英飞凌OPTIGA™ Trust 产品应用案例---智慧城市

Chip Card & Security Application Portfolio

Smart Cards

Payment	National eID
SIM	ePassport
Multi-application	eDriver's License
Transport Ticketing	eHealth Card
Access control	

Embedded Security

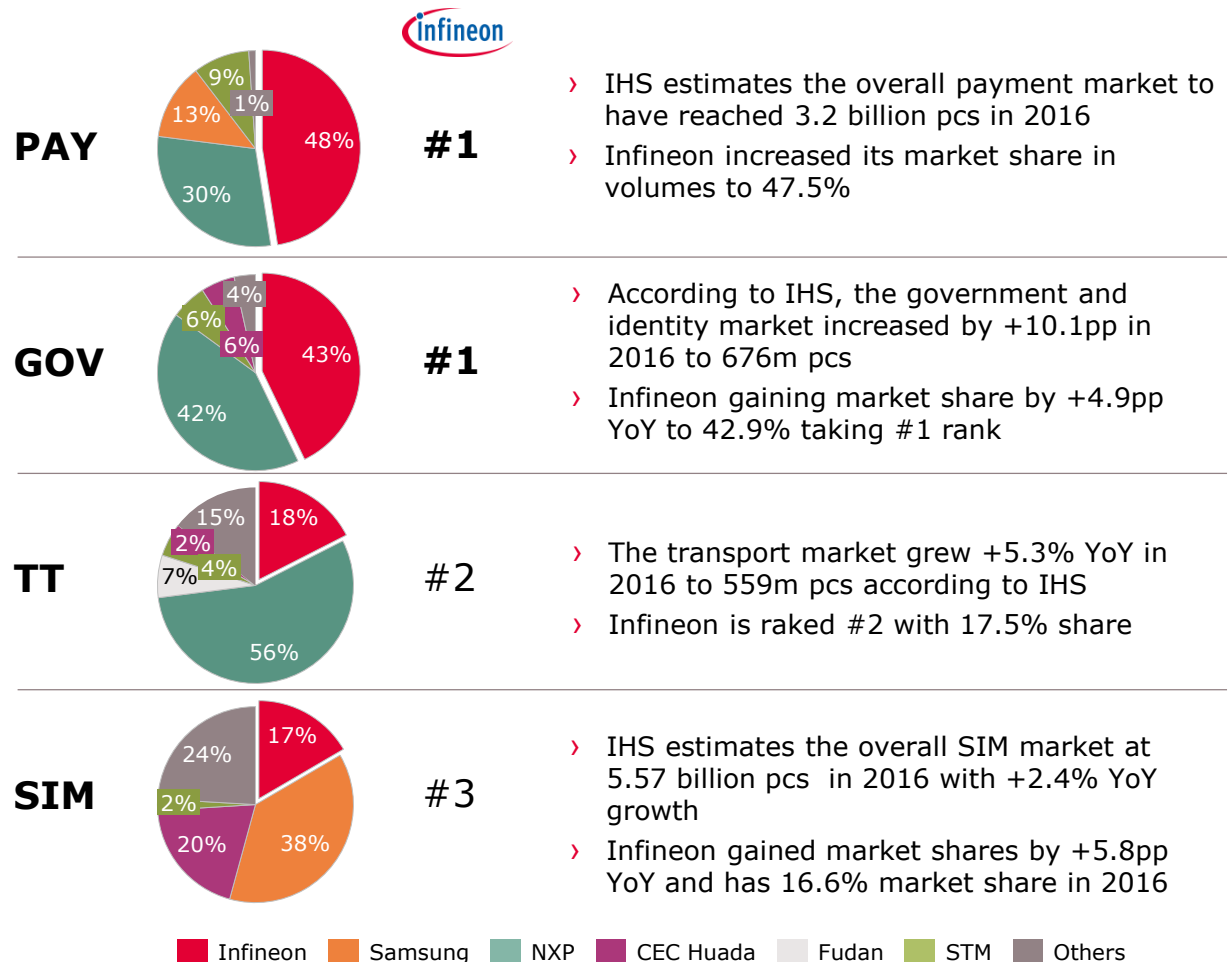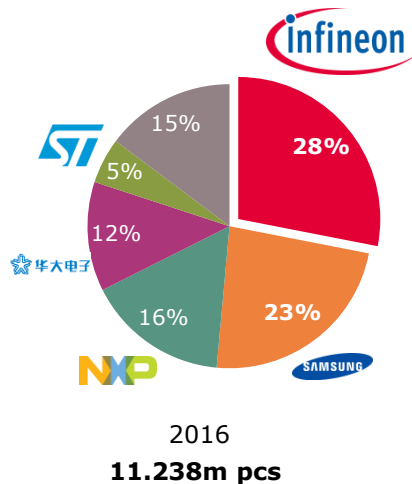|		
Trusted Computing	Connected Car	Industry 4.0
Authentication	ICT*	Smart Home
eSIM	Mobile Payment	Mobile Ticketing
Entertainment	Mobile ID	

IoT Security

Mobile Security

*ICT = Information & Communication Technology

As per IHS, IFX holds the #1 position in volume market shares with 48% in Payment and 43% in Government

IHS Market Share Estimation for the Full Year 2016 – [m pcs]

Total Smart Card ICs (MCUs + Memories)

2016
11.238m pcs

Infineon 28%
Samsung 23%
NXP 16%
CEC Huada 12%
STM 5%
Others 15%

PAY — **#1**

9% / 1% / 13% / 48% / 30%

› IHS estimates the overall payment market to have reached 3.2 billion pcs in 2016
› Infineon increased its market share in volumes to 47.5%

GOV — **#1**

4% / 6% / 6% / 43% / 42%

› According to IHS, the government and identity market increased by +10.1pp in 2016 to 676m pcs
› Infineon gaining market share by +4.9pp YoY to 42.9% taking #1 rank

TT — **#2**

15% / 2% / 7% / 4% / 18% / 56%

› The transport market grew +5.3% YoY in 2016 to 559m pcs according to IHS
› Infineon is raked #2 with 17.5% share

SIM — **#3**

24% / 2% / 20% / 38% / 17%

› IHS estimates the overall SIM market at 5.57 billion pcs in 2016 with +2.4% YoY growth
› Infineon gained market shares by +5.8pp YoY and has 16.6% market share in 2016

Legend: Infineon · Samsung · NXP · CEC Huada · Fudan · STM · Others

Source: Based on or includes content supplied by IHS Markit, Technology Group, Smart Cards Semiconductors Report – 2016, July 2017

Smart City / 智慧城市
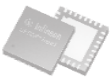
Infineon, Intel and eluminocity
Enabling secure and connected city streets

Market growth
>35%*

Partnering with solution provider, connectivity and SW security company

Infineon products: radar sensors, power semiconductors, microcontrollers and security chips

*Market potential in 2020: 1.7 bn shipments

eluminocity
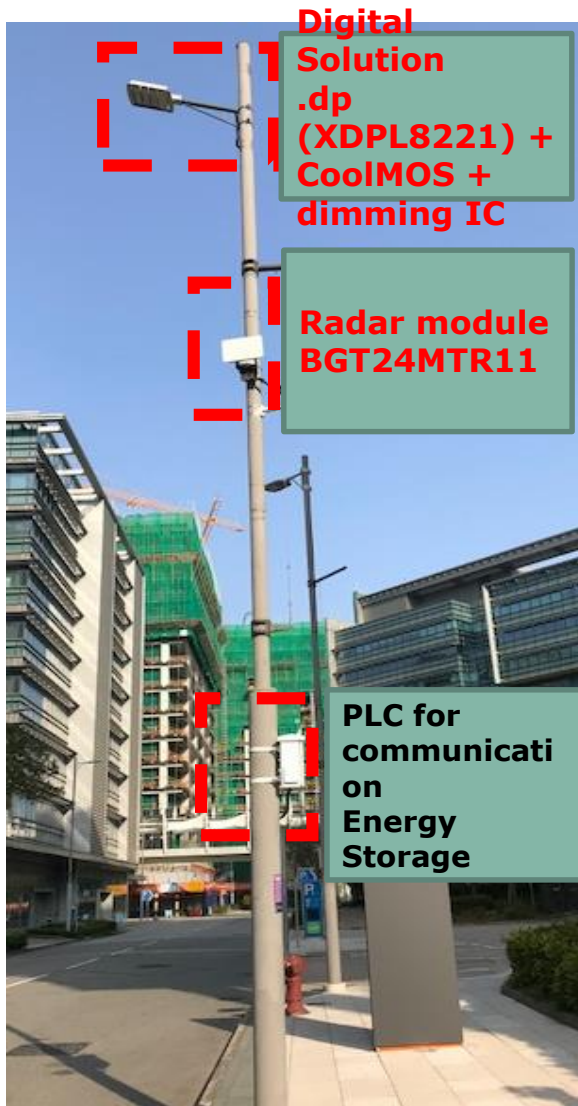Leading system integration, data analytics, application solutions

infineon
Leading radar, sensor, power and embedded security solutions

intel
Leading connectivity, processing & cloud solutions

Infineon Smart Street Lighting solution installed at HKSTP

Digital Solution .dp (XDPL8221) + CoolMOS + dimming IC

Radar module BGT24MTR11

PLC for communication Energy Storage

LED Drive

Sensor Module

Communication Module

Energy Storage

› **Digital LED Drive**
  › Online monitoring operating status
  › Cloud-control and dimmable function

› **24GHz Radar Module**
  › Detect the traffic flow
  › Direction of the vehicle
  › Speed of the vehicle

› **Communication Module**
  › PLC (power line communication)
  › 4G

› **Energy Storage**
  › 24 hr electricity support

首次亮相于阿里巴巴杭州飞天园区的英飞凌智能路灯。

OPTIGATM Trust为智慧路灯提供端到端的安全方案

Secure element   Secure element   Secure element

端到端安全解决方案：

› Secure elements across the entire value chain (edge – cloud – client device) for highest degree of security

› Authentication, data integrity, encryption, platform integrity

› Certified solution (HW)

› Standardized technology (HW), no proprietary solution

端到端解决方案通过设备认真，通信链路和数据加密为产品提供最高等级的安全保护

OPTIGA™ Family

	OPTIGA™ Trust B	OPTIGA™ Trust E	OPTIGA™ Trust M	OPTIGA™ Trust X	OPTIGA™ Trust P	OPTIGA™ TPM
Security Level	Basic	CC EAL 6+	CC EAL 6+*	CC EAL 6+*	CC EAL 5+*	CC EAL 4+
Functionality	Authentication	Authentication	Connected device security - Toolbox based	Connected device security	Programmable	TCG standard
NVM (Data)	64 Byte	3 kByte	10 kByte	10 kByte	150 kByte**	6 kByte
Cryptography Private key stored in secure HW	ECC131	ECC256	ECC256 RSA2K	ECC256	ECC521 RSA2K	ECC256 RSA2K
Type of Host System	MCU without OS / proprietary OS / RTOS					
			Embedded Linux			
						Windows / Linux
Interface	SWI	I2C	I2C	I2C	UART	I2C, SPI, LPC
System integration	✓	✓	✓	✓	✓	Platform vendor

✓ Done by IFX   ✓ Customer Implementation, support by IFX

* Based on certified HW
** Code & Data

Security and Complexity

Part of your life. Part of tomorrow.