In collaboration with:

Virtual Training Programme: Electromobility in Public Transport

公共交通电动出行线上培训课程

16 – 26 November 2021, 2 Weeks span | 2021 年 11 月 16 日至 26 日，跨两周时间

UITP Academy is launching an online course on Electromobility, starting on 16 November and ending 26 November with our Regional Training Center, Shenzhen Bus Group which has achieved full electrification. This course features 8 interactive online sessions.

UITP 学院与区域培训中心承办单位深圳巴士集团共同推出一门关于电动出行的在线课程，本次课程从 11 月 16 日开始，至 11 月 26 日结束，共有 8 次在线互动课堂。

Shenzhen Bus Group is the largest and oldest public transportation operator in Shenzhen, China. After achieving full electrification (operating 6,053 e buses) in 2018, SZBG has become the largest new energy public transportation operator in the world.

深圳巴士集团是中国最大、深圳历史最悠久的公共交通运营商。2018 年实现全面电动化（运营 6053 辆电动大巴）后，深圳巴士成为全球全大的新能源公共交通运营商。

The training and all training materials will be provided in English, and **Simultaneous Interpretation (SI) from English to Chinese** will be provided in this online training. A good level of English is a compulsory requirement to attend the training except Chinese participants.

培训和所有培训材料将以英语提供，本在线课程将以**英文讲演配中文同声传译**（SI）。除中国参与者外，所有其他参与者必须要具备良好的英语水平。

Reach your objectives: | 学习本课程将有利于：

- Introduce the electric solution, the different types of technologies and compare their benefits and drawbacks | 介绍电动化方案和不同类型的技术，比较各技术的优缺点
- Understand how to get value from electric buses, Electric Cars or other modes looking at their economic, environmental and societal feasibility |通过研究电动大巴、电动汽车或其它模式的经济、环境和社会可行性，了解如何从中获取价值
- Plan for Electrification which is widely considered as a viable strategy for reducing oil dependency and the environmental impact of transportation | 如何进行电动化规划，电动化被广泛视为减少石油依赖和运输对环境影响的一项可行策略
- Learn from experience on how to implement and run electric solution in the city | 学习深圳实施与运营电动化方案的经验
- Understand the implications for operations and infrastructure | 了解运营与基础设施的意义
- Learn about the implementation and running of electric modes | 了解电动模式的实施和运行
- Learn about the infrastructure for Electromobility | 了解电动出行的基础设施
- Discuss the performance of an electric solution with a practical application during our dedicated workshop | 在研讨会期间，探讨实际应用中的电动化方案的表现
- Listen the best practices from **Asia and Europe** | 分享**亚洲和欧洲**的最佳实践

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Why choose an online course? | 为什么要选择在线课程?

- Interact with public transport professionals from across the world | 能够和全球的公共交通专业人士互动
- Be time efficient, with 8 sessions over a 2-week timespan | 在两周的时间内高效地完成 8 节课
- Flexibility to join the sessions from any location in the world, at work or at home | 无论是办公室还是家里，全世界随地都可灵活参加课程

A top-level methodology | 顶级方法

- Participate in interactive online sessions which includes an introduction by course leaders and open discussions with participants | 参加互动式在线课程，包括课程负责人的课前介绍和与参与者的公开讨论
- Exchange your current practices and experience with your peers | 与同行交流当前主流实践与经验
- Each theme will be approached as followed: | 各主题将采用以下方法：
    - Basic principles and conceptual approach | 基本原理和概念性方法
    - State of the art development and innovations | 最新发展与创新
    - Good practices examples | 优秀实践的示例
    - Interactive exchange between participants and experts | 参与者与专家进行互动交流

Who is it for? | 课程对象?

- Project managers, engineers and other professionals eager to learn more about the technology, the implementation and the running of different electric modes | 渴望深入了解各电动化模式的技术、实施与运营的项目经理、工程师和其他专业人士
- Staff from public transport or authorities planning to extend a fully-electric solution to the core part of the urban network | 计划将全面电动化方案扩展至城市网络核心部分的公共交通或有关当局人员
- Staff from the industry worldwide involved in the market uptake of different electric modes | 参与各电动模式市场渗透的全球行业人员
- Professionals interested in obtaining a wider and international perspective on electrification and eager to learn more from international best practice | 希望培养更加国际化的电动化视野并渴望更多地汲取国际最佳实践的专业人士

Inspiring trainers | 激励人心的讲师

Our skillful trainers are composed of international experts and professionals with extensive experience and knowledge in the strategic, operational and technological areas of electric buses, taxis and new mobilities.

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我们的讲师包括国际专家和专业人士，他们在电动大巴、出租车和新型出行战略、运营和技术领域拥有丰富的经验和知识。

All sessions will take place at 08:00 am CET time (UTC+1) equivalent to 3:00 pm China time (UTC+8).
所有课程将在中欧时间（UTC+1）早上 8 点开始，即中国时间（UTC+8）下午 3 点。

Day 1, 16 November | 第 1 天，11 月 16 日

08:00 CET
15:00 CN

Welcome & Introduction to the course | 开场欢迎与课程介绍
Sue CHAN, Head of Asia Pacific, UITP, Hong Kong SAR, China
UITP（国际公共交通联会）亚太区负责人曾淑仪
Joe MA, Deputy General Manager, Shenzhen Bus Group, China
深圳巴士集团副总经理马正源

Expectation Analysis | 预期分析
Sue CHAN, Head of Asia Pacific, UITP, Hong Kong SAR, China
UITP（国际公共交通联会）亚太区负责人曾淑仪

08:45 CET
15:45 CN

Session 1: Introduction: Urban Growth, Global Climate Change and Possible Directions for the future
第 1 节：城市增长、全球气候变化和未来可能的方向概况
Oleh SHCHURYK, Project Manager – Mobility & Innovation, Factual Consulting, Belgium
比利时 Factual Consulting 出行及创新项目经理 Oleh SHCHURYK

- Challenges facing the world | 世界面临的挑战
- Driver of transport demand | 交通需求的驱动因素
- Population growth and effect on urbanisation | 人口增长及其对城市化的影响
- Increased mobility and congestion | 增长的出行与阻塞
- Mega trends for tomorrow's world | 未来世界的大趋势

10:15 CET
17:15 CN

Break (tea-break) | 休息（茶歇）

10:45 CET
17:45 CN

Session 2A: Green City Concept & Smart City
第 2A 节：绿色城市概念与智慧城市
Oleh SHCHURYK, Project Manager – Mobility & Innovation, Factual Consulting, Belgium
比利时 Factual Consulting 出行及创新项目经理 Oleh SHCHURYK

- Circular Economy | 循环经济
- Strategies to meet 1.5ds goals | 实现 1.5ds 目标的策略
- Sources of emission savings | 减排源
- Sustainable transport strategies | 可持续交通策略

11:45 CET
18:45 CN

End of Day 1 | 第 1 天结束

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Day 2, 18 November | 第 2 天，11 月 18 日

08:00 CET
15:00 CT

Session 2B: Why electric is the solution for urban transport? Why now?
第 2B 节：电动何以成为城市交通的解决方案？为什么是现在?
Cristiano FRANCESE, Consultant and Lecturer, Renewable Energy and Hydrogen, Germany
德国可再生能源和氢气顾问和讲师 Cristiano FRANCESE

- Electric mobility around the world | 全球电动出行现状
- Electric bus evolution in EU and China | 欧盟与中国的电动大巴演变
- Future of EVs | 电动汽车的未来

09:00 CET
16:00 CN

Session 2C: Configurations and Innovations; New trends in Bus, ATAK project
第 2C 节：配置与创新；大巴的新兴趋势，ATAK 项目
Atalay TAŞKOPARAN, Chief Marketing Officer & Co-Founder, Adastec Corp., Turkey
土耳其 Adastec Corp.首席营销官和联合创始人 Atalay TAŞKOPARAN

09:30 CET
16:30 CN

Break (tea-break) | 休息（茶歇）

10:00 CET
17:00 CN

Session 3: E-Buses: The market, suppliers, broad technologies
第 3 节：电动大巴：市场、供应商和广泛的技术
Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China
香港亚洲交通咨询有限公司执行总裁程艾乐

- Session 3A: Market and Suppliers
  第 3A 节: 市场与供应商
  - Key considerations | 主要考虑因素
- Session 3B: Broad technologies and cases (Hybrid, LFP/LTO/NCM, Fuel Cell, Hydrogen or Supercapacitors)
  第 3B 节: 广泛的技术与案例（混合、LFP/LTO/NCM、燃料电池、氢或超级电容器）
  - Introduction | 概况
  - New energy technologies | 新能源技术
  - Battery technologies | 电池技术
  - Refuelling technologies | 燃料补充技术

11:30 CET
18:30 CN

End of Day 2 | 第 2 天结束

Day 3, 23 November | 第 3 天，11 月 23 日

08:00 CET
15:00 CN

Session 4A: Battery Technologies, Charging technologies and charging infrastructure
第 4A 节：电池技术、充电技术和充电基础设施
Imane WORIGHI, Business Unit Director, Avesta Battery & Energy Engineering, Belgium
比利时 Avesta Battery & Energy Engineering 事业部总监 Imane WORIGHI

08:30 CET **Session 4B: Battery Technologies, Charging technologies and charging infrastructure**
15:30 CN **第 4B 节：电池技术、充电技术和充电基础设施**
GUO Feng, Deputy Manager, Technology Department, Shenzhen Bus Group, China
深圳巴士集团技术部副经理郭枫

09:00 CET **Session 4C: Battery Technologies, Charging technologies and charging infrastructure**
16:00 CN **第 4C 节：电池技术、充电技术和充电基础设施**
Cristiano FRANCESE, Consultant and Lecturer, Renewable Energy and Hydrogen, Germany
德国可再生能源和氢气顾问和讲师 Cristiano FRANCESE

09:45 CET *Break (tea-break) | 休息（茶歇）*
16:45 CN

10:00 CET **Session 5A: E-Taxi: The market, Advantages and challenges**
17:00 CN **第 5A 节：电动出租车：市场、优势和挑战**
Asher MOSES, CEO, Sherbet London, United Kingdom
英国 Sherbet London 总裁 Asher MOSES

- Green transportation | 绿色交通
- Global EV operation | 全球电动汽车运营
- Synergy of EVs & Employed Drivers | 电动汽车与聘用司机的协同作用
- Advantages & Challenges of Electric Vehicles & Taxi | 电动汽车与出租车的优势和挑战

11:00 CET **Session 5B: Panel Discussion – 3 cities**
18:00 CN **第 5B 节：小组讨论——3 个城市**
Moderator: Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China
主持人: 香港亚洲交通咨询有限公司执行总裁程艾乐
Panelist | 小组成员:
Asher MOSES, CEO Sherbet London, United Kingdom
英国 Sherbet London 总裁 Asher MOSES
Joe MA, Deputy General Manager, Shenzhen Bus Group, China
深圳巴士集团副总经理马正源
Marawan ALZAROONI, Director, Maintenance & Services, Roads and Transport Authority, Dubai
迪拜道路和运输管理局维护和服务总监 Marawan ALZAROONI

11:45 CET End of Day 3 | 第 3 天结束
18:45 CN

Day 4, 25 November | 第 4 天，11 月 25 日

08:00 CET **Session 6: Electrification - The impact on bus operations**
15:00 CN **第 6 节：电动化 - 对公交运营的影响**
Chris LIANG, Operations Manager, International Development Department, Shenzhen Bus Group, China
中国深圳巴士集团国际开发部运营经理梁渝东

- Operators' wish list | 运营商的愿望清单
- Key considerations | 主要考虑因素
  - Capital cost | 资本成本
  - Fuel/energy cost | 燃料/能源成本
  - Operating flexibility | 运营灵活性
  - Driving range | 可行驶里程
  - Maintainability | 可维护性
  - Availability | 可用性
  - Drivability | 驾驶性能
  - Passenger safety | 乘客安全性
  - Pricing and revenue | 定价与收入
  - Bus capacity | 大巴载客量
  - Customer / stakeholder feedback | 客户/利益相关方反馈
- Developing an e-bus operation | 发展电动大巴运营
- Transition to operations | 向运营转型
- Shenzhen experience and success factors | 深圳经验与成功因素

09:30 CET *Break (tea-break) | 休息（茶歇）*
16:30 CN

10:00 CET **Session 7A: Regulation of the Electrification of Public Transport**
17:00 CN **第 7A 节：公共交通电动化的规范化**

Cristiano FRANCESE, Consultant and Lecturer, Renewable Energy and Hydrogen, Germany
德国可再生能源和氢气顾问和讲师 Cristiano FRANCESE

- Approach to regulation of electrification | 电气化监管方法
- Efficiency and emission standards | 效率和排放标准
- Regulation of charging infrastructure | 充电基础设施的监管
- Regulation for EV charging tariffs | 电动汽车充电电价法规
- Distribution grid regulation | 配电网监管

11:00 CET **Session 7B: Life Cycle Cost of Electrification**
18:00 CN **第 7B 节：电动化的生命周期成本**

Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China
香港亚洲交通咨询有限公司执行总裁程艾乐

- Running costs | 营运成本
- Capital costs | 资本成本
- Alternative cost models | 替换成本模型

11:45 CET End of Day 4 | 第 4 天结束
18:45 CN

Day 5, 26 November | 第 5 天，11 月 26 日

08:00 CET
15:00 CN

Session 8A: Is data driving electrification revolution
第 8A 节：数据是否正驱动着电动化变革
Jost GEWEKE, Business Development Manager, PSI Transcom GmbH, Germany
德国 PSI Transcom GmbH 业务发展经理 Jost GEWEKE

- Electric bus transport services planning | 电动公交交通服务规划
- Implications for operations | 运营的意义
- Implications for maintenance | 维护的意义
- Implications for management | 管理的意义
- Best practice for monitoring systems | 监控系统的最佳实践

09:15 CET
16:15 CN

Break (tea-break) | 休息（茶歇）

09:45 CET
16:45 CN

Session 8B: Electric bus in the era of autonomous vehicles
第 8B 节：自动驾驶时代的电动巴士
James WANG, Chief Scientist Communications in China Transit Science, China
中国城市公共交通学科首席专家王健

- China Urban Mobility Challenge | 中国城市出行的挑战
- Vehicles & technology | 车辆与技术
- Environment | 环境保护
- Upcoming developments | 未来发展

11:00 CET
18:00 CN

Session 8C: Trolleybuses becoming infinite range e-Buses by IMC (In Motion Charging)
第 8C 节：IMC 无轨电车成为无限范围电动客车（动态充电）
Arnd BÄTZNER, Member of the Board of Directors, Mobility Car Sharing, Switzerland
瑞士 Mobility Car Sharing 董事会成员 Arnd BÄTZNER

- The renaissance of trolleybuses in many worldwide cities due to "In Motion Charging" (IMC) | 无轨电车在全世界许多城市的复兴 (IMC)
- Discover that surprisingly effective concept, when introducing new systems | 在引入新系统时发现的有效概念
- Synergies with rail applications and e-buses with onboard-chargers, which you should know | 与铁路应用和带有车载充电器的电动公交车的协同效应

11:45 CET
18:45 CN

Wrap Up & Closing | 课程总结及闭幕

12:15 CET
19:15 CN

End of Online Course Programme | 在线课程项目结束

**UITP reserves the right to make amendments to the programme or any related activity at its discretion | *UITP 有权自行决定修改课程或任何相关活动*

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