

*Technologies for Safe, Green and Connected Vehicles*



**SAEINDIA**



*8<sup>th</sup> SAEINDIA International Mobility Conference  
&  
1<sup>st</sup> Commercial Vehicle Engineering Congress India  
2013*



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**TOP TECH**

Professional Development Program

**“Towards Connected Vehicles”**

on

**02-03 December 2013**

@

Radha Regent Chennai

171, Jawaharlal Nehru Salai, Arumbakkam, Chennai

## **Course Objectives**

To provide basic understanding of the fundamentals of in-vehicle computing systems and other associated technologies required for creating the connected vehicle applications, in addition to enhancing awareness of the various concepts and technologies available as well as the future trends in these areas.

Further it will help to understand the various concepts of in-vehicle computing platform, the operating systems, development technologies and the cloud computing platforms.

## **About the Program**

Modern automobiles incorporate network capable computing devices in the vehicle. These open a wide range of possibilities around information access, navigation, entertainment and services within the vehicle. Combined with the widespread internet access and cloud computing platforms, these enable a range of applications that can vastly improve the driving and vehicle ownership experience.

This course aims to provide the basic understanding and appreciation of such technologies as contained in the vehicle's on-board-unit and those in the data centre (cloud environment). In addition, the course will also provide a view to the future possibilities around the services that can be offered in this area by the Auto OEMs, dealers or third parties.

## **Course Benefits**

The participants (from OEMs, Engineering Service Providers and Engineering students) would be in a position to make the appropriate design choices for new vehicles, by knowing the application possibilities and the capabilities required in respect of the connected-vehicle solutions. Product managers can use this knowledge to conceptualize connected vehicles experiences to drive market differentiation and new revenue streams for their organization.

## Who should attend..

Automotive engineers, design professionals, product managers and sales & marketing professionals with basic knowledge of computing and networking, preferably with experience and/or interest in the subject area.

## Course Outline

Following topics would be covered as part of the course along with the approximate duration

### DAY ONE:

- i) Connected Vehicle concept overview: 30 minutes
  - High level and brief overview of the premise for the solution
  - Overall concept and the enabling technologies. (Including the role of in-vehicle devices, role of internet connectivity and cloud services)
  
- i) Emerging trends in vehicle design – the need for connected vehicles: 45 minutes
  
- i) Telematics solutions current market and technology trends: 30 minutes
  - An overview of the technology trends
  - market analysis and future growth projections
  - Typical application use-cases current and near future scenarios
  - Technical challenges and regulatory requirements and issues.
  
- i) Solution deep dive – Device capabilities today and near future: 60 minutes
  
- i) Solution deep dive - Devices and Operating Systems: 60 minutes
  - Current technology for in-vehicle and carry on devices
  - technical capability requirements across form factors
  - Common issues and challenges with embedded system development
  - An overview of the operating systems landscape
  - Capability deep dive - Windows Embedded and Windows Embedded Automotive

i) Solution deep dive – Data Management: 45 minutes

- Local data management in the device
- Aggregation of data across multiple devices or vehicles
- Role of cloud platform in data aggregation and management
- potential use-cases for data analytics and service targeting

i) Solution deep dive – connectivity and cloud services: 60 minutes

- An overview of cloud services scenarios for connected vehicles
- Connectivity landscape in India and the cloud services possibilities
- Cloud application platform and data platform overview
- Technical overview of Azure platform for cloud service development and hosting

i) Live Demonstration of SYNC Framework: 60 minutes

- Ford EcoSport

DAY TWO :

i) M2M Connectivity : 120 Minutes

- Internet of everything
  - What is M2M and M2M communication
  - From connecting humans to machines
- Use Cases of Car Connectivity
  - Preventive maintenance
  - Car parameters management
  - Infotainment
  - Parking assistance
  - Traffic management

- Components of Connectivity
  - Devices/Modems
  - SIMs
  - Networks
    - Wireless
    - wireline
  - Technologies
  - Security Considerations
- Telecom Network Landscape
  - Voice
  - SMS
  - Data
- Managed Connectivity
  - Tariff management
  - Services management
  - Usage management
  - Connectivity lifecycle management
  - Issue Debugging

i) Live Demonstration : 45 Minutes

- Mahindra XUV500



## **Profile of the Speakers**

### **SARVASHRESTHA PALIWAL**

*India Azure Business Lead*

*Microsoft Corporation India Private Limited*

Sarvashrestha Paliwal (Pali) is the Windows Azure Business Lead, at Microsoft India. In this role, he is responsible for Marketing, Strategy and Business Development for Windows Azure platform. Additionally he is responsible for driving key partners and customer engagements in the area of cloud computing. Pali has been with Microsoft India for over eight years and has over 14 years of diverse experience across information technology disciplines including application architecture, mobility solutions, web applications and cloud computing. Prior to joining Microsoft, Pali has worked with Tata Consultancy Services Ltd. Pali has a Master's degree in Computer Applications from MITS Gwalior and BSc in Electronics from Dr. Harisingh Gour Vishwavidyalaya.

### **BHASKER JOSHI**

*Industry Manager – Manufacturing & Resources*

*Microsoft Corporation India Private Limited*

Bhasker Joshi is the Industry Manager for Manufacturing and Resources sector at Microsoft India. In this role, he leads the engagement with key partners and customers in India. His areas of work include enterprise applications, collaboration and mobility solutions. Bhasker has been with Microsoft for eight years and has over 14 years of diverse experience in manufacturing and information technology industries. Prior to joining Microsoft, Bhasker worked with Tata Consultancy Services and L&T in various roles as an End-user, Consultant as a Solution provider. Bhasker is a Mechanical Engineer and a post graduate in Systems Management from Indian Institute of Management Kozhikode.

### **RAJNEESH MITTAL**

*Head –New Products Development – Enterprise Mobility Services.*

*Vodafone India*

Rajneesh brings on the table 15 years of extensive telecom experience - from CDMA to GSM to 3G, IMS to VoIP across various domains like subscriber data management, service delivery platforms, cloud service enablement, M2M, VAS – retail and enterprise, Next Generation IN systems, Policy and charging, innovative roaming solutions and OSS/BSS systems. He has led product conceptualization & implementation of some of country's first telecom enterprise VAS systems such as smartphone management solution, enterprise location tracking solution & M2M service platform. He has also designed and developed communications software - protocols & applications, deployed on customer sites, architected telecom solutions and worked actively on solution selling.

In his current role at Vodafone, he heads New Products Development – from concept to rollout - for Enterprise Mobility Services - Messaging, Mobility Management - Devices & Apps, M2M – application and SIM management, Collaboration Products, Misc VAS Products.