



In collaboration with:



## Virtual Training Programme: ITS and IT Technologies for PT Operations

### 公共交通运营智能交通系统和智能交通技术线上培训课程

7 – 14 December 2021, 2 Weeks span | 2021 年 12 月 7 日至 14 日, 跨两周时间

UITP Academy is launching an online course on ITS and IT Technologies for PT Operations, starting on 7 December and ending 14 December with our Regional Training Center, Shenzhen Bus Group. This course features 8 interactive online sessions and workshop.

UITP 学院与区域培训中心深圳巴士集团共同推出一门关于公共交通运营智能交通系统和智能交通技术的在线课程, 本次课程从 12 月 7 日开始, 至 12 月 14 日结束, 共有 8 次在线互动课堂和研讨会。

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.

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)**。

**Reach your objectives: | 学习本课程将有利于:**

- **Broaden your knowledge and perspective** on Intelligent Transport System (ITS) in public transport by learning and sharing experience with professional leaders | 通过与专业领导者学习和分享经验, **拓宽您对公共交通智能交通系统 (ITS) 的认识和视角**
- Discover the **intelligent vehicles** and components: sensors, IoT, telematics, fare collection, passenger information, connected & autonomous vehicles | 了解**智能车辆**和组件: 感应器、物联网、远程信息处理、售检票、乘客信息、网联汽车和自动驾驶车辆
- Learn the importance of traffic control, bus stops, smart depots and charging infrastructure to create **intelligent infrastructure** | 了解交通管控、公交站、智能场站和充电基础设施对创建**智能基础设施**的重要性
- Understand the impact of **intelligent operations** for efficient operations | 了解**智能运营**对高效操作的影响
- Understand, discuss the **concept of Intelligent Transport Systems** and learn from latest practice, failures and successes | 了解、讨论**智能交通系统的概念**, 汲取最新的实践、失败和成功经验
- Understand **the impact of new technology and software** | 了解**新技术和软件的影响**
- Learn the importance of **real-time occupancy data** to improve safety and avoiding overcrowding | 了解**实时上座率**对于提升安全性和避免过度拥挤的重要性
- Focus on customer and **customer expectations** for smooth journeys | 关注顾客和**顾客期望**以确保旅程顺利
- Learn from **best practice from all round the world** : showcases from local operators, authorities and the industry | 学习**全球的最佳实践**: 地方运营商、主管部门和该行业的展示
- Learn how to **increase the service reliability** with ITS & scheduling system with real time data | 了解如何使用具有实时数据的 ITS 和调度系统来**提升服务可靠性**

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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?

- Staff from public transport operators or authorities responsible for the planning, network designing, implementation, maintaining & running of ITS and new mobility services and/or involved in the cooperation with these providers | 公共交通运营商或主管部门负责 ITS 和新型出行服务的规划、网络设计、实施、维护和运行和/或参与与这些提供商合作的人员
- Staff from public transport operators or authorities' strategic management & project management for a better implementation | 公共交通运营商或主管部门负责更好地实施战略管理和项目管理的人员
- Staff from the industry worldwide involved in the market uptake in this area: ITS service providers, new mobility app-developers etc. | 全球该行业参与该领域市场吸收的人员：ITS 服务提供商、新型手机应用程序开发商等
- Staff of regional or national authorities in charge of the regulation of these ITS and new services, the development and application of policies and/or related framework projects | 负责监管这些 ITS 和新型服务、制定和应用政策和/或相关框架项目的区域或国家主管部门的人员
- Professionals interested in obtaining a wider and international perspective on data driven ITS and new mobility services and eager to learn more from best practice worldwide | 希望针对数据驱动 ITS 和新型出行服务培养更广泛和国际化的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

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Our skillful trainers are composed of international experts and professionals with extensive experience and knowledge in the strategic, operational and technological areas of Intelligent Transport Systems in public transport.

我们的讲师包括国际专家和专业人士，他们在公共交通智能交通系统的战略、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, 7 December | 第 1 天, 12 月 7 日**

**08:00 CET      Welcome & Introduction to the course | 开场欢迎与课程介绍**

**15:00 CN      Sue CHAN, Head of Asia Pacific, UITP, Hong Kong SAR, China**

**UITP 亚太执行总监曾淑仪**

**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 亚太执行总监曾淑仪**

**08:45 CET      Session 1A: Introduction to Intelligent Transport Systems**

**15:45 CN      第 1A 节: 智能交通系统介绍**

**Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China**

**亚洲交通咨询有限公司执行总裁程艾乐**

**09:15 CET      Session 1B: Intelligent Transportation Systems for PT Planning and Operations**

**16:15 CN      第 1B 节: 公共交通规划与运营的智能交通系统**

**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**

- ITS components and Technologies | ITS 内容与技术
- ITS Service components and Architecture | ITS 服务内容与架构
- Role of ITS in Urban Mobility | ITS 在城市出行中的角色
- Digital technology and urban transformation | 数字技术与城市转型
- ITS Solutions for Public Transport | 公共交通 ITS 解决方案

**10:30 CET      End of Day 1 | 第 1 天结束**

**17:30 CN**

Day 2, 8 December | 第 2 天, 12 月 8 日

08:00 CET **Session 2: Intelligent Infrastructure**

15:00 CN **第 2 节: 智能基础设施**

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

- Traffic Control | 交通管控
- Bus Stops | 公交站
- Smart Dépôts | 智能场站
- Charging infrastructure | 充电基础设施

09:15 CET Break (tea-break) | 休息 (茶歇)

16:15 CN

09:45 CET **Session 3A: Case study - Digital Projects in Rail**

16:45 CN **第 3A 节: 案例研究 - 铁路数字化项目**

**LEE Keen Sing, Head, Applied Rail Technologies, SMRT Engineering & Strides Engineering, Singapore**

**新加坡 SMRT Engineering & Strides Engineering 应用铁路技术负责人 LEE Keen Sing**

10:15 CET **Session 3B: Case study**

17:15 CN **第 3B 节: 案例研究**

11:00 CET End of Day 2 | 第 2 天结束

18:00 CN

Day 3, 9 December | 第 3 天, 12 月 9 日

08:00 CET **Session 4A: Real-time occupancy data to improve safety and avoiding overcrowding**

15:00 CN **第 4A 节: 通过实时上座率数据提升安全性和避免过度拥挤**

**Guido BRUGGEMAN, Independent Senior Urban Transport Consultant, The Netherlands**  
**荷兰资深城市交通顾问 Guido BRUGGEMAN**

- Level of Service (Los) | 服务水平 (Los)
- Time-table design | 时间表设计
- Frequency | 频次
- Capacity | 载客量
- Basic operations costing | 基本运营成本核算
- Optimisation | 优化

09:15 CET Break (tea-break) | 休息 (茶歇)

16:15 CN

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- 09:45 CET  
16:45 CN
- Session 4B: Intelligent Operations**  
**第 4B 节: 智能运营**  
**Urša HRIBERNIK, Head of Mobility, LIT Transit Ltd, Slovenia**  
**斯洛文尼亚 LIT Transit Ltd 交通出行负责人 Urša HRIBERNIK**
- OCC
  - Fleet management | 车队管理
  - Dispatching | 调度
  - Crowd control | 人群管控
  - Data management | 数据管理
  - Emergency coordination | 紧急情况协调

11:00 CET  
18:00 CN

End of Day 3 | 第 3 天结束

**Day 4, 13 December | 第 4 天, 12 月 13 日**

- 08:00 CET  
15:00 CN
- Session 5A: Customer Centricity**  
**第 5A 节: 以顾客为中心**  
**Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China**  
**亚洲交通咨询有限公司执行总裁程艾乐**
- App | 应用
  - MaaS | 出行即服务
  - ETA | 预计到达时间
  - Account-based ticketing | 账户式付费
  - XI-XO ticketing | XI-XO 付费
  - Complaint's handling | 投诉处理

- 08:45 CET  
15:45 CN
- Session 5B: Case study - Account based ticketing**  
**第 5B 节: 案例研究 - 账户式付费**  
**Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China**  
**亚洲交通咨询有限公司执行总裁程艾乐**

09:30 CET  
16:30 CN

Break (tea-break) | 休息 (茶歇)

- 10:00 CET  
17:00 CN
- Session 6: Intelligent Safety & Security Management**  
**第 6 节: 智能安全和安保管理**  
**Alok JAIN, Managing Director, Trans-Consult Ltd, Hong Kong SAR, China**  
**亚洲交通咨询有限公司执行总裁程艾乐**
- Vehicle Safety | 车辆安全
  - Road Safety | 道路安全
  - Driver Safety | 驾驶员安全
  - Passenger Safety | 乘客安全

11:00 CET End of Day 4 | 第 4 天结束  
18:00 CN

Day 5, 14 December | 第 5 天, 12 月 14 日

08:00 CET **Session 7: Intelligent Vehicles**  
15:00 CN **第 7 节: 智能车辆**

- Sensors | 感应器
- IoT | 物联网
- Telematics | 远程信息处理
- Fare Collection | 售检票
- Passenger information | 乘客信息
- Connected vehicles | 网联汽车
- Autonomous vehicles | 自动驾驶车辆

09:15 CET *Break (tea-break) | 休息 (茶歇)*  
16:15 CN

09:45 CET **Session 8A: Transit data as a Service - an open intelligent transport system**  
16:45 CN **第 8A 节: 传输数据即服务 - 开放式智能交通系统**

**Urša HRIBERNIK, Head of Mobility, LIT Transit Ltd, Slovenia**  
**斯洛文尼亚 LIT Transit Ltd 交通出行负责人 Urša HRIBERNIK**

10:30 CET **Session 8B: Enabling Technologies**  
17:30 CN **第 8B 节: 赋能技术**

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

- 5G
- Cloud computing | 云计算
- Edge computing | 边缘计算
- AI/ML | 人工智能/机器学习
- Blockchain | 区块链

11:15 CET Wrap Up & Closing | 课程总结及闭幕  
18:15 CN

11:30 CET End of Online Course Programme | 在线课程项目结束  
18:30 CN

*\*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*