

# Smart Card Technologies

Applying the power of Smart Cards to your needs



## SIM Cards

- Our **SIM card products** conform to **ETSI** specifications. See the table on the next page for the most relevant specification documents.
- **SIM-toolkit applications** have been developed for OTA provisioning, international roaming, call control, location-based marketing, extended phonebooks, and more.



## Tools

- **Smart Profile Wizard** – captures and verifies profiles
- **Cryptic** – a scripting language optimised for smart cards
- **CardScope** – records and displays the data transmitted over an ISO/IEC 7816 interface



## mCommerce

- The **Virtual Top-Up (VTU)** applet that we developed, turns any phone into a **secure vending** device, enabling distributors and vendors to easily distribute a wide range of products such as **Prepaid Airtime, Data, Electricity, and Lotto tickets**.
- The award-winning SIM-based mobile money application called **SMART Money** uses our **cryptographic libraries**.
- Our **NFC contactless payment** card technology makes convenient payments possible.
- Furthermore, we have experience with **EMV security standards**.



## Frameworks

- Java Card 2.2.2, including numerous industry-standard and proprietary packages
- Over 130 native VAS support enhancements implemented as plug-ins
- S@T V3 micro browser
- WIB 1.3 micro browser
- USAT micro browser
- Global Platform 2.1.1
- Remote File Management
- Remote Application Management
- Over-The-Air patching
- DES, 3DES, AES, RSA (up to 2048 bit keys)
- Wear levelling
- NFC

## Specification Documents

Reference	Title
3GPP TS 11.11 ETSI TS 100 977	Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) Interface
3GPP TS 11.14 ETSI TS 101 267	Specification of the SIM Application Toolkit (SAT) for the Subscriber Identity Module - Mobile Equipment (SIM-ME) interface
3GPP TS 21.111 ETSI TS 121 111	USIM and IC card requirements
3GPP TS 23.040 ETSI TS 123 040	Technical realization of the Short Message Service (SMS)
3GPP TS 23.048 ETSI TS 123 048	Security Mechanisms for the (U)SIM application toolkit
TS 31.101 ETSI TS 131 101	UICC-terminal interface; Physical and logical characteristics
3GPP TS 31.102 ETSI TS 131 102	Characteristics of the Universal Subscriber Identity Module (USIM) application
3GPP TS 31.111 ETSI TS 131 111	Universal Subscriber Identity Module (USIM) Application Toolkit (USAT)
3GPP TS 31.115 ETSI TS 131 115	Secured packet structure for (Universal) Subscriber Identity Module (U)SIM Toolkit applications
3GPP TS 31.116 ETSI TS 131 116	Remote APDU Structure for (U)SIM Toolkit applications
3GPP TS 31.130 ETSI TS 131 130	(U)SIM Application Programming Interface (API); (U)SIM API for Java™ Card
3GPP TR 31.900 ETSI TR 131 900	SIM/USIM internal and external interworking aspects
3GPP TR 31.919 ETSI TR 131 919	2G/3G Java Card API based applet interworking
3GPP TS 35.205 ETSI TS 135 205	Specification of the MILENAGE algorithm set: An example algorithm set ...; Document 1: General
3GPP TS 35.206 ETSI TS 135 206	Specification of the MILENAGE algorithm set: An example algorithm set ...; Document 2: Algorithm specification
3GPP TS 43.019 ETSI TS 142 019	Subscriber Identity Module Application Programming Interface (SIM API) for Java Card; Stage 2
3GPP TS 51.011 ETSI TS 151 011	Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) interface
3GPP TS 51.014 ETSI TS 151 014	Specification of Subscriber Identity Module - Mobile Equipment (SIM - ME) Interface for SIM Application Toolkit
ETSI TS 102 127	Transport protocol for CAT applications; Stage 2
ETSI TS 102 221	UICC-Terminal interface; Physical and logical characteristics
ETSI TS 102 222	Administrative commands for telecommunications applications
ETSI TS 102 223	Card Application Toolkit (CAT)
ETSI TS 102 225	Secured packet structure for UICC based applications
ETSI TS 102 226	Remote APDU structure for UICC based applications
ETSI TS 102 241	UICC Application Programming Interface (UICC API) for Java Card
ETSI TS 102 267	Connection Oriented Service API for the Java Card platform