



# The right security for the IoT

Building confidence in an increasingly connected world

[www.infineon.com/IoT-Security](http://www.infineon.com/IoT-Security)





40.9

billion networked  
devices by 2020

## The right security for the Internet of Things (IoT)

The Internet of Things (IoT) offers countless new opportunities. Imagine home heating systems that can be adjusted over the Internet, cars that drive themselves, factories that communicate with warehouses or entire cities with digitized infrastructure. The possibilities are endless as new business and service models emerge. Our personal lives are rapidly becoming more convenient, more mobile and more digital.



20

billion security ICs worldwide  
shipped by Infineon

## Overcoming security challenges in the IoT

There is a downside to all this connectivity, however. The more data and information we share and store, the greater the risk of theft and manipulation. And this risk rises as we allow networked computer systems to control safety-critical systems such as door locks or production processes in a factory.

Semiconductor security solutions from Infineon protect data and information against theft and misuse – and have been doing so for almost 30 years.

# Broad market spectrum

We understand that security needs are as varied as they are complex. Scaling from single-function authentication solutions to robust, certified security controllers for advanced platform integrity checks, we have developed the market's widest security portfolio.



## Smart home

### Our qualification

- › Expertise across all solution layers required to build a secure architecture
- › Entire portfolio designed for maximum energy efficiency
- › Scalable and flexible solutions that adapt to your needs
- › Ease of integration for maximum security with minimum effort

### Security for every thing:

From thermostat sensor via smart home gateway to overarching control system



## Connected car

### Our qualification

- › Bundled automotive and security expertise for data and system integrity
- › Broad, scalable offering matching security level and investment to your needs
- › Audited, certified production processes
- › Proven quality (e.g. AEC-Q100) with enhanced product features (e.g. temperature range) for automotive performance

### Security for connected cars:

Protecting data streams, securing system integrity and enabling new service models



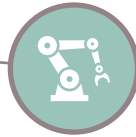
## Information & communication technology

### **Our qualification**

- › In-depth understanding of dynamic security architecture needed for the IoT
- › Long-standing experience spanning SIM, NFC, trusted computing and embedded secure elements
- › Innovation in emerging fields such as mobile payment and e-call
- › Protection of value against IT attacks, counterfeits and intellectual property (IP) theft

### **Security for the IoT backbone:**

Safeguarding communication and computation across networks, mobile devices, and enterprise systems



## Smart factories

### **Our qualification**

- › Vast experience in dynamic manufacturing environments from control to supervisory systems
- › Infrastructure, process and interface know-how to protect process integrity across locations
- › Proven track record in protection against IT attacks, counterfeits and intellectual property (IP) theft
- › Ideal blend between industry insights and security expertise

### **Security for Industry 4.0:**

Protecting IP and manufacturing across sensors, control systems and networks

## Facts & figures

- › More than 20 bn. security chips shipped worldwide
- › No. 1 in embedded security (IHS, 2016)\*
- › Every 2nd business laptop uses our OPTIGA™ TPM
- › More than 60 countries use our security chips in their official documents
- › 4 out of 10 new banking cards in 2014 contained our security chip





## Benefits at a glance

Building on almost 30 years of experience in traditional smart card markets, we have developed a wide range of security controllers and system solutions to combat rising security threats in the increasingly complex IoT. Working with our partners to serve many renowned customers worldwide, our systems expertise extends along the entire IoT ecosystem.

### **When you partner with us, you can:**

- › Develop new business and service models
- › Carve out a competitive edge in tight markets
- › Safeguard and expand revenue
- › Create trust in new solutions and opportunities
- › Improve quality and reliability
- › Protect intellectual property and know-how



## Building confidence in an increasingly connected world

New risks emerge with each new technology breakthrough. Across the full application spectrum of our hardware-based security solutions, you can rely on Infineon to deliver:

- › Value through greater differentiation at reduced cost to keep you one step ahead
- › Ease of deployment with no loss of user experience
- › Tailored, granular security functionality, balancing performance with cost
- › Reliability with high-quality products and a proven track record to reduce uncertainty in new business models



## Threat scenarios

### Theft

- › Device and software loss
- › Data theft
- › Intellectual property theft



### Fraud

- › Forged user identity to authenticate access
- › Impersonated servers or fake devices in a network



### Manipulation

- › Manipulation of servers, routers, devices, data or clients
- › Modifications of systems, processes or data records, such as changes to production processes
- › Crashes caused by sabotage

# Taking the uncertainty out of the IoT with Infineon at your side

We are actively bringing our market and innovation leadership to the IoT realm, supporting new, more sustainable ways of communicating and living. Our portfolio includes:

- › Security solutions for embedded systems (OPTIGA™ TPM and OPTIGA™ Trust family)
- › Security controllers (SLM 76, SLM 97 SOLID FLASH™ families for industrial and SLI 76, SLI 97 SOLID FLASH™ families for automotive)
- › Innovative devices for embedded secure elements, boosted NFC, FIDO, USB token and RFID

Security solutions from Infineon will scale and adapt to your needs, giving you a key competitive advantage while minimizing cost and implementation effort.

## Customers already rely on our security technologies for:

- › Endpoint security to safeguard railway control systems
- › Device identity management solution for smart home
- › Security for connected car solutions of major OEMs
- › Hardware root of trust in industrial routers

You can view additional concrete IoT case studies which we developed with our partners at [www.infineon.com/ISPN](http://www.infineon.com/ISPN)



# When you choose Infineon, you get these added values:

25+

## 25+ years of experience

Security expertise with a proven track record



## Extensive research expertise and innovation

to stay a step ahead of the competition



## Adaptable products

for uncomplicated use in all standard interfaces



## Standardization and certification

for trustworthy protection and transparency



## Cross-industry expertise

for a solution that looks at the entire ecosystem



## Comprehensive security

from chip design and production to delivery



## Reliability and quality

for long-term success with products that have already written their own success story



## Network of security partners

for fast development of suitable projects



[www.infineon.com/loT-Security](http://www.infineon.com/loT-Security)

## Infineon Technologies AG

81726 Munich  
Germany

[www.infineon.com](http://www.infineon.com)

Published by Infineon Technologies AG

© 2016 Infineon Technologies AG. All Rights Reserved.

Order Number: B189-I0229-V1-7600-EU-EC-P

Date: 01/2016