
IRF
GLOBAL
ITS Technology Design:
Architecture Development and Standards Specification & Testing
Online Training
June 15 - 24, 2021
Online Training
16 Professional Development Hours

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Online Workshop

Background

An ITS architecture is framework for planning institutional integration and deploying integrated transportation systems technologies. Intelligent Transportation Systems (ITS) have evolved from technology used by a single agency for a single purpose to addressing a wide range of services that involve information sharing between systems within an agency and between agencies, and with the private sector.

In order to facilitate the integration of ITS systems across institutional and subsystem boundaries, open standards-based communications solutions are critical aspects of providing integrated transportation solutions.

This course will cover the development and use of needs-based ITS architectures to support the planning and deployment of ITS systems. Then it will illustrate the selection and specification of ITS technology standards and their testing to support interoperable systems.

- Earn 16 Professional Development Hours
- Expert training by experienced developers of ITS architectures and standards who also developed the course.
- Full access to learning materials and session recordings
- Small classrooms & scheduled One-on-One sessions with instructors
- The class will illustrate planning and designing an example ITS service through: the identification of user needs; a small ITS project architecture, interface standard requirements, interface standard specifications, and an interface test plan.
- Receive IRF Certification after passing a test administered at the end of the course.

Format

- Online (four 4-hour days)
- Lectures are integrated with group exercises to illustrate and reinforce the taught analytical concepts.
- Upon completion of the training course, the IRF will administer an on-line or live knowledge test. Participants with a score of 80% on the exam will be awarded a certificate verifying their successful completion of the course.

Learning Objectives

Upon completion of the course, participants will be able to:

- ✓ Describe the benefits of ITS Technology Design following a systems engineering process.
- ✓ Describe the major components of an ITS architecture
- ✓ Describe ways that an ITS architecture can be used to plan or deploy ITS systems
- ✓ Describe how using communications standards reduce risk with deploying ITS systems
- ✓ How to specify and test communications standards interfaces

Target Audience

The course is appropriate for transportation professionals who plan or deploy transportation systems incorporating ITS.

Instructor

Eng. Patrick Chan (Instructor) is a Principal at ConSysTec and has over 30 years of experience in many areas of Intelligent Transportation Systems (ITS), including the development and deployment of ITS and Cooperative-ITS (C-ITS) standards, regional ITS architectures, and the application of the systems engineering process. He has been involved with developing numerous ITS standards for over 20 years, including NTCIP center-to-field device standards, center-to-center standards, and C-ITS standards; and has developed nearly 20 training modules on ITS standards for USDOT. He is a member of the SAE technical committees responsible for developing the C-ITS standards, and a member of the NTCIP Joint Committee. He was previously a project manager for a public toll agency, where he managed and provided technical assistance for an Electronic Toll Collection System and various Intelligent Transportation System (ITS) projects.

Manny Insignares (Instructor) is the Vice-President, Systems for ConSysTec and an internationally known expert in ITS standards with over 30 years program management and systems enginerering experience, and has helped numerous transportation agencies worldwide to plan, develop, and deploy ITS. He has led development of open systems architectures, communications standards, and deployed systems to integrate regional transportation and infrastructure systems of diverse agencies and vendors to make cities more sustainable and livable. He was previously the Chair of the NTCIP Joint Committee when he led the 14 working groups responsible for development and maintenance of the NTCIP communications standards. He co-authored and edited *The NTCIP Guide*, the *Testing Guide for NTCIP Center-to-Field Communications*, and the *Wikipedia entry on NTCIP*. He promoted movement of NTCIP into international usage and standardization, and led efforts to standardize a web services-based platform for regional systems integration.

Bruce Eisenhart (Instructor) is a Principal at ConSysTec and has 45 years of experience in systems engineering, including 26 years in ITS. He has been involved in all phases of system development, from operational concepts and requirements definition, through design, to system testing. He is one of the foremost experts on the subject of ITS Architecture Development. He has been a key member of the USDOT National ITS Architecture Team since 1993 and is currently updating outreach materials relating to the most recent version of that framework ITS architecture. He has developed over 70 Regional and Statewide ITS Architectures. He has also led FHWA efforts to develop ITS standards for connected vehicles and is currently leading the effort to create model system engineering documents for transportation sensor systems.

Structure

Tuesdays & Thursdays (08:00 AM– 12:00 PM US EDT)

Day 1	ITS Technology Design using the systems engineering process. Benefits and risks managed. Components of an ITS Reference Architecture Components of Regional and Project ITS Architectures
Day 2	Using ITS Architecture to support Transportation Planning Using ITS Architecture to support ITS Project Development
Day 3	What are communications standards? Specifying Standards to support your ITS system
Day 4	Specifying Standards to support your ITS system (continued) Testing Standards for your ITS system

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International Road Federation

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