# Contactless Cards and Applications

Understanding how new & emerging technologies will transform the usages in many activity sectors (payment, transit, ID...)

## Presentation

This educational seminar gives a global overview of the contactless card technology in two steps: a state of the technology itself and its associated standards (ISO 14443) and a presentation of each major application domain with an analysis of the main projects

## Key points

- A detailed vision technical enough to set up an action plan
- A full overview of usage and applications
- Instructional demonstrations with testing software

## Target

Targeted audience includes any staff member involved in contactless projects: issuance (card personalization, mobile provisioning...), acceptance (terminals, automated teller machines...), acquiring or associated back-office systems

## Duration

- 1 day

## Pre-requisite

The seminar requires participants to have basic knowledge of card systems

## Customization upon request

The content of this seminar can be modified and enhanced to meet customer-specific requirements. Please contact us for customization requests and availability of trainers

## Trainers

Experts in payment systems, cards and new technologies

## Language

This seminar is given in English or French

## Price

Contact us

## Documentation

Slide deck
Card & Payment Acronyms

## About Galitt

**Over 20 years of chip card and EMV related payment experience**

Galitt is recognized for delivering innovative projects using advanced smart card technology & defining flexible payment architectural solutions

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# Contactless Cards and Applications

## Program

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### 1. Contactless General Presentation

- **Challenges**
  - New needs (transit, e-ID, telecommunications, payment…)
  - New solutions
- **Technology Maturity**
  - A growing product
  - A mature technology offering significant advantages

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### 2. Technology

- **Contactless System Components**
  - Chip
  - Antenna
  - Reader
  - …
- **Physical Operating Principles**
  - Frequency ranges and their usages
  - Radio waves
  - Magnetic field
  - …
- **Contactless Card Features**
  - Architecture
  - Design
  - Manufacturing
  - …
- **Standards and Specifications**
  - Organization of RFID standards
  - ISO/IEC 14443 standard
  - NFC
  - …
- **Anti-collision Mechanisms**
  Type A vs. type B
- **Exercise**
  Participants considered as "contactless objects"

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### 3. Contactless Applications

- **Payment**
  Target, advantages, ergonomics, security,
  - Target
  - Advantages
  - Ergonomics
  - Security
  - MasterCard Contactless and Visa payWave™ approaches
  - EMVCo contactless program
  - …
- **Contactless Payment's demonstration**
  Using real cards and readers
- **Transit (Calypso)**
  - Card structure
  - Command set
  - "secure session"
  - "ratification"
  - lessons to be learnt
- **Identity (e-Passport)**
  - ICAO standards
  - Command set
  - BAC and EAC
  - Public key infrastructure

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### 4. Conclusion

- **Status and perspectives**

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*Due to the continuous changes, the content of the seminar is updated regularly*

**Galitt**