Discovering NFC Ecosystem

Everything you need to know about NFC Solutions.

**Mobile NFC** offers new opportunities to network operators, banks, transport companies and other service providers.

This course will allow you to easily understand the main standards, technologies, features & security around this NFC ecosystem, including UICC, HCE, Handsets, Trusted Service Management, OTA & Business Enabler solutions.

NFC requirements for co-operation between these different stakeholders, and **GlobalPlatform** requirements for security and confidentiality will also be explained.

At the end of the training you will:

> Understand what is Mobile NFC (Near Field Communication) and main use cases

> Be able to describe Mobile Equipment SE & HCE architecture needed for NFC

> Have an overview on UICC (SIM) Secure Element functionalities & OTA basic concepts

> Know how the different actors (MNO, Bank, and Transport Operator) can manage several applications on the same card via Global Platform (GP) specifications

> Understand Service Provider (SP) TSM role and possible architectures

> Understand MNO TSM (Business Enabler) on server side and related specifications.

**Who should attend?**

All people involved in Mobile NFC project:

> Marketing Managers
> Project Managers
> Technical team
> SIM Manager
> VAS Manager
> Operational Team
> Security Managers

**Pre-requisites:**

> No specific pre-requisites for this course

This course is held in English.
## Program

### Introduction to Mobile NFC
- What is Mobile NFC?
- Use Cases
- Business drivers & models for different actors
- Market feedback on trends (JV, SIM rental...), lessons learned (enrolment, advertising...) & best practices
- Real deployment examples, Case Study, & use-cases videos

### Focus on Mobile Equipment
- Architecture for Mobile Contactless
- Secure Elements & NFC-related protocols
  - Different solutions compared
  - Market trends
- User Interface (UI)
- Wallet introduction
  - User experience for selecting & using NFC services (CRS, CREL concepts from GP2.2 Amendment C)
  - UI technology & specifications
    - STK, Java, Android, and JSR 177, SIMalliance
- Mobile Application – NFC UICC application security overview (Access Control)

### Focus on HCE, Tokenization, and SIM - Secure Element
- What is HCE, how can it fit into NFC Ecosystem
- What is Tokenization, how it can be used to mitigate risks when needed
- Specific UICC features required for using as NFC services Secure Element
- Security features
- Remote management of data

### GlobalPlatform Basics
- What is GlobalPlatform?
- How actors can manage their applications on the same card
- What is a Security Domain & how can it be used?
  - Privileges, market trends...
- Secure Channel Protocol overview (SCP80, 02, 81...)
- Card Content Management basics (INSTALL, LOAD, PERSO, EXTRADITION...)
- GlobalPlatform Commands summary
- GP and Mobile NFC – Different Card architectures
  - Pre-issuance, remote management of content...
- Controlling Authority (GP2.2 Amendment A), Verification Authority & Certification concepts

### Trusted Service Management (TSM) - Introduction
- What is TSM?
- Split architecture between SP-TSM & SE Issuer (MNO)-TSM
- Each Elements basic role
- TSM deployment models & Server Architectures
  - Corresponding Card architectures
- Contracts management examples

### Focus on SP-TSM & MNO-TSM
- SP-TSM & SE Issuer-TSM interfaces
  - Standards (GP System Messaging API & AFSCM)
- Service Life-cycle management processes examples (Eligibility, activation, lost handset...)
  - SP-TSM & MNO-TSM solution examples
- Demos: Payment use-case demonstration, lock-unlock with SP-TSM...