



First Quarter FY 2019 Quarterly Update

Infineon Technologies AG
Investor Relations



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Automotive

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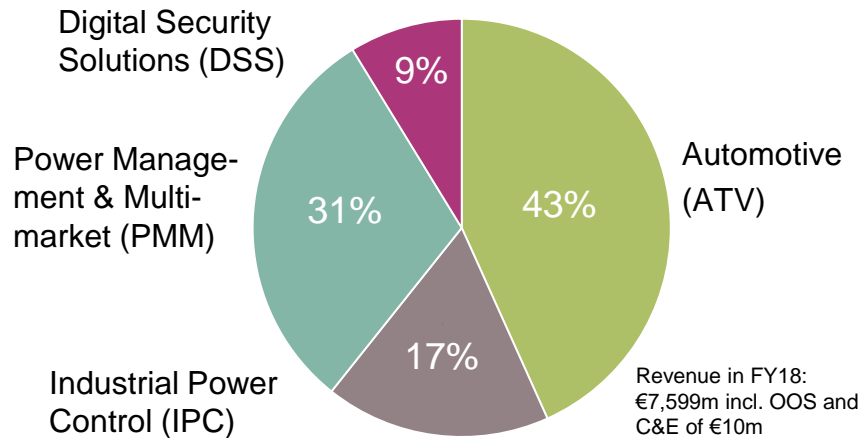
Digital Security Solutions

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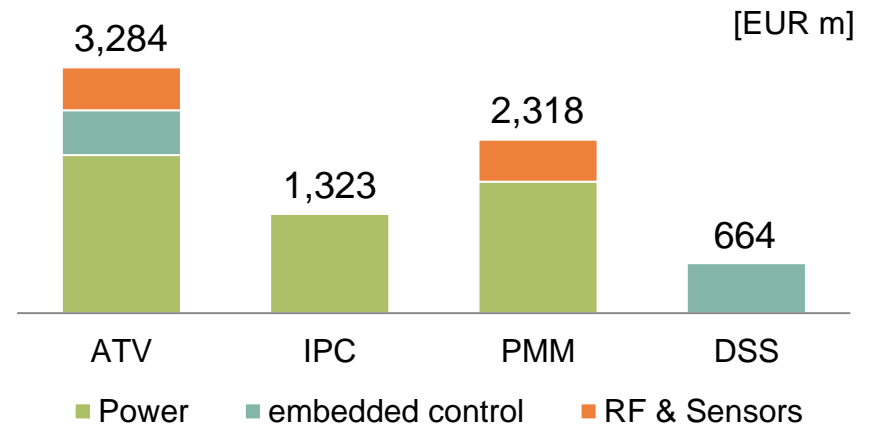
Selected financial figures

Infineon at a glance: strong financials, leading market positions

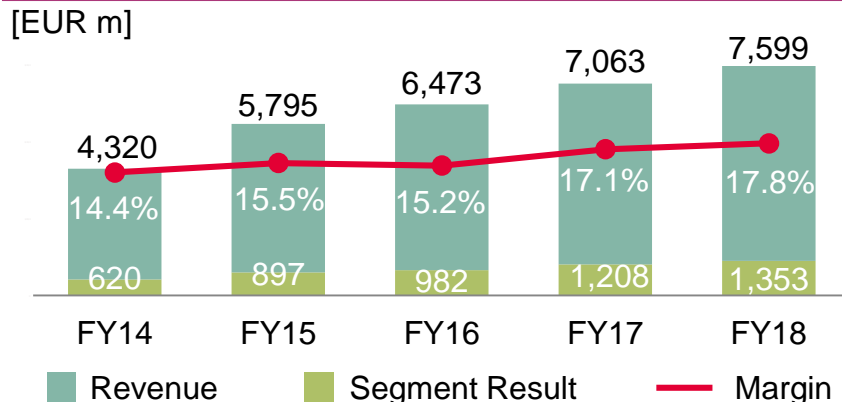
FY18 revenues by segment



FY18 revenues by product category



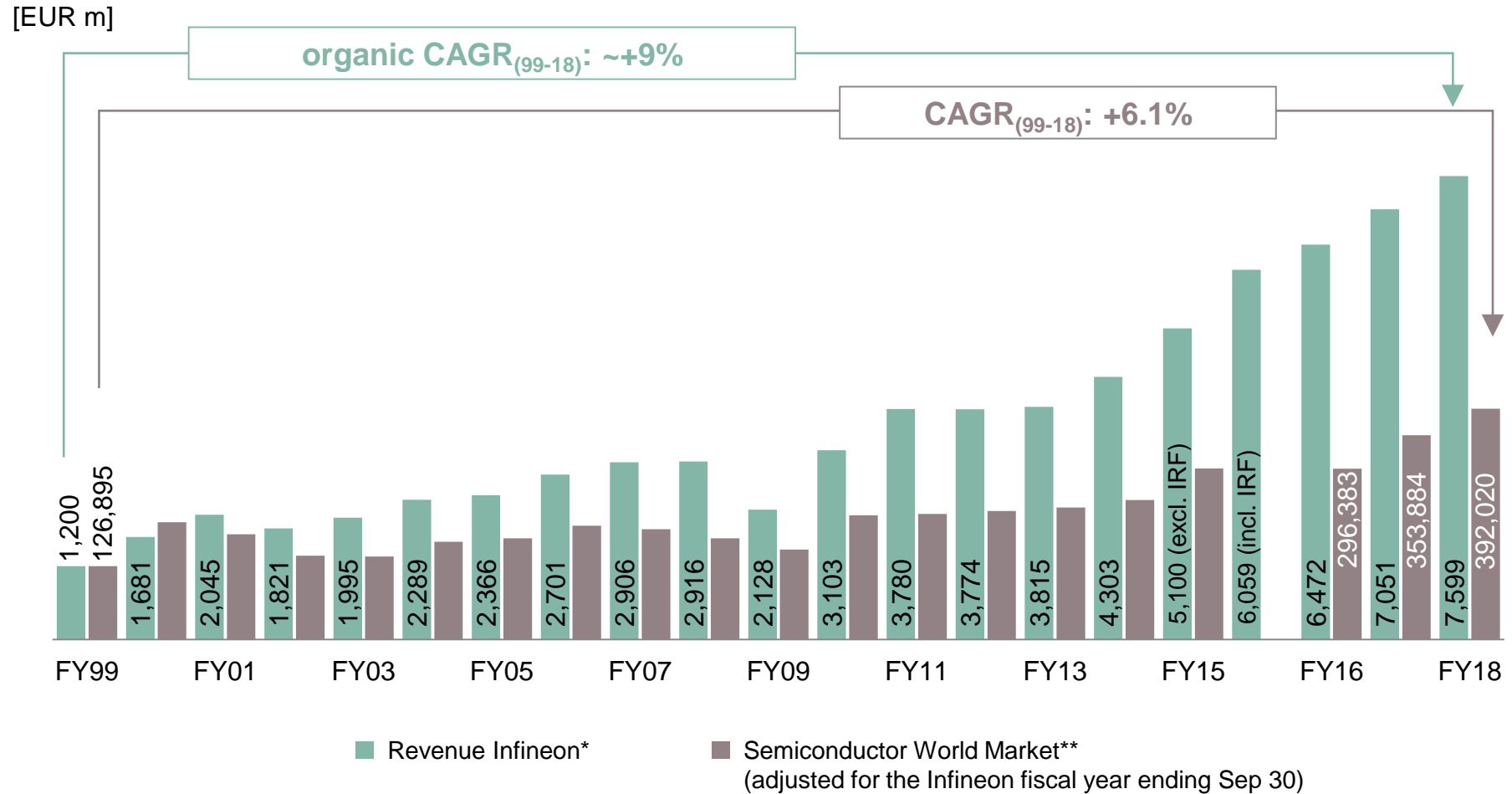
Financials



Market Position



Infiniteon's organic revenue development clearly outperformed the total semi market



* Based on Infineon's portfolio (excl. Other Operating Segments and Corporate & Eliminations) per end of FY18.

** Source: WSTS (World Semiconductor Trade Statistics) in EUR, October 2018.

Our strategy is targeted at value creation through sustainable organic growth



Focus	Technology leadership	System understanding
<ul style="list-style-type: none">› Focus on fastest growing segments of semi market› Tackle global megatrends	<ul style="list-style-type: none">› Leverage core competencies in different end markets to maximize ROI	<ul style="list-style-type: none">› Create value for customers through system understanding

Auto	Power	RF & Sensors	Security
System leader in automotive	#1; system and technology leader	Broad RF and sensor technology portfolio	#1 in Security Solutions

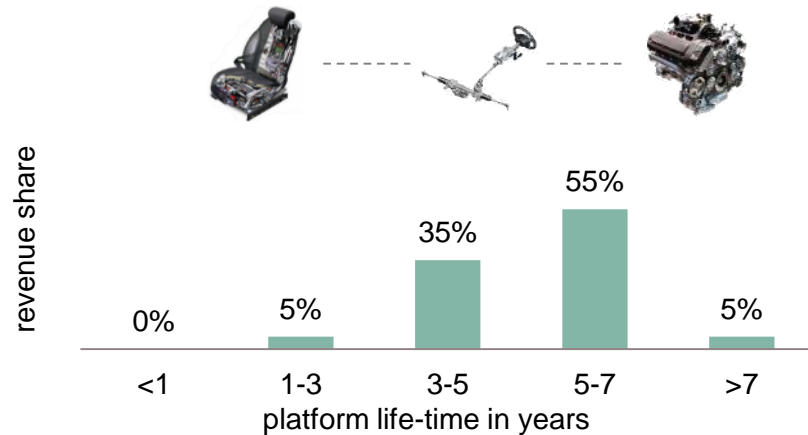
Target operating model: average-cycle targets		
Revenue growth 9%	Segment Result margin 17%+	Investment-to-sales 15%

Continued value creation for shareholders

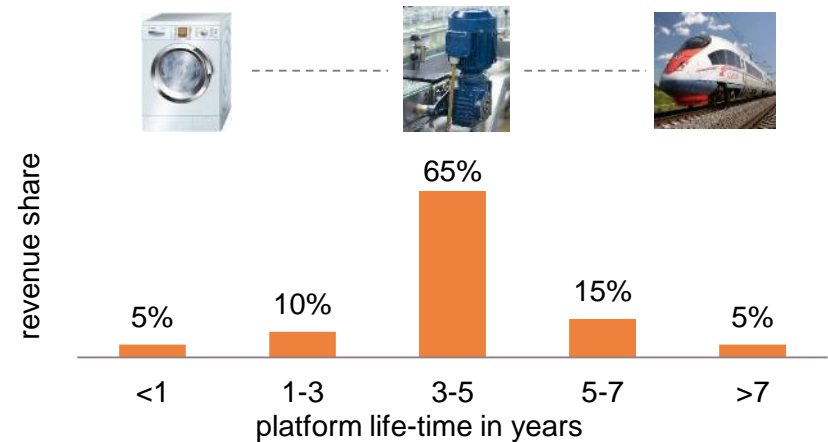
<ul style="list-style-type: none">› Organic RoCE \triangleq ~2x WACC	<ul style="list-style-type: none">› Paying out at least a constant dividend even in periods of slower growth	<ul style="list-style-type: none">› continuous EPS increase
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Long platform life-times in majority of our businesses provide stickiness and visibility

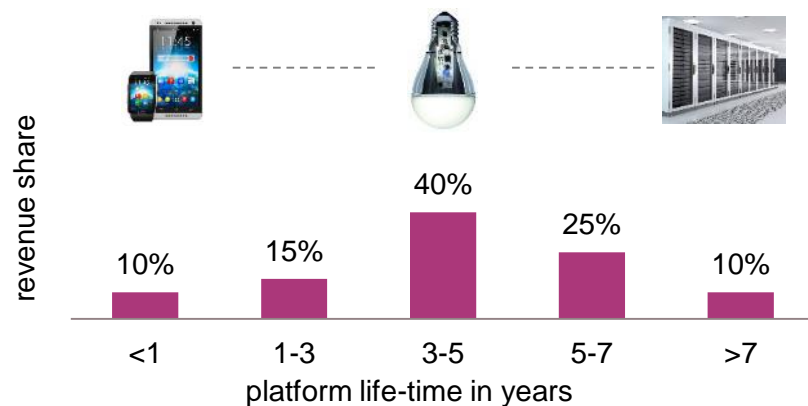
ATV – average platform life-time: ~6 years



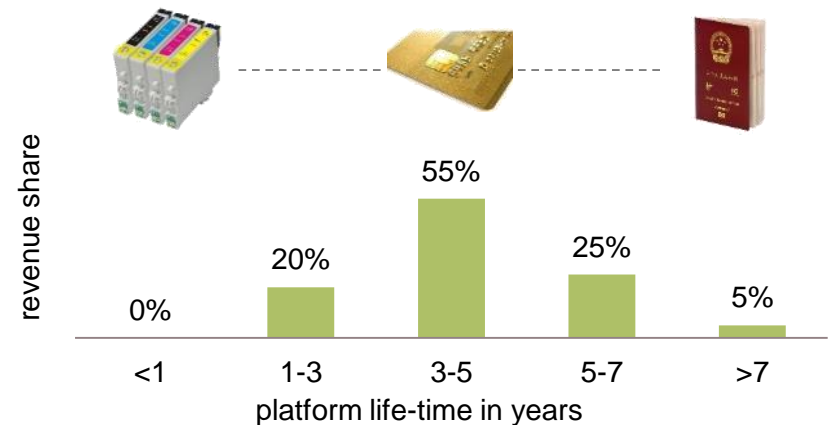
IPC – average platform life-time: ~5 years



PMM – average platform life-time: ~4 years

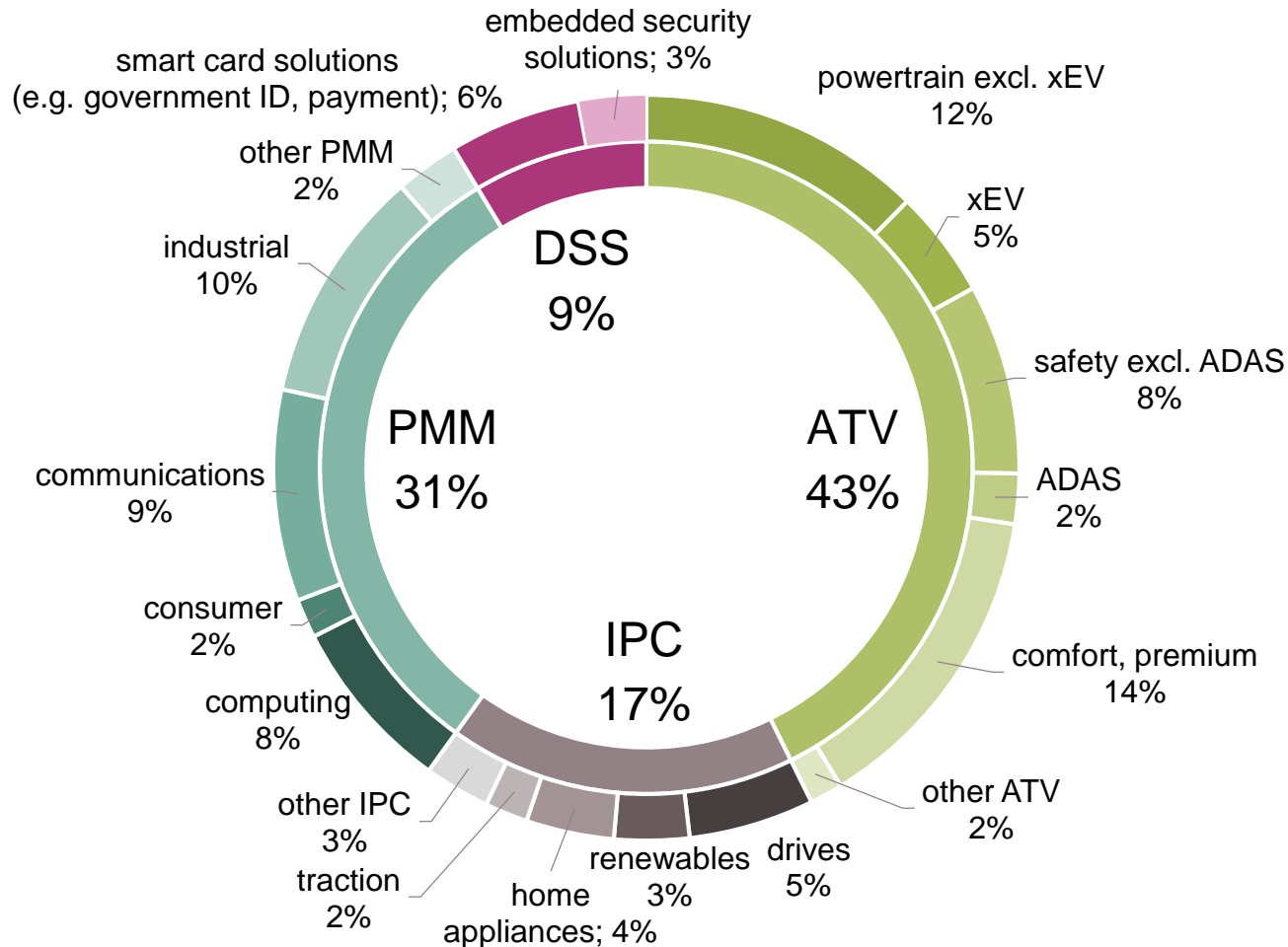


DSS – average platform life-time: ~4 years



Well diversified exposure to end-markets and applications provide resilient growth model

FY18 revenue of €7,599m by target application



Tight customer relationships, based on system know-how and application understanding

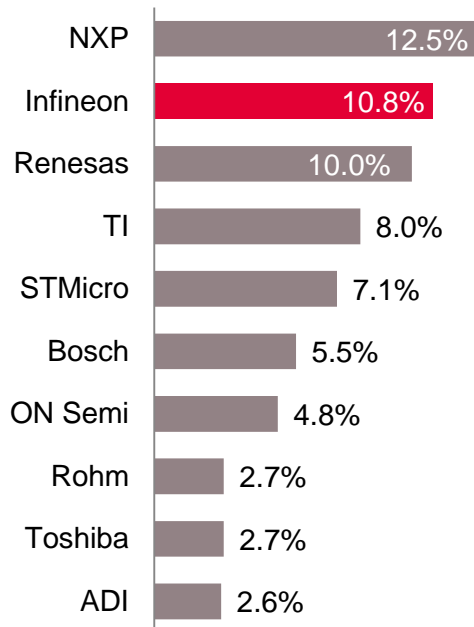


ATV	IPC	PMM	DSS
EMS partners	Distribution partners		

Infineon holds a leading position in its target markets

Automotive semiconductors

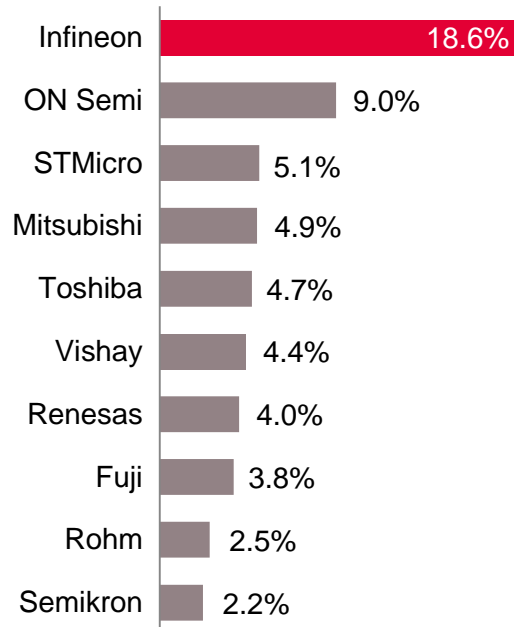
total market in 2017: \$34.5bn



Source: Strategy Analytics, "2017 Automotive Semiconductor Vendor Share", April 2018

Power discretes and modules

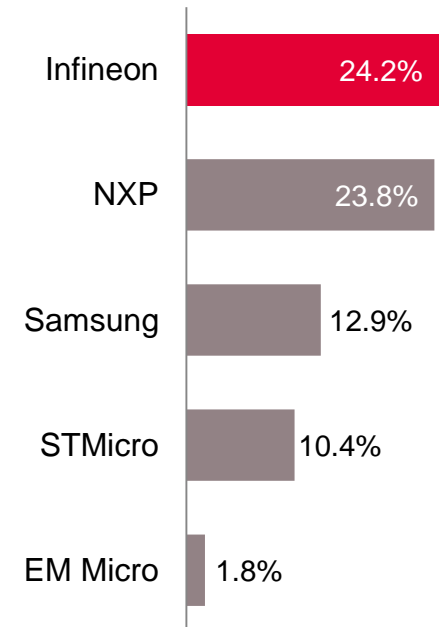
total market in 2017: \$18.5bn



Source: Based on or includes content supplied by IHS Markit, Technology Group, "Power Semiconductor Market Share Database 2017", September 2018

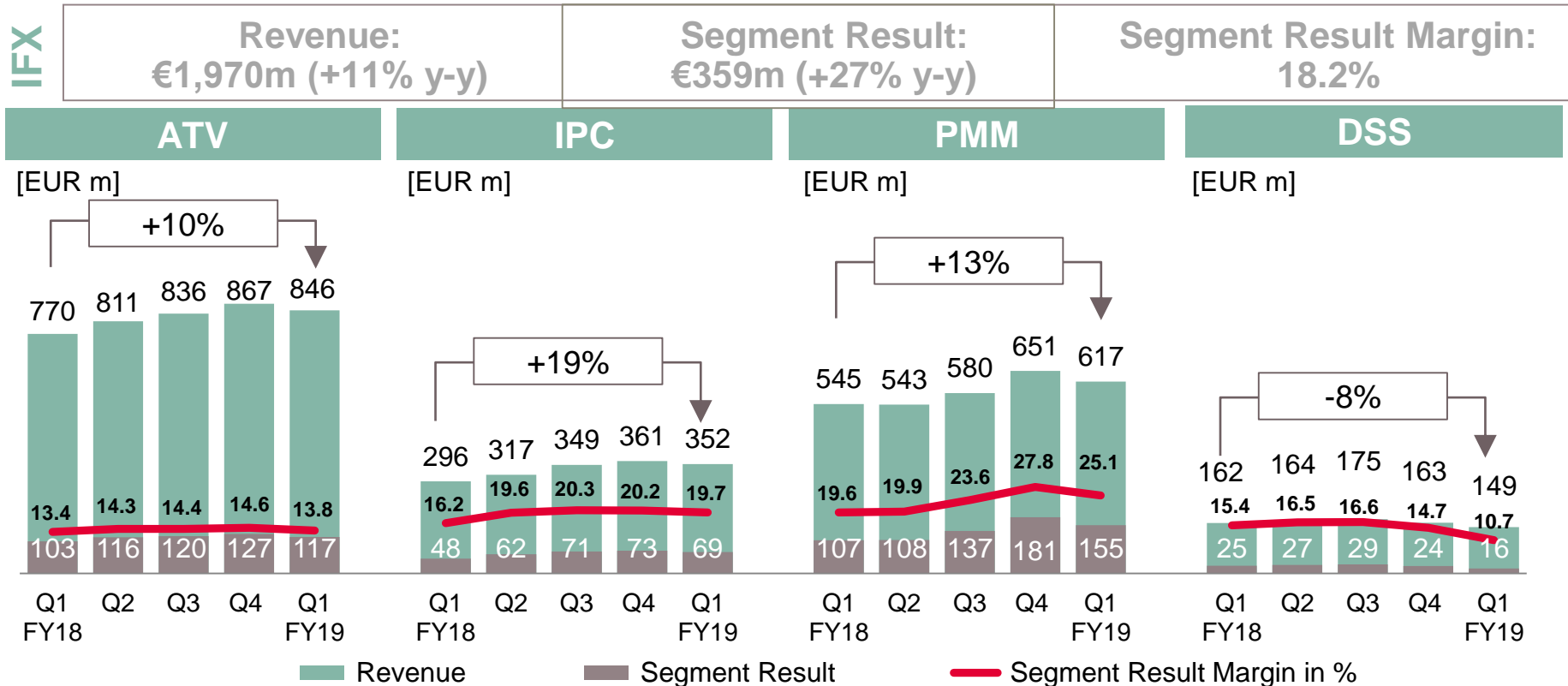
Security ICs

total market in 2017: \$3.3bn



Source: ABI Research, "Smart card & secure ICs", October 2018

Q1 FY19 Group and Division Performance



› Q1 FY19: revenue down q-q due to seasonality caused by inventory level adjustments at the end of the calendar year.

› Q1 FY19: revenue down q-q due to seasonality in industrial drives and home appliances. Wind stable, photovoltaics and traction increased.

› Q1 FY19: revenue decreased q-q due to lower demand in DC-DC and normal seasonal decline in mobile devices. AC-DC increased slightly.

› Q1 FY19: revenue decreased q-q due to normal seasonality in authentication and slight decline in payment. GovID slightly increased.

Outlook for Q2 FY19 and FY19

	Outlook Q2 FY19* (compared to Q1 FY19)	Outlook FY19* (compared to FY18)
Revenue	Stable +/- 2%-points	Increase of ~9% (prev.: Increase of 11% +/- 2%-points)
Segment Result Margin	At the mid-point of the revenue guidance: ~16%	~17.5% (prev.: ~18%)
Investments in FY19		~€1.5bn (prev.: ~€1.6bn – €1.7bn)
D&A in FY19		~€1.0bn**

* Based on an assumed average exchange rate of \$1.15 for €1.00

** Including D&A on tangible and intangible assets from purchase price allocation of about €90m

Outlook for FY19 fully in line with long-term target operating model (TOM)

Outlook FY19		Long-term (TOM)
Revenue growth	~9%	~9%
Segment result margin	~17.5%	~17%+
Investment-to-sales	Investments ~€1.5bn	~15%*

› Includes ~€250m for cleanroom, office buildings and structural changes

* Thereof ~2%-points capitalized R&D according to IFRS reporting standards. The balance of ~13% corresponds to capex, of which ~6%pt is fixed, ~7% related to capacity expansion.

New Villach 300 mm module will add significant capacity in power semiconductors

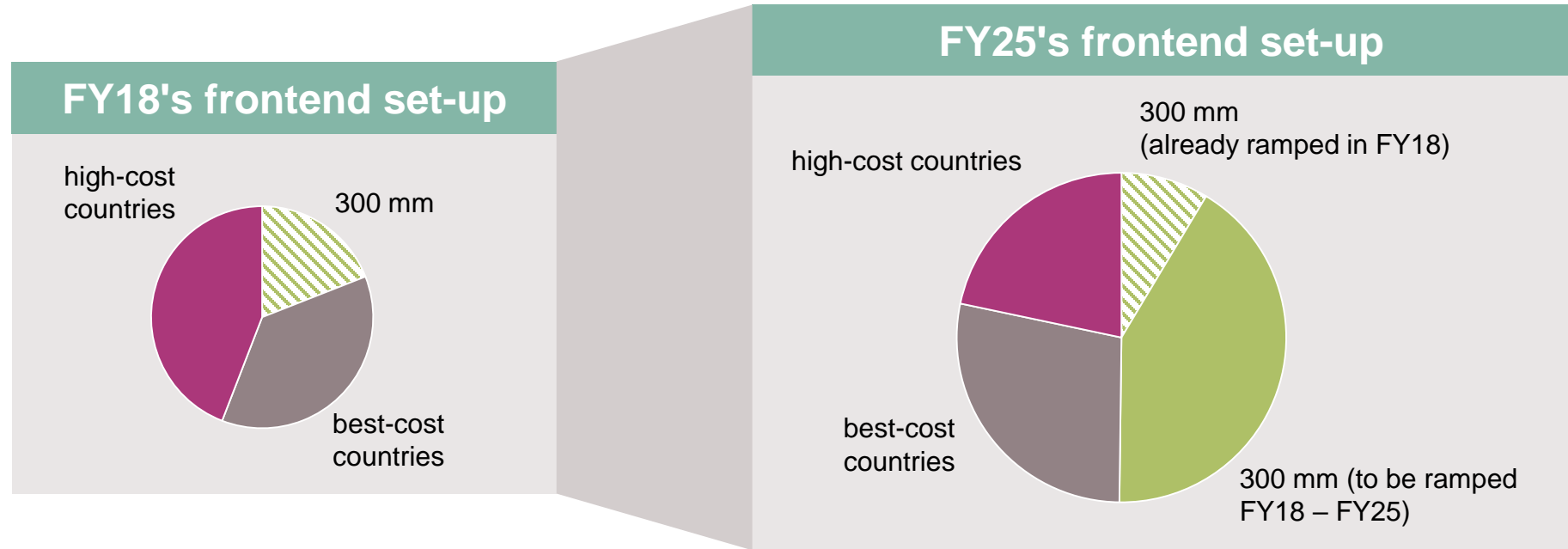


Key criteria for site selection

- › Economies of scale
- › Time to revenue
- › Geographic diversification

Building space	~60,000 m ²
Total frontend investment	> €1.6bn over 6 years
Revenue potential	> €1.8bn per year
Start of construction	early 2019
Ready-for-equipment	mid 2020
Ready-for-production	early 2021
Technologies	IGBT and MOSFET for all end markets

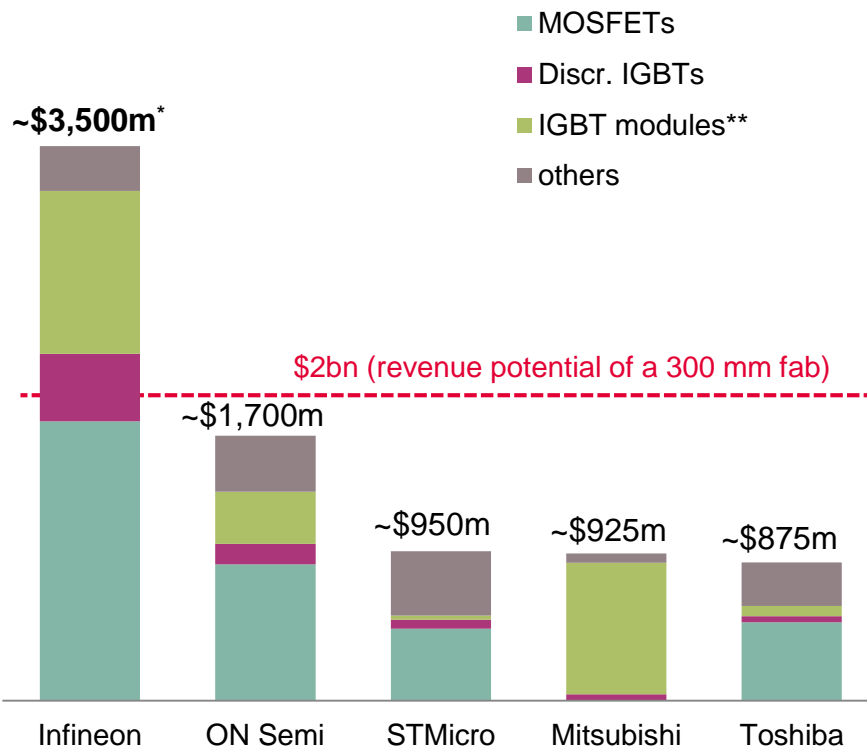
Gross margin potential driven by 300 mm manufacturing for power and sensors



- › 300 mm vs. 200 mm: 20% - 30% cost advantage when fully loaded
- › ~6% cost advantage on frontend level
- › ~2.25%-points gross margin improvement excluding counter effects

Unique position allows to fill a 300 mm module in a commercially viable timeframe

2017 revenues with products feasible for 300 mm manufacturing



of years to fully load a cost competitive 300 mm module

		growth per annum	
		6%	9%
annual rev in power semis	\$4bn	7 yrs	5 yrs
	\$3bn	9 yrs	6 yrs
	\$2bn	12 yrs	8 yrs
	\$1bn	19 yrs	13 yrs

Infineon's territory (5 yrs, 6 yrs, 8 yrs)

Competitors' territory (13 yrs, 19 yrs)

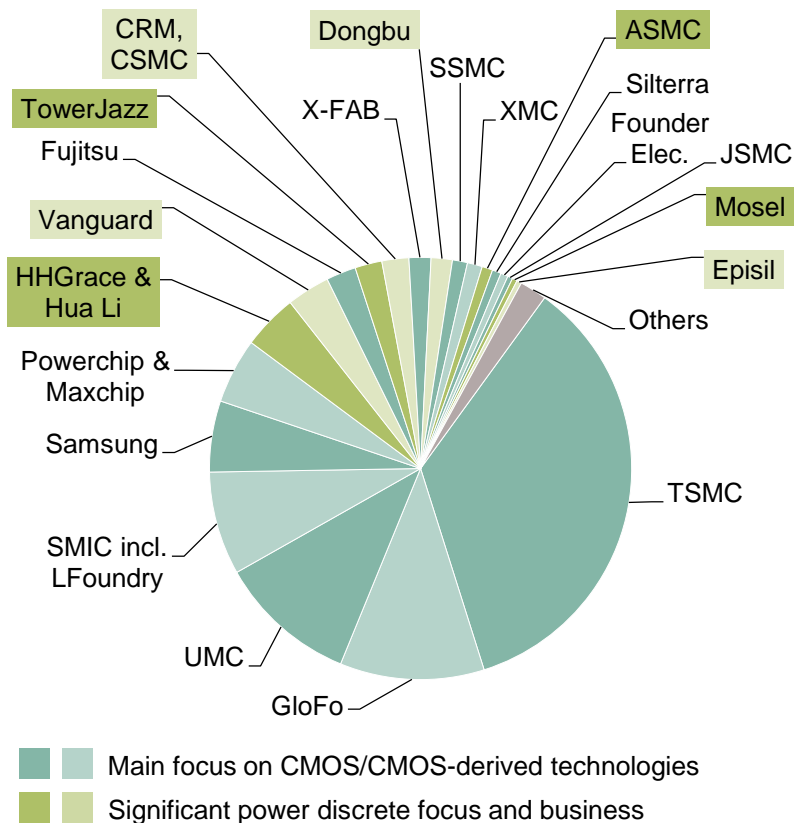
* rounded figures.

** including standard IGBT modules, IPMs (IGBT + MOSFET), PIM/CIBs.

Sources: Based on or includes content supplied by IHS Markit, Technology Group, "Power Semiconductor Market Share Database 2017", September 2018.

Only limited outsourcing options for high-volume discrete power semiconductors available

Power-focused foundries represent only ~15% of total foundry capacity



Infineon's outsourcing target structure

In the next five years, the Infineon **frontend outsourcing** share will increase from ~22% to ~30%; of that

- › **CMOS:** from ~50% to ~70%
- › **Power:** up to ~15%
Outsourcing share is restricted by limited capacity of most of the power-focused foundries

Backend outsourcing share will increase from 23% to 32%

Source: Infineon analysis based on Semi.Org, "Semi World Fab Forecast", August 2018 edition

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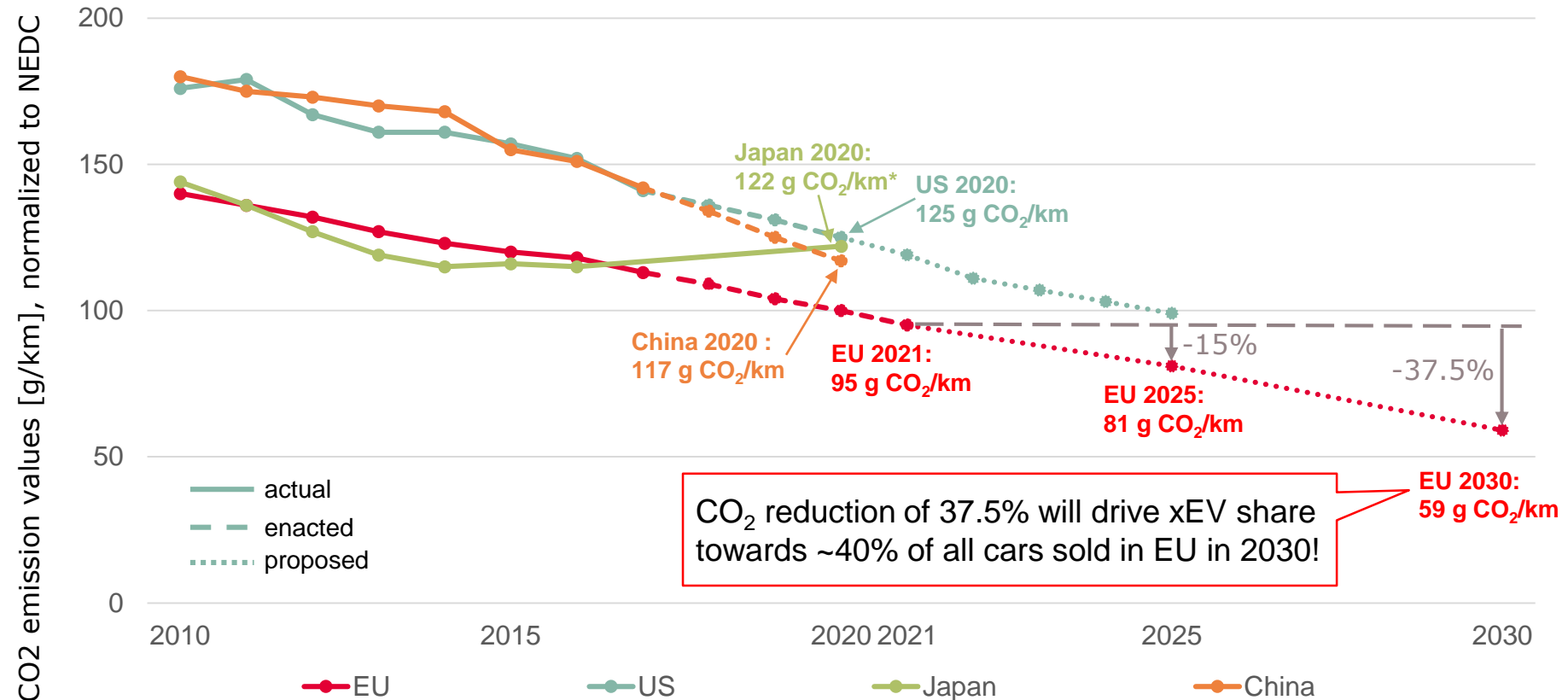
Digital Security Solutions

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Selected financial figures

xEV growth driven by emission regulation; EU about to force CO₂ reduction to -37.5% by 2030 vs 2021

CO₂ emission development and regulations for main regions

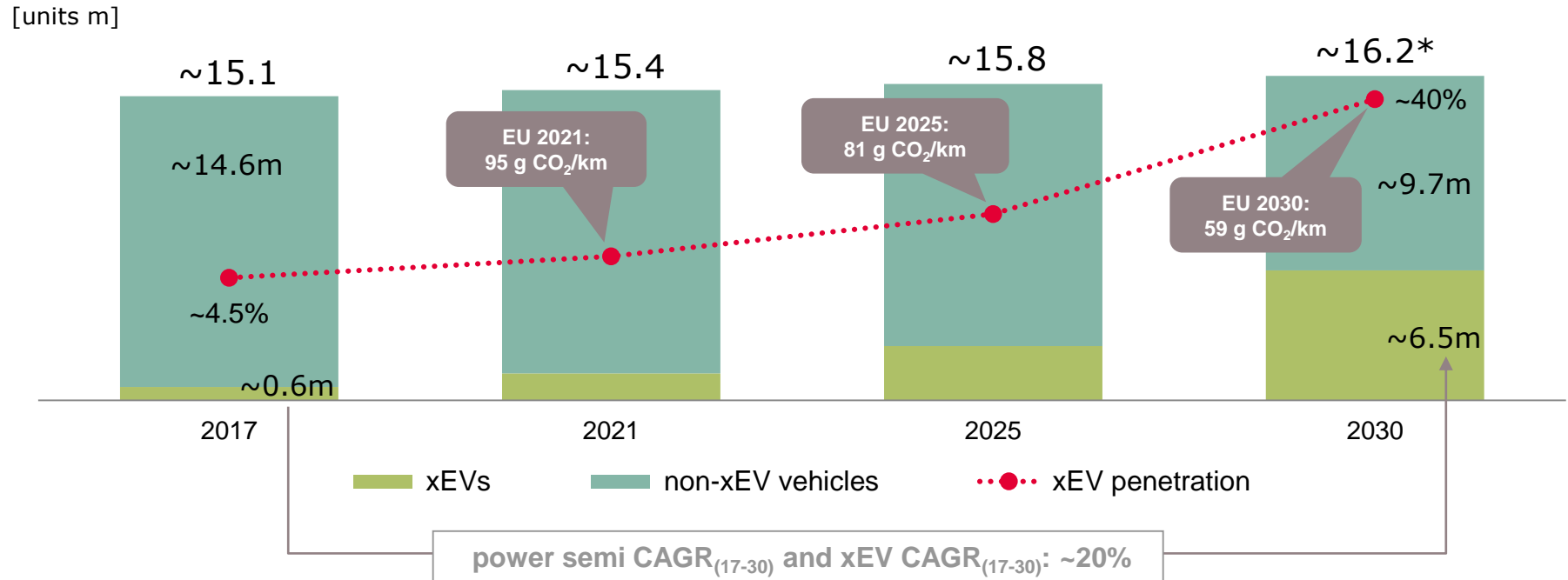


* Japan has already met its 2020 statutory target as of 2013

Source: ICCT (www.theicct.org), April 2018

CO₂ reduction of 37.5% by 2030 implies a growth of power semi for electric vehicles of ~20% p.a.

EU car registrations: standard passenger vehicles (non-xEVs) versus xEVs

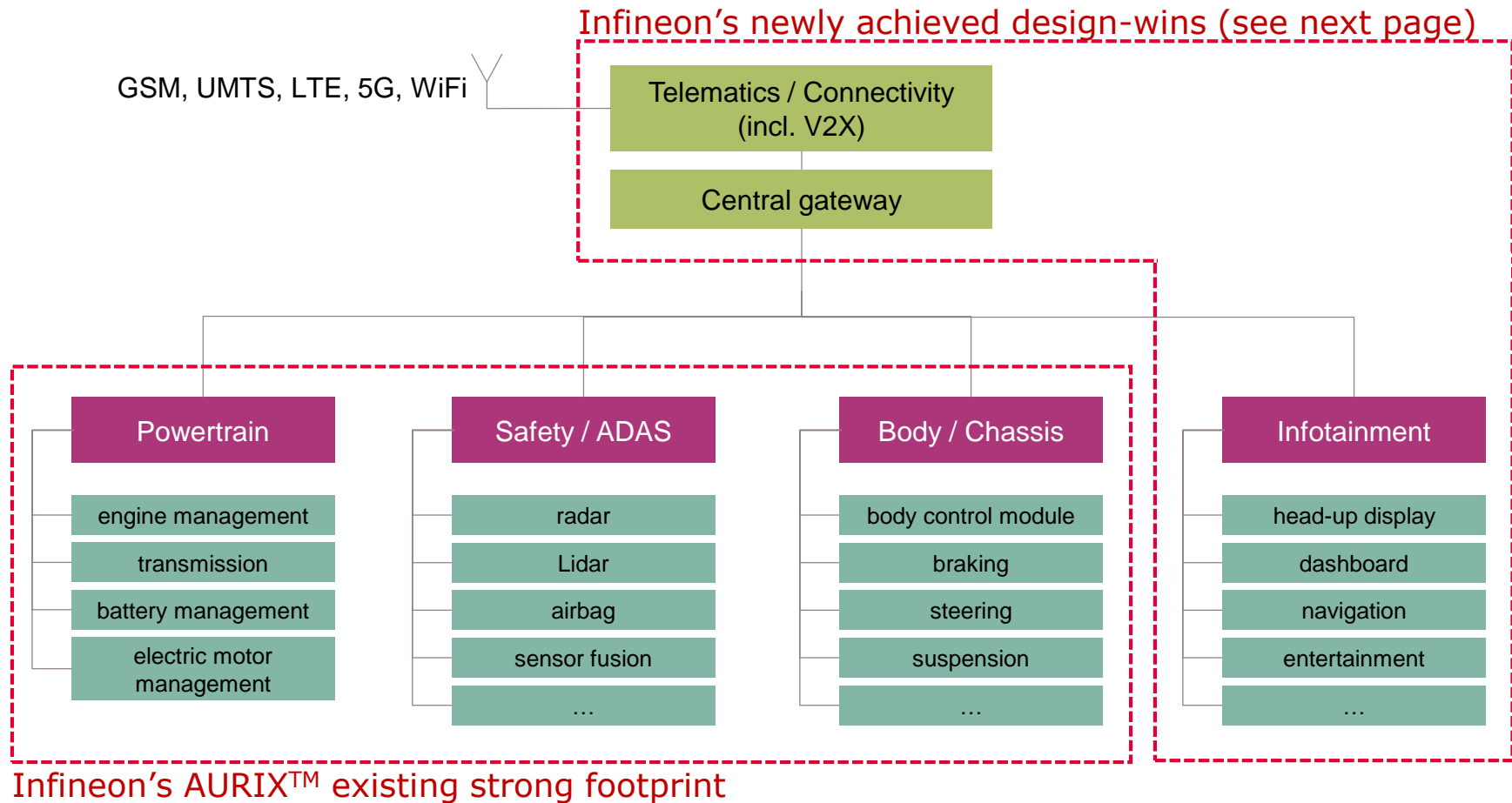


- › In 2017, ~4.5% of all cars registered in the EU were electrified (MHEV+FHEV+PHEV+BEV)
- › OEMs claim ~40% of all cars sold by 2030 need to be electrified to reach target of 59 g CO₂/km
- › From 2017 to 2030, number of electric vehicles rise by 10x from ~0.6m to ~6.5m resulting in ~20% p.a.
- › In 2017, power semiconductor content for drivetrain per FHEV / PHEV / BEV was ~\$317

Source: ACEA (European Automobile Manufacturers Association), "The Automobile Industry Pocket Guide", May 2018; Infineon

* EU car registration assumed to grow from 2017 to 2030 by CAGR₍₁₇₋₃₀₎ = 0.5%

AURIX™ family makes significant inroads into infotainment and in-vehicle communication controller



Significant design-wins confirm AURIX™ 1G/2G as attractive choice for the connected car



AURIX™ stands out due to superior high computing performance on Infineon's safe and secure microcontroller architecture



AURIX™ 1G

- › Asian OEM selected AURIX™ 1G for gateway module
- › Major European OEM selected AURIX™ 2G for telematics module for all its brands

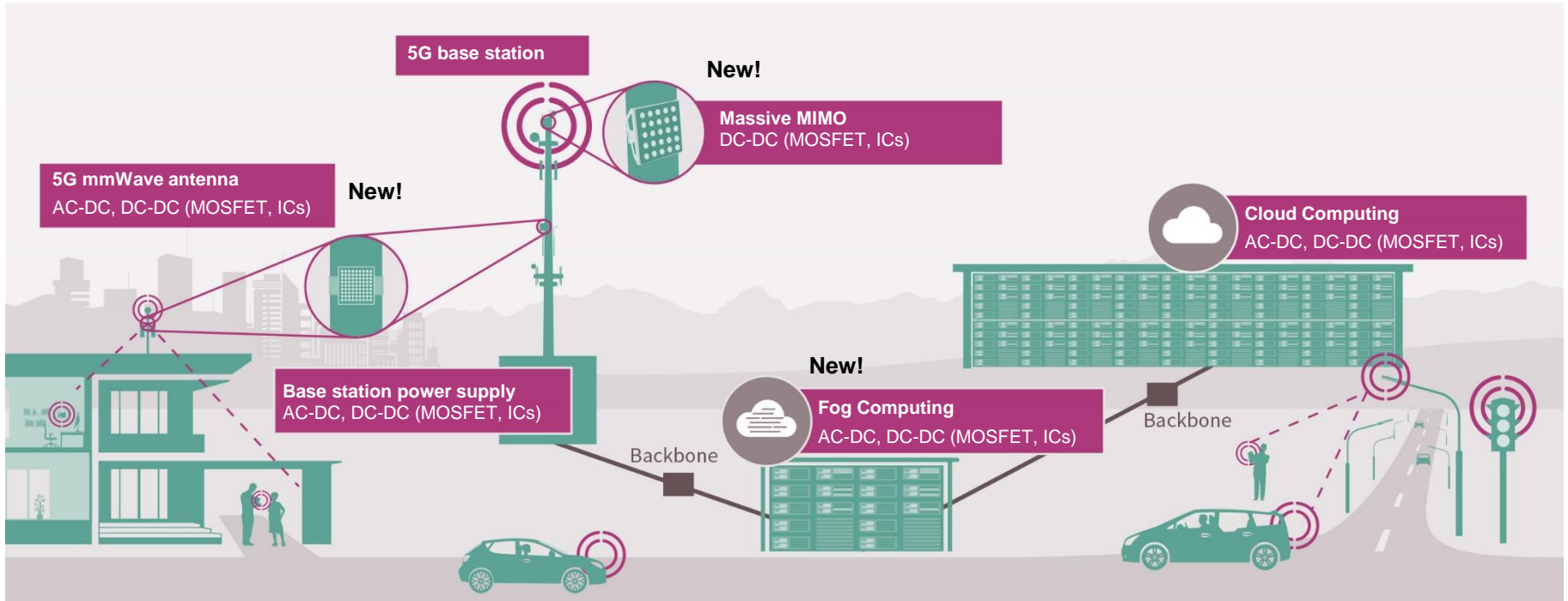


AURIX™ 2G

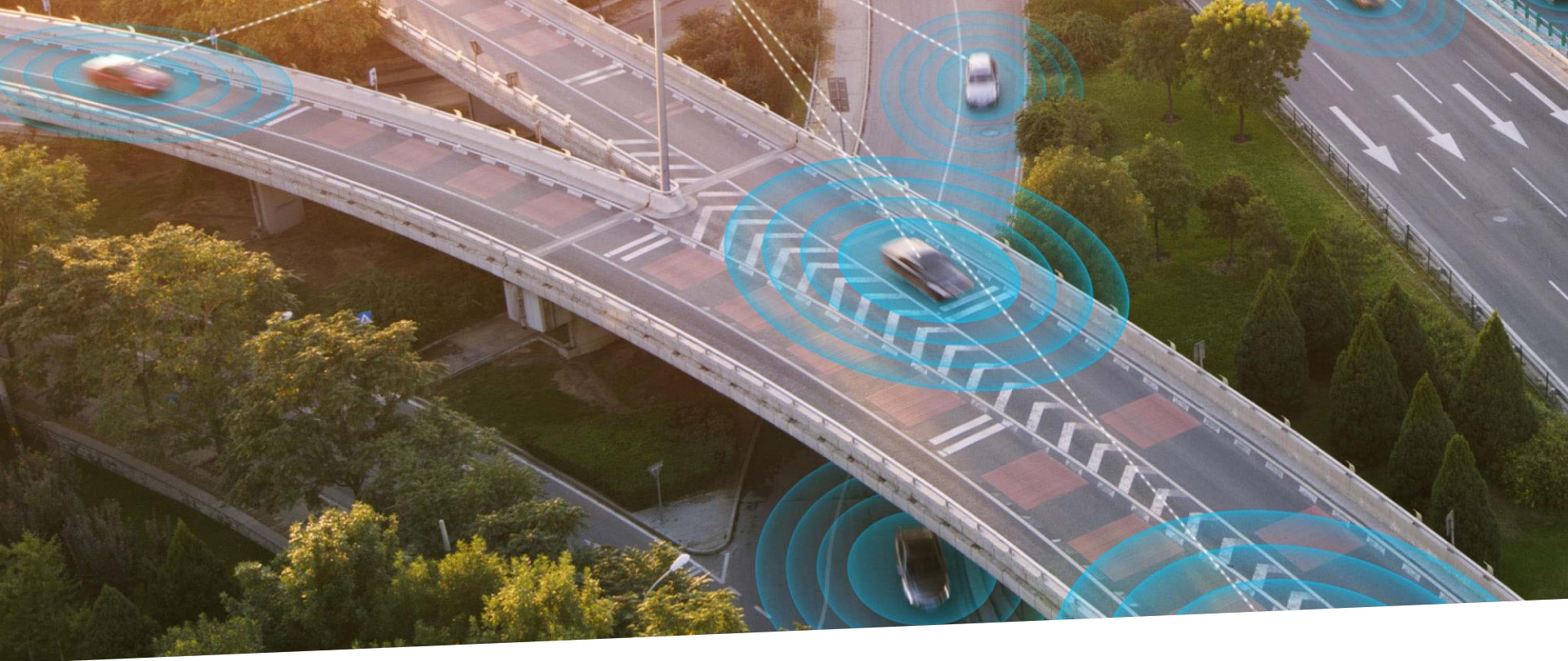
- › Design-win for AURIX™ 2G for gateway platform at leading European tier-1 for American OEM
- › Major European OEM selected AURIX™ 2G as safe and secure host controller for infotainment platform

- › AURIX™ family penetrates upcoming car architectures very broadly: ADAS, chassis, safety, powertrain, and connectivity!
- › significant revenue contribution starting 2021

Transition from 3G/4G to 5G drives demand in power semis for antennas and power supplies



- › driver #1: massive growth of data and computing power
- › driver #2: higher number of base stations due to denser network
- › driver #3: ~4x higher power semiconductor content per radio board:
from ~\$25 for MIMO antenna to ~\$100 for massive MIMO antenna array
- › driver #4: fog computing data center as a completely new market



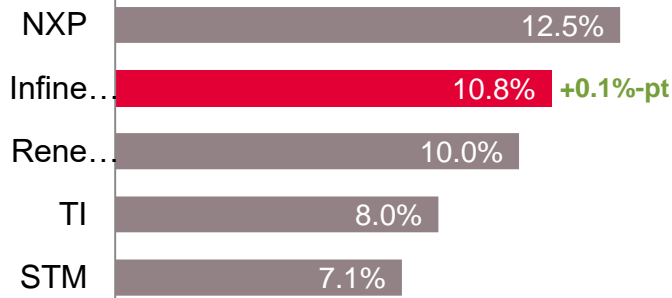
Automotive



Infineon's position in the automotive semiconductor universe

Automotive semiconductors

total market in 2017: \$34.5bn

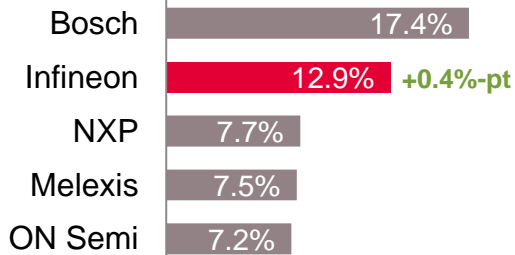


Market share trend: Infineon benefits disproportionately from the two mega trends

- › electro-mobility: power, drivers, μ C
- › automated driving: radar, lidar, μ C

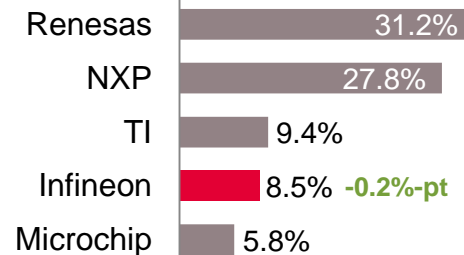


Sensors



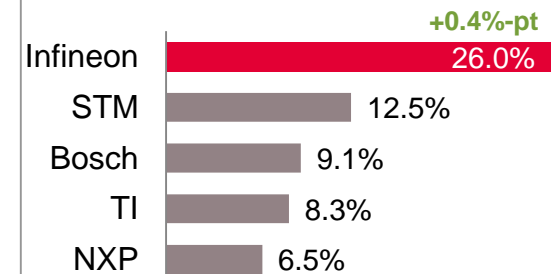
long-term drivers: 24 / 77 GHz radar
lidar

Microcontrollers



long-term drivers: ADAS/AD
Powertrain

Power



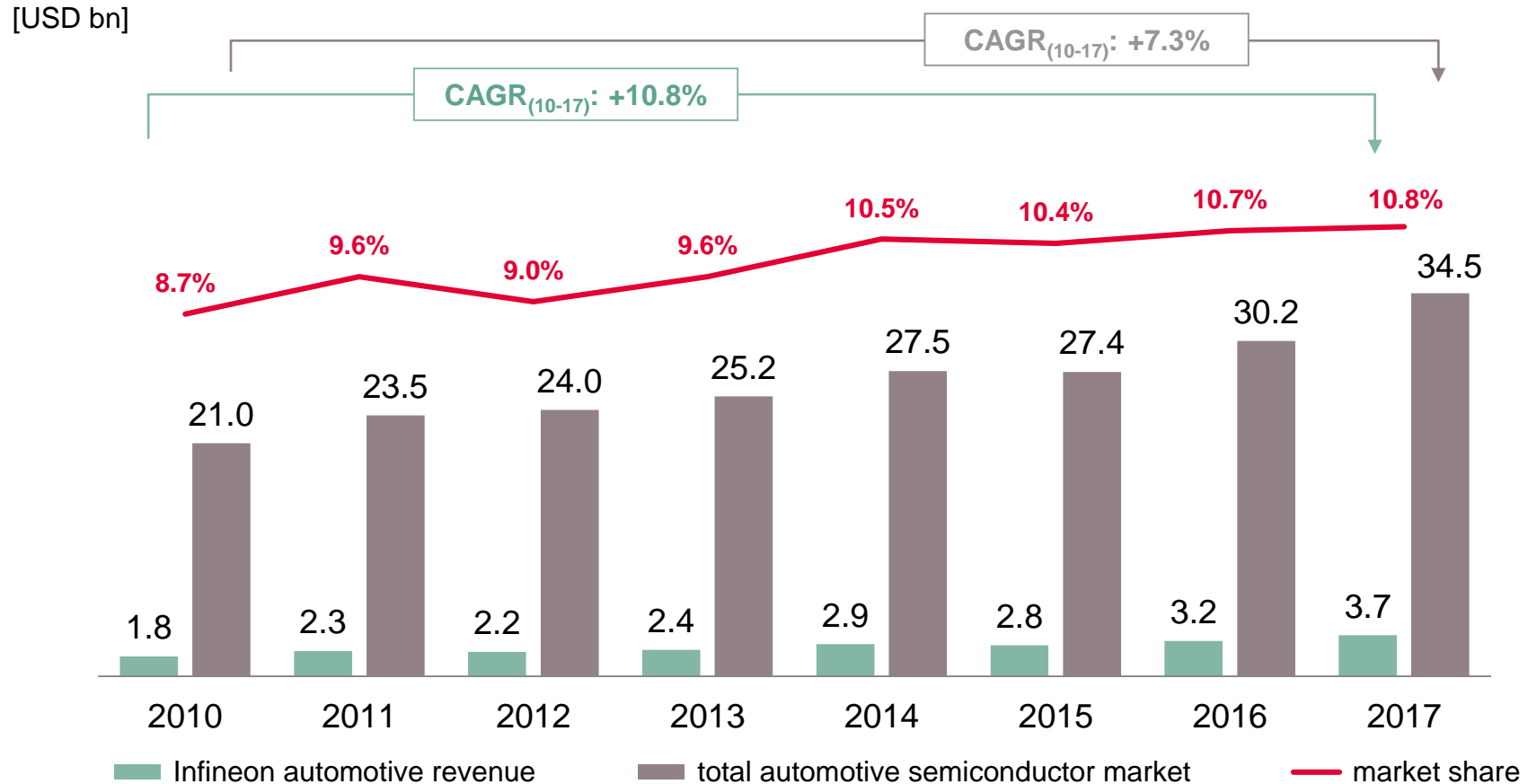
long-term drivers: xEV penetration
EPS
Lighting

Source: Strategy Analytics, "Automotive Semiconductor Vendor Market Shares", April 2018

Infineon is continuously outgrowing the market since 2010







Infineon automotive market share development*



* Infineon automotive revenue as reported to Strategy Analytics incl. revenue from ATV, IPC and PMM. Adjusted to calendar year.
Source: Strategy Analytics, "Automotive Semiconductor Vendor 2017 Market Share", April 2018.

Clean cars, ADAS/AD, and adoption of premium features drive growth

Vehicle production	Drivers for semiconductor content per car		
	Electro-mobility	Automated Driving	Comfort, premium
			
<ul style="list-style-type: none">› ~2% growth p.a.	<ul style="list-style-type: none">› Legislation› Improvements of ICE› Higher efficiency of all electric consumers› Adoption of xEV	<p>Today</p> <ul style="list-style-type: none">› crash avoidance› ADAS <p>Tomorrow</p> <ul style="list-style-type: none">› Autonomous Driving	<ul style="list-style-type: none">› Premium cars are early adopters of high-end comfort and safety features› Trickle down to mid-range
~10% p.a. through-cycle growth			



Electro-mobility



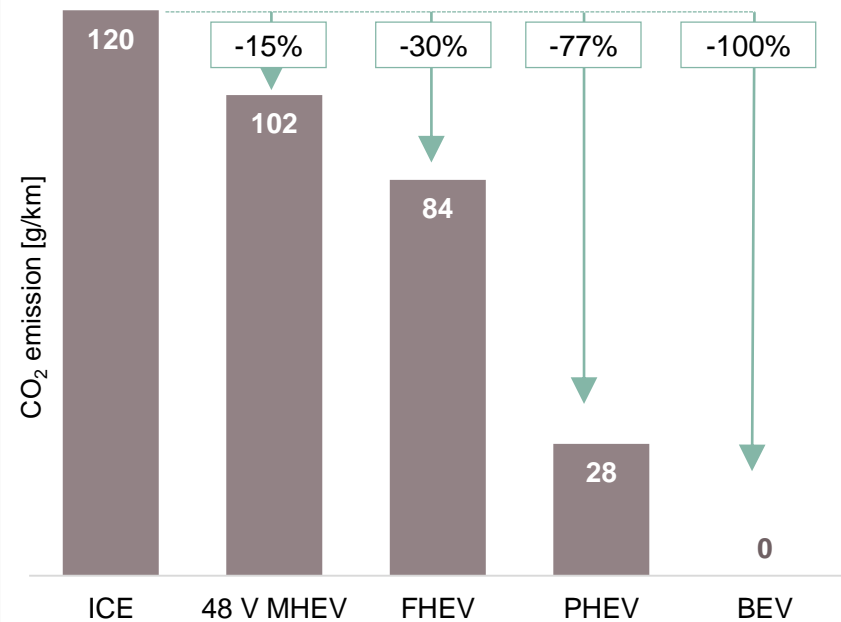
Short-term, MHEV/FHEV/PHEVs are first choice; mid-term BEVs are preferred solution

Growth drivers of electro-mobility



- + Regulation
- + Incentives; China industry politics
- + Decreasing Diesel share
- + Increasing SUV share
- Cost and range vs. ICE
- Limited charging infrastructure
- Further ICE improvements
- Attractive oil price

CO₂ emission reduction by powertrain system

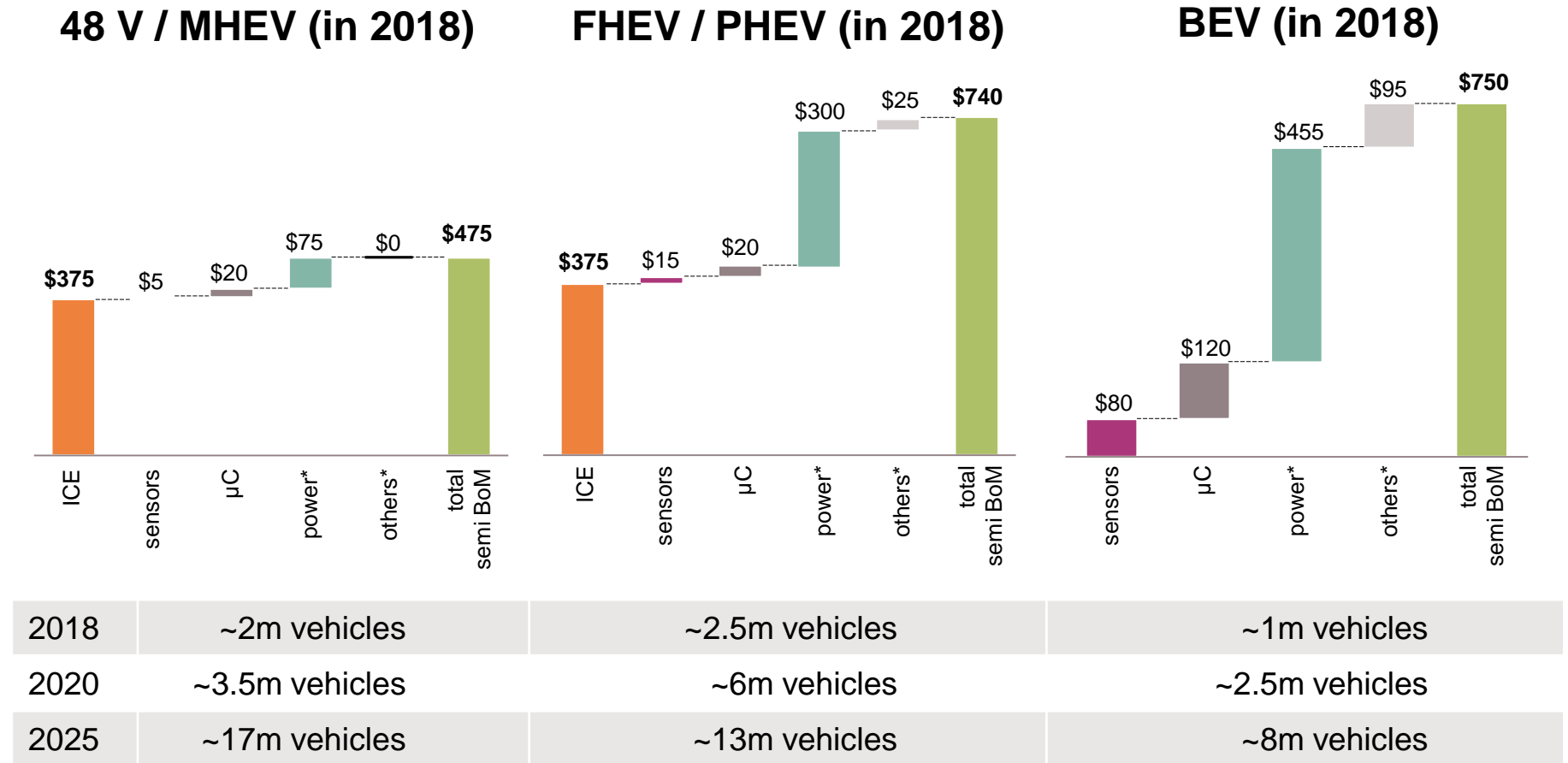


Source: Infineon estimates

- > Due to absence of improvements in CO₂ reduction in the past years, OEMs have to switch to "catch-up" mode until 2021
- > OEMs expected to push 48 V MHEV, FHEV, PHEV systems near-term to meet CO₂ targets
- > Mid- to long-term, BEVs will become the preferred solution

The incremental demand of power semi-conductors is a significant opportunity

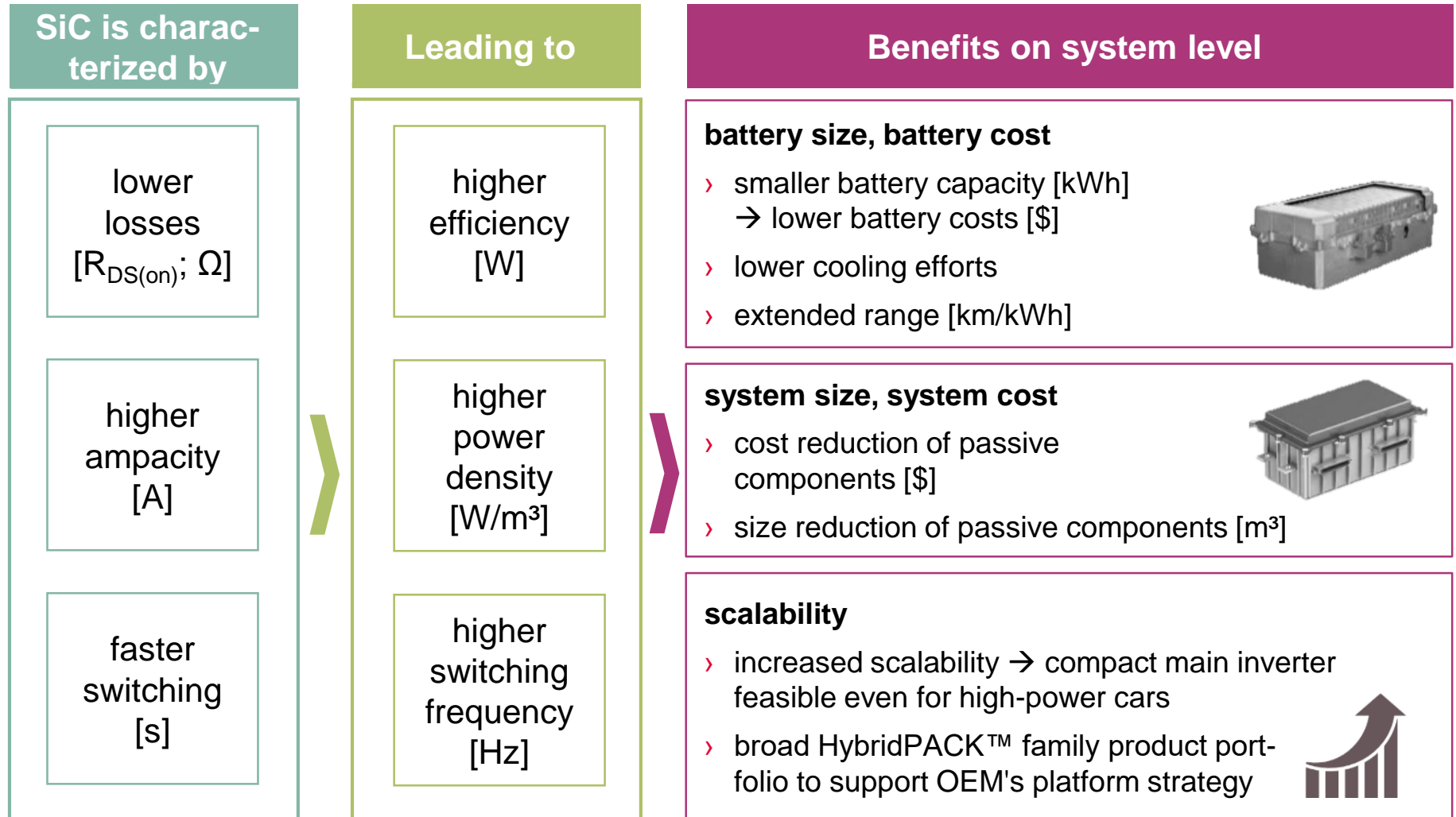
2018 average xEV semiconductor content by degree of electrification



Source: Strategy Analytics, "Automotive Semiconductor Content", May 2018; Infineon
 * "power" includes linear and ASIC; "others" include opto, small signal discrete, memory

Sense Compute Actuate

System cost reduction can justify the higher SiC component price



ampacity = current carrying capability

Infiniteon has unparalleled expertise and portfolio for high-power xEV applications



Bare dies



Discretes

Diodes

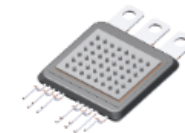


MOSFETs

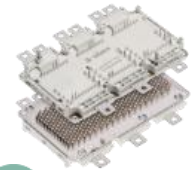


Modules

molded



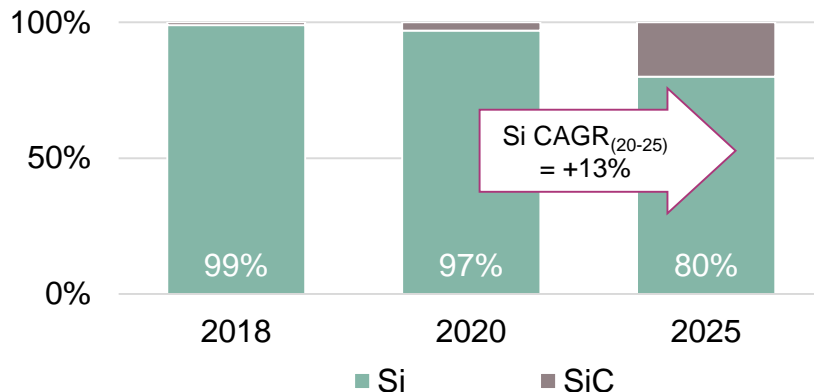
frame-based



Si will dominate the xEV market throughout next decade*

Si

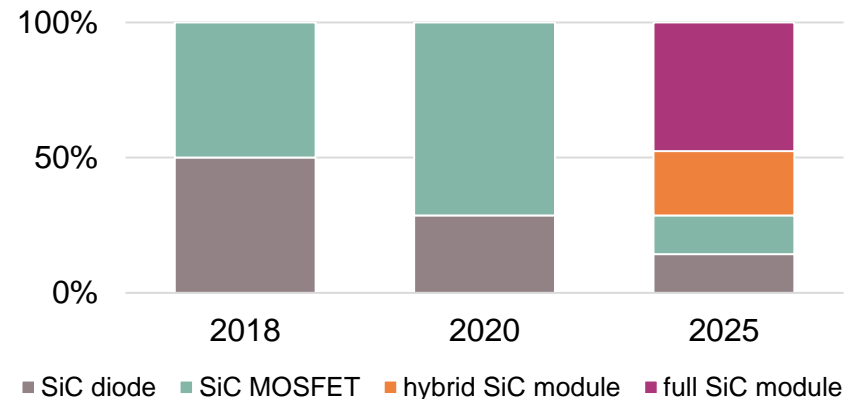
[by \$ value]



Modules will be preferred form factor in SiC mass market*

SiC

[by \$ value]



* Source: Infineon

Infineon offers the complete automotive-grade portfolio of SiC components



CoolSiC™ Automotive Schottky diode



on-board charger



ramped
in 2018!

CoolSiC™ Automotive MOSFET



on-board charger



to ramp
in 2019!

Full SiC module HybridPACK™ Drive CoolSiC™



main inverter



to ramp
in 2020!

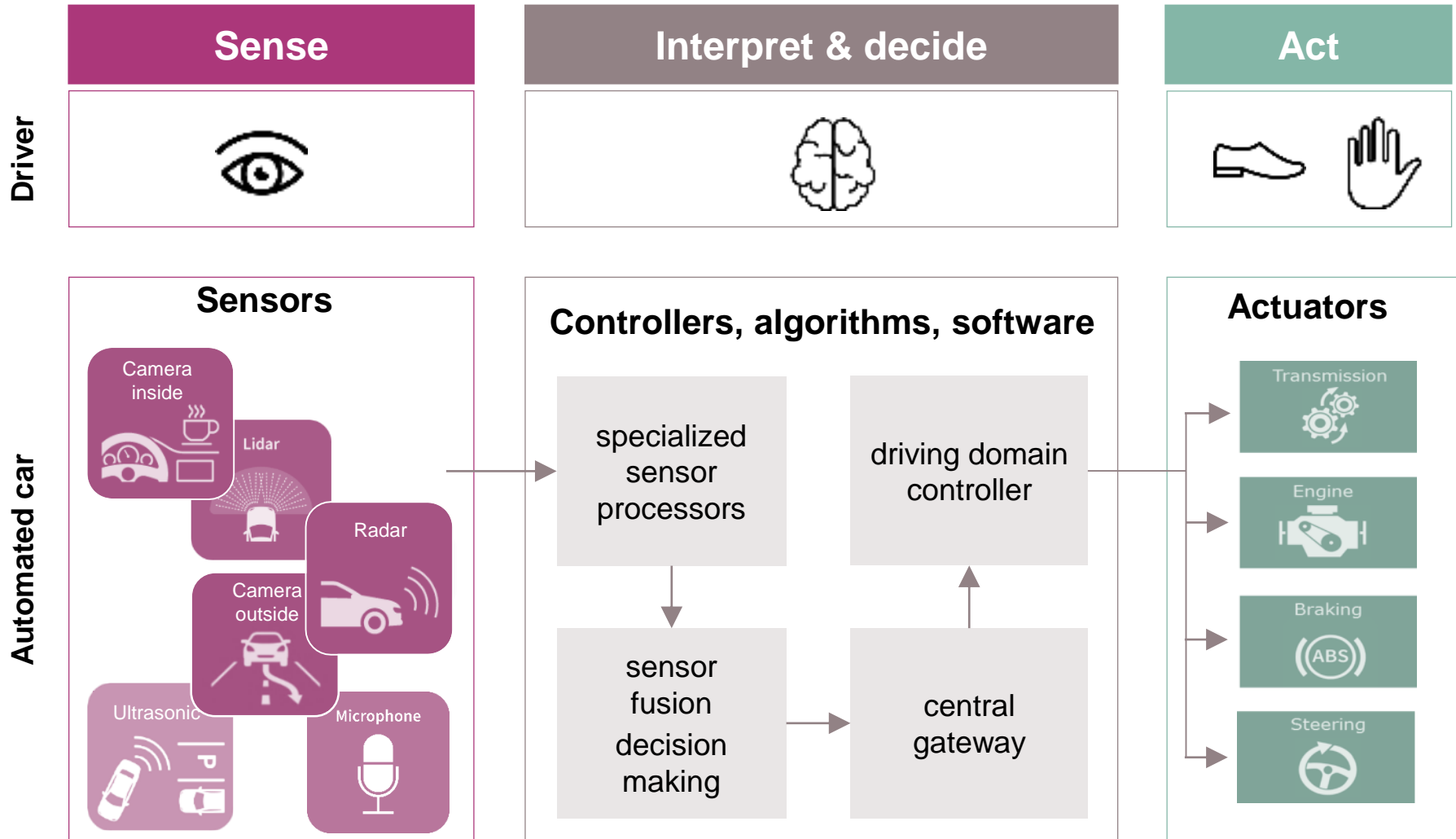
- › More than 20 leading OEMs and tier-1s are evaluating Infineon's SiC solutions for automotive
- › Customer feedback clearly shows that Infineon has deepest understanding of technical quality threats
- › Infineon's internal quality test procedures exceed common industry norm; test results proof that Infineon's SiC products reach that quality level
- › Industry's broadest portfolio allows customer to "pick what they need" rather than to "take what we have"



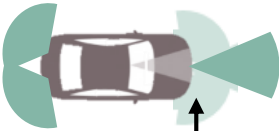

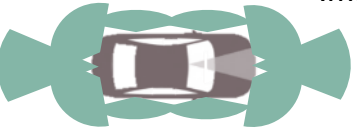
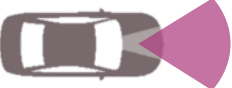




Automated Driving



For Automated Driving more compute power but also a higher security and safety is needed



Increased sensor requirements drive the content in the next 5 years and beyond

More sensors required for any next level of automation			
	NCAP 5 Star, AD L2	AD L3	AD L4/L5
Application*	Automatic emergency brake/ forward collision warning		
	Parking assist		Valet parking
	Lane keep assist	Highway assist	Highway and urban chauffeur
Radar # of modules**	Corner MRR/LRR  ≥ 3 New: Corner starting 2020	MRR/LRR  ≥ 6 Corner	Imaging  ≥ 10 Surround
Camera # of modules**	 ≥ 1	 ≥ 4	 ≥ 8
Lidar # of modules**	0	 ≤ 1	 ≥ 1
Others	> Ultrasonic	> Ultrasonic > Interior camera	> Ultrasonic > Interior camera > V2X

* Source: VDA (German Association of the Automotive Industry); Society of Automotive Engineers

** Market assumption

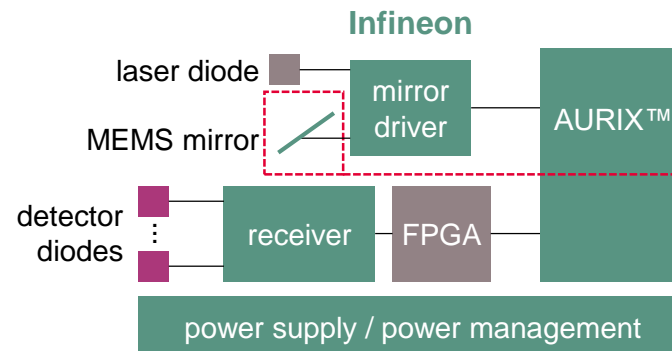
Infineon opens the door for mass-deployable lidar systems for Automated Driving

Classification of long-range lidar systems

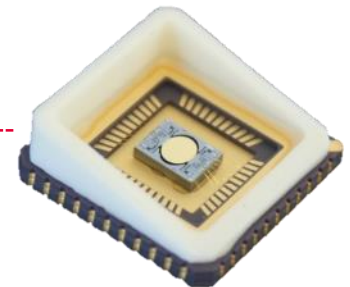
mechanically moving mirror	solid state optical system		
	scanning optical phased array	flash lidar	scanning MEMS-based mirror
<ul style="list-style-type: none"> ⊕ proven concept ⊖ bulky ⊖ expensive 	<ul style="list-style-type: none"> ⊕ allows optical beam forming ⊖ high demand of laser power, especially for long-range 	<ul style="list-style-type: none"> ⊕ no moving parts ⊖ more complex laser system (more expensive, higher power demand) 	<ul style="list-style-type: none"> ⊕ robust signal path ⊕ more compact ⊕ more cost-effective ⊕ roadmap for higher level of integration

- › Lidar is Infineon's AD portfolio expansion adjacent to radar
- › Infineon intends to repeat its radar success story
- › In addition to MEMS, room to increase BoM by receiver, micro-controller, power management ICs

1st System reference design



MEMS mirror

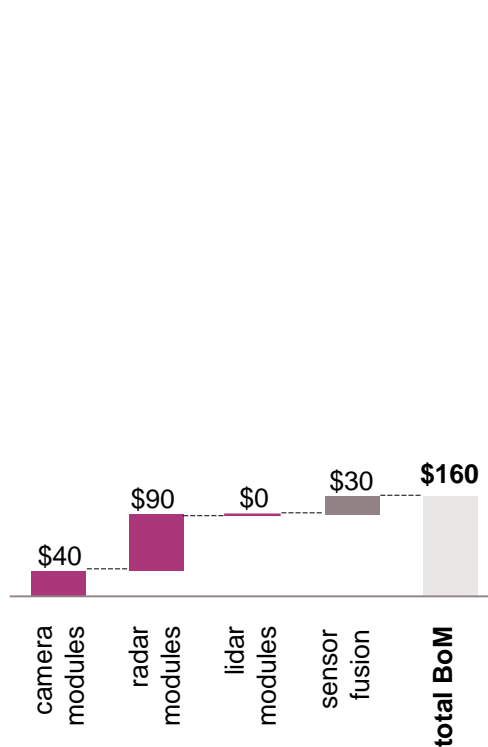


ADAS/AD semi growth driven by radar and camera sensor modules over the next 5 years

Average semi content per car by level of automation at the given years

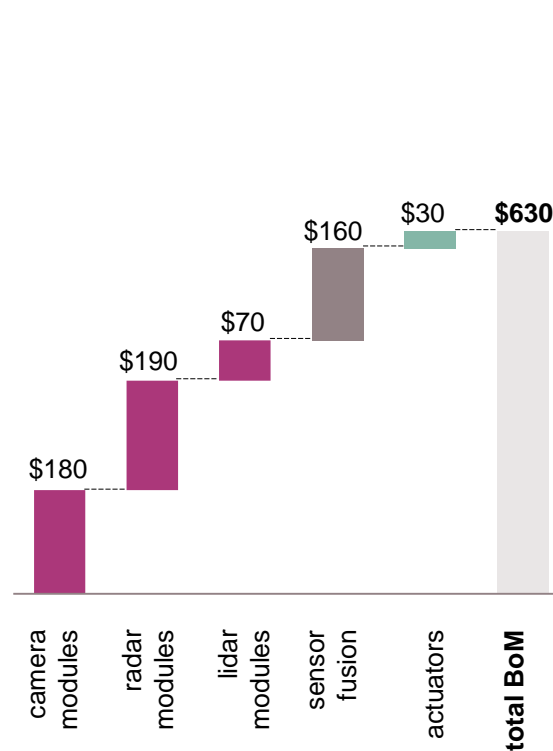
NCAP 5 Star/AD L2 (~2020)

L2 vehicles in 2020: ~6m



AD L3 (~2025)

L3 vehicles in 2025: ~3m



AD L4/L5 (~2030)

L4/L5 vehicles in 2030: ~4m



Source: Strategy Analytics; Infineon.

BoM contains all type of semiconductors (e.g. radar modules include μ C); sensor fusion does not include memory.

BoM are projected figures for the respective time frame.

Sense

Compute

Actuate




Infineon's Power Strategy



Infineon's portfolio covers the entire range of power and frequency

What is a power switch?

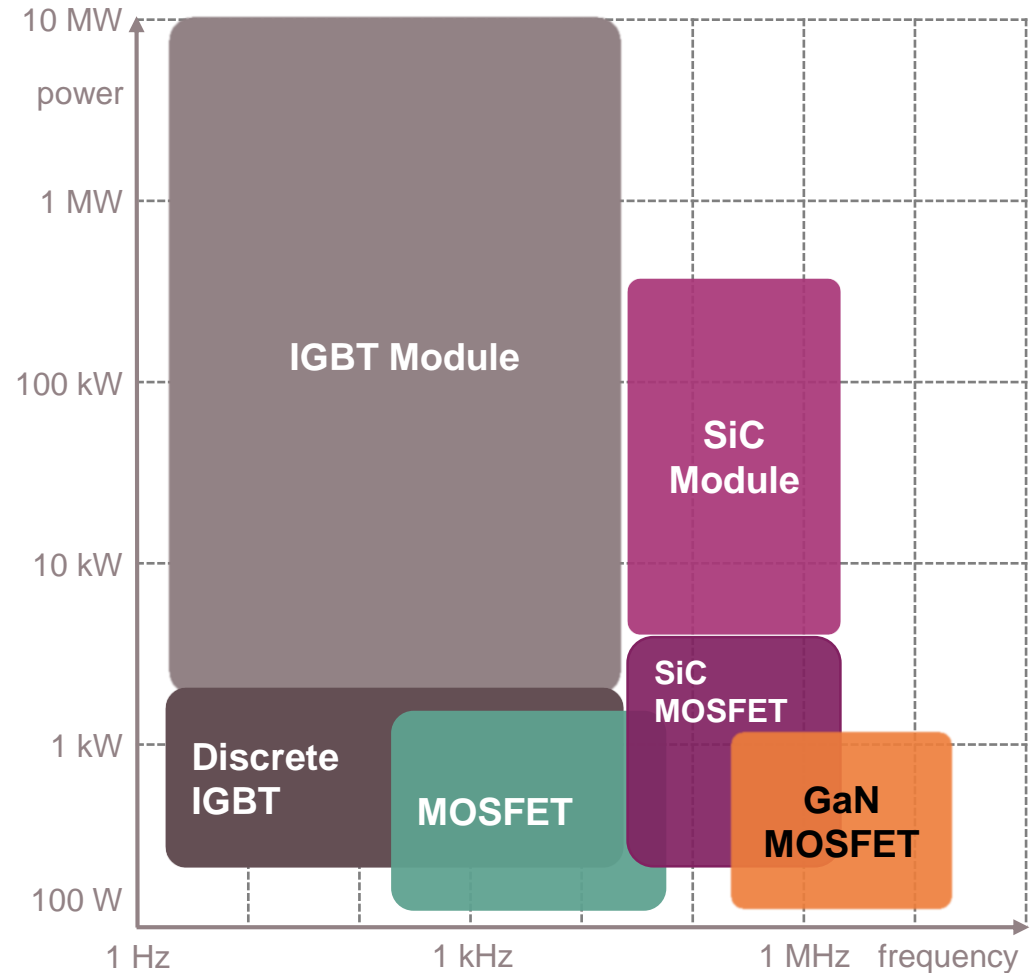


=  When turned on
→ current flows
When turned off
→ current is blocked

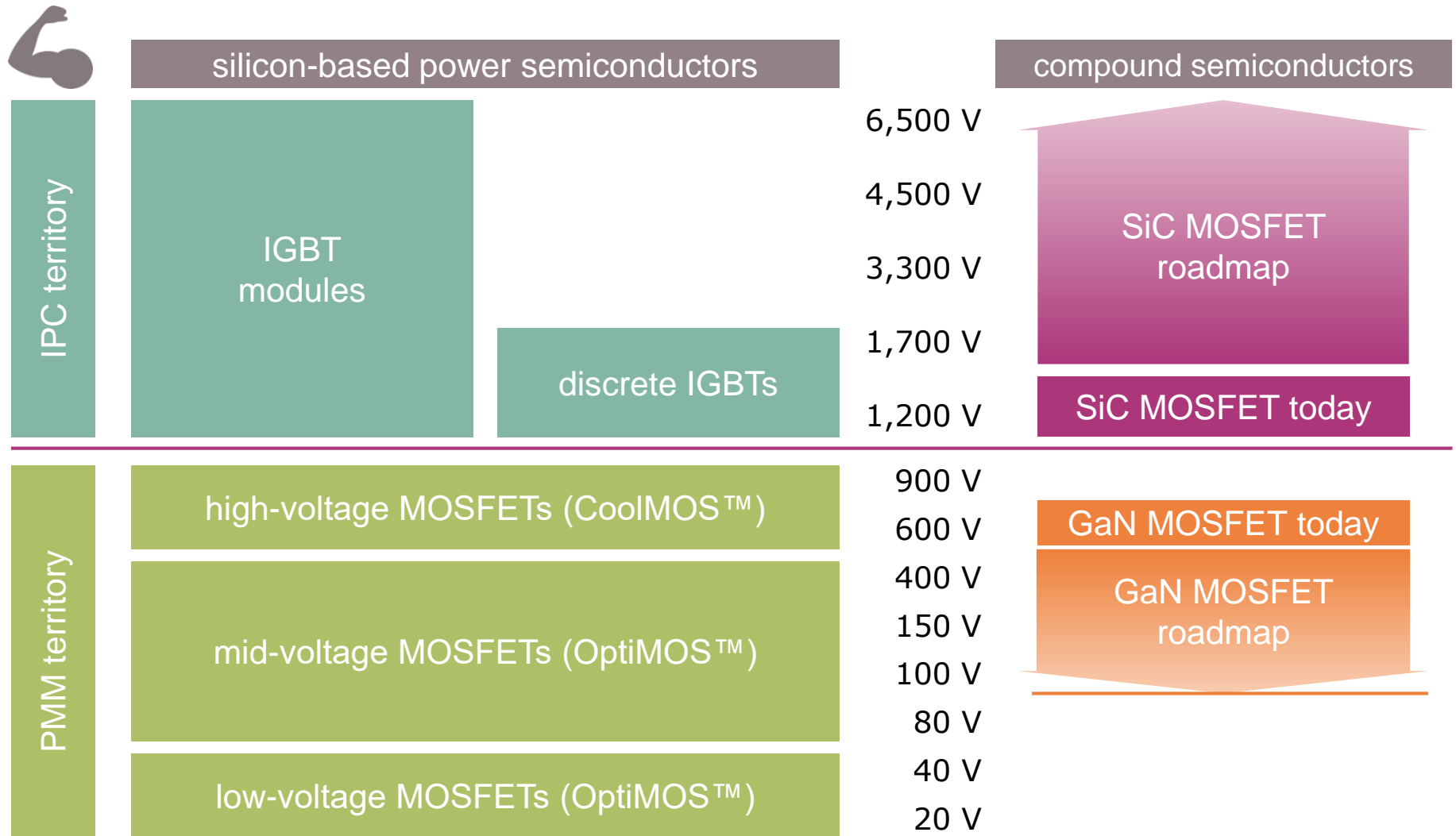
What counts?

- › Losses in on-state ($R_{(DS)on}$)
- › Heat dissipation
- › Max. switching frequency
- › Die size
- › Package size (form factor)

How are power switches categorized?

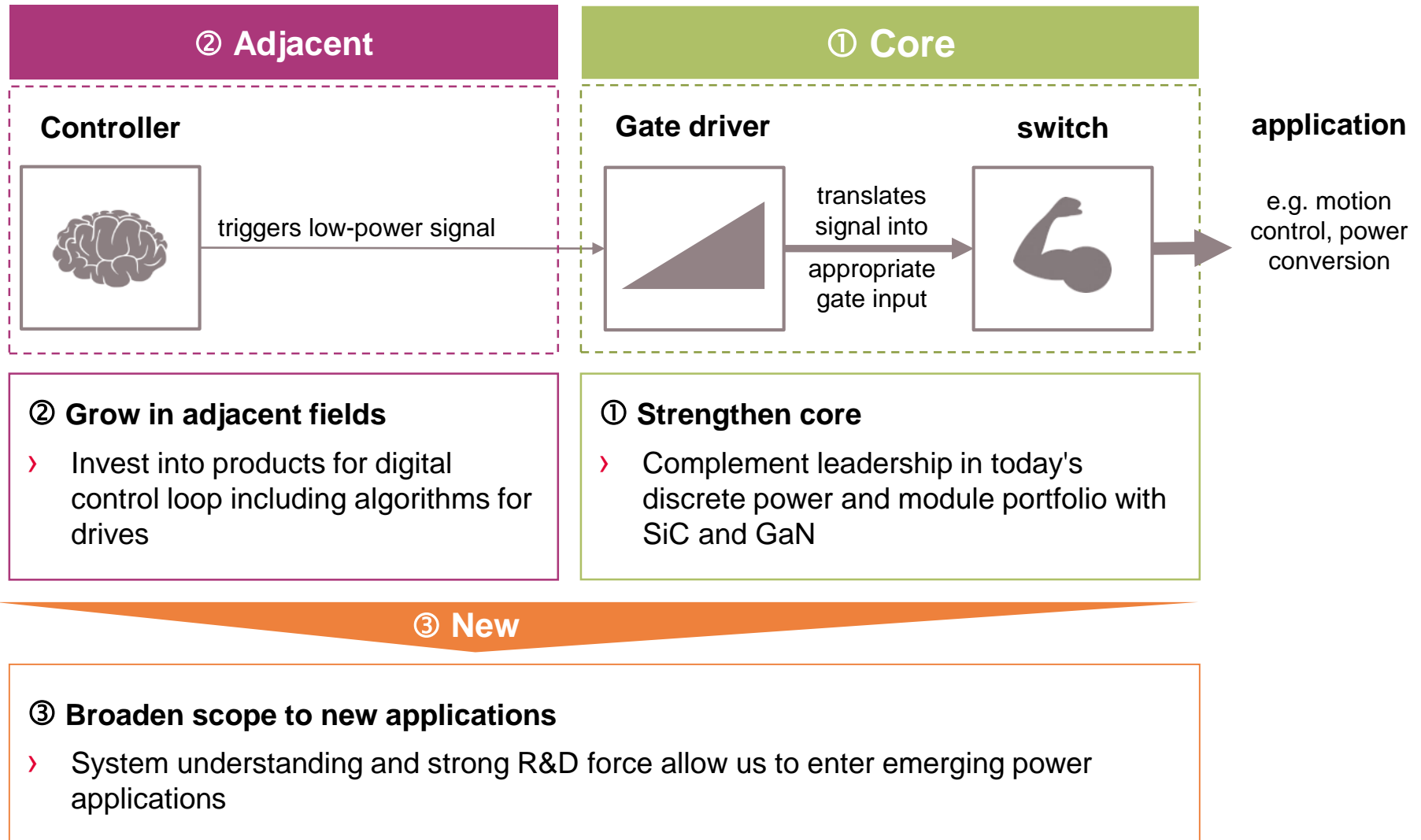


IPC's and PMM's discrete power portfolio* is basically separated by voltage classes



* excluding drivers and control ICs

Three strategic levers to outgrow the power semi market: "core – adjacent – new"



Clear #1 position in power allows driving four key areas of differentiation and innovation



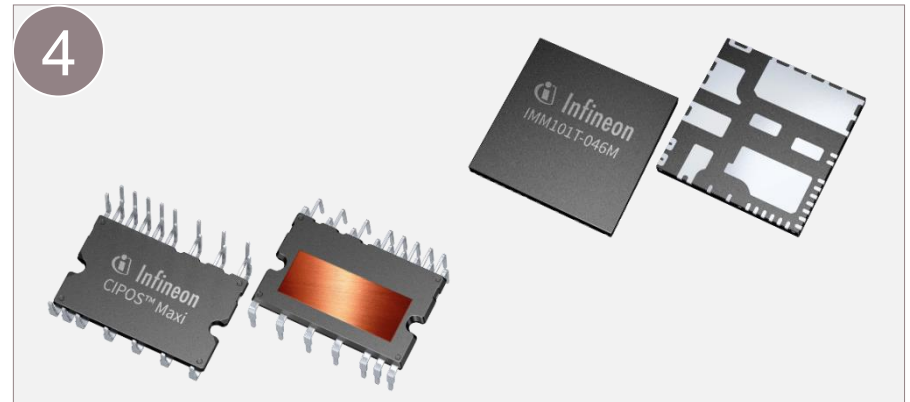
1
Unique 300 mm thin wafer power semiconductor manufacturing



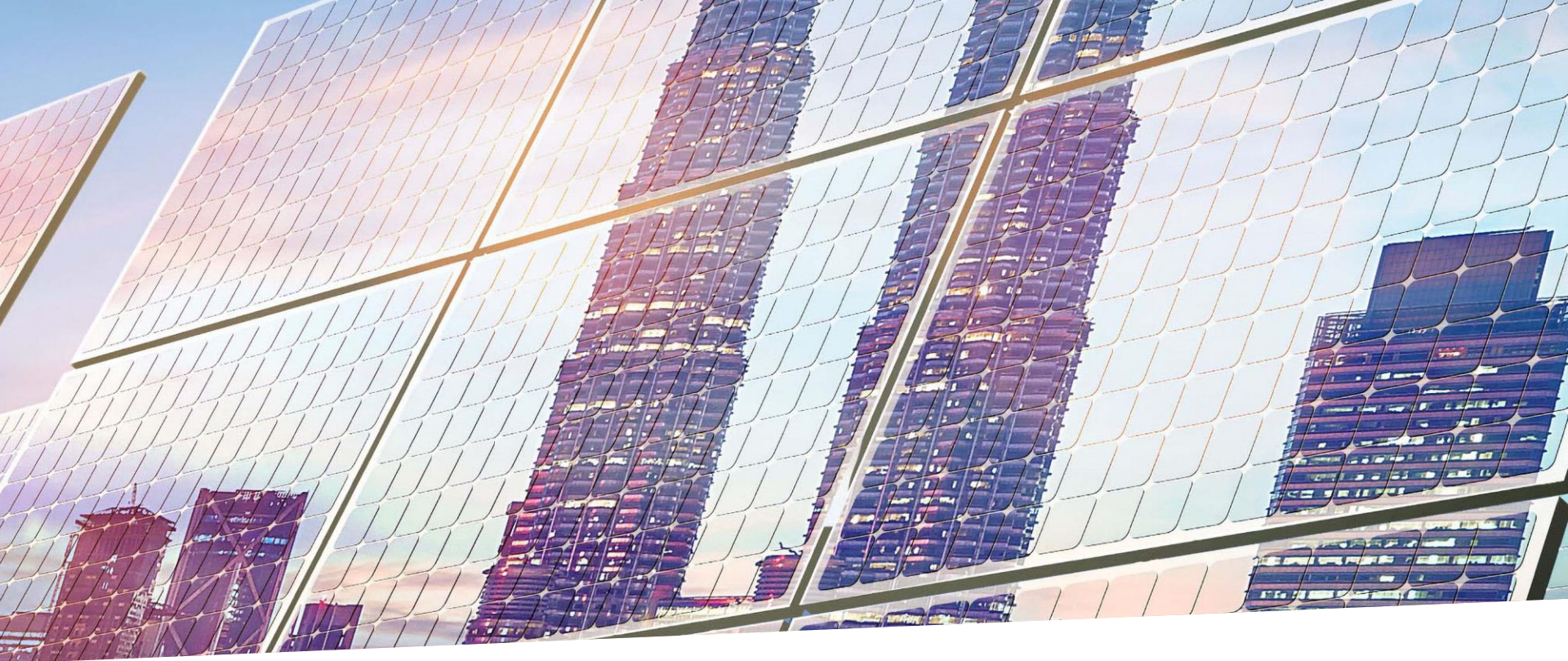
2
Compound semiconductors
SiC and GaN



3
Digitalization of the power control loop



4
Functional integration

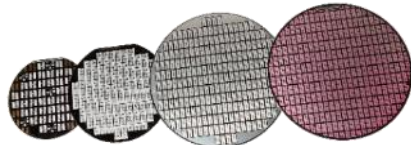


Industrial Power Control



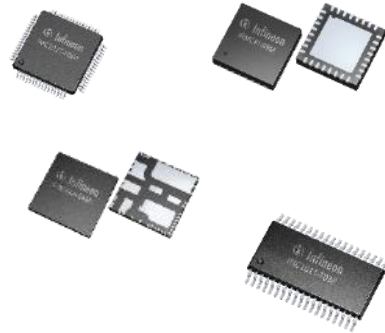
To empower this variety of applications we rely on the most comprehensive power portfolio

Bare Die



IGBTs and Si diodes

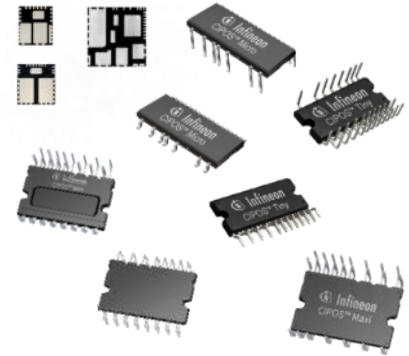
Controllers



Discretes



IPMs



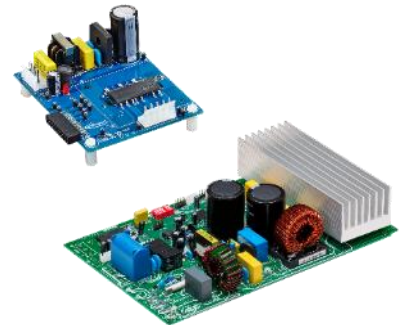
Driver



Modules

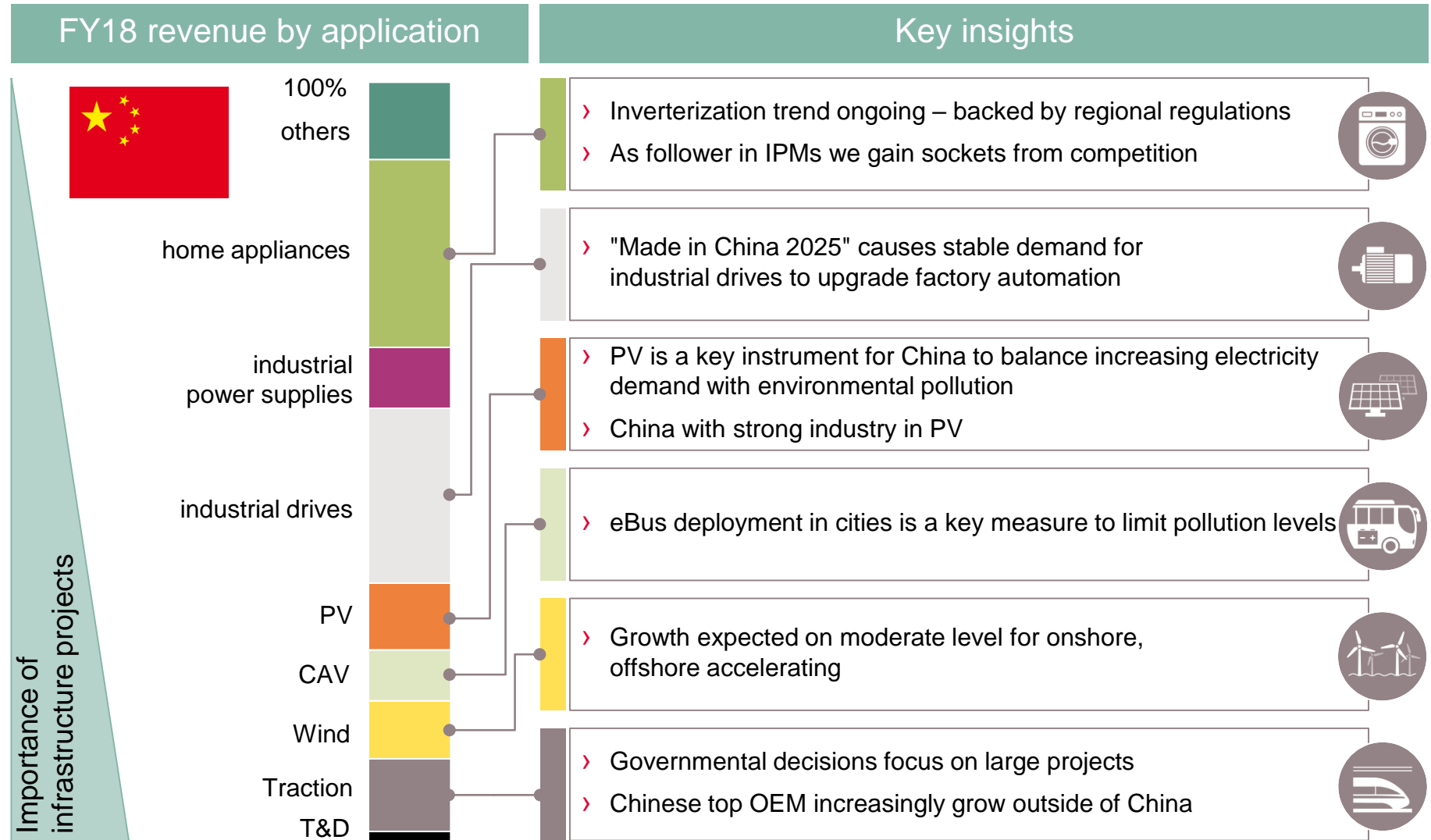


Solutions



SiC MOSFET
SiC diodes

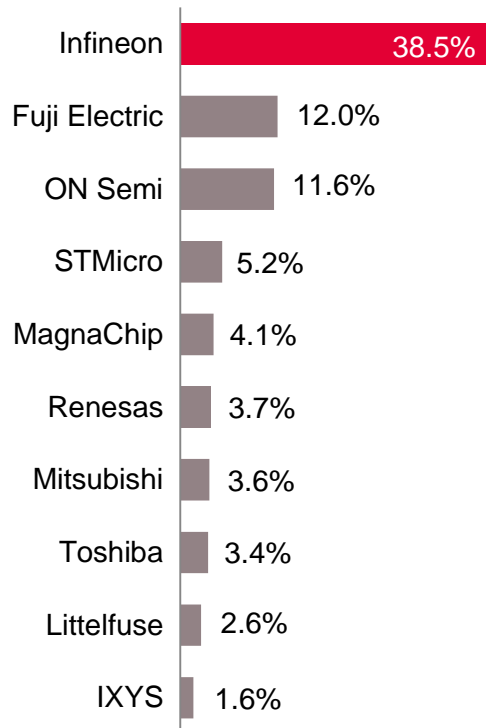
IPC business in China rather robust due to considerable amount of infrastructure projects



Clear leader in discrete IGBTs and IGBT modules; IPMs improved from #4 to #3

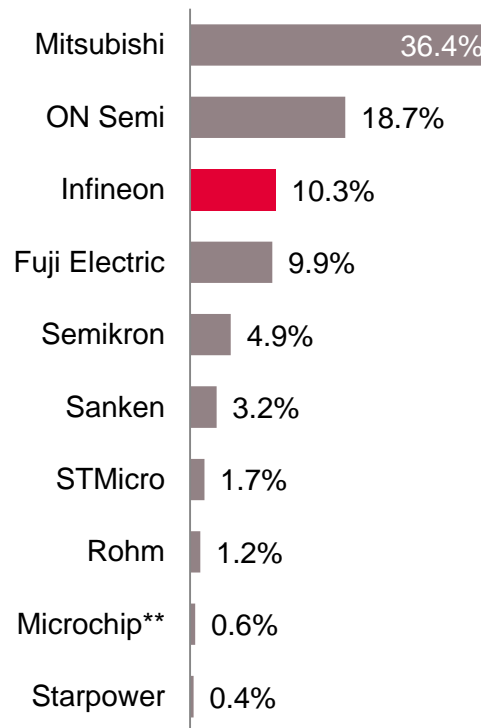
Discrete IGBTs

total market in 2017: \$1.10bn



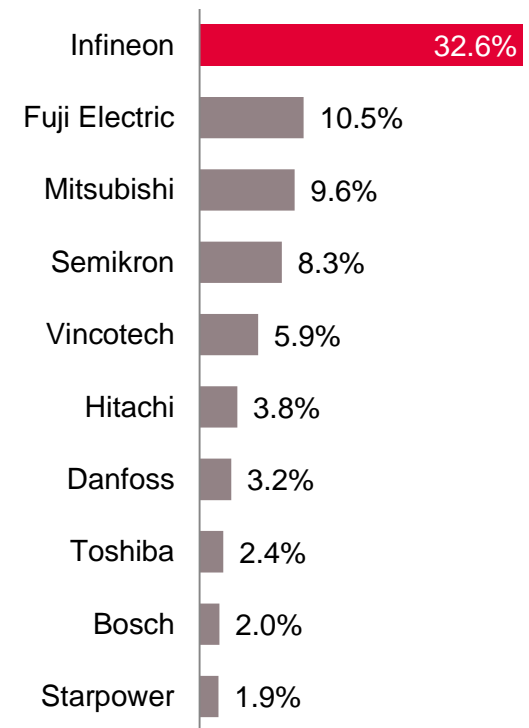
IPMs

total market in 2017: \$1.57bn



IGBT modules*

total market in 2017: \$2.63bn



* Including standard (non-integrated) IGBT modules and power integrated modules (PIMs) / converter inverter brake (CIB) modules.

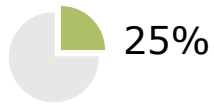
** On 29 May 2018, Microchip closed the acquisition of Microsemi. The 2017 revenue depicted here was contributed entirely by Microsemi.

Source: Based on or includes content supplied by IHS Markit, Technology Group, "Power Semiconductor Market Share Database 2017", September 2018.

IPC's biggest application "drives" segmented by end applications in the industry

Industrial drives

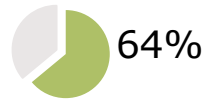
Servo drives



Examples

- › robotics
- › material handling
- › machine tools

General purpose drives



Examples

- › pumps & fans
- › process automation
- › cranes
- › marine drives

High-power drives



Examples

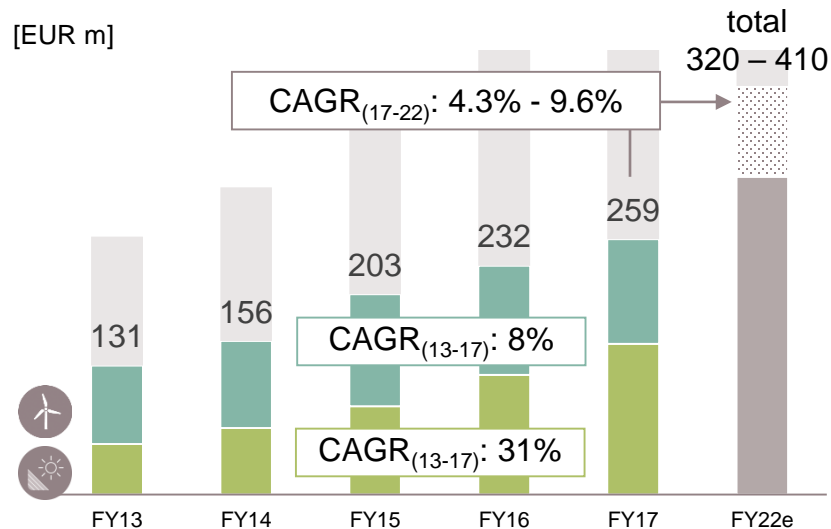
- › oil & gas industry
- › chemical industry
(e.g. air compressors)
- › cement mills

Source: Based on or includes content supplied by IHS Markit, Technology Group, "Industrial Motor Controls Source Book", December 2017; share by revenue.

Infineon serves all major players for PV inverters and wind turbines



IPC revenue in renewables



Installed wind capacity³⁾

CAGR₍₁₃₋₁₇₎

+7%

IPC wind revenue

CAGR₍₁₃₋₁₇₎

+8%

Installed PV capacity¹⁾

CAGR₍₁₃₋₁₇₎

+25%

IPC PV revenue

CAGR₍₁₃₋₁₇₎

+31%

Infineon is powering all leading renewable energy players*

PV inverter²⁾

- 1 | Huawei ✓
- 2 | Sungrow ✓
- 3 | SMA ✓
- 4 | TBEA Sunoasis ✓
- 5 | Wuxi Sineng ✓
- 6 | ABB ✓
- 7 | Kstar ✓
- 8 | Goodwe ✓
- 9 | Growatt ✓
- 10 | Power Electr. ✓

Wind⁴⁾

- 1 | Siemens/Gamesa ✓
- 2 | Vestas ✓
- 3 | Goldwind ✓
- 4 | GE ✓
- 5 | Enercon ✓
- 6 | Envision ✓
- 7 | Nordex ✓
- 8 | Senvion ✓
- 9 | United Power ✓
- 10 | Mingyang ✓

* Infineon is serving the top-10 of each category but not necessarily as a sole supplier.

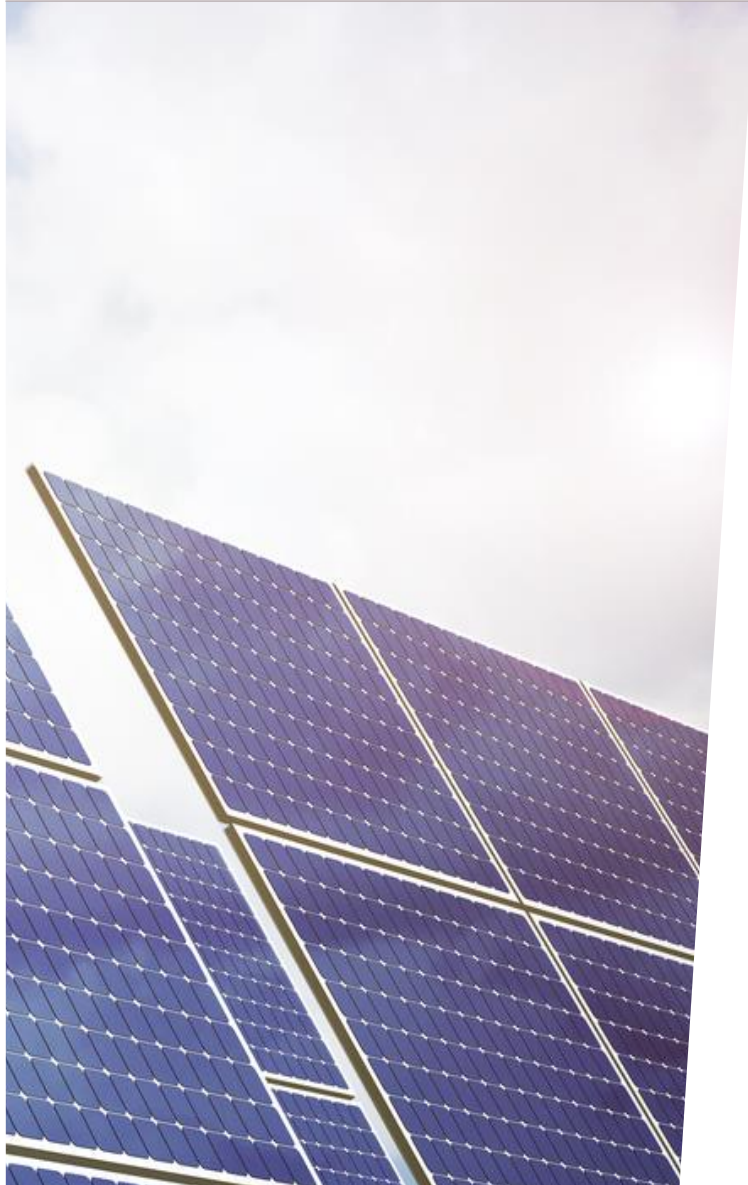
Source: 1) based on or includes content supplied by IHS Markit, Technology Group, "PV Installations Tracker – Q1 2018"; March 2018; including off-grid

2) by shipped capacity in MW: based on or includes content supplied by IHS Markit, Technology Group, "PV Inverter Market Tracker – Q1 2018 – v4"; June 2018

3) MAKE Consulting – Market Outlook Update Q1 2018; March 2018

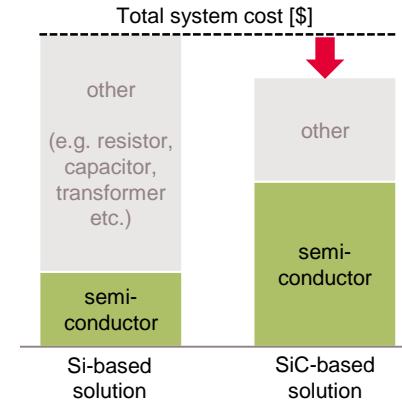
4) by shipped/installed capacity (in MW): MAKE Consulting – Historical Wind Turbine OEM Market Share; April 2018

SiC MOSFETs bring down system cost and size of PV inverters despite higher component cost



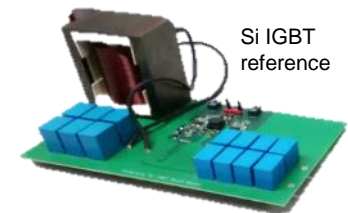
Reduction of system cost, higher semi-value

- › 15-20% lower bill of material for inverter manufacturer
- › 2-3x higher semiconductor value as compared to Si-based design



Reduction of system size

- › Simpler topologies with less control effort
- › Higher switching frequency with smaller transformers
- › Same power in smaller box size results in significant system cost reduction

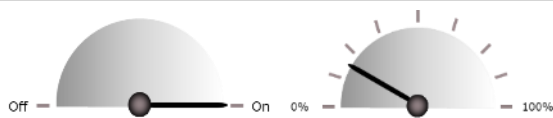


SiC MOSFET demonstrator

Inverterization of home appliances is a key driver for our business

Uncontrolled motor

Variable speed drive



Extended lifetime



Less noise



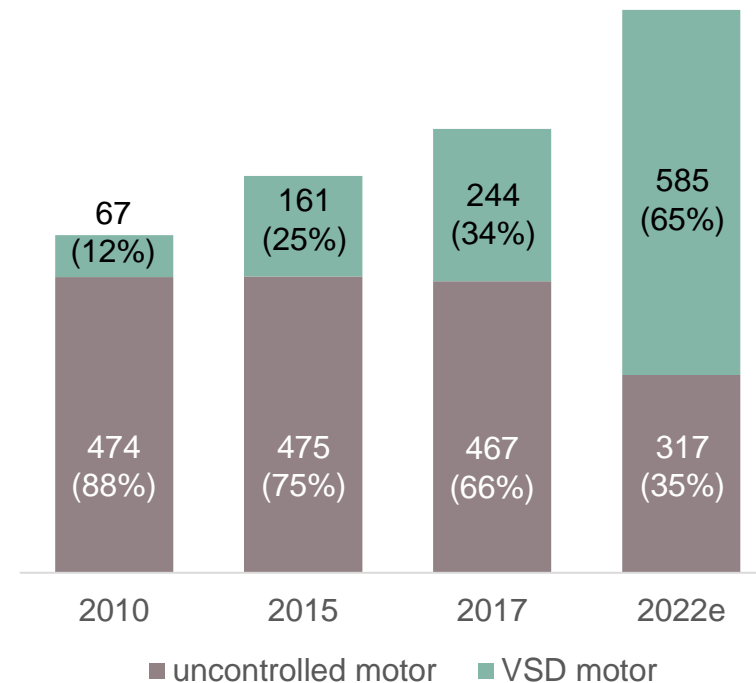
Up to 40% less energy¹⁾

Number of home appliances by motor type²⁾

[units m]

CAGR₍₁₇₋₂₂₎

Semi content³⁾



+19%

~€9.50

-7%

~€0.70

Source:

1) Compared to devices without inverter

2) Source: based on or includes content supplied by IHS Markit, Technology Group, "Home Appliance Database: All Devices and Associated Electronics", May 2018

3) Infineon estimate for a typical aircon

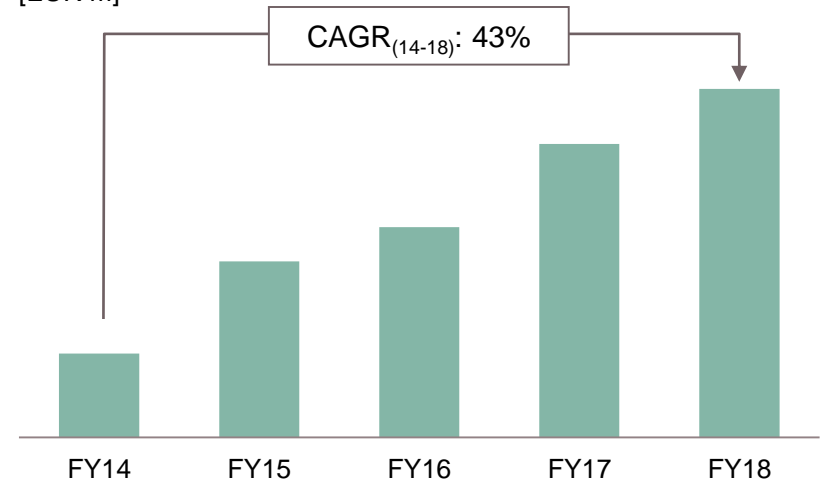
IPC's business success in home appliances is based on several success factors



- ✓ Early identification of trend for **inverterization**
- ✓ **Market access** through inorganic growth (acquisit. of LSPS and IRF)
- ✓ Improved delivery capability through **capacity increase**
- ✓ Extension of portfolio of **integrated products** to gather higher semiconductor share at customers

IPC revenue in home appliances is showing outstanding growth

[EUR m]



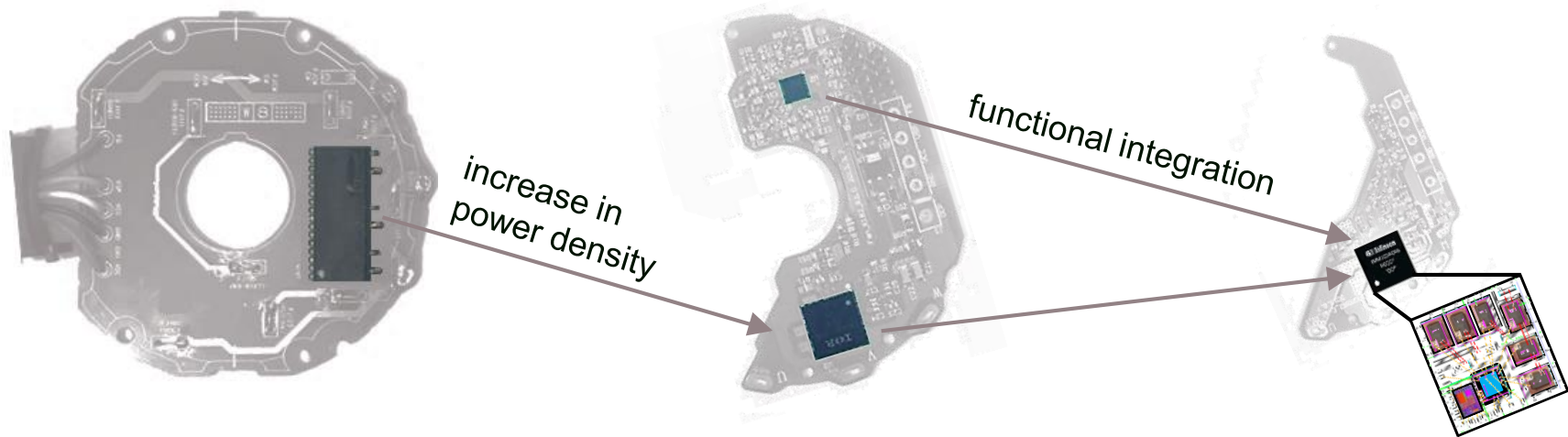
IPC's digital control strategy enables customers to shrink their system

Example: motor control solution for aircon indoor fan

Solution based on
standard IPM

Solution based on
CIPOS™ Nano

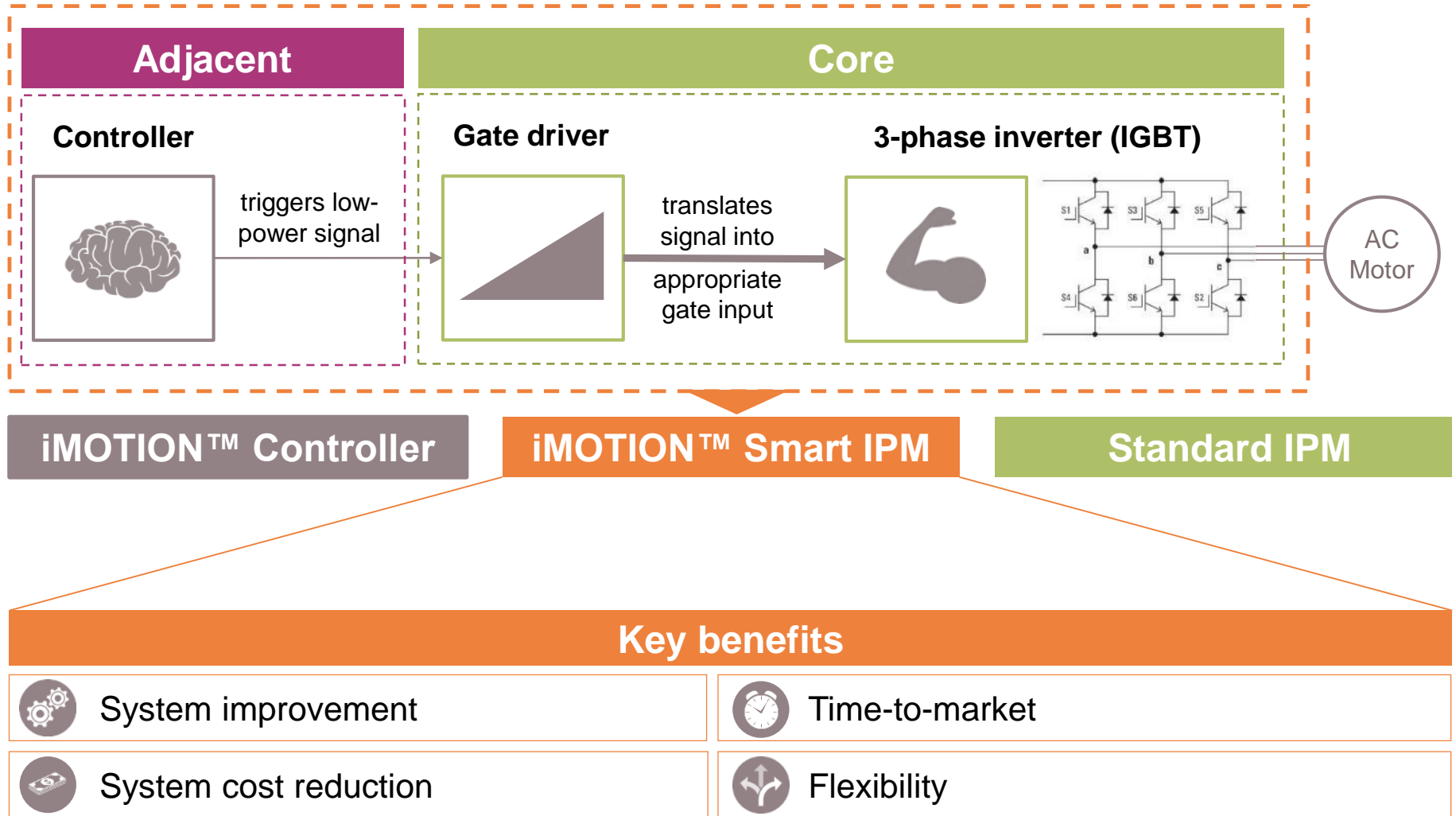
Solution based on
iMOTION™ Smart IPM



Customer benefits of highly integrated power ICs

- › Significant system cost reduction with BoM savings of ~30%
- › Reduction in engineering efforts
- › Reduction in time-to-market

Digitalization: motor control platform with scalable integration of HW and SW



HMI and AI are driving the penetration of collaborative robots (cobots)

700,000 new cobots by 2025¹⁾

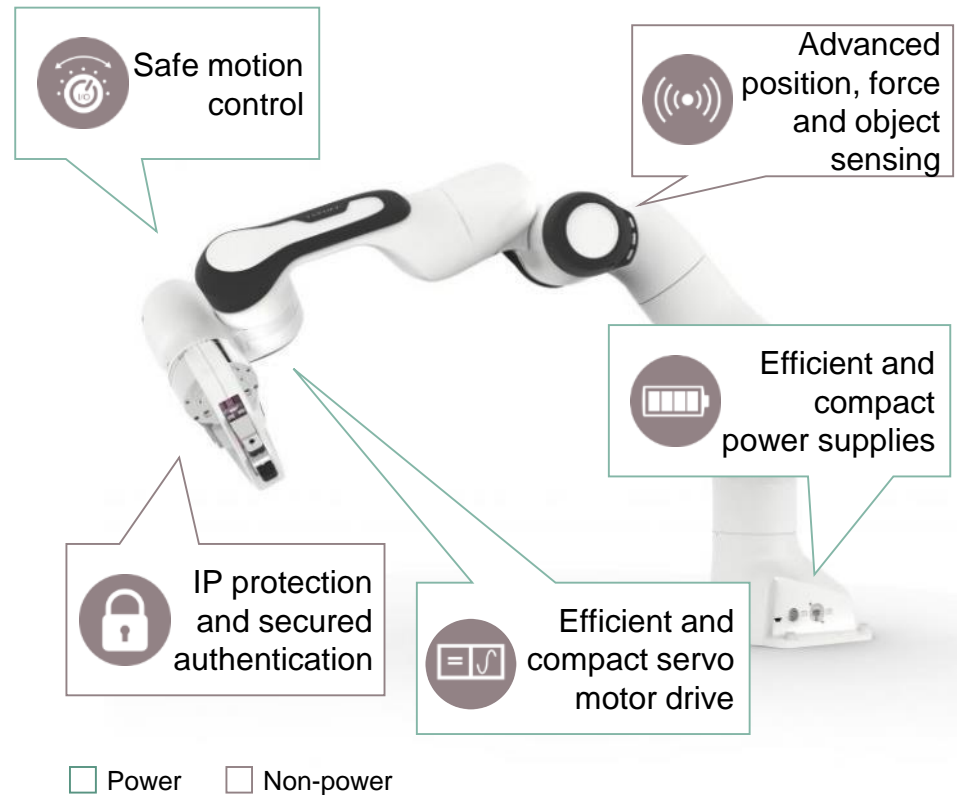
~€350 semiconductor content²⁾
per cobot, thereof

~€200 for power semiconductors²⁾

~€150 for sensors, μ C, and security
controllers²⁾



System understanding and extended product portfolio allow for growth in adjacent markets

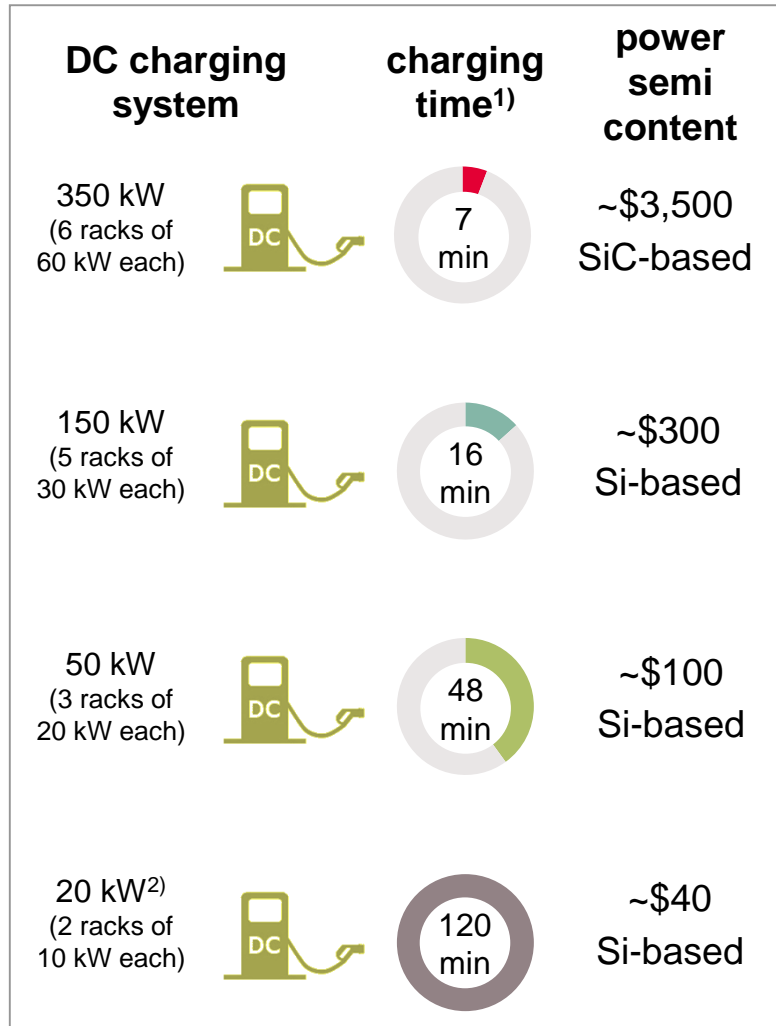


Source:

1) Barclays Equity Research, "The rise of co-bots: Sizing the market", 2016

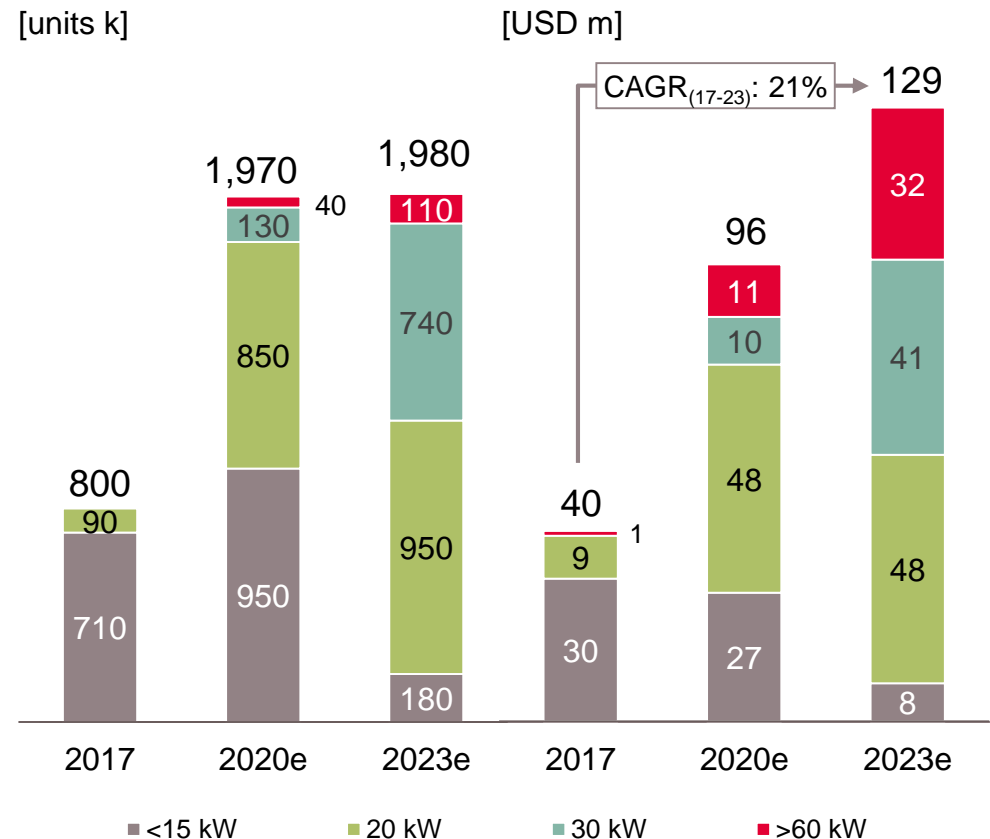
2) Infineon; excl. tools

Growing penetration of electric vehicles will drive roll-out of charging infrastructure



1) to charge for a reach of 200 km
2) incl. DC wall boxes

Charging infrastructure market; roll-out by rack performance³⁾



3) Source: Infineon

Electrification of trains is accelerating and Infineon is part of two subsystems

Locomotive



Metro



HST/ EMU



Trends in traction

Electrification of freight transport

Urbanization and new mobility concepts

Strong governmental investment programs

Market size

~500 units/a

~700 units/a

~600 units/a

Power semiconductor content per unit

~\$70,000

~\$50,000

~\$100,000

Subsystem 1: Auxiliary inverter

Air conditioning, power sockets, air brake, control stand, etc.

SiC



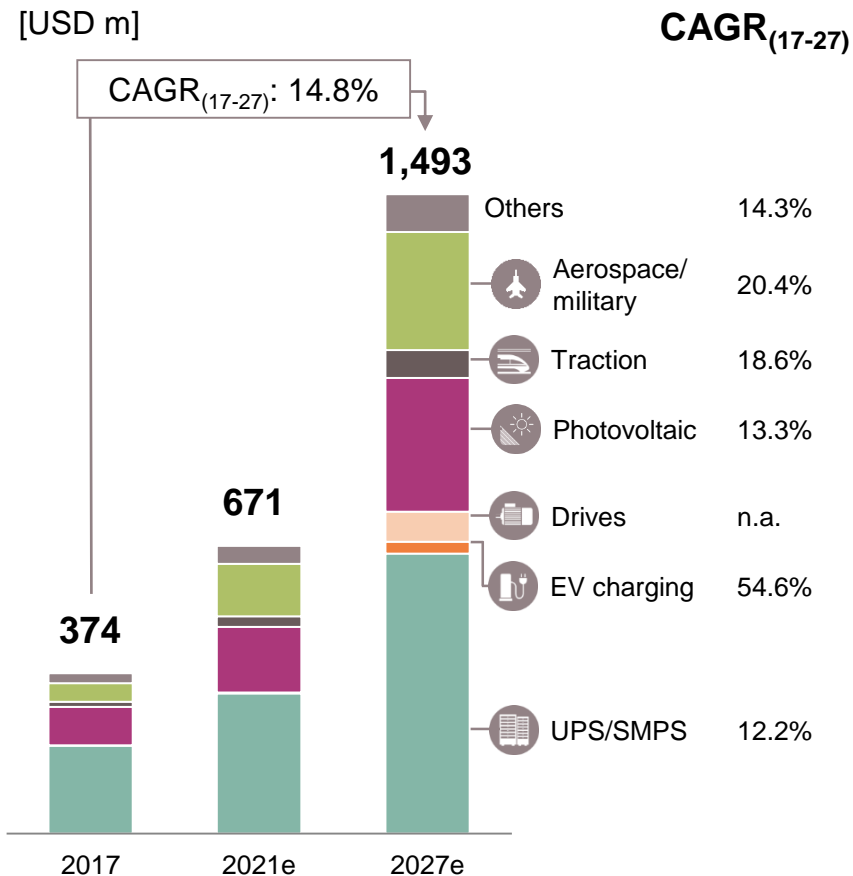
Subsystem 2: Propulsion inverter

Motor and motor traction converter

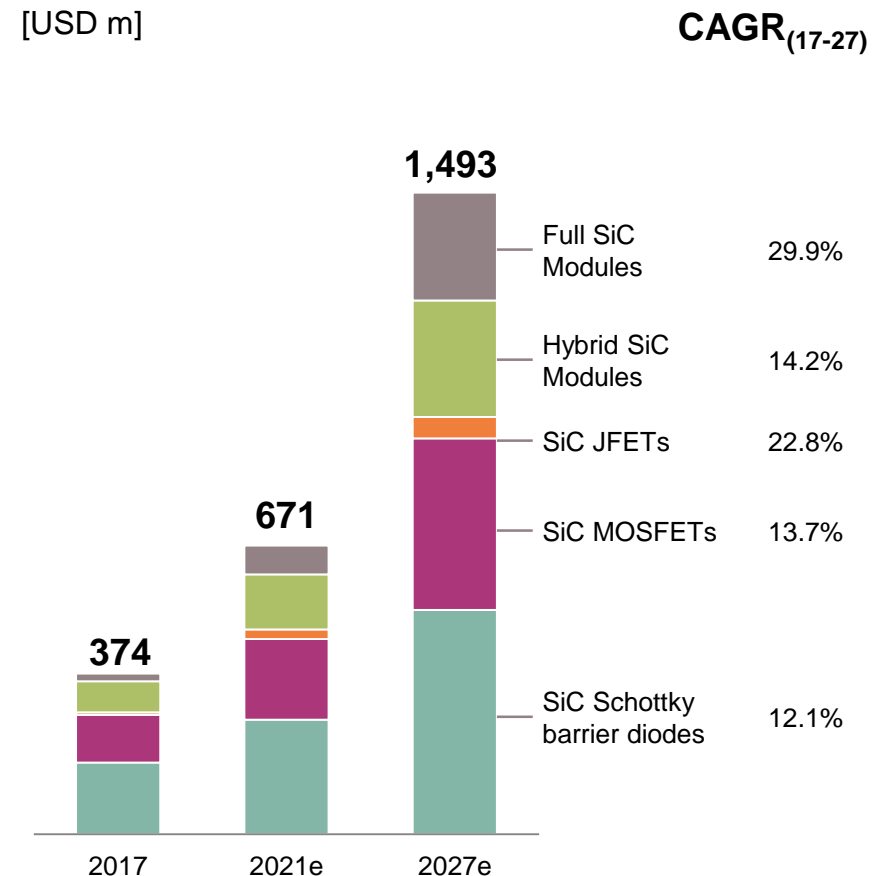


With an increasing number of applications, particularly module players will win in SiC

SiC power semiconductors by application excl. xEV



SiC power semiconductors by product type excl. xEV



Sources: based on or includes content supplied by IHS Markit, Technology Group, "SiC and GaN Power Semiconductors Report - 2018", April 2018, mid case

What comes next? Mid- to long-term structural growth opportunities

Core

+SiC Silicon Carbide

new material



EV charging



collaborative robots

Adjacent



solar pumps



energy storage



eDelivery vehicles

New area



fuel cell



eMarine



eAviation



Power Management & Multimarket



PMM's growth is built on many applications from different sectors in power and non-power

Computing



- › Data Center
- › PC, Notebook
- › Peripherals



Industrial



- › Power supplies
- › EV on-board charger
- › PV inverter
- › Power tools
- › Lighting
- › Industry 4.0
- › Internet of Things



Consumer / Misc



- › eBikes
- › Multicopter
- › Aviation
- › LSEV
- › Space
- › Gaming
- › Smart home



Communications



- › Handsets
- › Wearables
- › 5G massive MIMO



● AC-DC (power) ● DC-DC (power) ● RF and sensors (non-power)



PMM – Power

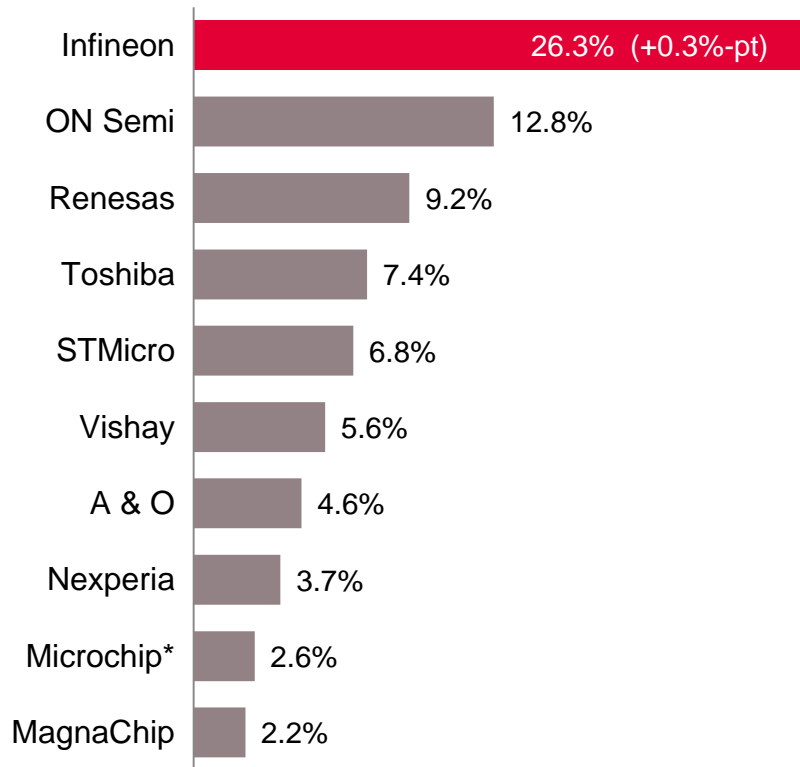


Infineon is the clear leader in MOSFETs; growth potential in power ICs



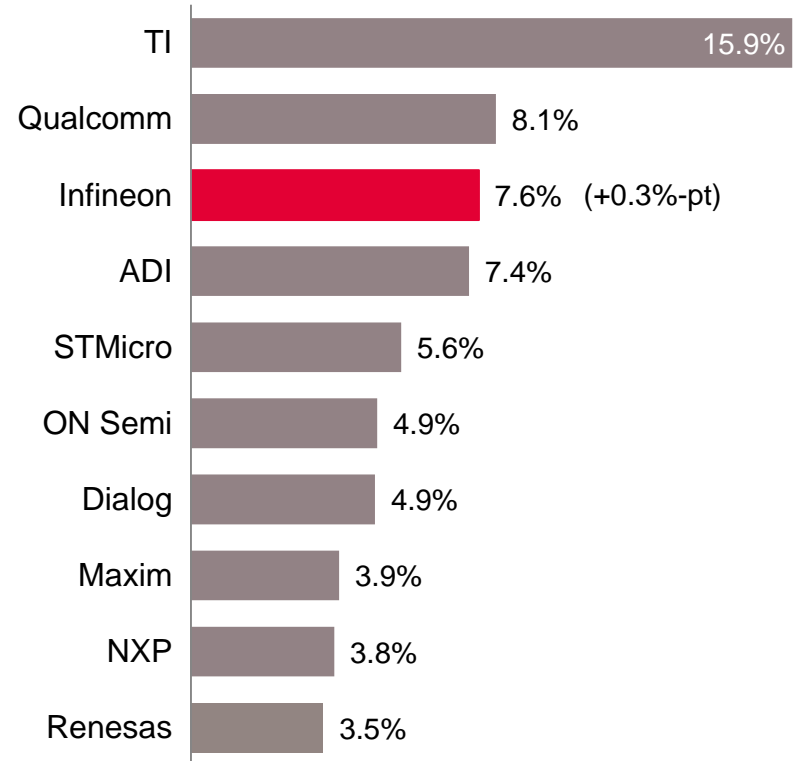
Discrete Power MOSFET market

total market in 2017: \$6.65bn



Power IC market

total market in 2017: \$23.6bn



* On 29 May 2018, Microchip closed the acquisition of Microsemi. The 2017 revenue depicted here was contributed entirely by Microsemi.

Source: Based on or includes content supplied by IHS Markit, Technology Group, "Power Semiconductor Market Share Database 2017", September 2018.

Discrete Power MOSFET market incl. automotive MOSFETs. Power IC market incl. automotive power ICs.

Technology leadership in MOSFETs and digital power: highest efficiency and power density

Adjacent

Controller



triggers low-power signal to switch on

Core

Driver IC



translates signal into high-current gate input

MOSFET



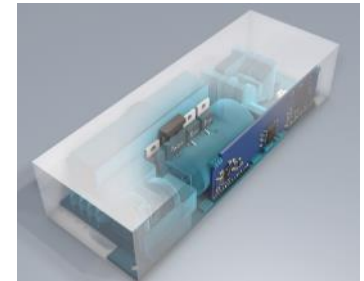
switches on, current flows

Power management solutions reduce TCO



More efficient semiconductors

- › lower power consumption
- › lower opex



Higher power-density

- › more compact system designs
- › lower capex

Highly differentiating solution for data centers enables significant opex and capex reduction

Structural trends for data center



› Higher memory content; higher computing power

› Diversified processor supplier base:



› Data center operators invest in proprietary processor designs



Data center power flow optimized by Infineon



AC-DC



DC-DC

CoolMOS™ and **CoolGaN™** enable
2x the output power in a given slot size

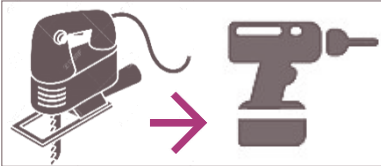
Digital power solutions based on **OptiMOS™**,
driver and **control ICs** supporting latest processor
technologies

Customer benefit

- › **Capex reduction:**
doubling computing power
per server rack
- › **Opex savings:** higher
efficiency of power
conversion reduces electricity
cost (computing & cooling)

Four interrelated trends drive power semiconductor BoM in battery-powered applications

Interrelated trends for battery-powered applications



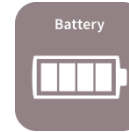
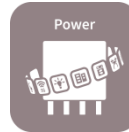
1

From corded to **cordless** power tools



2

From brushed DC to **brushless** DC motors



3

Trend towards **higher power** and **higher battery** voltage



4

New applications with trend towards "batteryfication"

BoM increase:

power semiconductor content increase up to 4x for DIY tools



Premium products:

~15% higher ASP for MOSFETs and drivers



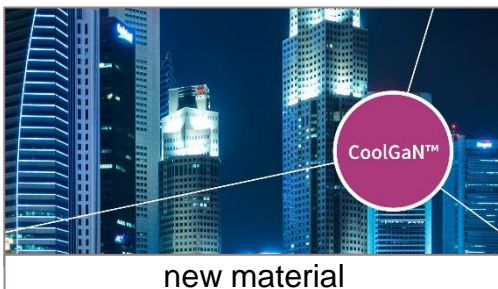
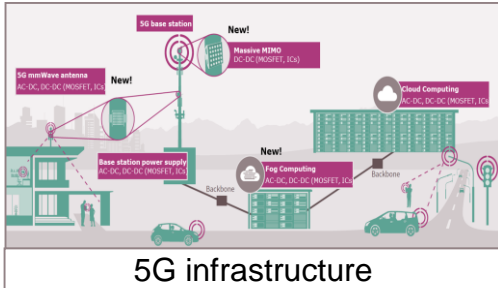
significant volume increase



In total battery-powered applications are a significant growth driver for PMM's power business

What comes next? Mid- to long-term structural growth opportunities

Core



Adjacent



New area





PMM – RF and Sensing



RF and Sensing devices enable new services and will shape the way we live and work



Augmented Reality



Voice-controlled devices

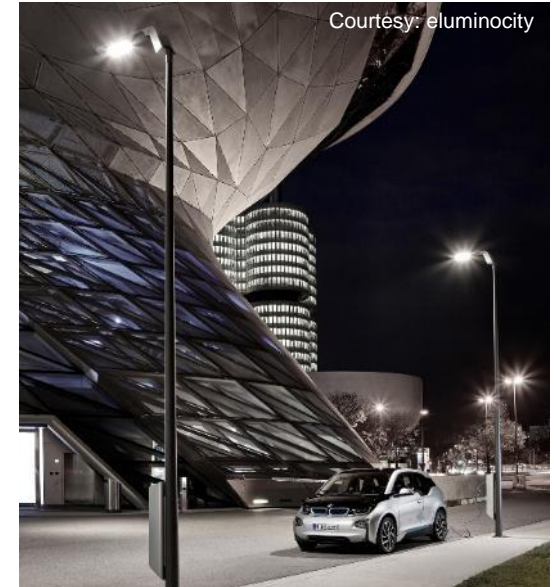
Various use cases are enabled by a small set of versatile core technologies



Commercial and consumer multicopters



Gesture control


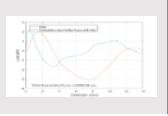


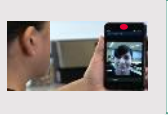


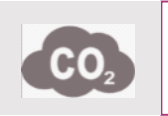
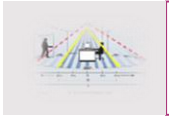





Smart streetlights



Industrial robotics

We focus on MEMS sensors and target to become the leader in 3D sensing and radar

Microphone	Pressure	Environmental	3D radar	3D ToF
 No distortions	 Best-in-class resolution	 6x6mm ² World smallest form factor	 Highest energy efficiency	 Best-in-class resolution
 Receive clear audio signals	 Measure height	 Measure CO ₂	 Biometrics	 3D mapping
 Smart Ears, Smart Feeling, Smart Nose			 Smart Eyes & Sixth Sense	

Key Use Cases – Examples

Voice authentication

Advanced fitness tracking

Smog alarm

Gesture sensing

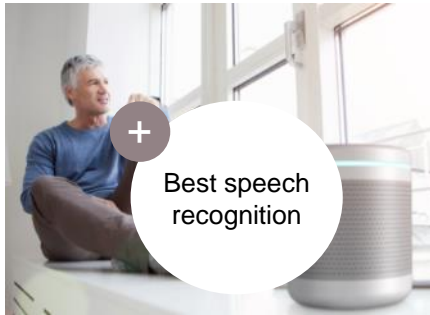
3D AR gaming

Face recognition & biometric identification

Human Machine Interface

XENSIV™ silicon microphones have plenty of growth opportunities beyond smartphones

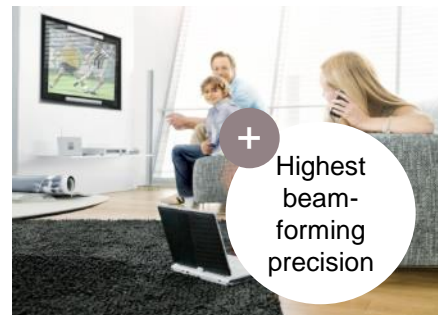
Smart speaker



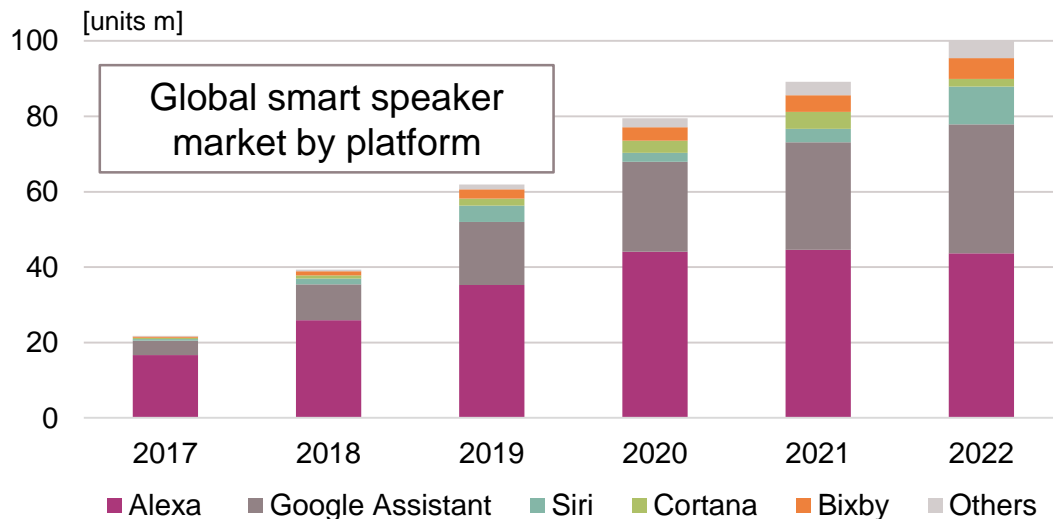
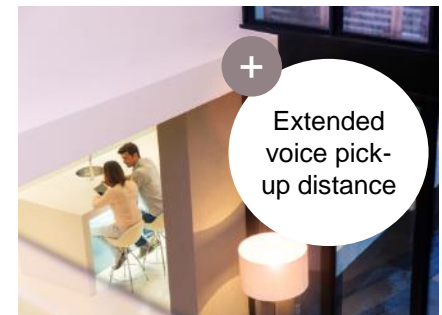
Robotics



TV, laptop and set-top box



Smart home (appliances)



Market snapshot:

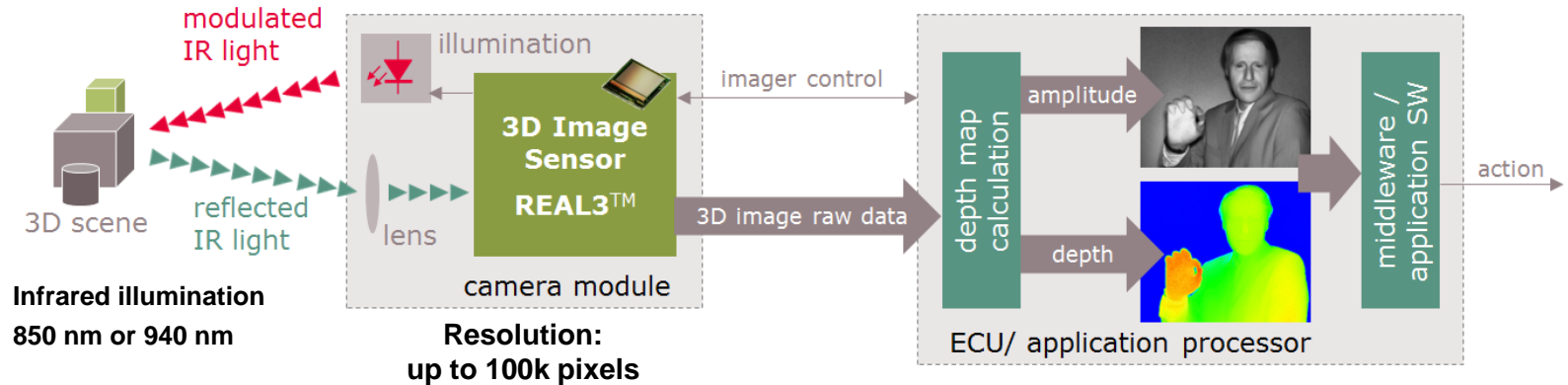
- › Global market for smart speakers expected to reach 100m units in 2022
- › Platform developers drive unit growth via licensing models to other hardware manufacturers
- › Average number of silicon microphones per devices by 2022: ~5

Source: SAR Insight & Consulting, Smart Speaker Market Growth, March 2018

Leading base technologies for sensor solutions: Time-of-Flight

Time-of-Flight

Time-of-Flight: Modulated infrared-light is emitted and reflected by objects. Phase-shift of returned light is measured in each pixel of the image sensor.



Examples of uses cases enabled by Time-of-Flight technology

3D scanning

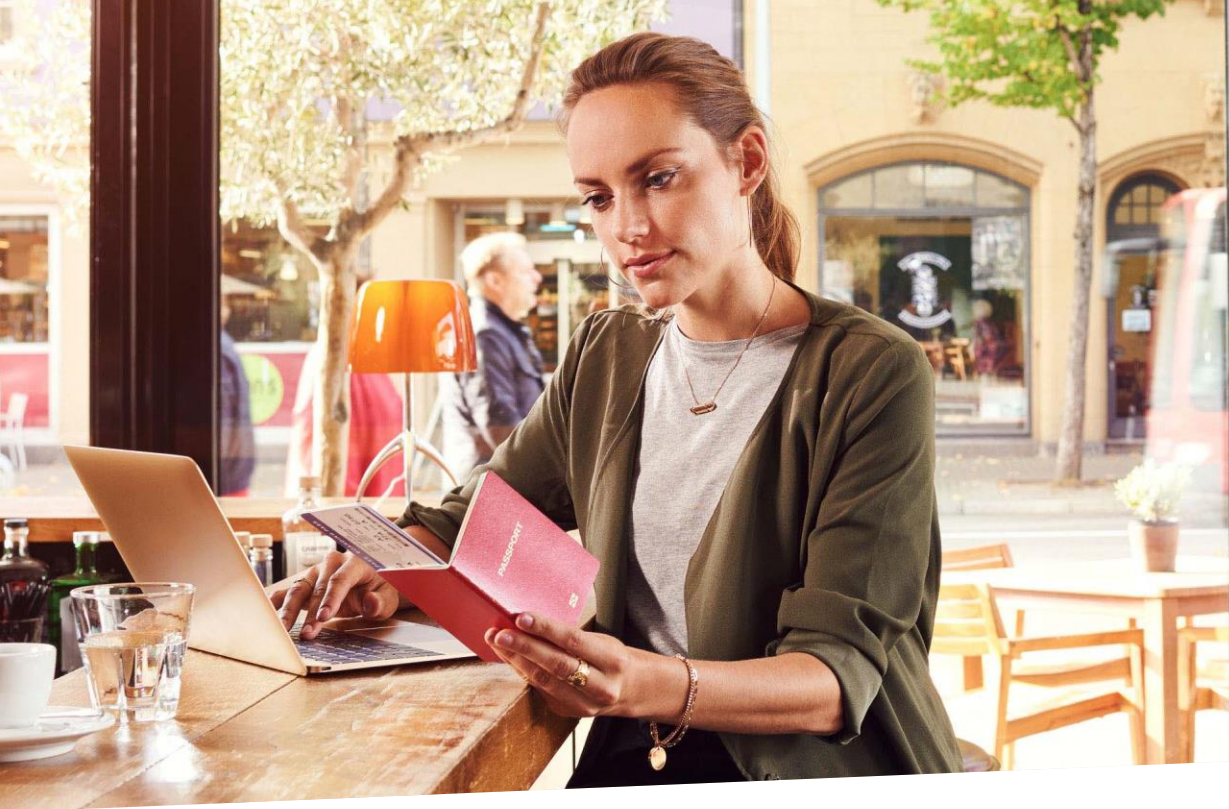


AR / VR / gaming



Secure face recognition



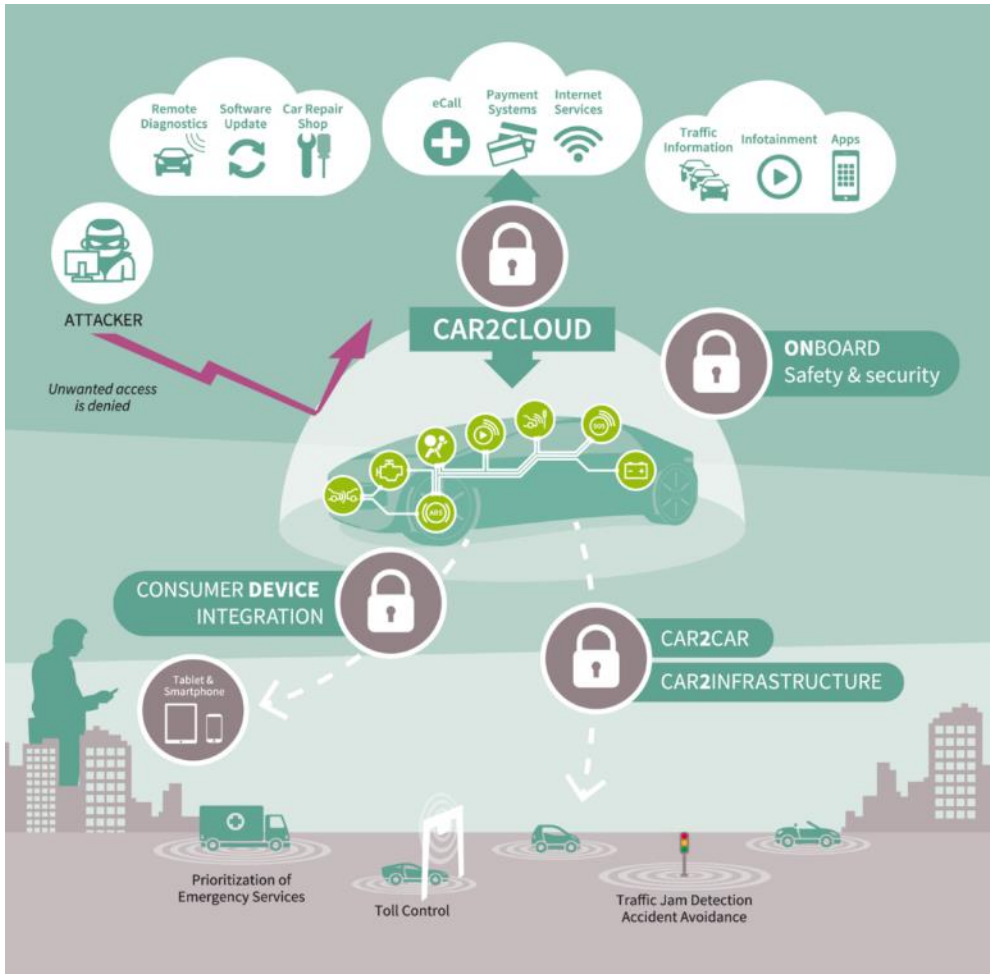


Digital Security Solutions



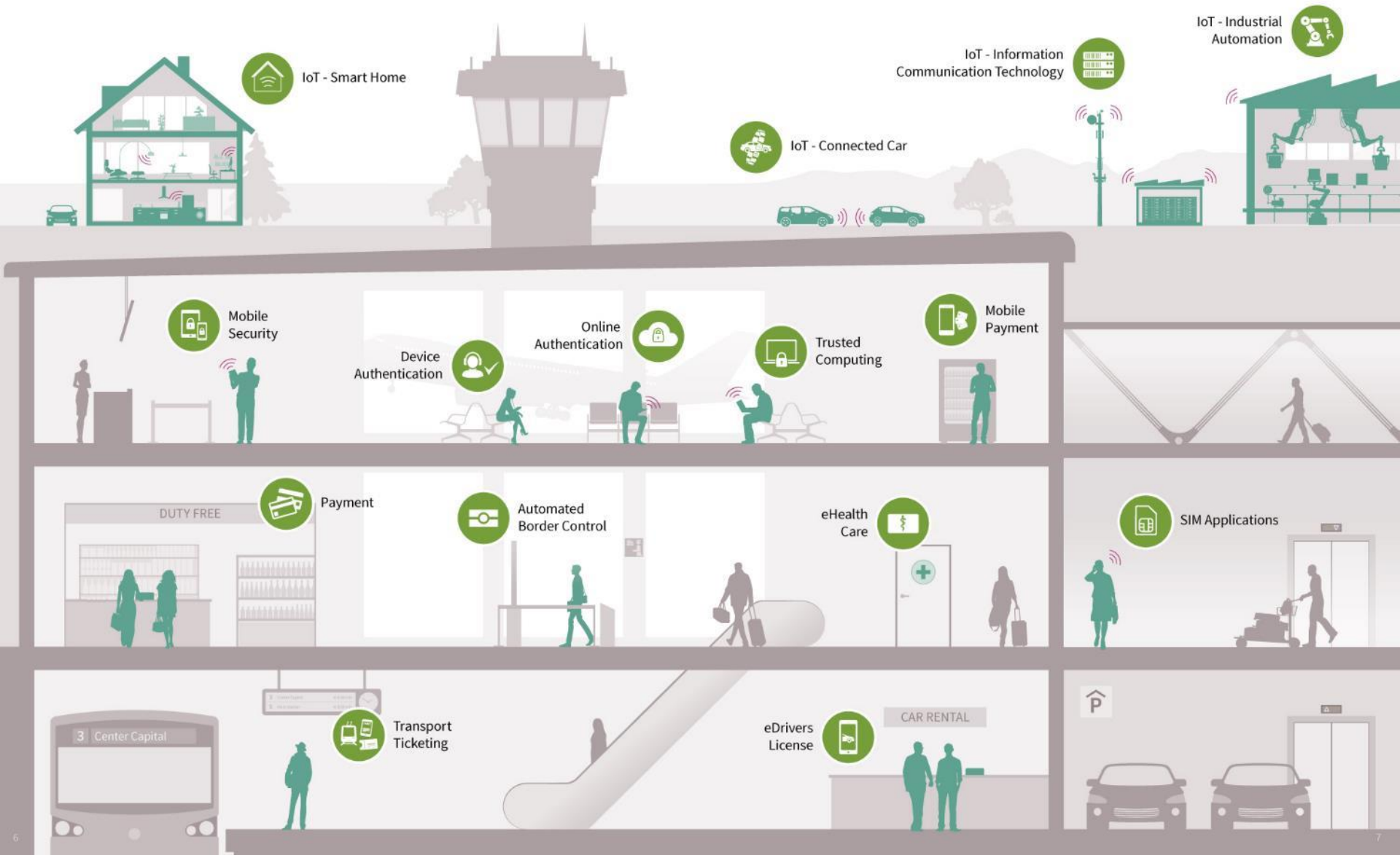
Security is a system approach

Example: Automotive Security

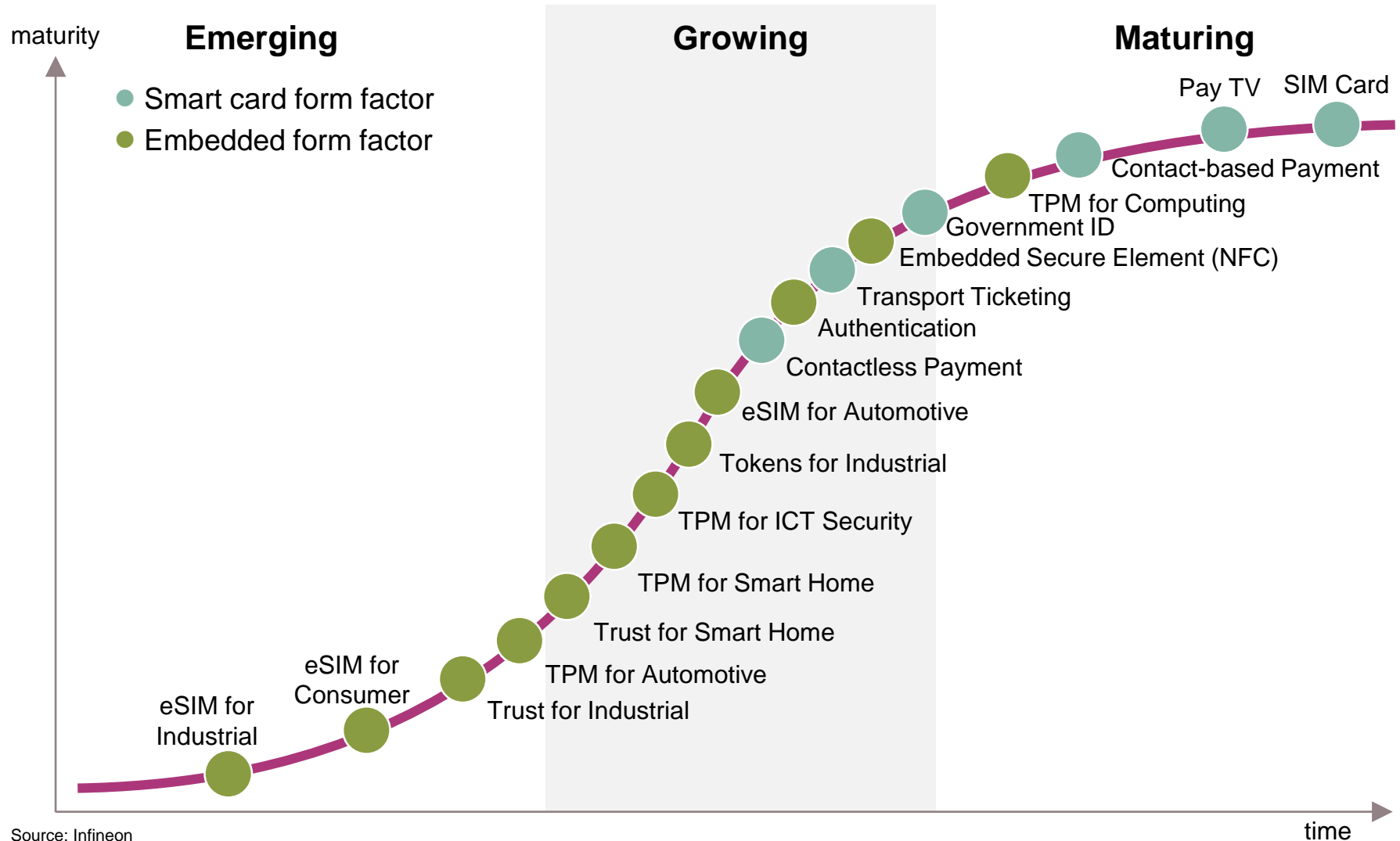


- › As humans, machines, 'things' are getting connected, the risks of security attacks increase strongly as attack paths increase
- › Accordingly, there is a greater need for security in fields like smart home, connected cars, information and communication technologies, Industry 4.0
- › Many manufacturers of devices and systems do not have the necessary security know-how

Infineon offers security for the connected world



Continuous stream of new topics aging and exiting



Source: Infineon

Agenda

1

Infineon at a glance

2

Target operating model (TOM)

3

Quarterly highlights

4

Automotive

5

Industrial Power Control

6

Power Management & Multimarket

7

Digital Security Solutions

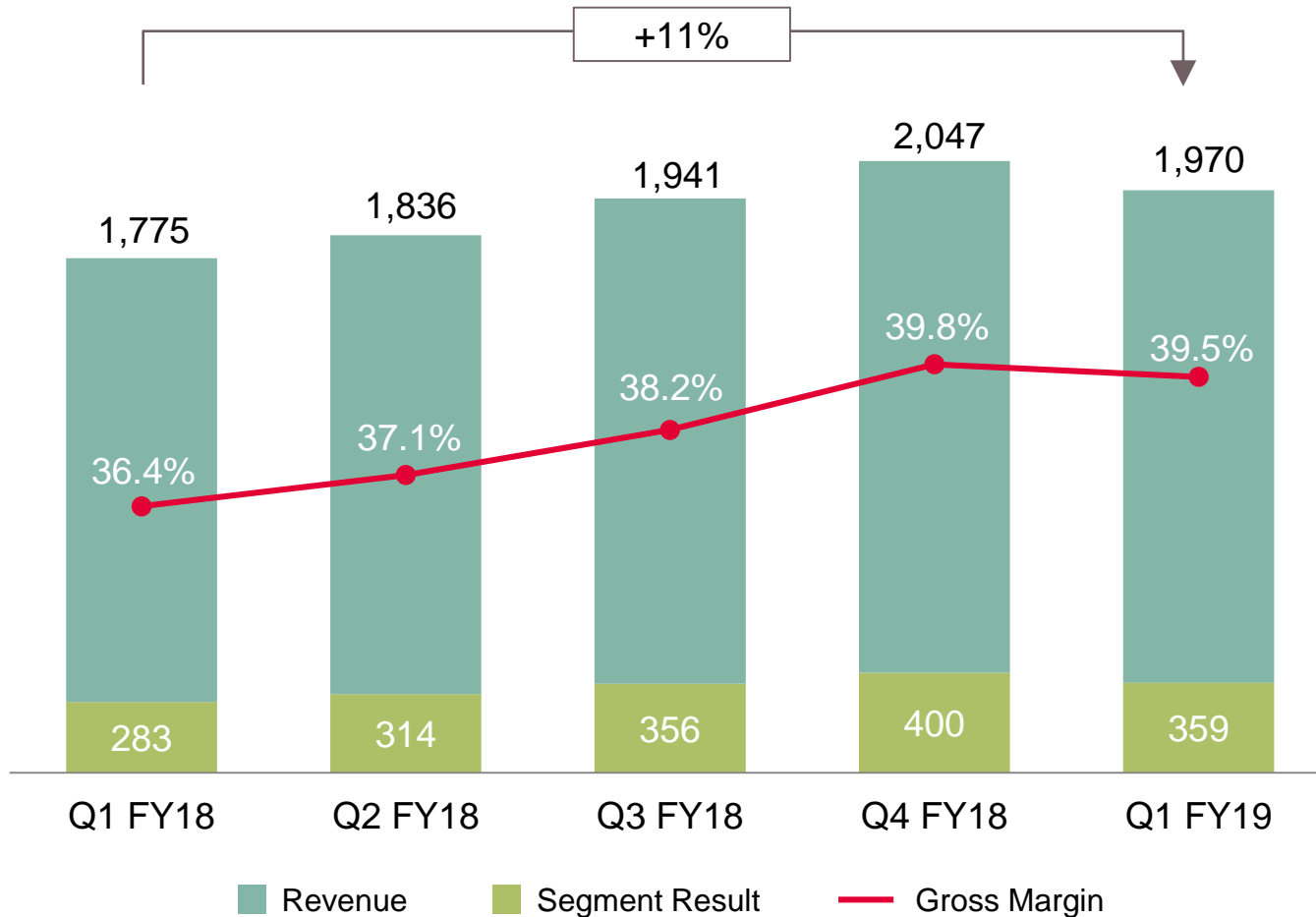
8

Selected financial figures

Seasonal revenue decline in Q1 FY19, strong revenue growth + 11% y-y

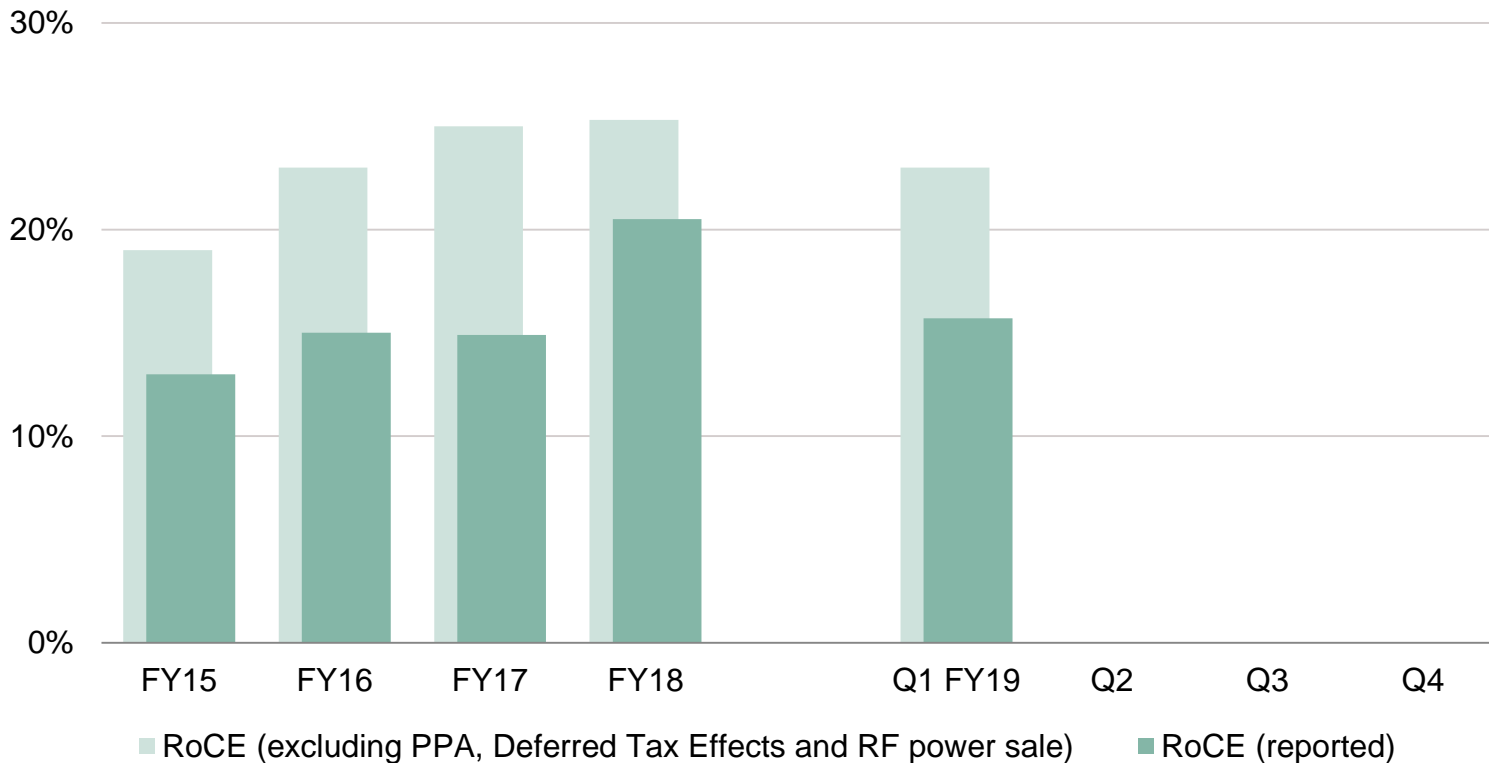
Revenue development

[EUR m]



Organic RoCE as the key value metric typically amounts to ~2x WACC

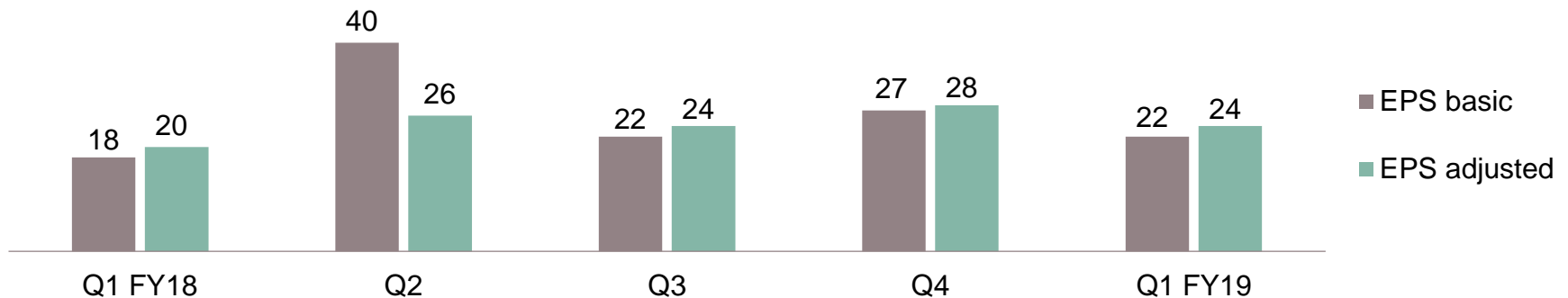
RoCE and adjusted RoCE



Our commitment to investors: Continued value creation through growth

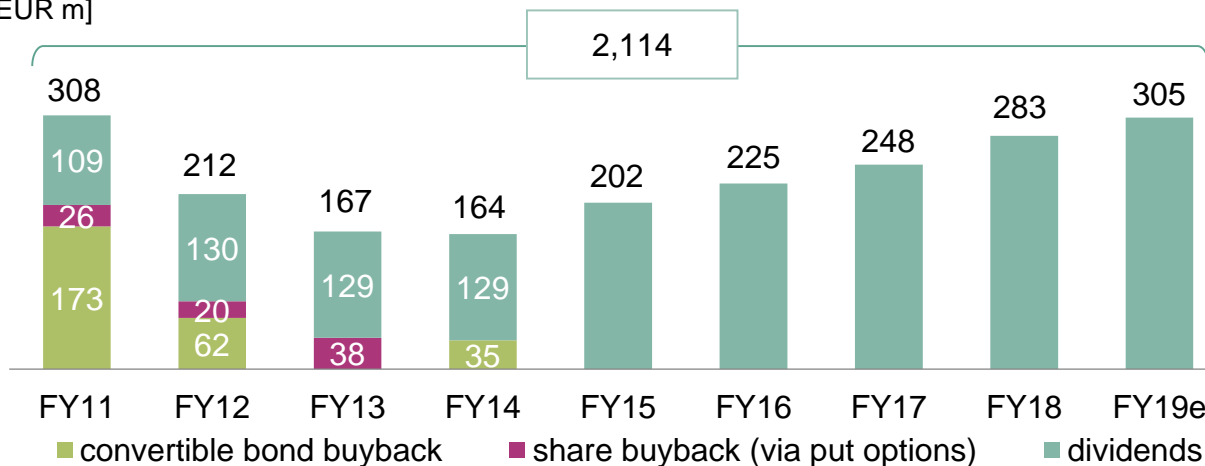
Development of earnings-per-share (EPS) from continuing operations

[EUR cent]



Total cash return to shareholders

[EUR m]



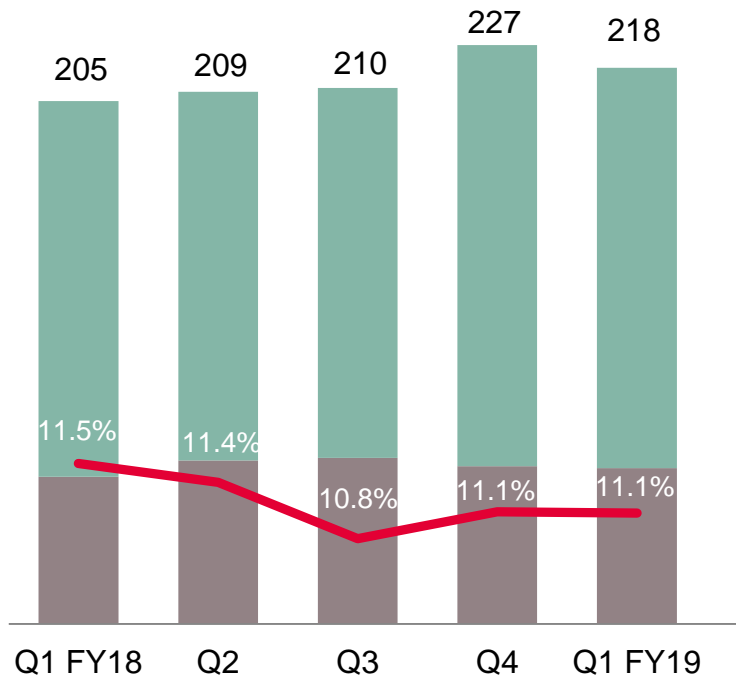
- › Policy of sustainable dividend payout
- › Increase of dividend from €0.25 to €0.27*
- › Payment of €305m*

* Proposal to the AGM to be held on 21 February 2019

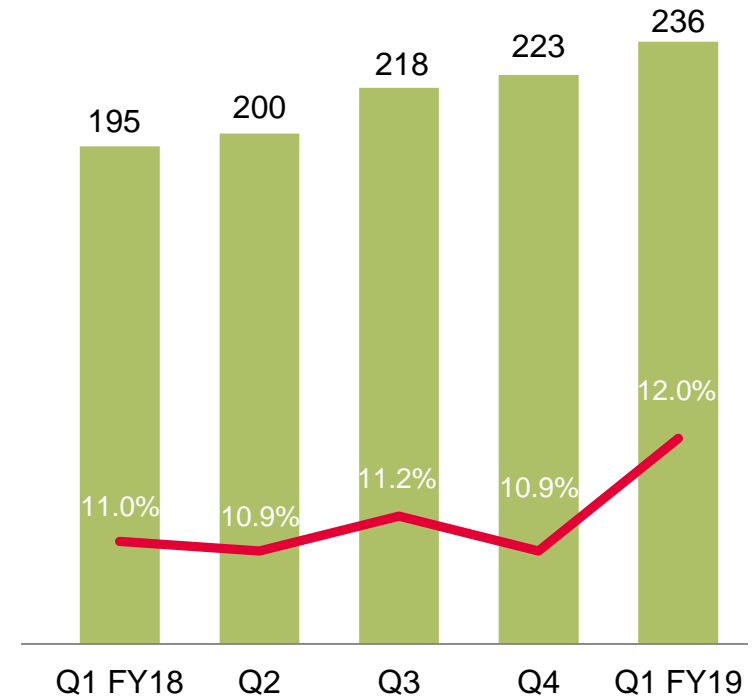
Opex within target range

Selling, General & Administration*

[EUR m]



Research & Development**



General & Administration

Selling

R&D

% of sales [rhs]

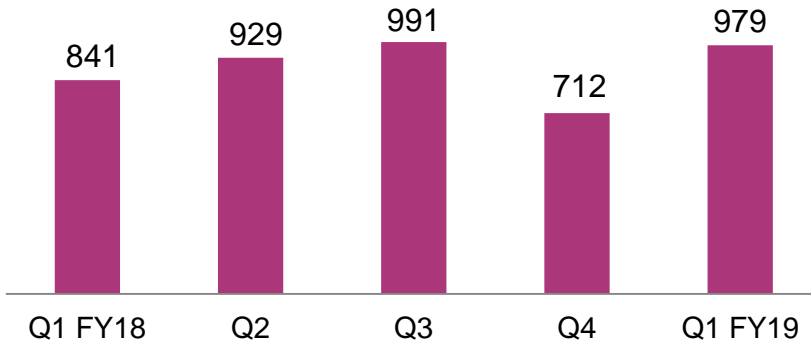
* Target range for SG&A: "Low teens percentage of sales".

** Target range for R&D: "Low to mid teens percentage of sales". In FY18, reported R&D expenses amounted to €836m, net of €86m of grants received and net of €143m of capitalized development costs.

Inventories main driver for Working Capital increase

Working capital*

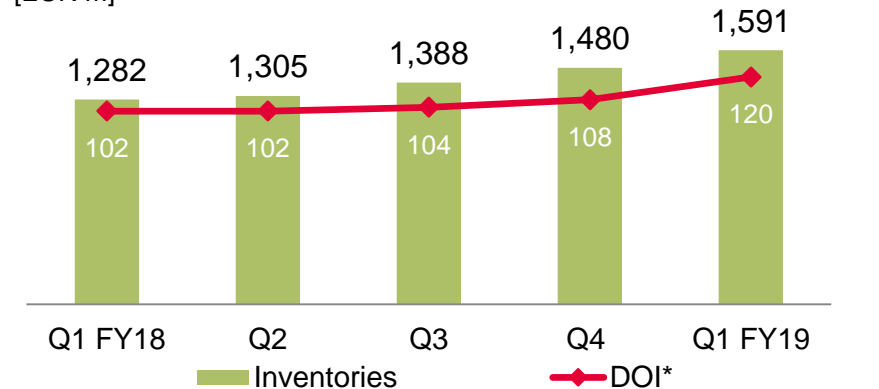
[EUR m]



Inventories

[EUR m]

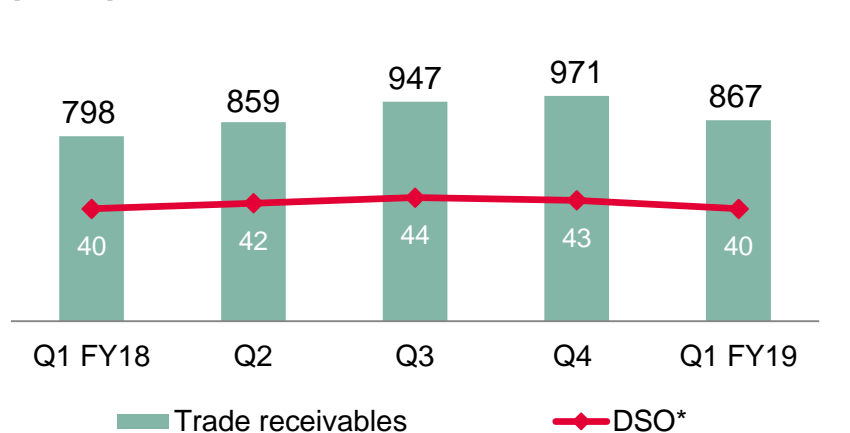
[days]



Trade receivables

[EUR m]

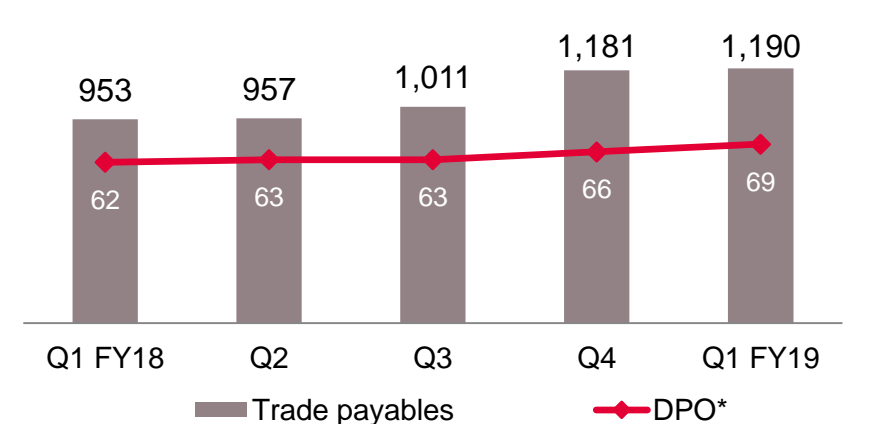
[days]



Trade payables

[EUR m]

[days]

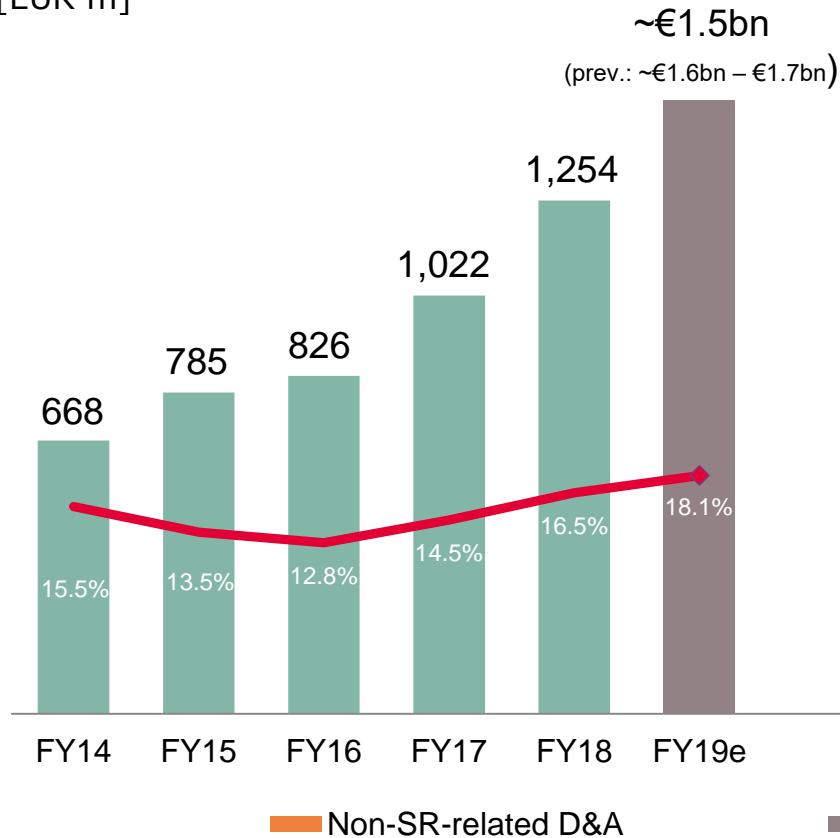


* For definition please see page "Notes".

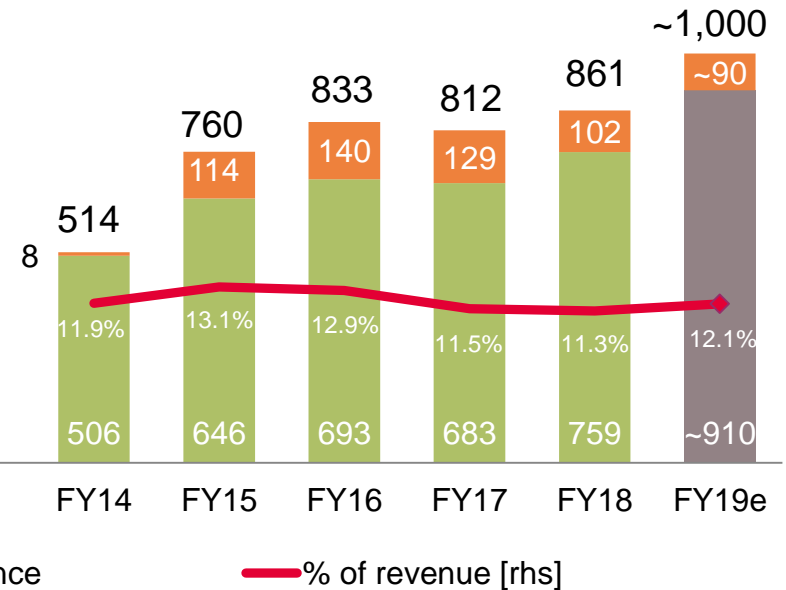
Investments and D&A trending up due to strong growth

Investments*

[EUR m]



Depreciation & Amortization



* For definition please see page „Notes“.

Healthy gross cash and net cash position

Liquidity development

[EUR m]



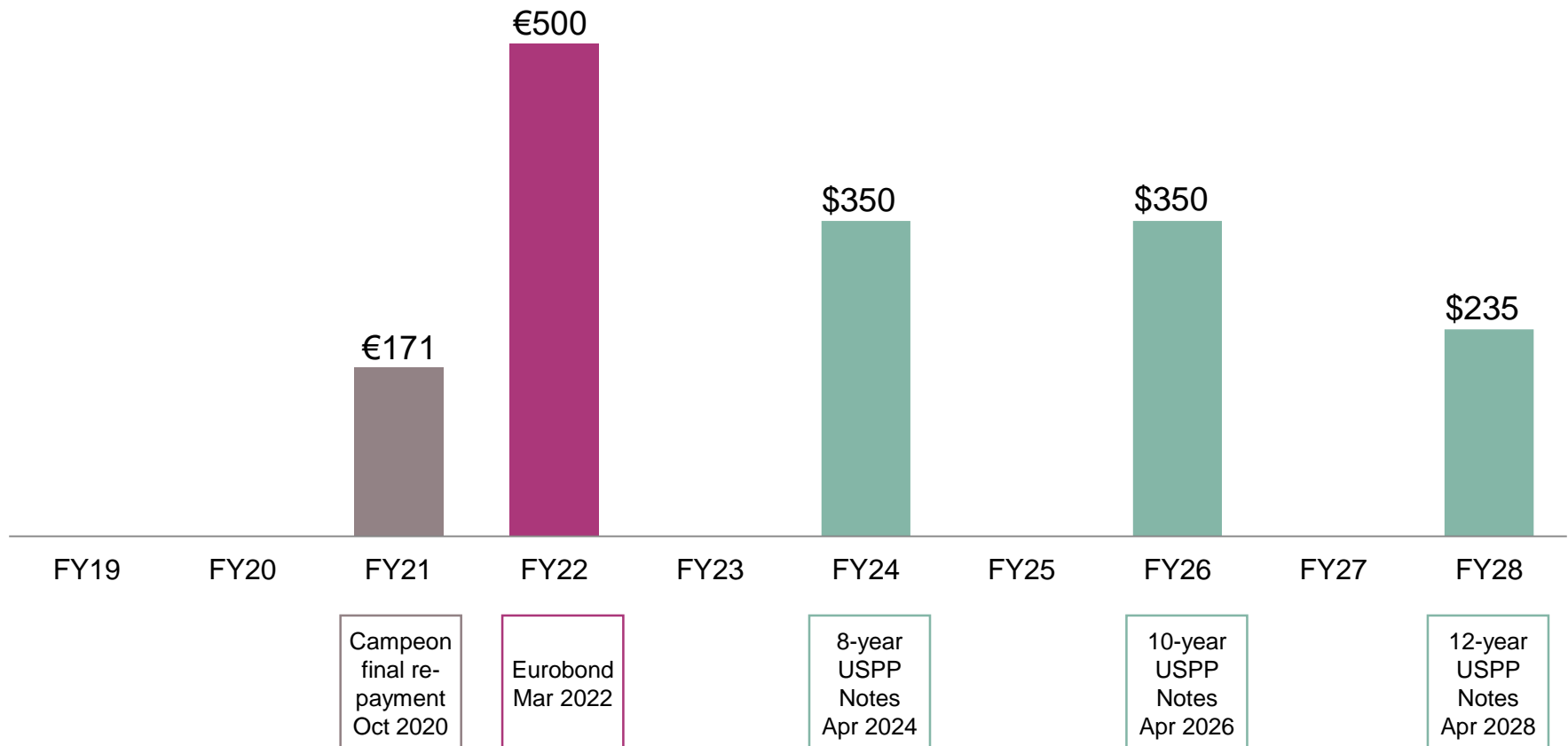
- › Operating cash flow from continuing operations was €310m in Q1 FY 2019
- › Free Cash Flow from continuing operations was minus €221m

Infineon has a balanced maturity profile and a solid investment grade rating (BBB) from S&P



Maturity profile

[EUR m; US\$ m; nominal values]



Note: Additional debt with maturities between 2019 and 2023 totaling €47m of which €21m repayments related to Campeon.

Glossary (1 of 2)

AC	alternating current	ECU	electronic control unit
AC-DC	alternating current - direct current	EMU	electric multiple unit
AD	automated driving	EPS	electric power steering
ADAS	advanced driver assistance system	eSIM	embedded subscriber identity module
AEB	automatic emergency braking	eSIM	embedded SIM
AI	artificial intelligence	EV	electric vehicle
AR	augmented reality	FPGA	field programmable gate array
BEV	battery electric vehicle	GPU	graphics processing unit
BGA	ball grid array	HEV	mild and full hybrid electric vehicle
BoM	bill of material	HMI	human machine interaction
CPU	central processing unit	HSM	hardware security module
DC	direct current	HST	high-speed train
DC-DC	direct current - direct current	HW	hardware
DPM	digital power management	ICE	internal combustion engine
eCall	emergency call	INV	in-vehicle networking
ECU	electronic control unit		

Glossary (2 of 2)

IPM	intelligent power module	PV	photovoltaic
iPol	image processing line	RF	radio frequency
IRF	International Rectifier	rhs	right-hand scale
LSEV	low-speed electric vehicle	Si	silicon
LSPS	LS Power Semitech Co. Ltd.	SiC	silicon carbide
μC	microcontroller	SiGe	silicon germanium
MEMS	micro electro-mechanical systems	SMPS	switch-mode power supply
MHA	major home appliances	SOTA	software over-the-air
MIMO	multiple input, multiple output	SW	software
micro-hybrid	vehicles using start-stop systems and limited recuperation	ToF	time-of-flight
mild-hybrid	vehicles using start-stop systems, recuperation, DC-DC conversion, e-motor	TPM	trusted platform module
MOSFET	metal-oxide silicon field-effect transistor	UPS	uninterruptible power supply
OBC	on-board charger	V2X	vehicle-to-everything communication
OEM	original equipment manufacturer	VR	virtual reality
PHEV	plug-in hybrid electric vehicle	VSD	variable speed drive
Pol	point-of-load	xEV	all degrees of vehicle electrification (EV, HEV, PHEV)

Disclaimer

Disclaimer

This presentation contains forward-looking statements about the business, financial condition and earnings performance of the Infineon Group.

These statements are based on assumptions and projections resting upon currently available information and present estimates. They are subject to a multitude of uncertainties and risks. Actual business development may therefore differ materially from what has been expected.

Beyond disclosure requirements stipulated by law, Infineon does not undertake any obligation to update forward-looking statements.

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Infineon is a long-standing member of Europe's leading sustainability indices



Infineon's most recent achievements

MEMBER OF

**Dow Jones
Sustainability Indices**

In Collaboration with RobecoSAM

- › Jan 2018: Infineon is listed in the Sustainability Yearbook for the 8th consecutive year and has received the Bronze Class distinction for its excellent sustainability performance.
- › Sep 2018: Infineon is listed in the Dow Jones Sustainability Europe Index (as the only semiconductor company) for the 9th consecutive year and in the World Index for the 4th time



FTSE4Good

- › Infineon was added to the FTSE4Good Index Series in 2001 and has been confirmed as a member since then
- › Jul 2018: Most recent review

- › Since 2014, Infineon has been publishing information on opportunities and risks due to climate change through the "Carbon Disclosure Project" (CDP).
- › For 2017, Infineon has earned a spot among the three best companies in the "Information Technology" sector in the Germany, Austria and Switzerland region.



- › Sep 2018: Infineon has been reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe

Financial calendar

Date	Location	Event
21 Feb 2019	Munich	Annual General Meeting
25 – 27 Feb 2019	Barcelona	Mobile World Congress
14 Mar 2019	Paris	Bryan, Garnier & Co. 4 th Annual Technology Conference
5 Apr 2019	Baden-Baden	Bankhaus Lampe Conference
7 May 2019*		Q2 FY19 Results
8 May 2019	Nuremberg	PCIM trade show; IPC Business Update by Dr. Peter Wawer, Division President IPC and Dr. Peter Friedrichs, Technology Development Silicon Carbide
4 Jun 2019	Milan	Equita 14 th European Conference
4 Jun 2019	Zurich	Berenberg Innovation Conference
5 Jun 2019	Berlin	Deutsche Bank German, Swiss & Austrian Conference
11 Jun 2019	Paris	Exane 21 st European CEO Conference
1 Aug 2019*		Q3 FY19 Results
29 Aug 2019	Frankfurt	Commerzbank Sector Conference
23 Sep 2019	Unterschleißheim (nearby Munich)	Berenberg Goldman Sachs German Corporate Conference
24 Sep 2019	Munich	Baader Investment Conference
7 - 8 Oct 2019	London	ATV Presentation by Peter Schiefer, Division President ATV
12 Nov 2019*		Q4 FY19 Results

* preliminary

Notes

- Investments** = 'Purchase of property, plant and equipment' + 'Purchase of intangible assets and other assets' incl. capitalization of R&D expenses
- Capital Employed** = 'Total assets' – 'Cash and cash equivalents' – 'Financial investments' – 'Assets classified as held for sale' – ('Total Current liabilities' – 'Short-term debt and current maturities of long-term debt' – 'Liabilities classified as held for sale')
- RoCE** = NOPAT / Capital Employed
= ('Income from continuing operations' – 'financial income' – 'financial expense') / Capital Employed
- Working Capital** = ('Total current assets' – 'Cash and cash equivalents' – 'Financial investment' – 'Assets classified as held for sale') – ('Total current liabilities' – 'Short term debt and current maturities of long-term debt' – 'Liabilities classified as held for sale')
- DOI (days of inventory; quarter-to-date)** = ('Net Inventories' / 'Cost of goods sold') * 90
- DPO (days payables outstanding; quarter-to-date)** = ('Trade payables' / ['Cost of goods sold' + 'Purchase of property, plant and equipment']) * 90
- DSO (days sales outstanding; quarter-to-date)** = ('Trade receivables' / 'revenue') * 90

Please note: All positions in ' ' refer to the respective accounting position and therefore should be applied with the positive or negative sign used in the relevant accounting table.

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