Discovering NFC Ecosystem
Everything you need to know about your Mobile 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 **Secure Elements, Handsets, Trusted Service Management solutions**.

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

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**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** architecture needed for Mobile 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** role 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.

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**Key topics**

- Contactless
- NFC (Near Field Communication)
- Secure Elements (eSE, µSD, UICC)
- OTA process & security
- Security Domain / ISD
- Global Platform 2.2
- SP-TSM (Trusted Service Manager)
- MNO-TSM
- GP SM & AFSCM
Course Schedule

Day 1

Introduction to Mobile NFC
> History
> 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
  o Different solutions compared
  o Market trends
> User Interface (UI)
  o Wallet introduction
  o User experience for selecting & using NFC services (CRS, CREL concepts from GP2.2 Amendment C)
  o UI technology & specifications
    • STK, Java, Android, and JSR 177, SIMalliance
  o Mobile Application – NFC UICC application security overview (Access Control)

Focus on SIM Secure Element
> What is a smart card & Why adapted for hosting of MNO, NFC payment & transport applications
> Understanding UICC Multi application model
> Security features
> Remote management of data
> Summary of specific UICC features required for using as NFC services Secure Element

Day 2

Global Platform Basics
> What is GlobalPlatform?
> How actors can manage their applications on the same card
> What is a Security Domain & how can it be used?
  o Privileges, market trends…
> Secure Channel Protocol overview (SCP80, 02…)
> Card Content Management basics (INSTALL, LOAD, PERSO, EXTRADITION….)
> Global Platform Commands summary
> GP and Mobile NFC – Different Card architectures
  o 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
  o Corresponding Card architectures
> Contracts management examples

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