

# **CE RFID**

Coordinating European Efforts  
for Promoting the European  
RFID Value Chain

## **RFID Reference Model**

# Objectives of the RFID Reference Model

- The RFID Reference Model serves as framework
- Delivers structure for discussion on RFID-application level
- Basis of the analysis were more than 100 different RFID applications (described in the documentation of the Model)
- Designed to give a quick overview on RFID applications and associated properties and challenges
  - For different projects, surveys etc.
- The RFID Reference Model should be used as a standard Matrix for all further interpretations
- Structure: Model defines 40 RFID applications (called “subcategories”) summed up to 8 “Application Fields”

# RFID Reference Model – current status

RFID-Application Fields	Description
A. Logistical Tracking & Tracing	<ul style="list-style-type: none"> <li>• Solely identification and location of goods and returnable assets (e.g. pallets or containers)</li> </ul>
B. Production, Monitoring and Maintenance	<ul style="list-style-type: none"> <li>• Smart systems in combination with RFID-Technology to support production, monitoring, and maintenance of goods and processes</li> </ul>
C. Product Safety, Quality and Information	<ul style="list-style-type: none"> <li>• Applications to insure quality (e.g. sensors to monitor temperature) and product safety (e.g. fight against counterfeiting)</li> </ul>
D. Access Control and Tracking & Tracing of Individuals	<ul style="list-style-type: none"> <li>• Single function tags for identification and authorisation applications for entries and ticketing</li> </ul>
E. Loyalty, Membership and Payment	<ul style="list-style-type: none"> <li>• Smart Card based identification and authorisation systems for multi-functional applications (e.g. loyalty, payment, and banking systems)</li> </ul>
F. eHealth Care	<ul style="list-style-type: none"> <li>• Systems for hospital administration and smart systems to support and monitor health status</li> </ul>
G. Sport, Leisure and Household	<ul style="list-style-type: none"> <li>• Sports applications, rental systems (e.g. cars or books), smart home</li> </ul>
H. Public Services	<ul style="list-style-type: none"> <li>• Systems mandated by law or to fulfill public duties (e.g. ID-Cards, Health Insurance Cards, Road Tolling Systems)</li> </ul>

# The RFID Reference Model

A. Logistical Tracking & Tracing

B. Production, Monitoring, Maintenance

C. Product Safety, Quality, Information

D. Access Control, Tracking & Tracing

F. eHealth Care

H. Public Services

# A. Logistical Tracking & Tracing

## A. Logistical Tracking & Tracing

- AA. Inhouse Logistics**
- AB. Closed Loop Logistics**
- AC. Open Logistics**
- AD. Postal Logistics**
- AE. Dangerous Goods Logistics**
- AF. Manufacturing Logistics**

## **B. Production, Monitoring, Maintenance**

B. Production, Monitoring, Maintenance

**BA. Archive Systems**

**BB. Asset Management (incl. Environmental Monitoring)**

**BC. Facility Management**

**BD. Vehicles**

**BE. Airplanes**

**BF. Automation / Process Control**

**BG. Food and Consumer Goods**

## C. Product Safety, Quality, Information

A. Logistical Tracking & Tracing

B. Production Monitoring, Maintenance

**C. Product Safety, Quality, Information**

- CA. Fast Moving Consumer Goods
- CB. Electronics Goods
- CC. Textile Goods
- CD. Fresh/Perishable Foods
- CE. Pharmaceutical
- CF. Customer Information Systems

D. Access Control, Tracing

E. Healthcare

F. Public Services

# **D. Access Control, Tracking & Tracing of Individuals**

**D. Access Control, Tracking & Tracing**

**DA. Ticketing**

**DB. Access Control Systems**

**DC. Animal Tracking**

**DD. Personal Tracking**

# E. Loyalty, Membership, Payment

**EA. Loyalty Cards**

**EB. Membership Cards**

**EC. Contact less Banking Cards**

**ED. Payment and Advertising**

A Logistical Tracking & Traceability

B Production Monitoring/Maintenance

C Product Safety, Quality & Recall

D Access Control & Time Management

E Identification

F Retail Services

# F. eHealth Care

- FA. Assistance for the Disabled**
- FB. Hospital Management**
- FC. Implants**
- FD. Medical Monitoring**
- FE. Smart Implants**

A. Assisted Living

B. Production Monitoring

C. Retail Supply Chain

D. Vehicle Tracking

F. eHealth Care

G. Warehouse

## **G. Sport, Leisure, Household**

**GA. Sports Applications**

**GB. Rental Systems**

**GC. Smart Games**

**GD. Smart Home**

## **H. Public Service**

**HA. Public Service Maintenance**

**HB. Road Tolling Systems**

**HC. Banknotes**

**HD. ID Cards and Passports**

**HE. Health Insurance Cards**

# RFID Reference Model – Example of Use

# Status of Application

- RFID Reference Model can be downloaded from our website:  
Homepage: [www.rfid-in-action.eu/rfid-referencemodel](http://www.rfid-in-action.eu/rfid-referencemodel)  
eMail: [rfid-referencemodel@rfid-in-action.eu](mailto:rfid-referencemodel@rfid-in-action.eu)
- Every 6 Month an update (until the end of the CE RFID Project)
- Internal and external use (some examples):
  - Show and structure results in all Work packages
  - Survey conducted within CERP Cluster to structure research and application fields of participating projects
  - Freiburg University: Survey of SMEs using RFID technology
- Publishing the results of different projects which use the model

# Further questions?

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