IoT Roadshow

Investor Relations

13 and 14 September 2023

infineon

Speakers

Thomas Rosteck

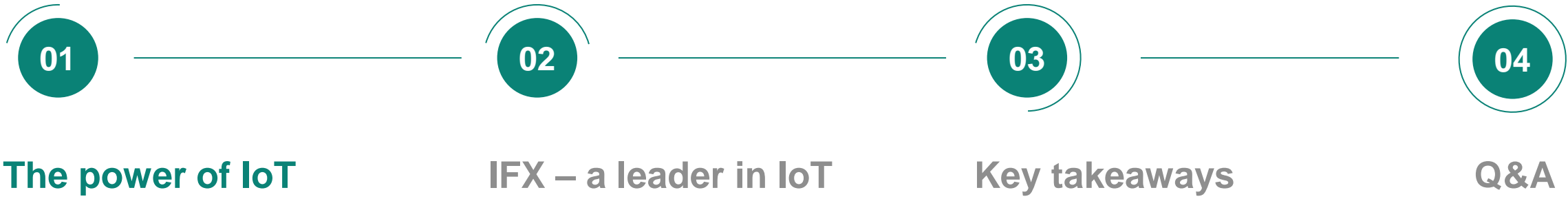Division President CSS

Adam White

Division President PSS

Agenda

01 The power of IoT

02 IFX – a leader in IoT

03 Key takeaways

04 Q&A

The IoT market is expansive and continually growing as it helps to solve several challenges of our time

43 billion

IoT devices are expected to be connected worldwide in 2027, up from 30 billion in 2022[1]

79.4 zettabytes

is the forecasted amount of data generated
by IoT devices by 2025[2]

127

devices hook up every second to the internet for the first time[3]

112 million

IoT malware attacks worldwide in 2022[4]

The IoT helps to solve many challenges of our time

Aging society

Mega cities

New work

Resource scarcity

1 Based on Strategy Analytics: *Global Connected and IoT Device Forecast Update* – Q3 22 Sep 2022
2 Based on IDC report: *How You Contribute to Today's Growing DataSphere and Its Enterprise Impact* – Nov 2019
3 Based on McKinsey Insights: *What's new with the Internet of Things*? – May 2017
4 Based on SonicWall Capture Labs: *Cyber Threat Report Mid-year update 2023* – 2023

IoT plays a transformative role in driving sustainable change towards decarbonization and digitalization

Digitalization can contribute up to 20% CO_2 emissions reduction worldwide by 2050* depending on the contributing area

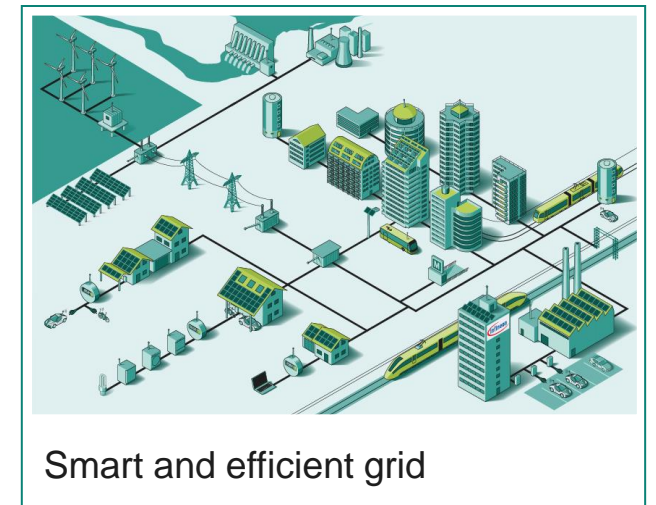| Manufacturing | Work & Business | Agriculture | Mobility | Energy | Healthcare | Buildings |

Via enabling digitalization, the IoT market limits future increases of CO_2 emissions through:

– **Resource optimization:** IoT devices collect data on resource usage to identify opportunities for optimization.

– **Environmental monitoring:** IoT devices monitor environmental conditions to track changes and identify areas for environmental protection measures.

– **Energy efficiency:** IoT devices improve energy efficiency by monitoring and controlling HVAC systems, and optimizing traffic flow.

– **Supply chain optimization:** IoT devices optimize supply chains by tracking the movement of goods and identifying inefficiencies.
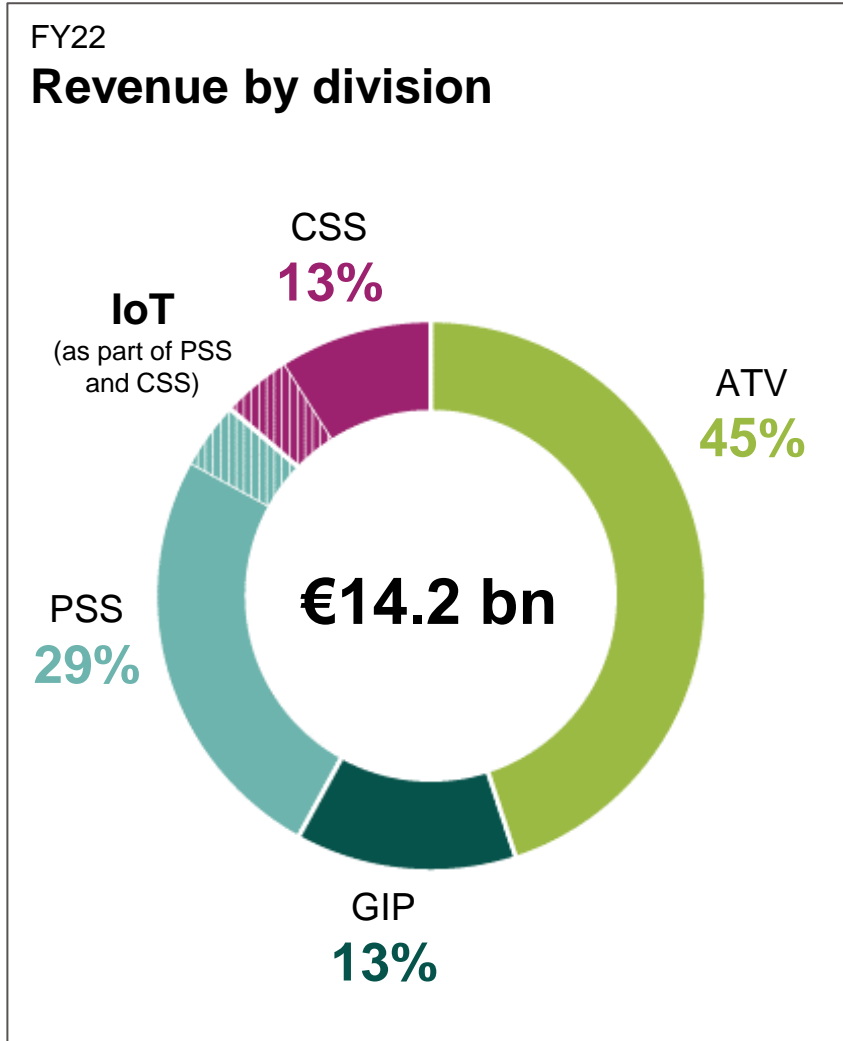

Smart and efficient grid

Agenda

01 — **02** — **03** — **04**

The power of IoT **IFX – a leader in IoT** **Key takeaways** **Q&A**

IoT is one of the five key applications that drive Infineon's revenue growth

FY22
Revenue by division

CSS **13%**

IoT
(as part of PSS and CSS)

ATV **45%**

€14.2 bn

PSS **29%**

GIP **13%**

>10%

CAGR Group growth

FY22-27e
Revenue growth contribution by driver

E-Mobility

Other

Renewables

ADAS

Data center

IoT
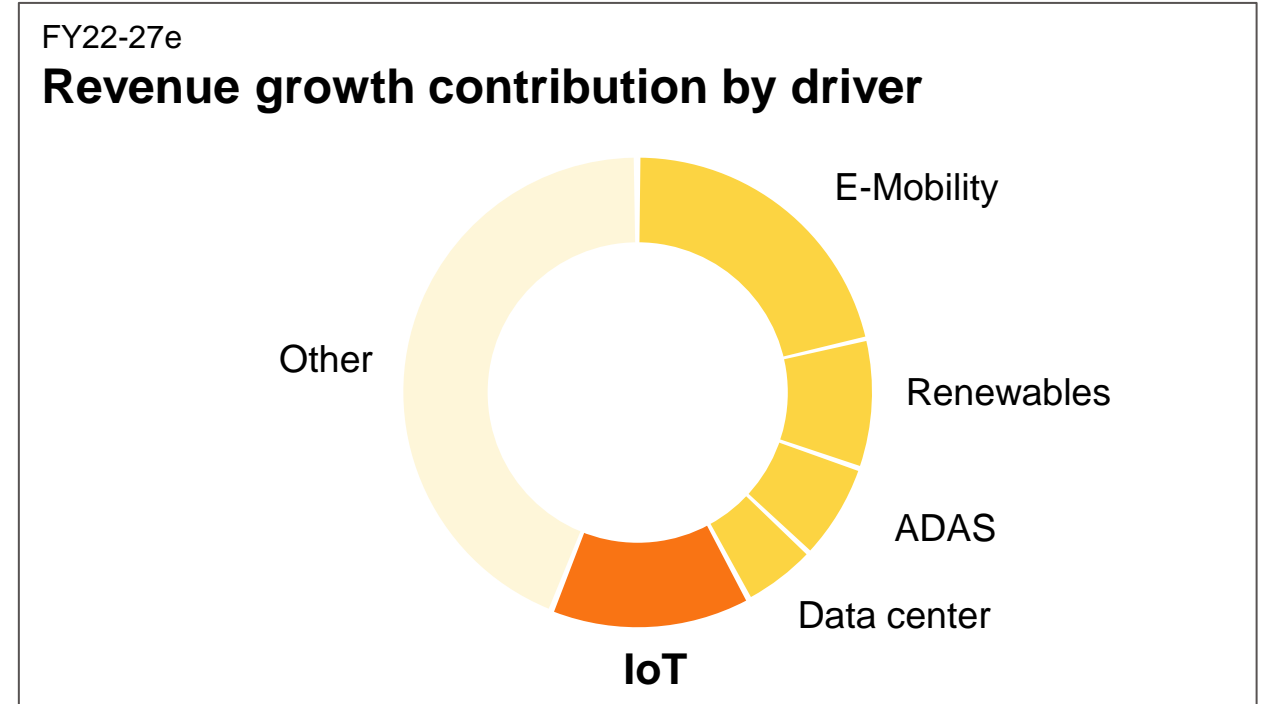
Through-cycle growth rates by division

ATV	GIP	PSS	CSS
>10%	**>10%**	**~10%**	**~10%**

Infineon's USP to capture the IoT market potential

IoT market growth

[units bn]

CAGR: 11%
(2023 – 2028)

6.8 — 2023

11.5 — 2028
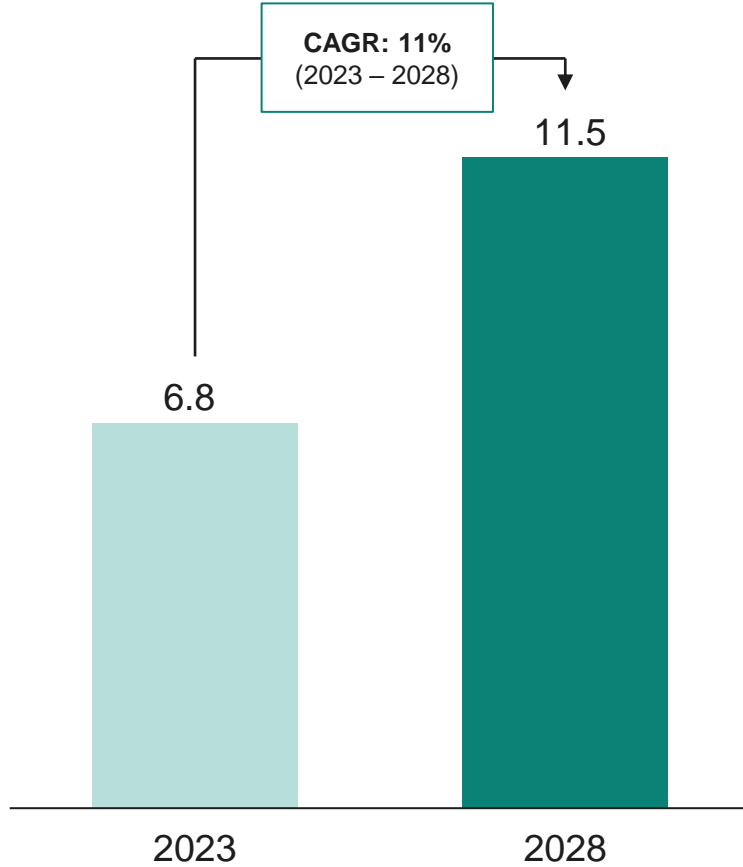
Four success factors to differentiate

Ecosystem Development

Product to System
(Product innovation incl. AI)

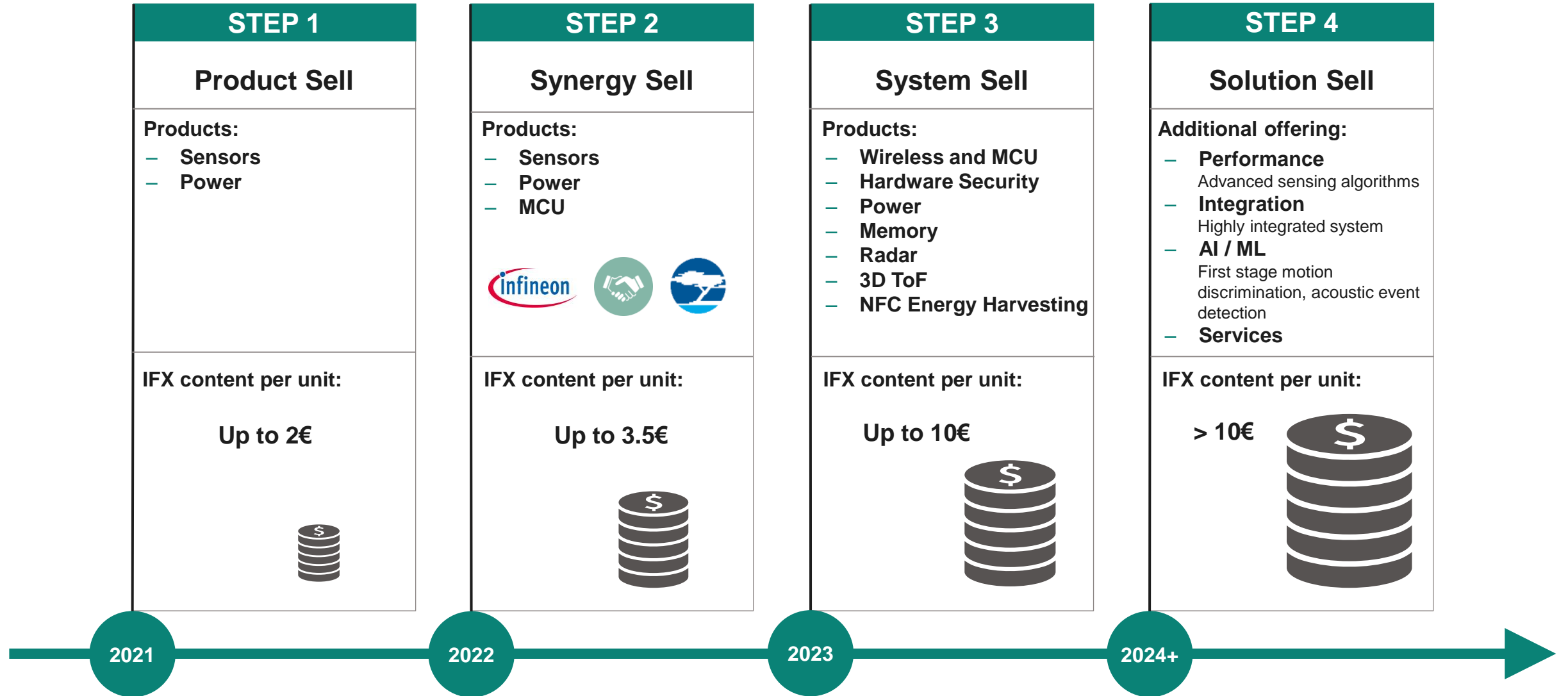P2S

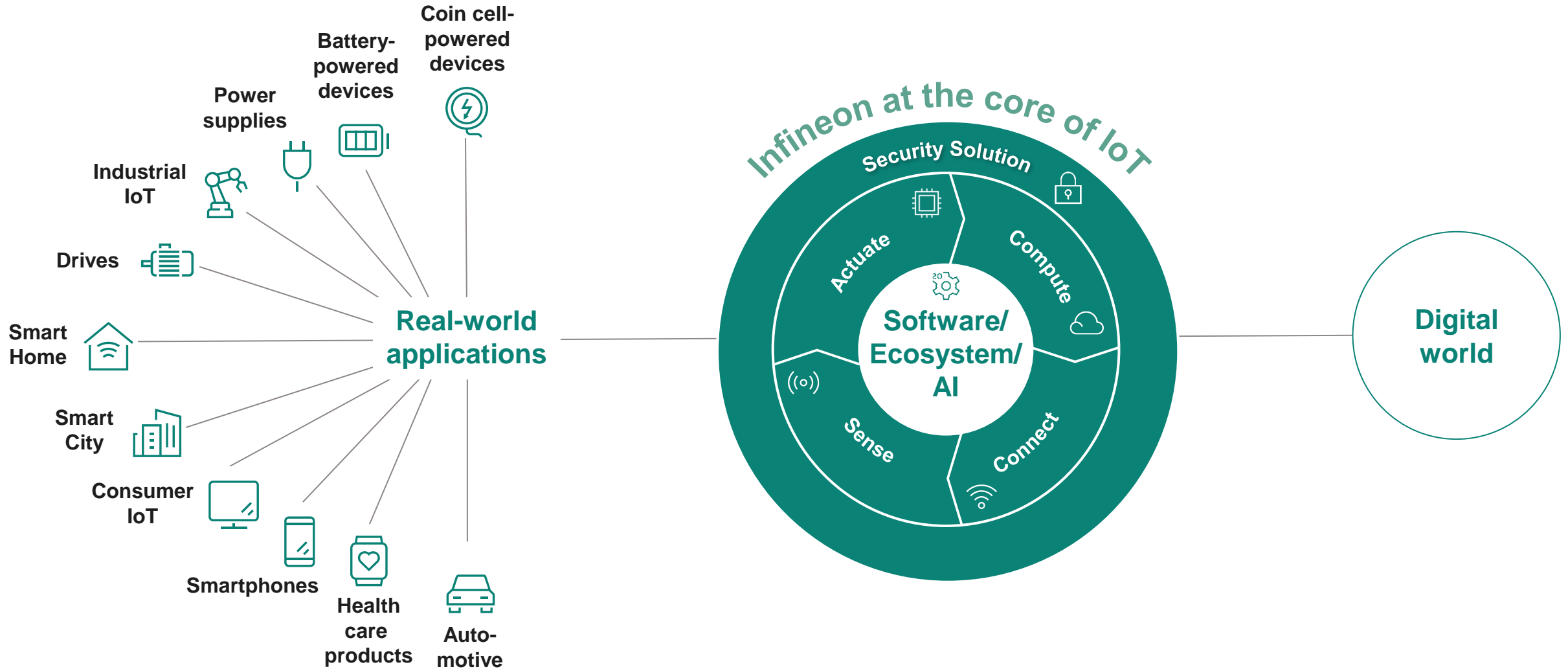**Focus on Security**

Broader Markets

ABI Research: *Wireless Connectivity Technology Segmentation and Addressable Markets* – Q2 23 June 2023; excluding Chromebooks, desktop PCs, feature phones, media tablets, netbooks, smartphones, white box tablets.
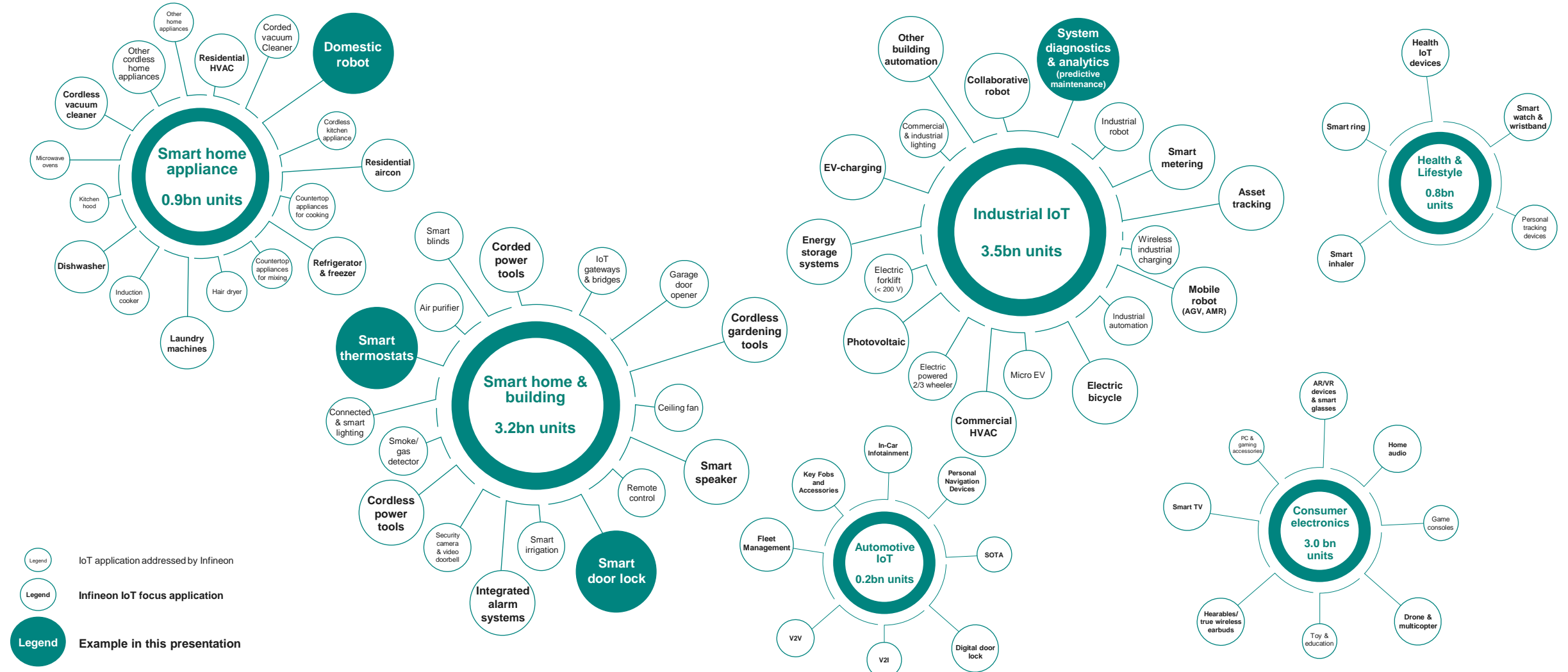
Strong financial and solution related synergies making us a uniquely positioned IoT provider

STEP 1	STEP 2	STEP 3	STEP 4
Product Sell	**Synergy Sell**	**System Sell**	**Solution Sell**
Products: – **Sensors** – **Power**	**Products:** – **Sensors** – **Power** – **MCU**	**Products:** – **Wireless and MCU** – **Hardware Security** – **Power** – **Memory** – **Radar** – **3D ToF** – **NFC Energy Harvesting**	**Additional offering:** – **Performance** Advanced sensing algorithms – **Integration** Highly integrated system – **AI / ML** First stage motion discrimination, acoustic event detection – **Services**
IFX content per unit: **Up to 2€**	IFX content per unit: **Up to 3.5€**	IFX content per unit: **Up to 10€**	IFX content per unit: **> 10€**

2021 ———— **2022** ———— **2023** ———— **2024+**

Infineon at the core of IoT – driving digitalization by serving strongly growing multi-application markets

Real-world applications

- Coin cell-powered devices
- Battery-powered devices
- Power supplies
- Industrial IoT
- Drives
- Smart Home
- Smart City
- Consumer IoT
- Smartphones
- Health care products
- Auto-motive

Infineon at the core of IoT

Security Solution

Actuate
Compute
Sense
Connect

Software/ Ecosystem/ AI

Digital world

IoT growth is driven by a broad selection of applications; we are highlighting four examples

Legend:
- IoT application addressed by Infineon
- Infineon IoT focus application
- Example in this presentation

Smart home appliance — 0.9bn units: Other home appliances, Corded vacuum Cleaner, Residential HVAC, Other cordless home appliances, Cordless vacuum cleaner, Microwave ovens, Kitchen hood, Dishwasher, Induction cooker, Hair dryer, Laundry machines, Cordless kitchen appliance, Residential aircon, Countertop appliances for cooking, Countertop appliances for mixing, Refrigerator & freezer, Domestic robot

Smart home & building — 3.2bn units: Smart blinds, Corded power tools, IoT gateways & bridges, Garage door opener, Cordless gardening tools, Air purifier, Smart thermostats, Ceiling fan, Connected & smart lighting, Smoke/gas detector, Cordless power tools, Security camera & video doorbell, Smart irrigation, Integrated alarm systems, Remote control, Smart speaker, Smart door lock

Industrial IoT — 3.5bn units: Other building automation, Collaborative robot, System diagnostics & analytics (predictive maintenance), Commercial & industrial lighting, Industrial robot, Smart metering, EV-charging, Smart metering, Asset tracking, Energy storage systems, Electric forklift (< 200 V), Wireless industrial charging, Photovoltaic, Electric powered 2/3 wheeler, Micro EV, Electric bicycle, Mobile robot (AGV, AMR), Industrial automation, Commercial HVAC

Automotive IoT — 0.2bn units: In-Car Infotainment, Key Fobs and Accessories, Personal Navigation Devices, Fleet Management, SOTA, V2V, V2I, Digital door lock

Health & Lifestyle — 0.8bn units: Health IoT devices, Smart watch & wristband, Smart ring, Personal tracking devices, Smart inhaler

Consumer electronics — 3.0 bn units: AR/VR devices & smart glasses, Home audio, PC & gaming accessories, Game consoles, Smart TV, Drone & multicopter, Toy & education, Hearables/true wireless earbuds

ABI Research: *Wireless Connectivity Technology Segmentation and Addressable Markets* – Q2 23 June 2023. All unit figures are referring to CY 2028.

Smart thermostats: leading intelligent home control through autonomous efficiency and IoT integration

Smart and programmable thermostat market growth

[units m]

CAGR: 14%
(2023 – 2028)

Year	Units
2023	122
2024	140
2025	165
2026	188
2027	211
2028	232
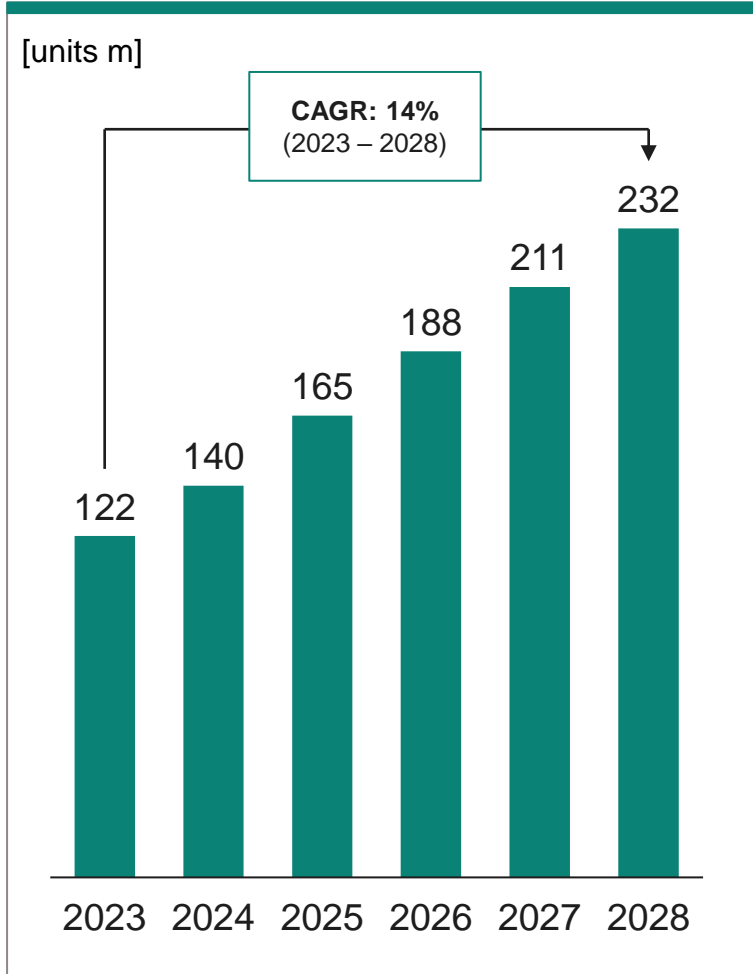
Source: IFX internal estimates
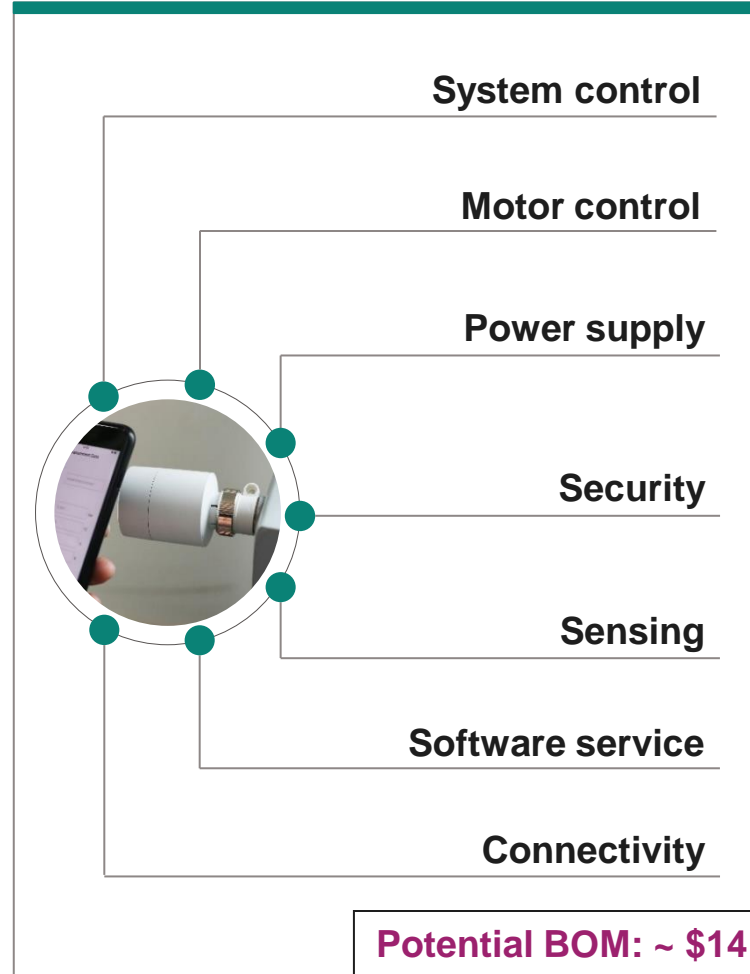
Infineon's tailored product offerings

- System control
- Motor control
- Power supply
- Security
- Sensing
- Software service
- Connectivity

Potential BOM: ~ $14

Design Wins examples

Schneider Electric

heatmiser

Danfoss

HaiLin Controls

Smart door locks: Infineon's solutions performance, security, and energy efficiency for the smart home

Door locks market growth

[units m]

CAGR: 33%
(2023 – 2028)

2023	2024	2025	2026	2027	2028
26	35	46	62	82	108
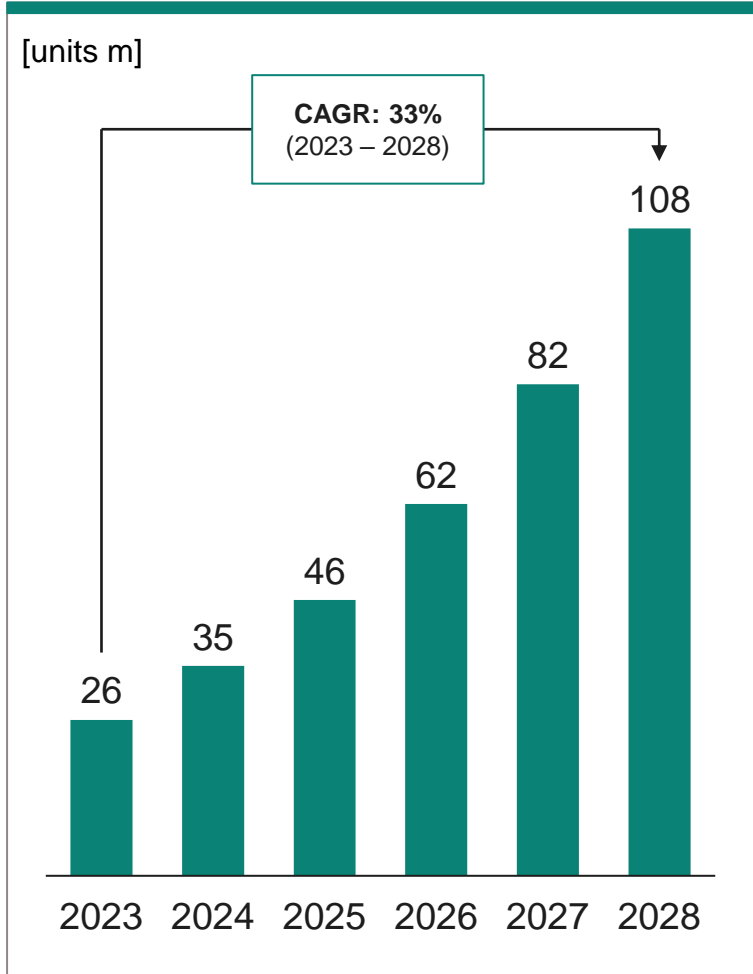
ABI Research: *Smart home hardware market data* – Q2 23 April 2023

Infineon's tailored product offerings
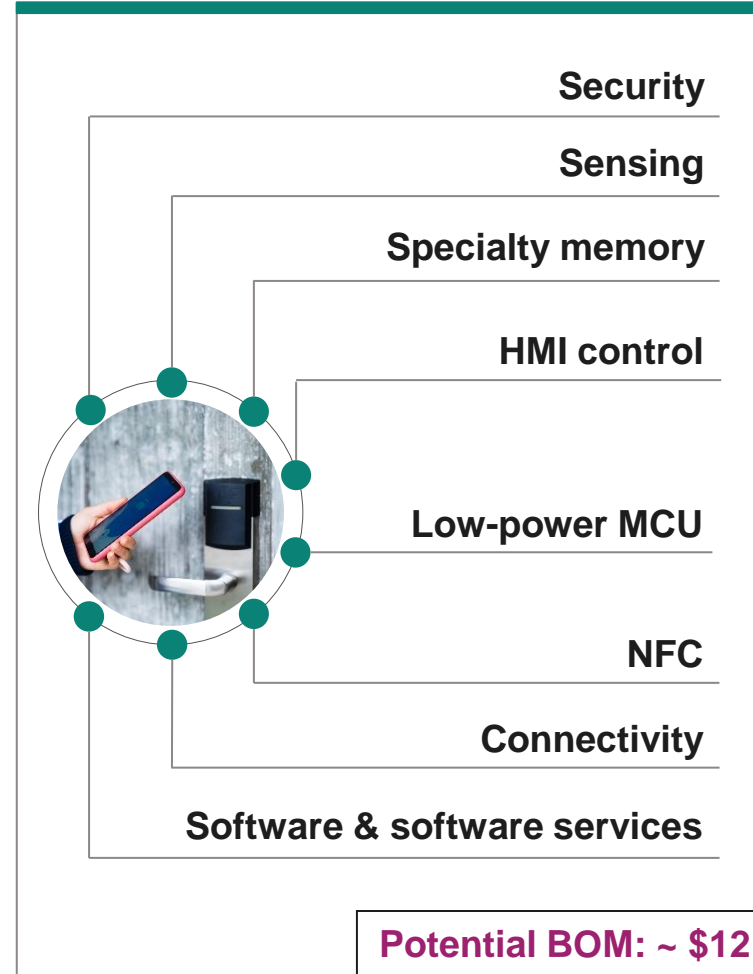
- Security
- Sensing
- Specialty memory
- HMI control
- Low-power MCU
- NFC
- Connectivity
- Software & software services

Potential BOM: ~ $12

Design Wins examples

august

ASSA ABLOY / Yale

Aqara

Kaadas
Access to your Future!

Domestic robot: overcoming technical challenges through our robot technologies

Domestic robots market growth

[units m]

CAGR: 16%
(2023 – 2028)

151

129

110

95

83

72

2023 2024 2025 2026 2027 2028

Infineon's tailored product offerings

Battery charging

Battery management

Power management

Motor control

Main & HMI control with memory

Navigation & HMI sensing

Connectivity & security

Potential BOM: ~ $15
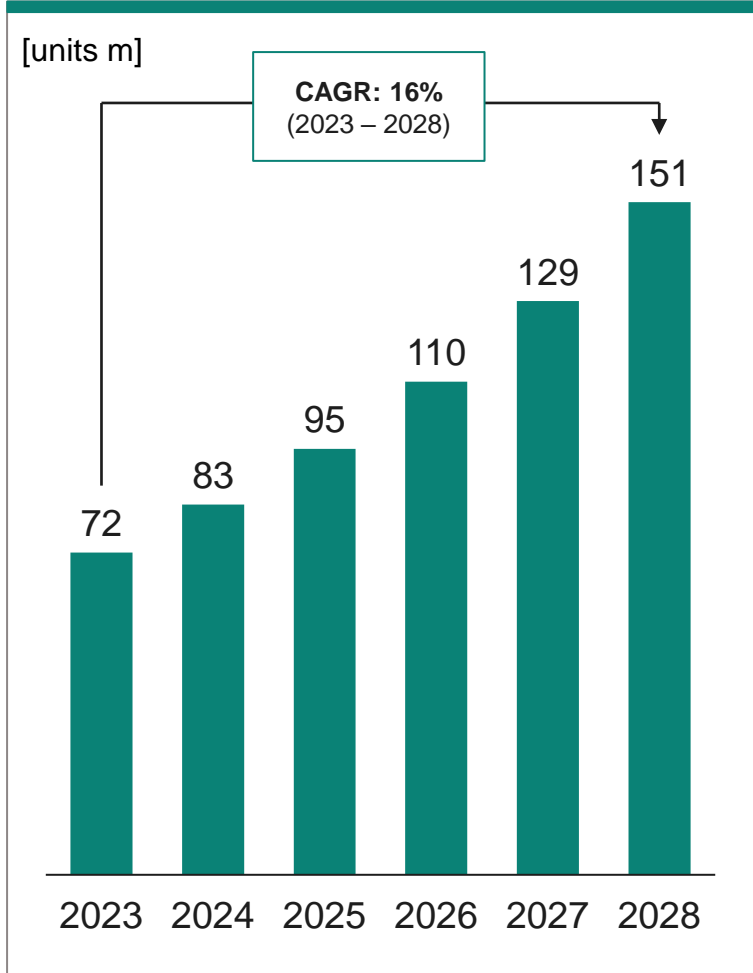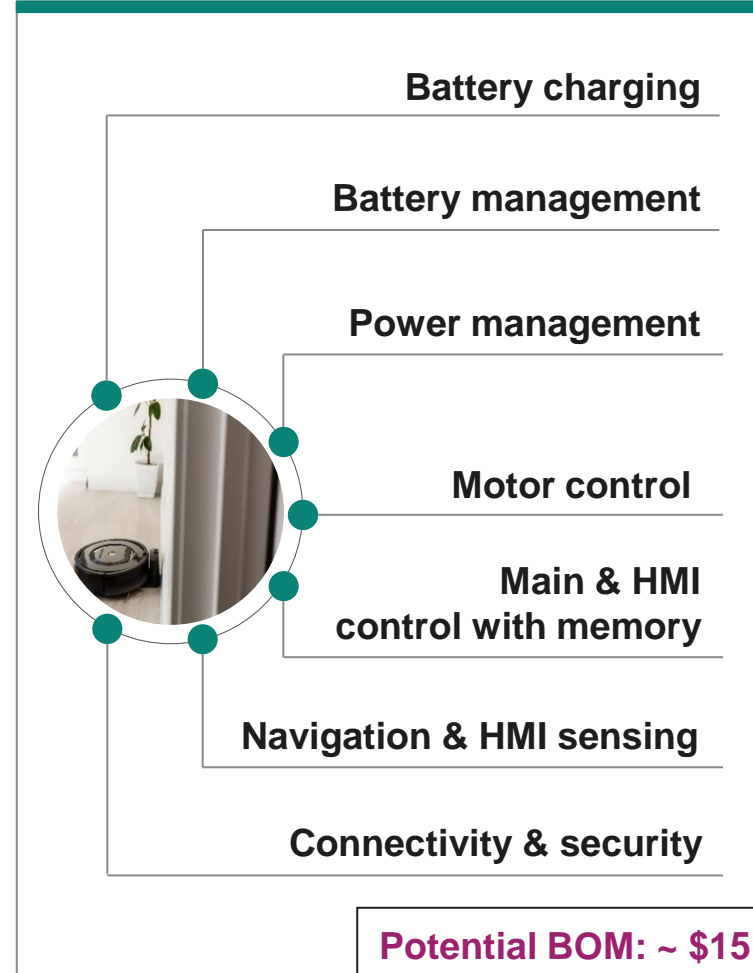
Design Wins examples

 mi

ECOVACS

dreame

Monitoring and predictive maintenance: Infineon is reliable enabling the Industry 4.0

Condition-based monitoring / maintenance

[units m]

CAGR: 33%
(2023 – 2028)

- 2023: 32
- 2024: 42
- 2025: 64
- 2026: 94
- 2027: 113
- 2028: 136

Infineon's tailored product offerings

- Pressure sensor
- Current sensor
- 3D magnetic sensor
- Motor control
- MEMS microphone
- Microcontroller
- Software & software services
- Connectivity & security

Potential BOM: ~ $38
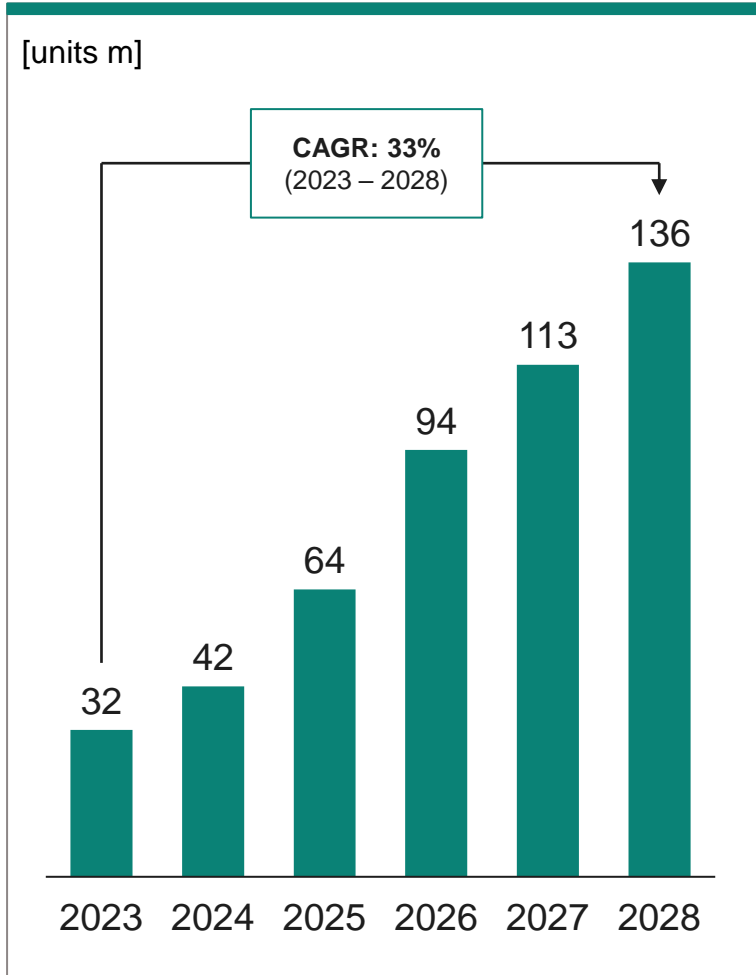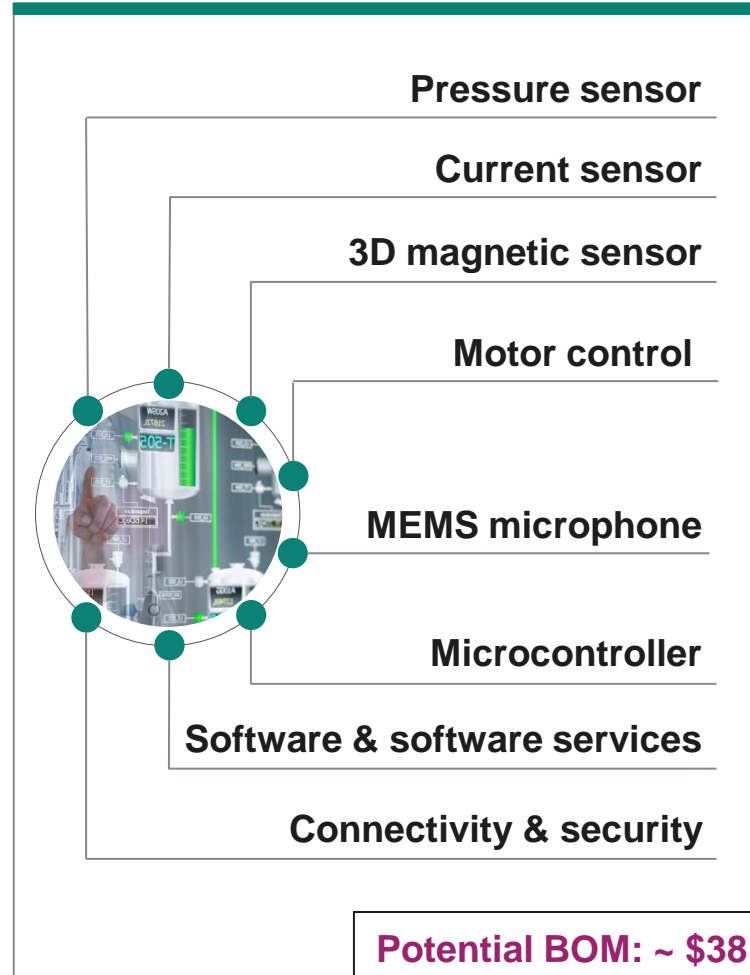
Target customer in addressable markets

HVAC

DAIKIN
Carrier
SIEMENS

Industrial automation

Rockwell Automation
GE
SIEMENS

ABI Research: *Wireless Connectivity Technology Segmentation and Addressable Markets* – Q2 23 June 2023

Infineon at the core of IoT – driving digitalization by serving strongly growing multi-application markets

Real-world applications

- Coin cell-powered devices
- Battery-powered devices
- Power supplies
- Industrial IoT
- Drives
- Smart Home
- Smart City
- Consumer IoT
- Smartphones
- Health care products
- Auto-motive

Infineon at the core of IoT

Security Solution
Actuate
Compute
Sense
Connect

Software/Ecosystem/AI

Digital world
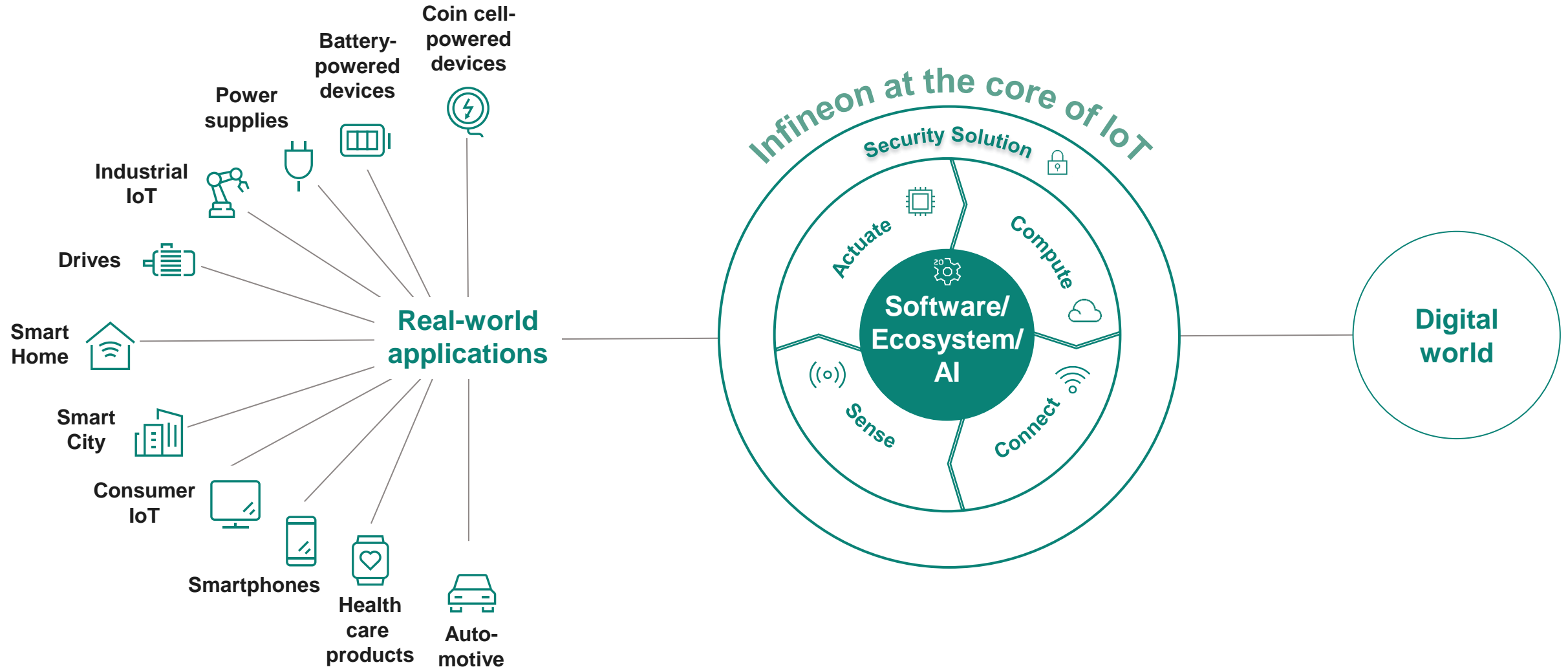
Our ecosystem enables a seamless IoT development: easy-to-find – easy-to-integrate – easy-to-use

ModusToolbox™: a comprehensive software development platform tailored to accelerate and streamline IoT application development
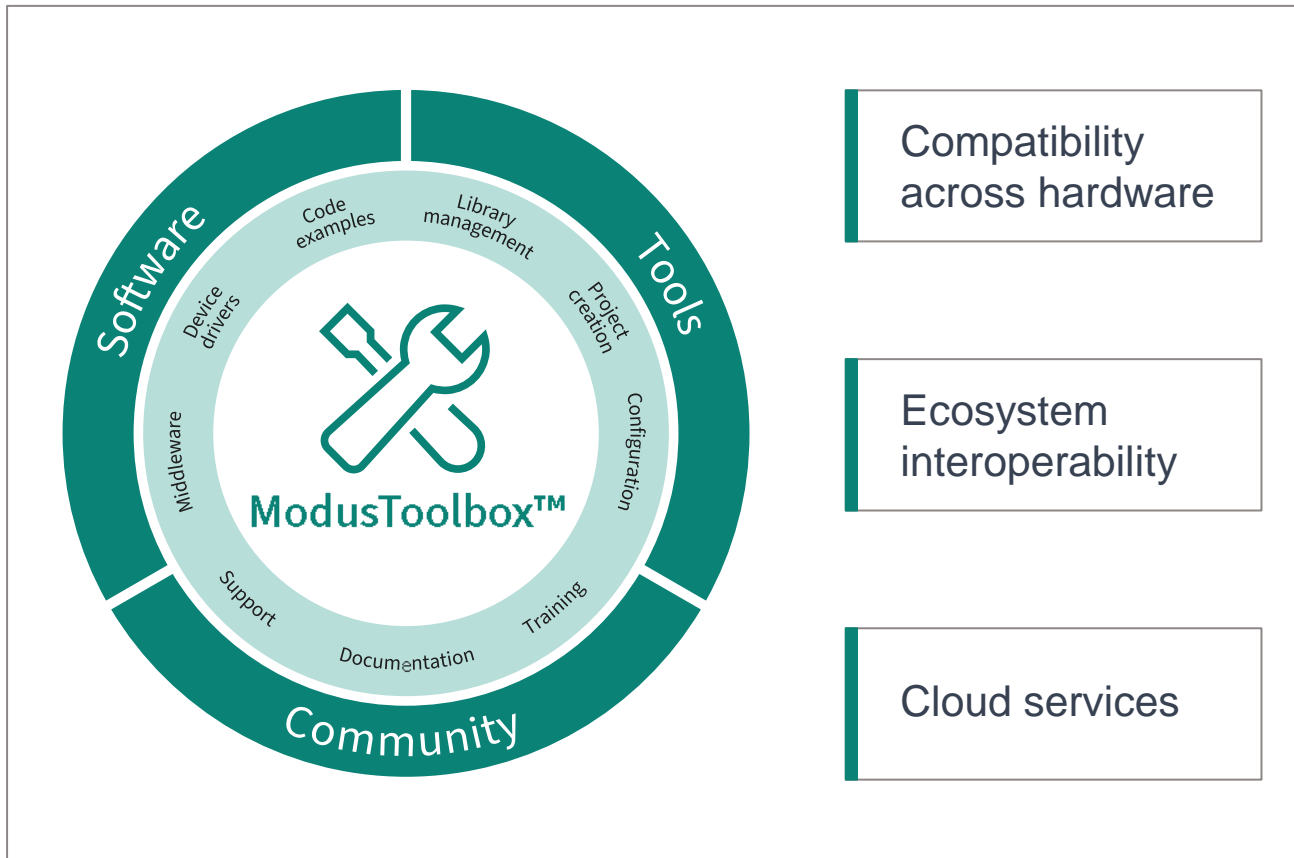
Infineon is working and shaping the IoT ecosystem to develop easy-to-use solutions for a broad range of customers

IoT ecosystem

Associations & standardization

fido ALLIANCE · WIRELESS POWER CONSORTIUM · matter · csa connectivity standards alliance · CARCONNECTIVITY consortium · WiFi ALLIANCE · fira · TRUSTED COMPUTING GROUP · IEEE

Infineon broad IoT partner ecosystem

Ubiquitous AI · RT-Thread · EB · DEEYOOK · USI · Blue Clover · Laird CONNECTIVITY · hitex · 苏州佩林 Pairlink

Key IoT ecosystem players

Google · amazon · SAMSUNG

IoT Security bodies

enisa · EU CYBERSECURITY ACT · Cybersecurity Labelling Scheme BY CYBER SECURITY AGENCY OF SINGAPORE · FC Federal Communications Commission · Bundesamt für Sicherheit in der Informationstechnik · TRAFICOM Finnish Transport and Communications Agency

More than

~7,000 active IoT customers

being served

CISCO · Danfoss · arlo · DELTA · ASSA ABLOY / Yale · LUMI · heatmiser · ECOVACS · blink · Schneider Electric · SAMSUNG · Raspberry Pi · Google · Kaadas Access to your Future! · SONY · MI · OURA · WYZE · amazon · fitbit · musering

Design opportunity pipeline for focus IoT applications of

~€10bn

Intelligence moves into devices - Edge-AI is a key enabler of IoT and beyond, offering a significant market opportunity

Edge-AI and benefits

- Intelligent IoT devices require substantial processing at the edge
- Edge-AI ensures optimal use of network, computing, and energy resources
- Key benefits to enable IoT are:

Low latency and deterministic response

Higher power efficiency

Improved security and data privacy

Tiny ML worldwide device shipment

[bn units]

CAGR: 32%
(2023 – 2028)

~4.1

~1.0

2023   2028
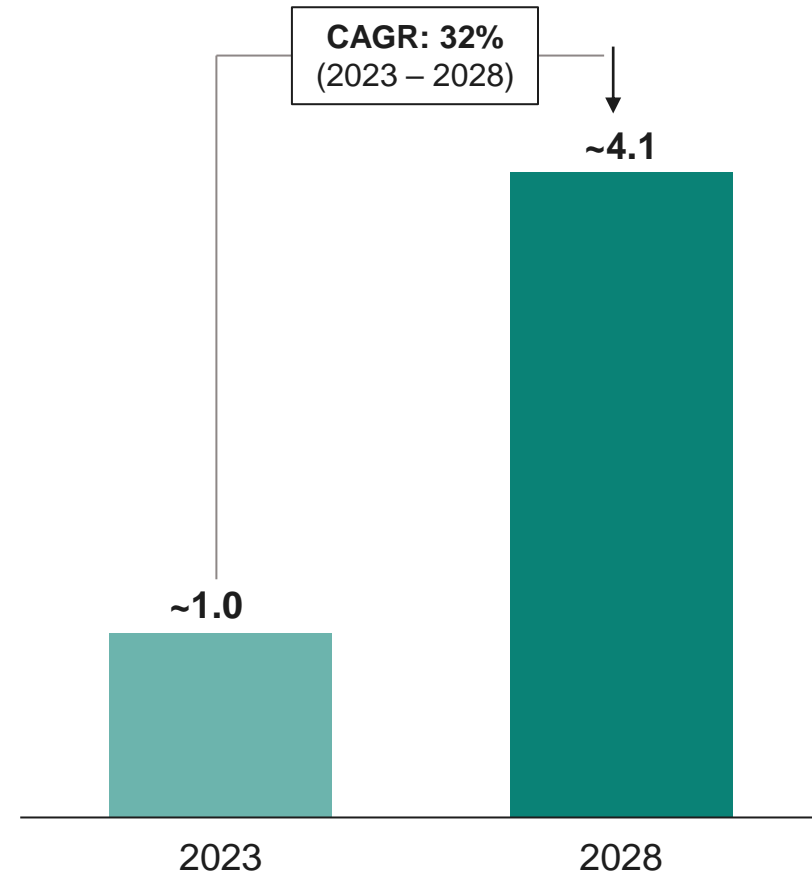
ABI Research: *Artificial Intelligence and Machine Learning* - Jan 2023

Infineon's Edge-AI enabling ecosystem allows for portfolio expansion to offer differentiated solutions for smarter IoT devices

Edge-AI optimized hardware products from Infineon

- MCU
- Connectivity
- Sensors
- Additional Infineon products

+

Infineon's ecosystem as an enabler for Edge-AI

- Infineon's software ecosystem — ModusToolbox™
- End-to-end machine learning toolchain — imagimob
- AI partners — EDGE IMPULSE, SensiML™, Micro.ai, Cyberon Leading Speech Solution Provider
- Digital services — CIRRENT™, INDUSTRIAL ANALYTICS

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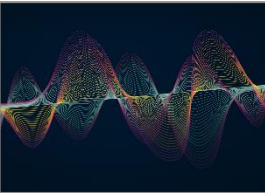
Differentiated Edge-AI based solutions for a broad selection of use cases

Going forward, we will capture value through differentiated Edge-AI based solutions to enable new use cases for our customers

Examples for Infineon's differentiated Edge-AI based solutions

MCU connectivity sensors + Infineon AI tools in ModusToolbox™ **ModusToolbox™** | imagimob — Edge compute model deployment | Audio classification | Predictive maintenance | Fall detection

PSoC™ AIROC™ XENSIV™ sensors + Infineon AI tools in ModusToolbox™ **ModusToolbox™** | SensiML™ | Seamless data capturing and Machine Learning models deployment for IoT devices

XENSIV™ sensors and edge implementation + Infineon AI tools in ModusToolbox™ **ModusToolbox™** | INDUSTRIAL ANALYTICS | Digital-twin and predictive analytics services for industrial compressors

Agenda

01 The power of IoT

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03 Key takeaways

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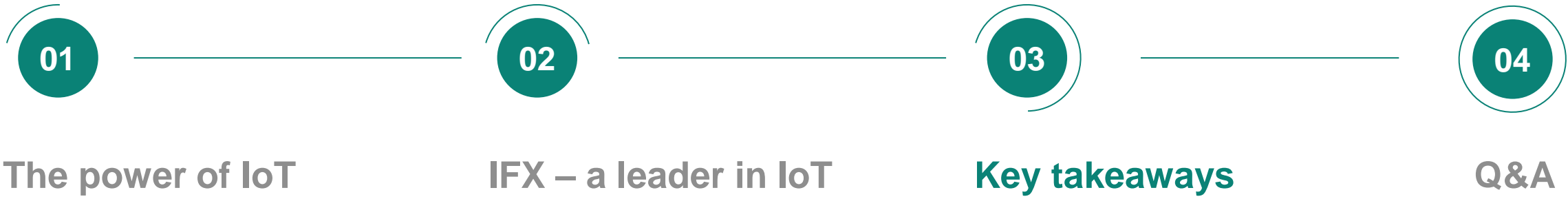
Key takeaways

IoT is one of Infineon's five key applications with **growth above Infineon group average** and a unique Product to System approach as key USP

Strong growth potential in the IoT market addressing **more than 11bn units** in CY 2028 in a broad range of applications. **BOM** per unit lies in a **low to mid double digit US dollar** range

Infineon is very well positioned to capture the IoT market opportunity through its extensive portfolio, a strong base of **7000 active customers** and a **design opportunity pipeline of €10bn**

Appendix

MCUs: Infineon is at the forefront of providing MCUs for both Consumer & IoT and Industrial & IoT applications

Infineon's PSoC™ family for general purpose, XMC™ family for industrial offer strength in low-power, high-performance, and capacitive touch sensing

Consumer IoT – PSoC™

Infineon solutions deliver

- Ultra low-power
- High-performance and small form factor
- HMI: Touch/Proximity Sensing
- CAPSENSE™
- Machine learning enabled
- High-performance integrated analog points
- Analog/digital sensor Interfaces
- Connectivity

Home automation

Human-machine interface

Wearables

Industrial IoT– XMC™
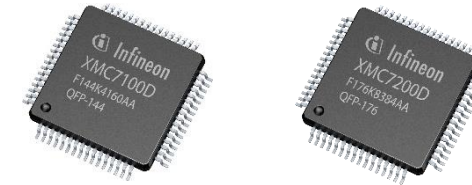
Infineon solutions deliver

- Superior compute performance
- Comprehensive set of advanced peripherals
- Advanced Security
- High quality and temperature grade for increased flexibility
- Extensive software ecosystem

Smart appliances

Factory & building automation

EV-charging
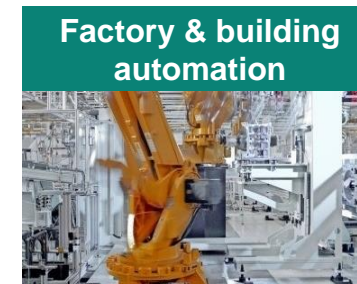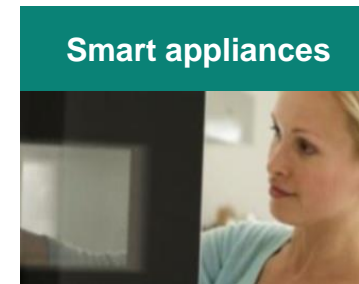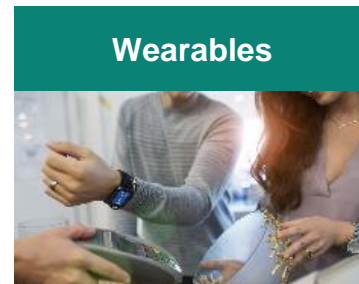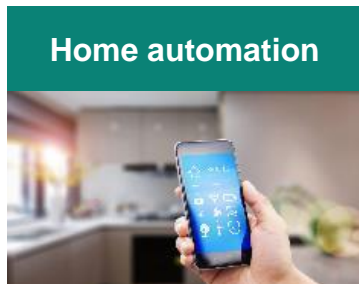
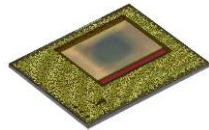# Sensors: the foundation for IoT capturing and translating surrounding field data

More and more sensors are offered as "Smart Sensors" with AI capabilities
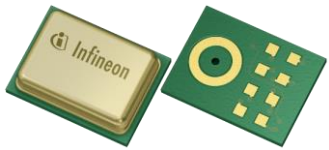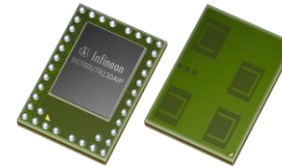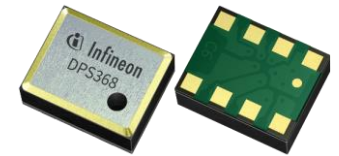
MEMS Microphone	Time-of-Flight	PAS CO2	Radar	Pressure

Air conditioning	Consumer robots	Security camera	Smart thermostat	Smart TVs
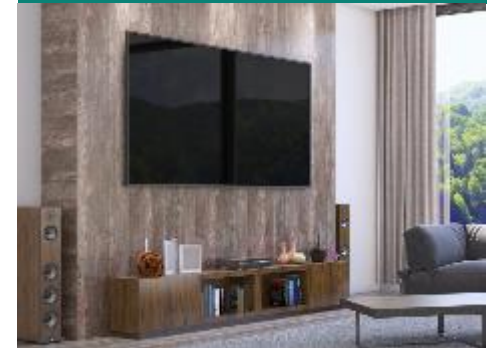
Customer benefits	Air quality awareness	Higher comfort levels	Healthier life
	Lower energy consumption	Detect presence	Energy cost savings

Power: Infineon offers a full-spectrum portfolio of all power technologies to empower IoT devices with the best-fit solution

Examples for IoT power management solutions

Smart speaker

Robot vacuum cleaner

Smart grid
(Residential Solar, Energy Storage and EV-charging)

Increasing power demand

Several watts

Several hundred watts

Several kW

PSS products

Several watts	Several hundred watts	Several kW
− Si MOSFETs	− Si MOSFETs	− Si MOSFETs
− GaN HEMTs	− GaN HEMTs	− SiC MOSFETs & Diodes
− Controller & Driver ICs	− Controller & Driver ICs	− GaN HEMTs
		− Controller & Driver ICs

Connectivity: AIROC™ Wireless for a broad range of IoT applications

Infineon's AIROC™ wireless connectivity products, including Wi-Fi, Bluetooth, Bluetooth Low Energy, and Wi-Fi and Bluetooth combos provide easy-to-use, interoperable solutions for a variety of applications

AIROC™ Wireless Connectivity
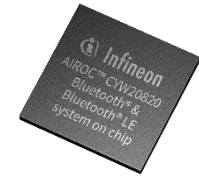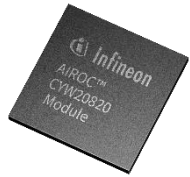
Infineon solutions deliver

- Ultra low-power by design
- Low-power system architecture
- High-performance RF
- User experience
- Widely deployed wireless IP

Smart home

Wearables

Hearables

Lighting
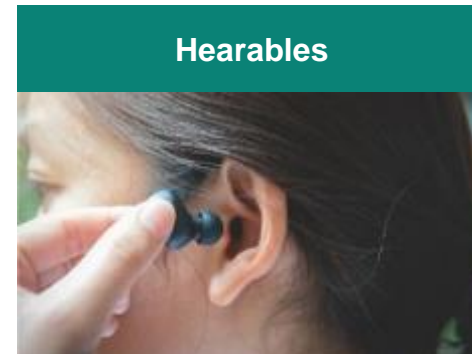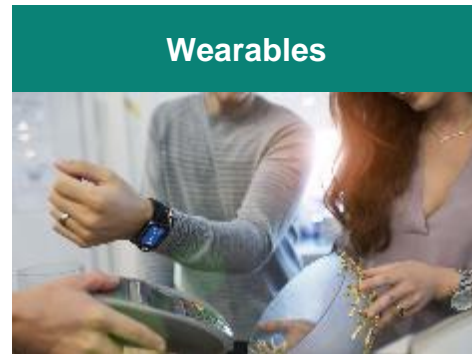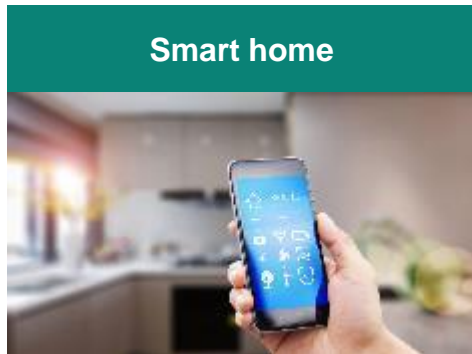
Security: Infineon's comprehensive security portfolio safeguarding the IoT

Addressing IoT applications with full solutions (hardware + software) for embedded security & smart cards

OPTIGA™ connect

SECORA™ connect

OPTIGA™ trust

SECORA™ blockchain

OPTIGA™ authenticate

Infineon solutions deliver

- Full solutions portfolio (silicon + software)
- Designed for easy integration
- Bringing strong know-how in smartcards into IoT security

- OPTIGA™ family offers a broad product portfolio for IoT security
- SECORA™ family of one-stop security solutions with an integrated operating system

- Unique approach to device-to-cloud onboarding with OPTIGA™ Trust M Express & CIRRENT™ Cloud ID
- Tiny footprints for design flexibility

Thomas Rosteck, Division President Connected Secure Systems

Thomas Rosteck

was born in Offenbach, Germany, in 1966.
He holds a Diploma in Business Informatics (Wirtschaftsinformatik) from the Technical University in Darmstadt.

He joined Siemens in 1992 and Infineon (Siemens Semiconductors until 1999) in 1998.

1992 – 1998

Consultant and Project Leader at Siemens and Siemens Management Consulting

1998 – 2017

Various management positions including Product Line and Business Line Head positions at Infineon

Since 2017

Division President Connected Secure Systems (until 2020 Digital Security Systems)

Mandates

Member of the "Hauptvorstand" BITKOM

Member of the Stakeholder Cybersecurity Certification Group (SCCG) of EU Agency for Cybersecurity (ENISA)

"Kurator" at Fraunhofer AISEC

Adam White, Division President Power & Sensor Systems

Adam White

was born in the United Kingdom in 1974.

He holds a Diploma in Engineering, Electronic and Electrical Engineering with Industrial, BEng (Hons) DIS from University of Loughborough, United Kingdom.

1996 – 2010

Various R&D, Operations, Marketing, Sales and Management positions, International Rectifier

2010 – 2015

Executive Officer & SVP Worldwide Sales[1], International Rectifier

2015 – 2022

Chief Marketing Officer[1] of Power & Sensor Systems Division, Infineon

(Adam White became a part of Infineon 2015 in light of the acquisition of International Rectifier)

Since 2022

Division President Power & Sensor Systems, Infineon