LEGIC

EAL 5+

Hardware
Root-of-Trust

Mobile & smartcard
authentication options

User & device
management

Cloud ready

Enabling secure interactions between people and things

LEGIC's Security Platform lets your IIoT apps authenticate devices and users and manage their credentials, while monitoring their operation and usage.

By 2021, the number of devices and machines connected to the internet will exceed the number of human connections. This global market for Internet of Things (IoT) technology will reach $6.2 trillion by 2025. Industrial IoT (IIoT) applications are the main driver for this trend.

At LEGIC, we believe that designing IIoT apps goes beyond just managing "Things". Managing the relationship between people and "Things" such as machines, company assets, sensitive data, tools and vehicles is what creates the most value for people, businesses and organizations.

As a leader in contactless smartcard and smartphone authentication, credential management services and ICs, LEGIC enables developers of IIoT applications to authenticate and manage humans, machines and assets. This allows them to work together in the most efficient, secure and profitable way.

Don´t just
manage things ...

Industry 4.0

We help IIoT app developers to securely connect people, products, machines and vendors to optimize manufacturing, allocate resources, increase security and lower costs.

Healthcare

Our credential management technology enables personalized access to a wide range of IIoT healthcare applications such as permissioned access to physical areas, diagnostic tools, medical and administrative data.

Logistics

With the ability to authenticate, configure and monitor interactions between people and logistics chains, our technology enforces adherence to correct processes, ensuring fast and secure delivery of goods.

Retail

Smartphone-based retail services is the future of mobile shopping. Matching products and shops with mobile consumers depends on Bluetooth communications, customer profiling and secure authentication of shoppers on the go.

Resource Sharing

Unused value is wasted value. Powered by our IIoT technology, we enable you to design systems that allow people to securely share valuable assets such as vehicles, real estate, tools, machines, computing and IT resources.

Smart Buildings

Our technology enables autonomous permissioned control of a building's operations in response to specific occupant needs - climate control, ventilation, lighting, security, entry control and resource access management.

Smart Home

LEGIC's ICs and software enables secure, autonomous entry control to homes and rooms, as well as personalized management of environmental and security conditions based on personal credentials.

Smart City

By mid-century, 70% of the world's population will live in cities. Matching mobility, access, e-payment, information and social inclusion services to individual preferences depends on secure credential management. This is where we excel.
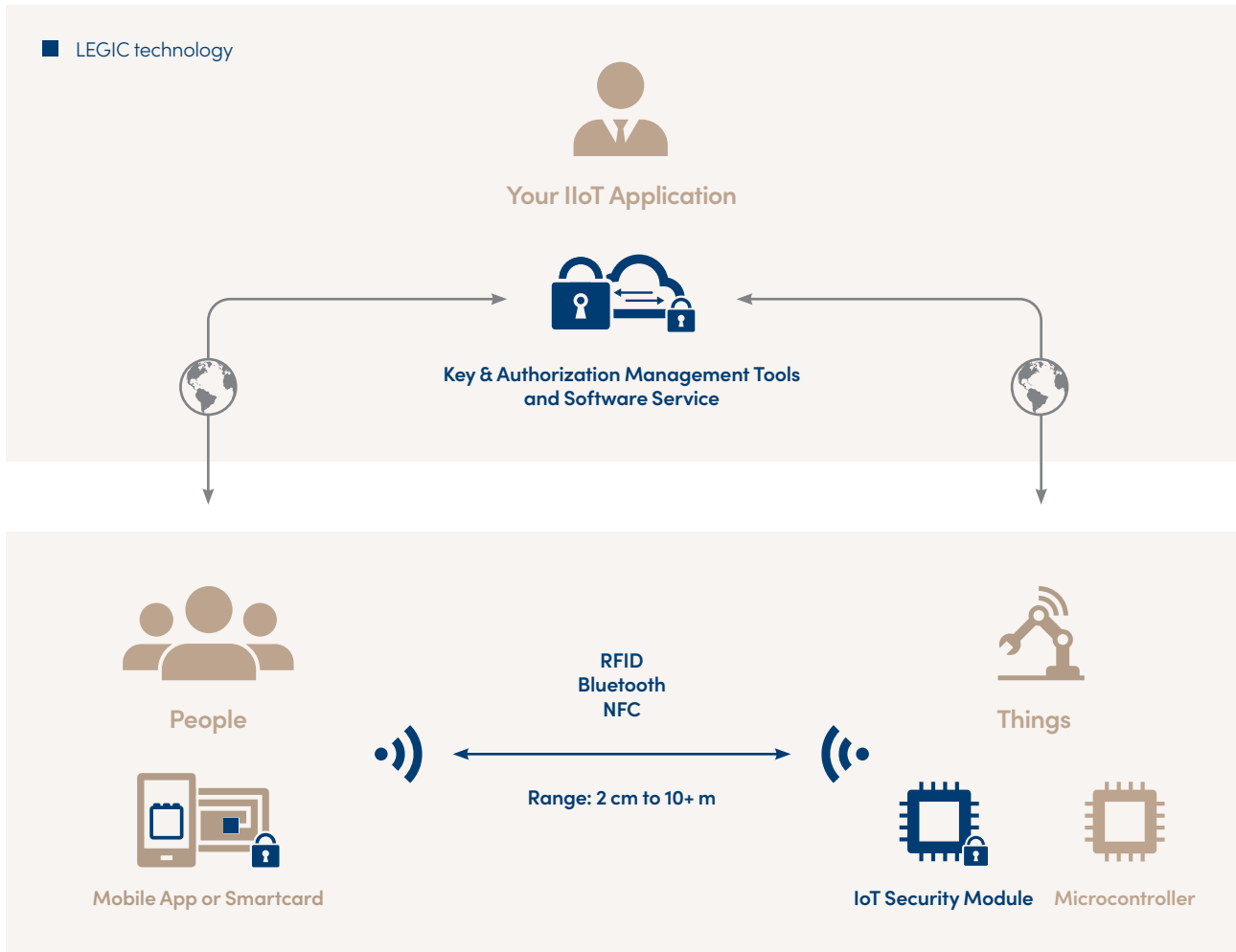
LEGIC's Security Platform enables:

- **IIoT device registration and authentication**
  Based on Hardware Root of Trust and symmetrical encryption

- **IIoT device access**
  Based on autonomous smartcard / smartphone and multifactor authentication

- **Secure provisioning of applications**
  Who can use what, when and where based on personal credentials

- **Collection of usage-based data**
  Who used what for how long and where

- **Scalable user authentication**
  PIN, Two-Factor Authentication, biometrics

- **High-security storage and processing**
  Based on certified Secure Element (EAL5+)

- **Programmable secure environment (EAL5+)**
  For hosting your embedded IIoT apps

- **Low-power online/offline capability**
  Ideal for battery-powered and offline apps

... manage how
people use things.

Enabling secure interactions between people and things

With LEGIC's connected IIoT Security Platform, your applications can remotely authenticate, manage, and monitor the interactions between people and things based on individual user credentials.

■ LEGIC technology

Your IIoT Application

Key & Authorization Management Tools and Software Service

People

RFID
Bluetooth
NFC

Range: 2 cm to 10+ m

Things

Mobile App or Smartcard

IoT Security Module   **Microcontroller**
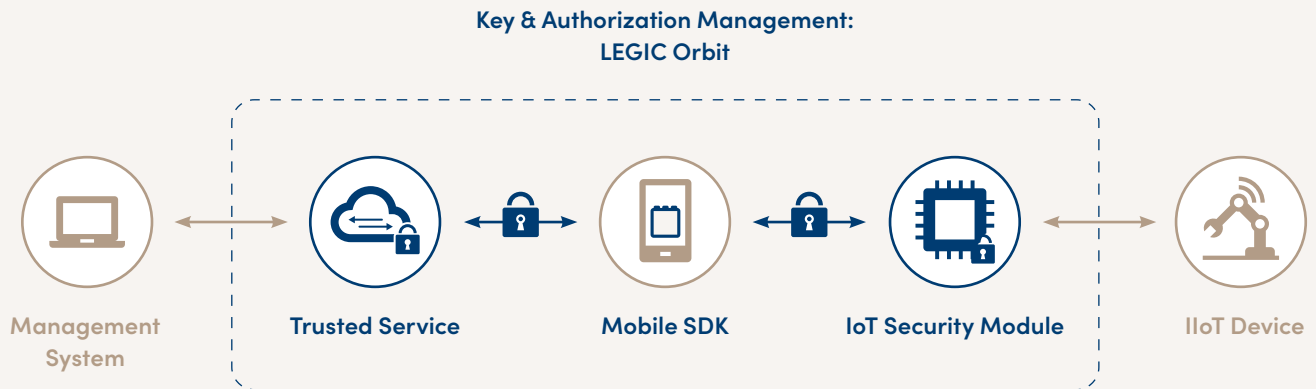
Configure & manage:

- Who may use what, when, where
- Functionality available per user
- Who used what for how long when and where
- Who receives what information, when and where
- Bidirectional messaging between IIoT app and edge devices

Ideal for IIoT applications requiring:

- Ultra high security based on Root-of-Trust
- Multi-factor authentication
- Protection of valuable assets and data
- Resource sharing
- Management of multi-users using multi-apps
- Follow-me services
- Usage monitoring
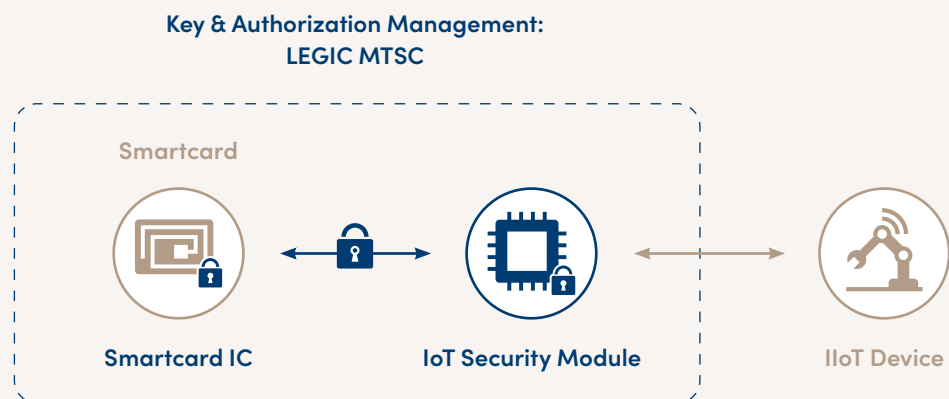- Battery-powered, online/offline functionality

Smartphone solution

- Long-range contactless communications (10+ m)
- Integratable with 3rd party smartphone apps
- Display supports interactive information
- Instant, remotely updatable/revocable permissioning

- Built-in multifactor authentication capability
- Real-time over-the-air software updates
- Available for iPhone and Android
- 24/7 unmanned operation

Key & Authorization Management:
LEGIC Orbit

Management System → Trusted Service ⇄ Mobile SDK ⇄ IoT Security Module ↔ IIoT Device
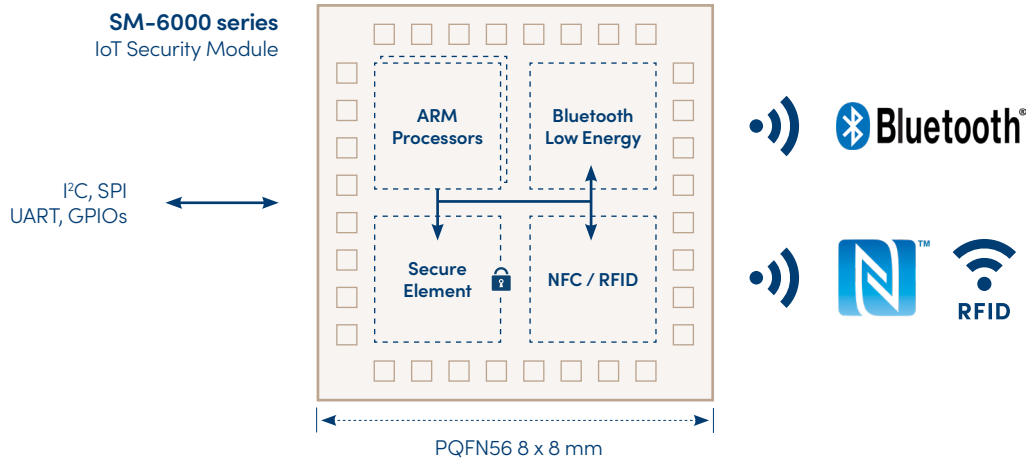
Smartcard solution

- Short-range contactless communication (range: 2 - 20 cm)
- Ideal for close proximity, high-security apps such as e-payment, access control
- Rugged, long-lifetime
- Multi-factor authentication based on Secure Element

- No power supply or software updates required
- Doubles as visual identification (badge)
- Low-cost
- 24/7 unmanned operation

Key & Authorization Management:
LEGIC MTSC

Smartcard

Smartcard IC ⇄ IoT Security Module ↔ IIoT Device

Enabling secure IIoT solutions

To help you create robust IIoT applications based on secure user authentication and credential management, LEGIC supplies a range of innovative hardware and software components that work seamlessly with each other.

SM-6000 series
IoT Security Module

I²C, SPI
UART, GPIOs

| ARM Processors | Bluetooth Low Energy |
| Secure Element | NFC / RFID |

Bluetooth

NFC **RFID**

PQFN56 8 x 8 mm

IoT Security Module

LEGIC's SM-6000 series IoT Security Modules are the perfect choice for innovative and secure IIoT solutions thanks to their built-in secure element technology, encrypted interfaces, contactless communications, compact size and low power consumption.

Adaptable to a wide range of applications, the SM-6000 series wirelessly communicates with all popular smartcards as well as iOS/Android smartphones. It works seamlessly with LEGIC's end-to-end Security Platform to enable IoT applications to take advantage of secure and autonomous user authentication, permissioning and usage monitoring.

- Perfect for high security industrial, healthcare, retail and logistical applications
- Supports all popular smartcard technologies as well as iOS and Android-based smartphones
- Can be designed into small electronic edge devices, while our software components can be seamlessly integrated into IoT, smartphone, desktop and web applications.
- 128KB of programmable memory in trusted execution environment, field upgradeable
- I²C and SPI compatible
- On and offline operation

Smartcard ICs

The LEGIC smartcard IC portfolio enables multi-application capability on a variety of media. It implements modern encryption methods, provides scalable security and pre-configured, confidential key material.

LEGIC's smartcard technology enables secure user authentication and permissioning, supports migration scenarios and integrates seamlessly with mobile applications.

- Supports LEGIC advant and MIFARE DESFire
- Up to 127 applications can be combined on a single smartcard
- Integratable in smartcards, key rings, watches, labels, etc.
- Supports closed loop e-payment applications (LEGIC Cash)
- Transponder applets can be stored as virtualized chips on credit cards or PKI smartcards
- Part of a complete security and authorization solution using LEGIC MTSC

LEGIC Connect

The software service LEGIC Connect enables centralized and highly flexible authentication management. It allows any kind of credential data to be distributed to smartphones of users located anywhere in the world.

With LEGIC Connect, it is easy to implement a variety of secure IoT solutions.

LEGIC Connect consists of two components – the central LEGIC Trusted Service to distribute credential data, and the Mobile SDK to manage this data on smart devices and communicate with LEGIC IoT Security Modules. To guarantee security, up-to-date security mechanisms and Hardware Security Modules (HSM) are used.

- 99.9% service availability
- Dedicated, geo-redundant server infrastructure (based in Switzerland/EU) with separate integration environment
- Over 5 M user registrations with double-digit monthly growth

Support services

LEGIC actively supports its partners and customers with extensive know-how during the development of IIoT solutions.

LEGIC provides development tools to help you quickly and cost-efficiently develop contactless readers, authentication media and complete customized solutions. LEGIC Academy offers interactive and personalized training courses on topics you are interested in.

LEGIC partners also benefit from comprehensive know-how of our Field Application Engineers (FAE) and are part of the exclusive LEGIC partner network (ID Network).

Key and authorization management

LEGIC offers powerful solutions to secure your IoT projects. The LEGIC MTSC (Master-Token System-Control) is a globally available, unique security and authorization solution for contactless RFID applications based on a physical Token, the Master-Token.

For smartphone key management, LEGIC Orbit allows the secure management and distribution of customer-specific mobile application keys and configuration data directly to smartphones worldwide.

Instead of securing administrative rights in a mobility system with volatile passwords, the security with MTSC is linked to a unique physical smartcard. In this way, each owner has full authority over an installation and preserves his or her independence.

LEGIC Orbit, on the other hand, supports the secure configuration of reader devices directly via smartphone and thus enables easy onboarding of new IIoT devices. Key management and device configuration can be easily realized with a mobile app together with LEGIC's Mobile SDK, effectively replacing proprietary configuration devices.

- Full control and command of the security system independent of manufacturers and suppliers
- Security stays within the company
- Secure generation and distribution of customer-specific application keys which are never visible

Enabling trusted authentication

LEGIC, with headquarters in Switzerland, is a global leader in secure authentication and credential management for people and things. We enable secure IIoT solutions based on mobile and contactless technologies which communicate over RFID, Bluetooth Low Energy and Near Field Communication (NFC).

Based on embedded encryption and secure element technology, LEGIC's IIoT Security Platform ensures that people and things work together according to secure, permissioned access to machines, information, assets and infrastructure.

LEGIC's technology is characterized by scalable security, low-power online/offline operation, simplicity and investment protection. Our Security Platform reduces complexity and time-to-market for your IIoT applications.

www.legic.com/iot

Flexibility

We tailor our platform to suit you. We know from experience that every project is different, and that each customer has their own requirements. Flexibility is therefore our guiding principle: You are free to choose the features you want.

Simplicity

IIoT systems are highly complex. We strive to make your design as easy as possible. We are just as uncomplicated as our solutions. As a LEGIC customer, you will receive expert advice and support via our well-rounded consultancy service.

Scalable security

With the unique LEGIC Orbit and Master-Token System-Control, your system's security is in your hands. Instead of insecure passwords, control of your system is linked to secure smart devices based on Hardware Root of Trust.

Investment protection

Rely on our strong network. You have a long-term approach, and so do we. You should not have to worry about the future of your IIoT system. As part of a solid partner network, you can rely on a team to protect your technology investment.

LEGIC