needs

**Mobility needs**
- Since 2008 more people live in cities than in suburban areas and cities are still growing
- Potential for private transport limited → Public transport is a key factor for urban areas

**Action needed**
- High pollution levels in cities (NOx, PM, noise)
- Attractive and emission-free public transport is key for a high quality of life

**Legal/political requirements**
- CO₂ target limits for emissions (national / local)
- Environmental zones / entry restrictions
- Funding programmes for electric mobility
Wrap-up Session 1, Part 1

Please share in the discussion forum:

- What is the main motivation for introducing e-buses in your city?
- What are your city's goals for the electrification of its public transport system?
- What are your timelines/deadlines to reach these goals?
- Are your goals and timelines self-imposed or externally imposed?
Bogota, Colombia
• Transmilenio has revolutionised local transport in the Colombian metropolis.

Hannover, Germany
• Optimum charging schedules, up-to-date vehicle data, and secure ranges
• IVU.suite’s integrated load and charging management system for eCitaro buses.
<table>
<thead>
<tr>
<th>English</th>
<th>Español</th>
<th>Português</th>
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<tbody>
<tr>
<td>• Course lectures will be created in English with Spanish and Portuguese translations.</td>
<td>• Las conferencias del curso se creará en inglés con traducción al español y al portugués.</td>
<td>• As palestras do curso serão criadas em inglês com traduções em espanhol e português.</td>
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<tr>
<td>• Case study interviews will be in either English or Spanish with translation into the other language and Portuguese.</td>
<td>• Las entrevistas de los casos prácticos aparecerán en inglés o en español con traducción al otro idioma y al portugués.</td>
<td>• As entrevistas de estudio de caso aparecerão em inglês ou espanhol com tradução para o outro idioma e para o português.</td>
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<tr>
<td>• You are welcome to write your discussion forum entries in English, Spanish or Portuguese. The translation tool <a href="http://www.deepl.com">www.deepl.com</a> works well if you would like to translate any entries by others.</td>
<td>• Puede escribir sus entradas en el foro de debate en inglés, español o portugués. La herramienta de traducción <a href="http://www.deepl.com">www.deepl.com</a> funciona bien si quieres traducir las entradas de otros.</td>
<td>• Você está convocado a escrever suas entradas para o fórum de discussão em inglês, espanhol ou português. A ferramenta de tradução <a href="http://www.deepl.com">www.deepl.com</a> funciona bem se você gostaria de traduzir qualquer entrada de outros.</td>
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<tr>
<td>• The slide set of each course module is available in English, Spanish and Portuguese.</td>
<td>• El conjunto de diapositivas de cada módulo del curso está disponible en inglés, español y portugués.</td>
<td>• O conjunto de slides de cada módulo do curso está disponível em inglês, espanhol e português.</td>
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</table>
The team behind the course
Certificate of completion

Successful completion of a module entails:

- Listening to all recorded lectures and the case study interview
- Completion of the module quiz
- Responding in the discussion forum to the questions posed by the moderators in the lectures
Thank You!

Herman Kwoba

On behalf of Rohan Modi,
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