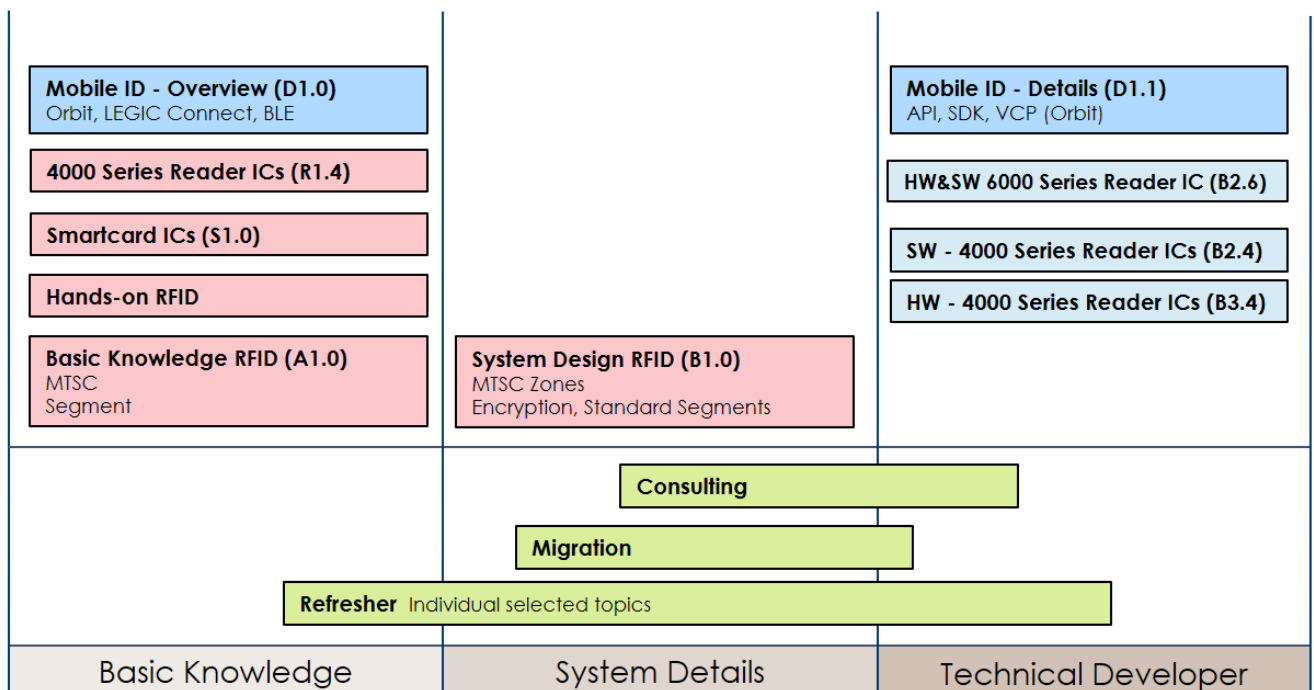


# LEGIC Academy Training and Consulting Program



## Overview Training Modules



## Management summary

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LEGIC offers a variety of specific training opportunities and courses to allow your company and your employees a fast, carefree entry into LEGIC's technology. LEGIC Academy covers useful information for Management, PM, Sales and especially for R&D personnel to enable a successful project realization.

Such a training can always be combined with consulting services.

New LEGIC partners book a training for a steep learning curve of their employees on LEGIC's base technology.

For existing LEGIC Partners, we provide training to refresh knowledge and reduce half-knowledge. Such a refresher-training may lead to new business ideas, based on the most recent technical information from LEGIC.

All courses are held in an interactive way in English or German (documentation is in English) and lasts typically from 09:00 to 16:30 with breaks at LEGIC headquarter in Wetzikon, Switzerland.

Training topics may cover the following parts according your demands:

- RFID: Basic and Detail knowledge about Master-Tokens, Segments and the system philosophy
- Mobile ID: Basic and Detail Knowledge about LEGIC Orbit, LEGIC Connect, BLE and Mobile SDK
- Hands-on (e.g. analyzing cards, creating Master-Tokens, initializing RFID Cards, Apply Mobile ID)
- Overview of Smartcard and Reader ICs
- Application of Reader IC Hardware

Consulting Sessions can be booked for:

- End-Customers: How to organize a future proof hierarchical MTSC Structure
- Manufacturers: Reviews application of Reader IC and Smartcard IC in Hard- and Software
- Solution Providers: How to realize an own Business idea with LEGIC base technology
- Discussing Migration Scenarios (prime → advant)

Are you interested in signing up for a payable LEGIC training or Consulting Service? You can ask your responsible LEGIC Business Development Manager for topics, costs and dates or contact the training department directly by [academy@legic.com](mailto:academy@legic.com).

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## Course details

### A1.0 Basic Knowledge RFID

**Duration:** approx. 6 hours (1 day)

**Training targets:**

- The attendees **understand** the LEGIC technology consisting of reader ICs and Smartcard ICs and the role of the LEGIC partners.
- The attendees **explain** the difference between GAM, SAM, IAM of the Master-Token System-Control.
- The attendees **know** about the 3rd party transponder compatibility with MIFARE and NFC.

**Topics:**

- Overview LEGIC technology
- How to distribute rights with Master-Token System-Control (MTSC)
- Segment configuration
- Multi-Standard

**Target audience:**

- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator
- Consultant
- System operator
- Technical management
- Product management
- Project management
- R&D personnel
- System administrators
- System architects



### B1.0 System Design RFID

**Prerequisite:**

- "A1.0 Basic Knowledge RFID"

**Duration:** approx. 3 hours (half day)

**Training targets:**

- The attendees
- **sum up** the inheritance MTSC features.
  - **assign** the «+»-Function of SAM, IAM.
  - **classify** the three different Master-Token Zones.
  - **identify** correctly three encryption features delivered by LEGIC.
  - **describe** the two LEGIC standard segments «access» and «cash».

**Topics:**

- Security in LEGIC systems
- Master-Token details
- MTSC Zone concept
- Encryption
- Standard segments

**Target audience:**

- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator
- Consultant
- System operator
- Technical management
- Product management
- Project management
- R&D personnel
- System administrators
- System architects

## B2.4 Software and Communication - 4000 series Reader IC

### Prerequisite:

- "A1.0 Basic Knowledge RFID"

**Duration:** approx. 1.5 hours

### Training targets:

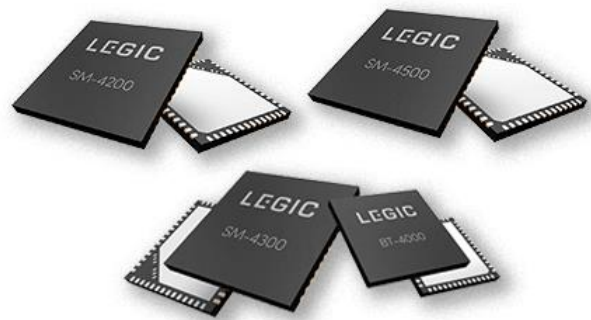
- The attendee **knows** the command structure of the LEGIC host commands and uses the commands with DKS.
- The participants **see** the simplicity of the host commands and **knows** how to access 3<sup>rd</sup> party transponders and BLE Devices.

### Topics:

- Command sequence and state machine
- Command structure
- Typical command patterns (RFID and Mobile ID)
- Tips and tricks
- Support 3<sup>rd</sup> party transponders & BLE devices
- Summary

### Target audience:

- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator
- Consultant
- Technical management
- Product management
- Project management
- R&D personnel
- System architects



## B3.4 Hardware 4000 series Reader ICs

### Prerequisite:

- "A1.0 Basic Knowledge RFID"

**Duration:** approx. 1.5 hours

### Training targets:

- The attendees **describe** the function of all electronic parts surrounding 4000 series reader chips.
- The attendees **explain** the pros and cons of the three different basic circuits that LEGIC provides.
- The hardware designer and the buyer agent **argue** why LEGIC defines mandatory parts and designs recommendations to be applied with the 4000 series reader chips.

### Topics:

- Schematics in detail
- Power safe modes
- Layout design-guidelines (RFID + BLE)
- Antennas (RFID + BLE)
- Test and verification
- Summary

### Target audience:

- System supplier (Reader manufacturer)
- System integrator
- Consultants
- R&D personnel
- System architects

## B 2.6 HW and SW 6000 series Reader ICs

### Prerequisite:

- “A1.0 Basic Knowledge RFID” or “D1.0 Mobile ID Overview”

**Duration:** approx. 3 hours

### Training targets:

- You can **apply** the correct commands on a SM-6300 Reader IC to access data on LEGIC advant RFID and on a Mobile App using LEGIC Mobile SDK.
- You can **implement** the SM-6xx0 Reader IC in your own circuit and you **know** the meaning and behavior of configuration and communication pins.

### Topics:

- Product overview SM-6300 Reader IC
- Firmware for SM-6300 Reader IC
- Hardware SM-6300 Reader IC

### Target audience:

- System integrator
- Consultants
- R&D personnel
- System architects
- Technical management
- Product & project Management
- System supplier reader manufacturer

## Hands-on RFID

### Prerequisite:

- “A1.0 Basic Knowledge RFID” (Basic part)
- “System Design RFID – B1.0” (for full part)
- Recommended: EK-4000 / EK-4300 / EK-6300

**Duration:** approx. 2 - 4 hours

### Training targets:

- The attendees
- analyze segments on LEGIC smartcard IC.
  - generate SAM and IAM from a GAM, including the “+”-Tokens.
  - launch a reader based on a SAM.
  - create own segments.
  - read out and set values on the IDB.

- use a CTC smartcard IC to identify the differences between prime and advant.

### Target audience:

- R&D engineers
- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator / Consultant
- Technical management
- Product management
- Project management
- System architects

## Training with an Evaluation Kit (EK-4000, EK-4300, EK-6300)

Depending on the purchasing option of an Evaluation Kit, a training is included

Training with Evaluation Kit contains of following parts:

EK-4300

- a subset of course “Basic Knowledge A1.0”
- introduction to command set, subset of course B2.4 or B2.6
- Hands-On with DKS-Tool

EK-4300 / EK-6300

- a subset of course “Mobile ID – Overview D1.0” or A1.0
- introduction to command set, subset of either B2.3 (EK-4300) or B2.6(EK-6300)
- Hands-on with DKS-tool



## S1.0 Smartcard ICs / Transponders

**Duration:** approx. 1 hour

### Training targets:

- The attendee **discusses** correctly why a matched smartcard IC antenna is important.
- The attendee **assigns** correctly the expressions CTC, ATC, MIM, prime, advant, AFS to the smartcard IC.

### Topics:

- Smartcard IC Overview
- Smartcard Antenna Design
- Virtualized Smartcard IC

### Target audience:

- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator / Consultant
- System operator
- Product management
- Project management
- R&D personnel
- System administrator

## R1.4 Introduction 4000 series Reader ICs

**Duration:** approx. 1 hour

### Training targets:

- The attendees **describe** the technical differences between the 4000 series variants.
- The participants **explain** the most useful entries in the IDB for her/his project.

### Topics:

- Overview 4000 series reader chips

### Target audience:

- System supplier (Smartcard manufacturer & reader manufacturer)
- System integrator / Consultants
- Technical management
- Product management
- Project management
- System administrator

## Consulting for e.g. migration scenarios, system design topics, ...

### Prerequisites:

- "A1.0 Basic Knowledge RFID" (For simple systems)
- "System Design RFID – B1.0" (For complex systems)
- Customer input prior to consulting.

**Duration:** according customer's demand

### Possible Workshop targets:

- Discuss project for a new employee card.
- System review on HW and SW
- Develop basic ideas to implement new applications or business cases.
- Discuss migration from prime to advant.
- Evaluate right statements for submissions.

### Possible Topics:

- Entry points for a system overview
- Card layout with future demands
- Clarify system demands
- how to solve specific business cases
- Tips and tricks
- First proposal of a stamp structure
- Migration scenarios prime -> advant
- Hints for submission / engineering
- First reviews of HW
- Discuss SW patterns
- Master-Token handling & management

### Target audience:

- System managers
- System developers
- System operators

## D1.0 Mobile ID - Overview

**Duration:** approx. 6 hours (1 day)

**Training targets:**

- You **analyze** how to adapt LEGIC Connect and a BLE reader IC to your company during this training.
- You **explain** how LEGIC Orbit may help you for your business logic.
- You **describe** all tools involved to setup a LEGIC Connect project correctly.

**Topics:**

- Introduction
- Overview Mobile ID and BLE
- LEGIC tools for mobile ID
- Setup LEGIC connect
- Key- and Authorization management ORBIT
- Use Cases and Application of Mobile ID
- Walk through ControlCenter and IDDirect
- Summary

**Target audience:**

- System supplier
- System integrator / Consultants
- System operator
- Technical management
- Product management
- Project management
- R&D personnel
- System administrators
- System architects



## D1.1 Mobile ID - Details

- **Prerequisite:**  
"D1.0 Mobile ID - Overview"

**Duration:** approx. 3 hours (1/2 day)

**Training targets:**

- You **identify** the essential parts of the mobile SDK to focus on during app development.
- You **describe** the possible formats and commands for attaching a back-end system to communicate with LEGIC Connect.
- You **illustrate** how to handle VCPs in a LEGIC Reader IC for your specific use case.

**Topics:**

- System design details
- Integrate back-end system
- Mobile SDK android
- VCP Handling (part of LEGIC Orbit)

**Target audience:**

- Technical management
- Project management
- R&D personnel
- System administrators
- System architects

## Refresher course

Individually selectable topics from existing training modules to update or synchronize the employees existing knowledge, according to customers wishes.

Mainly used for refresher and update about LEGIC base technology.

## Typical course combinations

		Available Courses and Topics											Typical Course Duration [days]	
		A1.0: Basic Knowledge RFID	B1.0: System Design RFID	R1.0: Introduction 4000 series Reader ICs	S1.0: Smartcard IC / Transponders	B2.4: SW & Communication 4000 series	B3.4: HW 4000 series Reader ICs	B2.6: HW & SW 6000 Series Reader IC	Hands-on RFID	Migration prime -> advant	First Steps of Consulting	D1.0: Mobile ID Overview		D1.1: Mobile ID Details
Target Customer	<i>End user</i>	★	★	○	○			○	○	○	○	○	○	2
	<i>Card manufacturer</i>	★	★		★	★		○	○	○				2
	<i>Reader manufacturer</i>	★	★		○	★	★	★	○			○		2
	<i>Solution provider RFID</i>													
	<i>System integrators RFID</i>	★	★	★	★			s		★	○			2
	<i>Consultants RFID</i>													
	<i>Solution provider MobileID</i>													
	<i>System integrators MobileID</i>			○	○	s	s	★				★	○	1
	<i>Consultants MobileID</i>													
	<i>Technical management</i>													
	<i>Product management</i>	★	★	★	★			s	○					1
	<i>Technical sales</i>													
	<i>R&amp;D personnel RFID</i>	★	★		○	★	★	★	○					2
	<i>R&amp;D personnel BLE</i>					s	s	★				★	★	2
<i>Refresher</i>														
<i>Individual Training</i>	s	s	s	s	s	s	s	s	s	s	s	s	1	
<i>Training with EK-4000</i>	s				★	○		★					1	
<i>Training with EK-4300</i>					★	○		★			s		1	
<i>Training with EK-6300</i>	s						★				s		1	
Duration of a module [h]		6	3	1	1	1.5	1.5	3	2-4	1		6	3	

**Legend:** ★ = recommended parts  
s = selected parts of the training module  
○ = optional parts

One training day consists of 6 module hours.