Intelligent Transportation Systems

INTRODUCTION

- This Intelligent Transport System (ITS) training seminar focuses on Intelligent Transport Systems (ITS) trends and applications, as well as ways of evaluating the features of Intelligent Transport Systems (ITS).
- The mobility of the people has become the prevalent element of everyday life, as the roads and parking become more crowded, the investment in the infrastructure focuses more on the use of intelligence rather than on the basic infrastructure, as the basic infrastructure built for the maximum capacity becomes unused for the most of the time, and achieve its full return on investment only in the peak hours, while outside of the peak hours its capacity is heavily underutilized.
- Intelligent Transport Systems (ITS) use electronics, information and communications technologies to deliver transport improvements instead of extending physical infrastructure, thereby saving money, reducing costs, increasing return on investment while at the same time reducing environmental impact.
- Intelligent Transport Systems (ITS) are based on a wide variety of information about transport, users, participants, and vehicles.
- The Intelligent Transport Systems (ITS) systems also have the wide variety of applications, can be deployed on infrastructure to improve road network management and increase productivity; on vehicles to improve safety, reduce journey times and reduce polluting emissions, simplify ticketing and payment and deliver better information; and they can connect all of the transport sectors these sectors to improve mobility and accessibility, providing also the basis for the simulation as a way of advanced traffic and transport planning and control.

This training seminar will highlight:

- Principles and methods of Intelligent Transport Systems (ITS) application
- Intelligent Transport Systems (ITS) architecture
- Intelligent Transport Systems (ITS) project management
- Transportation management centers design and upgrade
- Intelligent Transport Systems (ITS) technology and vehicle to vehicle communication
- Self-driving cars
- Intelligent Transport Systems (ITS) and traffic simulation
- Intelligent Transport Systems (ITS) application
- Intelligent Transport Systems (ITS) risks and mitigation measures

OBJECTIVES

At the end of this training seminar, you will learn to:

- Identify the project management principles of Intelligent Transport Systems (ITS)
- Learn the details of Intelligent Transport Systems (ITS) architecture
- Acquire the knowledge needed to implement the Intelligent Transport Systems (ITS) projects and perform Intelligent Transport Systems (ITS) inspection
- Learn the risk mitigation measures for Intelligent Transport Systems (ITS) projects
- Adopt the use of simulation for traffic and transportation management and prediction
- Use the emerging and existing technologies for improving the level of service in traffic and transport

TRAINING METHODOLOGY

- Participants to this seminar will receive a thorough training on the subjects covered by the seminar outline with the instructor utilizing a variety of proven adult learning teaching and facilitation techniques, focused on real life examples. Seminar methodology includes active participation in the preparation of Intelligent Transport Systems (ITS) projects, performing the Intelligent Transport Systems (ITS) infrastructure inspection, as well as introduction to traffic simulation packages.

ORGANISATIONAL IMPACT

- The organization will benefit from understanding the guiding principles urban mobility and transport sector improvement, as the delays in traffic and transportation are the ones which create a ripple effects on the industry as a whole. The organizations, governments and institutions which want to introduce Industry 4.0 or are already implementing its practices can be on a collision course if they do not improve their transport systems, therefore visiting this course will help them avoid the crash.

The participants on this training course, will:

- Enhance their analytical skills
- Learn how to introduce adoptive Intelligent Transport Systems (ITS) infrastructure
- Be able to fully harness the power Intelligent Transport Systems (ITS) management and adopt to new trends,
- Introduce new technologies at lower costs,
- Improve the transport sector level of service with lower investment
- Preform the simulation of traffic and transportation projects
- Organization will become adoptive and reduce their costs while at the same time serve stakeholders and the public at the highest level

PERSONAL IMPACT

The participants will gain or enhance their understanding of Data Science and Data Analytics, by:

- Identifying the risks in Intelligent Transport Systems (ITS) project implementation
- Learning how to adequately implement the adoptive Intelligent Transport Systems (ITS) architecture
- Understanding how to use existing architecture with ITS upgrades
- Learn how to use mobility data for predictive traffic and transportation control
- Understand the Intelligent Transport Systems (ITS) project lifecycle
- Apply simulation software on solving problems in Intelligent Transport Systems (ITS)
- Recognize the usability of new trends
- Prepare for the future of self-driving vehicles

WHO SHOULD ATTEND?

- This training course is designed for all the people involved in urban development, traffic and transport planning and organization, IT experts, as well as researchers and consultants involved into management, analytics, optimization, project management and transport optimization.

This training course is suitable to a wide range of professionals but will greatly benefit:

- Researchers and Practitioners in Traffic Engineering
- Professionals in Urban Planning
- Architects involved in Urban Design
- Project Managers
- Technology Engineers, Chief Technology Officers (CTOs) and Chief Information Officers (CIOs)
- Strategic Development Personnel
- Transport Engineers and Researchers

Course Outline

Introduction to Intelligent Transport Systems (ITS)

- Intelligent Transport Systems (ITS) History
- Intelligent Transport Systems (ITS) Design Practices
- Intelligent Transport Systems (ITS) Architecture
- Intelligent Transport Systems (ITS) based on Infrastructure
- Intelligent Transport Systems (ITS) based on Vehicle

Intelligent Transport Systems (ITS) Project Management

- Identification of Intelligent Transport Systems (ITS) State and Needs
- Intelligent Transport Systems (ITS) Project Lifecycle
- Permanent and ad-hoc Intelligent Transport Systems (ITS) Projects
- Intelligent Transport Systems (ITS) Projects Risk Assessment
- Intelligent Transport Systems (ITS) Development and Upgrade
- Intelligent Transport Systems (ITS) Systems Inspection and Quality Control

Intelligent Transport Systems (ITS) Design

- Traffic Flow
- Congestion
- Recurrent Congestion
- Incident Related Congestion
- Road Rehabilitation Project Induced Congestion
- Information in Intelligent Transport Systems (ITS)
- Information to Controllers and Response Services
- Information to Users

Traffic and Transport Management Centers

- Traffic and Transport Management Center Functions
- Traffic and Transport Management Center Structure
- Data Gathering and Analysis
- Adaptive Intelligent Transport Systems (ITS) Infrastructure
- Use of Simulation for Intelligent Transport Systems (ITS) Implementation - Active Traffic Management

New Technologies and Trends in Intelligent Transport Systems (ITS)

- Hyperloop
- Vehicle to Vehicle Communication
- Self-driving Vehicles
- Use of Mobility Data for Urban Planning and Development
- Social Media and Intelligent Transport Systems (ITS)