

# Payment Academy - EMV Training Courses



The Netherlands

Singapore

Canada

US

Finland

Indonesia

In-house

## EMV Training Course

The EMV Training Course offered by Collis is an ideal opportunity to learn all about the EMV payment schemes. Whether you're completely new to the world of EMV or already have a basic background, this course teaches you about what happens "behind the scenes" of EMV payments. It is our goal that the knowledge gained throughout this course will enable you to understand where your business fits into the entire scheme.

You are trained by Collis' experienced trainers. All of them are EMV experts with years of hands-on EMV experience. Combined with clear training objectives and easy-to-understand training materials, Collis builds the EMV knowledge you require.

Collis EMV Training Courses are held several times each year in the Netherlands. Courses are also held on request in Singapore, Canada, US or Finland. For the 2010 dates, please check our website: [www.collis.nl](http://www.collis.nl)

## In-house Training

When it comes to training a number of colleagues from the same company, an in-house course may be the better option. Collis can focus the EMV Training Course more during an extra half day, allowing for more interaction about your company's specific situation. For a customized offer, please contact Collis.

## About Collis

Collis is a leading provider of products and services for EMV payment systems. Collis' unique offering of consulting services, training courses and testing tools gives you a one-stop solution provider for your business challenges. The course's interactive program combines theory and practice and is fully up-to-date.

The EMV Training Course is divided into an introductory Executive Summary and an in-depth Expert Course. It is possible to attend these separately.

Benefit from Collis' expert EMV knowledge and attend the next EMV Training Course!

## Your key benefits

- Both introductory and in-depth courses available
- Easy-to-understand course material
- Demonstrations of real life EMV transactions
- Interactive with plenty of opportunities to ask your questions
- Trained by EMV experts with years of hands-on experience
- In-house training also available

# Course outline

Allow us to wipe away any uncertainties or queries you've ever had regarding EMV

## EMV Executive Summary

The *EMV Executive Summary* provides a business introduction to the world of EMV. This workshop covers EMV payment schemes from a higher business perspective. EMV is uncovered in clear, non-technical terms, providing instant knowledge of what EMV is! In this way, you and your customers receive the full benefit of this course.

**Duration:** 0.5 day

**Intended Audience:** No special skills or knowledge required



## Company-specific component

Collis provides a focus on industry specific matters facing your company in the EMV environment. More time is allowed to incorporate company-specific aspects of EMV. Specific questions and discussion of scenarios are encouraged.

**Duration:** 0.5 day



## EMV Expert Course

The *EMV Expert Course* dives more deeply into the technicalities that drive EMV. During this course, the impact of EMV on cards, POS terminals, ATMs, acquiring networks and host systems is unveiled. The EMV transaction flow will be explained as well as other topics such as cryptography, issuer scripting, and the EMV Common Core Definitions (EMV4.1).

**Duration:** 1 day

**Intended Audience:** Technical background and/or have followed the EMV Executive Summary



# EMV Course Program Guide

The EMV Open Training Course is a 1.5 day course, and follows the program as mentioned below. In-house training include the same content, but start at 9.00 on day 1, allowing for the extra half day Company Specific Module.

## EMV Executive Summary (day 1)

### Intended Audience

Day 1 is suitable for people with a business focus and/or a more technical oriented focus. The subjects that will be discussed and presented will not be too technical, and will be interesting for a all people that want to know more about EMV.

### Required skills & expertise

To attend day 1, no special skills or expertise are required. Knowledge of financial transaction systems is an advantage.

13.00 - 13.15

### Introduction

13.15 - 14.15

### The evolution of payment schemes

This presentation starts with a short introduction in payment schemes, explaining scheme-generic terms like issuer, acquirer, clearing & settlement, service fees etc. This knowledge about the basic principles of card payments is an absolute prerequisite for those who want to understand EMV. The presentation continues with the evolution of card payments over the years, starting from embossing cards, via magnetic stripe cards to EMV chip cards. After this presentation, the attendees will know the basic principles of EMV, and the role it fulfils in domestic and international payment schemes. The differences with current magnetic stripe infrastructures (from card, pos, host, issuing, acquiring and authorization point of view) will be used as reference points.

14.15 - 15.30

### The EMV specifications

Now that the attendees are familiar with the concepts of EMV, it is time to have a look at the EMV specifications itself. Since the EMV specifications are payment terminal specifications, the focus in this presentation will be on EMV payment terminals and how they are perceived through the eyes of EMVCo, the central body governing the EMV specifications. This presentation includes:

- **EMV terminal certification (Level 1 & 2)**
- **Terminal brand approval**
- **Differences between EMV 3.1.1, EMV 4.0, and the new EMV 4.1 specifications**
- **Relationship between the EMV specifications and the specifications of the payment schemes (e.g. VIS1.4.0, M/Chip 4 etc.)**
- **Contents of EMV book 1, 2, 3, and 4. The relevance of each book for the attendees will be detailed.**

15.30 - 15.45

### Coffee break

# EMV Course Program Guide

- 15.45 - 16.30**      **EMV Functional Transaction flow**  
This presentation explains in clear, non-technical terms the “EMV transaction flow”. During this presentations, many aspects of EMV payment schemes will be put in perspective, such as:
- **How does EMV handle offline and online transactions. What are the advantages and disadvantages?**
  - **Does EMV really protect us against skimming fraud? What security measures can be taken?**
  - **What is issuer scripting? When can it be used?**
- 16.30 - 16.45**      **Demonstration EMV transaction**  
During this demonstration, the attendees will get to see the communication between pos terminal (atm), acquiring host, and issuing host (authorisation). What does an EMV authorisation request look like?
- 16.45 - 17.00**      **Questions - round up - closure day 1**

## EMV Expert Course - Day 2

### Intended Audience

The EMV Expert Training is suitable for people with a more technical oriented focus. All attendees must have attended the EMV Executive Summary. During the Workshop we limit ourselves to functional aspects of EMV. In the EMV Expert Training, we will focus on the technical matters of EMV (also by means of the exercises and practical experiments).

### Required skills & expertise

To attend the EMV Expert Training a technical background / view is required. The expert training will give a good impression on what happens “under the hood” in an EMV infrastructure.

- 9.00 - 9.15**      **Recap Day 1**  
Brief recapitulation of the topics covered during the first day of the workshop.
- 9.15 - 10.30**      **EMV technical transaction flow**  
This presentation covers in technical detail the EMV transaction flow between card, terminal (ATM), acquirer host, payment network, and issuer host. All relevant techniques (SDA, DDA, CDA, Issuer Scripting etc.), data elements, and terminology (CDOL, Issuer Action Codes etc.) are explained. Special attention is paid to PIN handling, Issuer Scripting, security, and Risk Management.
- 10.30 - 10.45**      **Coffee break**
- 10.45 - 12.00**      **EMV technical transaction flow (continued)**
- 12.00 - 13.00**      **Lunch**

# EMV Course Program Guide

13.00 - 13.15

## **Demonstration**

During this demonstration, an EMV chip will be turned inside out! The attendees will see what information is actually stored inside their EMV card, how it is structured, and also what it means! But not just that... using advanced tracing and monitoring tools, the attendees will get to see theory turned into reality when the communication between EMV card and terminal is visualised.

13.15 - 14.30

## **EMV exercises**

During this session, the attendees will carry out several EMV exercises. With the information gathered during the training the attendees are asked to set up card and terminal risk parameters, analyse a specific transaction failure, determine EMV transaction performance (how many seconds does an EMV transaction last) etc. These exercises are not exams but are aimed at teaching the attendees how they can solve complex EMV issues with the information in their training materials and in the EMV specifications.

14.30 - 14.45

## **Coffee break**

14.45 - 16.15

## **EMV exercises (continued)**

16.15 - 16.45

## **Cryptography and Key Management**

Cryptography and EMV are topics that are often associated with one another. No wonder, because it is the cryptography that makes EMV-based payment schemes secure. This presentation explains what cryptography is and how it is applied within EMV (key management, (a-)symmetrical cryptography, key distribution, do's and don'ts etc.)

16.45 - 17.00

## **Questions - round up - closure day 2**



# EMV Trainer Profiles

## **Maarten Bron** **Vice President Collis Innovation Centre**

Maarten founded the Payment Academy in 2002. A highly experienced EMV professional, Maarten has been leading turn-key Payment and EMV consultancy projects world wide. Maarten's extensive qualifications and experience includes a double degree majoring in Bachelor of Computer Engineering and Business Administration.



## **Rick Hsu,** **EMV Consultant**

Rick is managing Director of the Collis Asia office in Singapore. Rick has extensive EMV experience gained from managing many of Collis' EMV projects in Korea, Japan, Taiwan, China and Singapore. Therefore, he will enrich the training by providing interactive exploration of the whole industry. Prior joining Collis, Rick spent many years working in the smart card industry. His high level qualifications and experience include both technical and commercial aspects.

## **Itai Sela** **Managing Consultant**

Itai has been working in the Payment industry both in business and technical areas since 1999. As a knowledgeable senior, he has assisted major Israeli, Canadian, and British credit card companies and international banks in successfully implementing numerous smartcard projects. Itai has profound experience in providing operational and technical consultancy and training. Recently, he has been focusing on the Canadian market, where he gives many training courses to major stakeholders in the Canadian payments businesses.



## **Darren Tan** **EMV Consultant**

Having graduated in business IT in Australia and involved leading projects in EMV and e-ID, Darren is able to make a direct link between technology and business. He has gained valuable hands-on experience with projects for acquirers, card issuers, scheme issuers and vendors. On top of that, Darren's extensive knowledge regarding project management, system design, implementation, and testing will definitely help you to tackle the challenges from different perspectives.

## **Pieter Poorthuis** **Payment Consultant**

Being a highly skilled payment consultant, Pieter has successfully managed global EMV projects. Pieter is well-experienced in the card issuing, processing and acquiring side (ATM, POS, Internet payments/e-banking). Besides this, he is an expert in delivering high and low level EMV training courses. As a Master of Science, he easily deals with complex EMV challenges and explains them in a clear and simple manner.

