

A SYSTEM'S APPROACH TO RFID IMPLEMENTATION™

Schedule Day I

[9:00 a.m.] - **Welcome, Introductions and Course Overview**

[9:30 a.m.] - **RFID Overview**

In this section, the concepts and the terminology used in RFID implementations are introduced. The first part of the RFID Overview covers the history of RFID, RFID Basics, uses and benefits of RFID pilots and the mandates that are driving many RFID implementations. Finally, this section defines the essential components of a RFID implementation and sets the context for the next several days in which each of these components and their connection to the implementation as a whole are thoroughly explored.

[10:45 a.m.] – **Real World Case Studies**

Case studies of RFID pilots and implementations that took place in the USA and abroad are discussed in this section. The object of this part is to look at the different applications, the problems that were to be solved, the technology that was used and what were the results of implementing RFID technology.

[12:00 p.m.] – **Lunch**

[1:00 p.m.] - **Tour of Facilities**

The tour is an in-depth look at real-world, practical uses of RFID technology. The applications seen go far beyond "standard" portals and conveyors; they cover the most up to date applications used to solve tangible problems throughout supply chain activities. This section showcases the effective and innovative use of RFID technology in various environments including different moving, stationary, temperature and handling environments; as well as various testing strategies to devise the best solution for specific applications.

[2:00 p.m.] - **RFID Privacy and Security**

[4:00 p.m.] - **RFID Overview – Standards**

At the end of the RFID Overview section the standardization organizations and government bodies responsible for RFID are introduced as well as an overview of the different standards found around the world. The alphabet soup of standards bodies and governmental agencies covered include: ISO, IEC, EPCglobal, FCC, ANSI, ETSI, ERO, ECC, MPHPT, SAC, OFTA and the ICNIRP safety standards.

[5:30 p.m.] – **Conclusion of Day I**

Schedule Day II

[9:00 a.m.] – **RF Basics**

[10:00 a.m.] – **RFID Hardware I. – RF Physics + RFID Tags**

The beginning of the hardware module is dedicated to RF Basics that covers the fundamental physics that is core to the implementation of RFID technology. This section covers RF wave propagation, comparison of radio frequency versus wavelength, impedance, electrical noise and principles of inductive and capacitive coupling as communication methods.

This module continues with the hardware involved with a RFID implementation. First part covers RFID tags - tag design, function, characteristics and standards. Generation 1 as well as Generation 2 tags and their features and differences are explained.

[12:00 p.m.] - **Lunch**

[1:00 p.m.] – **Hands-On Lab**

In this section, participants will conduct practical hands-on exercises with various product solutions from different vendors including the setting up and testing of RFID readers, antennas, printers and tags, tag placement, reading/writing tags, slap and ship scenarios, pallet building and other exercises including testing of their product of choice. Students are encouraged to bring in their own products that they are interested in having RFID tested.

[2:00 p.m.] – **RFID Hardware II. – Interrogation zones + Peripherals**

In the second part of the Hardware section RFID readers are discussed, including design and working principle, reader commands (featuring the lately popular Kill command) and “smart readers”. Next, antenna design, polarity, use and space configurations for different RFID solutions (featuring portals and tunnels) are explored and demonstrated. This section includes practical exercises on antenna patterns. This section also covers printers and slap and ship options for mandate compliance as well as feedback systems.

[5:00 p.m.] – **Conclusion of Day II**

Schedule Day III

[9:00 a.m.] - Data Management

This section discusses the role of RFID middleware, edgware and the IT infrastructure necessary for a successful RFID implementation. The use of RFID technology is to capture and present actionable data. RFID by design captures large amounts of data, which has to be appropriately controlled and handled to produce information that is usable to the business. This section also includes the standards under development to share and protect the data across enterprises, customers and suppliers, which is included in the EPC ecosystem.

[10:30 a.m.] – RFID Implementation

All that was previously presented in the course comes together in this section into a systematic step-by-step guide to an RFID Implementation from start to finish including how to conduct and document site surveys. Real world applications and their issues are discussed including setting baselines and troubleshooting techniques.

[12:00 p.m.] - Lunch

[1:00 p.m.] – Hands-On Lab

In this section, participants will conduct practical hands-on exercises with various product solutions from different vendors including the setting up and testing of RFID readers, antennas, printers and tags, tag placement, reading/writing tags, slap and ship scenarios, pallet building and other exercises including testing of their product of choice.

[2:00 p.m.] - Business Case and Processes

The Business Case and Processes module focuses specifically on how to evaluate and develop a business case for RFID in any organization. Time is spent in creating metrics and business value propositions for implementing RFID throughout the organization and determining “where to” and “where not to” deploy RFID technology.

[3:30 p.m.] – Course Completion

Certificate Presentation: **A System’s Approach to RFID Implementation™**

[4:00 p.m.] - Additional Hands-On Exercises and Individual Consultations

Students have the option to perform additional hands-on exercises and are given the opportunity for individual consultations with the Instructors on topics covered in the course as well as revisiting specific areas of interests.

[5:00 p.m.] – Conclusion of Day III