

Third Quarter FY 2022 Quarterly Update

Infineon Technologies AG Investor Relations



Infineon at a glance





Financials



FY21 revenue by product category

~5%	memory ICs				
~12%	RF & sensors				
~28%	embedded control and connectivity				
~55%	power semi- conductors				
of total revenue	2	ATV	IPC	PSS	CSS

Since 1999, Infineon has grown by more than 10% p.a., thereby consistently outperforming the semiconductor market





Revenue Infineon Semiconductor World Market³ (adjusted for the Infineon fiscal year ending Sep 30)

1 In FY09 Infineon's management changed the measure it uses to assess the operating performance of its operating segments to "Segment Result" 2 Based on Infineon's portfolio (excl. Other Operating Segments and Corporate & Eliminations) per end of FY21 | 3 Source: WSTS (World Semiconductor Trade Statistics) in EUR adjusted for fiscal year, September 2021

Infineon is a global player, #1 in power semiconductors, and ranked #4 in the overall microcontroller market



Power discretes and modules **MCU** suppliers Semiconductor suppliers 2021 total market: \$21.9bn¹ 2021 total market: \$587bn¹ 2020 total market: \$20.9bn² 13.0% Intel Infineon 19.7% NXP 17.3% Samsung 12.8% 8.3% onsemi 16.8% Renesas 6.3% SK Hynix STMicro 5.5% STMicro 15.4% Qualcomm 5.0% Mitsubishi 5.0% 13.9% Infineon Micron 4.9% Toshiba 4.6% Broadcom 3.6% Microchip 12.6% nVidia 3.5% Fuji Electric 4.6% **Texas** Instr 6.9% Media Tek 3.0% Vishav 3.5% Nuvoton 2.0% Texas Instr. 2.9% Renesas 2.6% GigaDevice 1.4% AMD 2.8% ROHM 2.5% Samsung 1.2% Infineon 2.3% Diodes³ 2.4% Silicon Labs 1.2% Kioxia 2.2%

1 Based on or includes research from Omdia: Annual 2001-2021 Semiconductor Market Share Competitive Landscaping Tool – 4Q21. March 2022.

2 Based on or includes research from Omdia: *Power Semiconductor Market Share Database – 2020.* September 2021. | 3 Diodes acquired Lite-On Semiconductor in November 2020. Both companies are reported combined as Diodes. Results are not an endorsement of Infineon Technologies AG. Any reliance on these results is at the third party's own risk.

Well-balanced portfolio among key trends Decarbonization and Digitalization



FY21 revenue of €11,060m by target application



Infineon and Delta Electronics further strengthen their collaboration in SiC and GaN



SiC and GaN design-wins for more than 10 Delta applications with a design-win volume of a low triple-digit € million amount achieved



Delta SiC applications served by Infineon

- Several CoolSiC[™] power supply design-wins for Delta's datacenter, server, telecom power and network. Key projects such as 5 kW datacenter.
- > Design-in of Infineon's 750 V and 1200 V CoolSiC[™] MOSFETs for Delta's automotive on-board chargers, including new bidirectional three-in-one-system:



Delta GaN applications served by Infineon

- Design-win for Infineon's CoolGaN[™] GIT (gate-injected transistor)
 600 V e-mode HEMT and EiceDRIVER[™] gate driver ICs for Delta's
 1.6 KW gaming power platform
- Further design-wins for CoolGaN[™] technology for Delta's datacenter, telecom, medical power, server, and adapter solutions. Key projects are 240 W / 330 W adapter and 65 W PD solution.

Infineon's cutting-edge power management solutions drive high performance compute systems



Infineon provides best-in-class density and performance for DC-DC power conversion for AI training & ML systems

More than **60 DC-DC** semiconductor components – **1.5x** compared to server CPU board



Infineon components enable best-inclass power density and quality with digital power management for GPUs:

- > Infineon's XDP[™] digital power management controller architecture reduces the bill of material, offers flexibility in system-level optimization and cuts time-to-market significantly
- Superior power conversion efficiency and thermal performance with OptiMOS[™] smart power stages
- Integrated point of load regulator OptiMOS™
 Smart IPoL offers best-in-class flexibility and power density

Courtesy: a leading CPU, GPU, and AI accelerator manufacturer



First design-wins with 3D ToF sensor for Automotive

Infineon's 3D ToF solution enables a broad range of applications

Alternative camera mounting positions possible



Driver Monitoring System

NCAP DMS applications

- Head tracking
- Eye closure detection
- Gaze area segmentation



with anti-spoofing

- Payment services
- **Driver-ID check**
- Access to private data



Occupant Monitoring System

- Gesture control by driver or passenger
- Occupant detection (airbag, seat belt, weight estimation)
- Supports autonomous driving modes for driver-car-handover



Face-ID Car-Unlock

- Secure Face-ID
- Spoofing-proven in smartphones and smart door locks

Short Range Exterior

- High resolution obstacle detection
- Automated doors
- Enhanced parking assist and autonomous parking

P2S approach delivers increasing number of cross-divisional synergies creating additional attraction and value



Fully connected next-gen automotive cockpit



Customer: large Korean automotive OEM
 Application: connected next generation cockpit using TRAVEO[™] MCU and SEMPER[™] NOR Flash
 Synergy potential: additional AIROC[™] wireless component – fully compatible and qualified MCU software platform delivering best-in-class Wi-Fi performance

EV charging from wallbox to high speed charger



- > Customer examples: Alpitronic, Delta
 > Application: EV charging 11 kW up to 400 kW
 > Synergy potential: Power (SiC, IGBT), Control (PSoC™, AURIX™, XMC™), Connectivity (WiFi/BL), Security (OPTIGA™ Trust)
- Reference designs available for all power classes

Radar equipped frame TV



Customer: Samsung

Application: frame TV

Synergy potential: 60 GHz radar system and PSoC[™] 6 MCU for presence detection in stand by modus for picture frame mode as well as zoning for audio and video experience improvement

Low speed delivery robot



- > Customer: large Asian technology OEM
- Application: Low speed delivery robot using OPTIGA[™] Trust (CSS), OptiMOS[™] MOSFETs (PSS), gate driver IC (IPC), DC/DC controller (ATV)
- **Synergy potential:** winning combination of a broad product portfolios, leading security technology, customer understanding and a fast support system

Infineon's value creation is crystallized in a resilient through-cycle Target Operating Model



Target Operating Model¹



1 Infineon financial performance to approach targets as Cypress integration progresses

	Outlook Q4 FY22 ¹	Outlook FY22 ¹
Revenue	~ €3.9bn	~ €14.0bn
Segment Result Margin	~ 25%	> 23%
Investments in FY22		~ €2.4bn
D&A in FY22		€1.6bn - €1.7bn²
Free Cash Flow in FY22		~ €1.4bn

1 Based on an assumed average exchange rate of \$1.05 for €1.00

2 Including the amortization of around 400 million Euros from the purchase price allocation for Cypress and, to a lesser extent, International Rectifier



ESG: targets and achievements





We contribute a net CO₂ reduction of more than 70 million tons



Net ecological benefit: CO₂ emissions reduction of more than 70 million tons



Infineon is excellent in resource efficiency

We are committed to CO_2 neutrality by 2030

Our CO_2 -saving applications are high-growth, we are part of the solution!

The ~1:33 ratio is expected to further improve in the coming years



1 | 2 For explanatory notes see "ESG footnotes" in the appendix.

Infineon is excellent in resource efficiency and committed to CO_2 neutrality – sustainability is in our DNA



Infineon ranks among the 10 percent most sustainable companies in the world¹

In CY20, we used resources in our manufacturing processes much more efficiently than the global average of the semiconductor industry:



Infineon's CO₂ target² by 2025 and 2030

Net CO₂ emissions in million tons of CO₂ equivalents²



- Avoiding direct emissions and further reducing energy consumption
- Purchasing green electricity with guarantees of origin
- Compensate the smallest part by certificates that combine development support and CO₂ abatement

1 Based on the results of The Sustainability Yearbook 2022 by S&P Global in cooperation with RobecoSam | 2 Related to Scope 1 and 2 emissions

Infineon is one of the first companies to be certified for Human Capital Reporting ISO30414



Background & Purpose	Infineon is one of the first companies worldwide to be officially ISO30414 certified for Human Capital Reporting! Being compliant with the ISO standards means providing a comparable collection and reporting of HR data. The certification supports to position Infineon as a transparent and sustainable company and as an attractive employer, as well as to proactively address ESG issues.
About ISO30414	The ISO30414 represents the first official international framework for standardization in the area of Human Capital Reporting and is relevant for various internal and external stakeholder, like applicants, investors, employees, workers council and the management. The core content for the external Human Capital Reporting of ISO30414 comprises 23 Human Capital-related metrics, which are structured into 9 different areas.

Infineon's benefits of a standardized Human Capital Reporting

- > Increase of organizational performance, e.g. by consistent benchmarking.
- > Contribute to ESG targets & company and sustainability strategy.
- > Further positioning regarding sustainable corporate governance.
- > Establish more transparency with extended fields of reporting.
- Create a better understanding of (non-)financial returns and how purposeful the results of investments in human capital are for internal and external stakeholder.



External recognitions confirm our engagement in contributing to a sustainable society



		Rating/Score	Scale	Date
MSCI 💮	MSCI ESG	AA	CCC to AAA	05/2022
	CDP	B climate scoring B water scoring	F to A	12/2021
	Ecovadis	99th percentile "Platinum" award	0 to 100	02/2022
Dow Jones Sustainability Indices	Dow Jones Sustainability Index	83 Dow Jones Sustain- ability™ World and Europe Index listing	0 to 100	11/2021
	Ethibel Sustainability Index Excelence Europe"	Index member	-	05/2020
ISS ESG ▷	ISS ESG Corporate Rating	B- Prime Status	D- to A+	01/2021
FTSE4Good	FTSE4Good Index	Index member	-	06/2021
vigeoeiris	Euronext Vigeo Eurozone 120 Index Euronext Vigeo Europe 120 Index	Indices member	-	05/2021
	Sustainalytics	Top ESG performer	-	01/2022



Infineon's wide band gap strategy



Leveraging full potential based on the power ratings and switching frequency required by the application





Si

- Si remains the mainstream technology
- Targeting 25 V 6.5 kV
- > Suitable from low to high power

SiC

- SiC complements Si in many applications and enables new solutions
- Targeting 650 V 3.3 kV
- High power high switching frequency

GaN

- GaN enables new horizons in power supply applications and audio fidelity
- Targeting 80 V 600 V
- Medium power highest switching frequency

SiC – Infineon is serving all relevant applications



Focus applications



Customers



SiC – US\$ 1 billion revenue in sight

SiC revenue development



SiC power devices¹ 2021 total market: \$1,137m



- Strengthening #2 position in SiC device market
- > Highest yoy growth of all peers
- > Broadest portfolio fits customers' individual needs
- Scalable portfolio allows for easy and seamless upgrade from IGBT to SiC-based inverters

1 Yole Développement: Compound Semiconductor Quarterly Market Monitor. Q1 2022



CoolSiC[™] trench design optimized performance and reliability



Our Cold Split technology leads to significant reduction of raw material losses during SiC manufacturing









Complementing vast portfolio of CoolSiC[™] and CoolGaN[™]: The right-fit EiceDRIVER[™] gate driver ICs



Expansion of SiC and GaN capacity follows our long-term strategy > €2bn investment to build a 3rd module at our site in Kulim





Rationale

- > Seize structural growth opportunities linked to electrification
- > Prepare manufacturing cluster for acceleration of WBG
- Create higher resilience of WBG supply by further expanding capacities with Kulim 3 and in Villach
- > Leverage economies of scale

Total frontend investment	> €2bn	
Revenue potential	~ €2bn per year	
Groundbreaking	January 2022	
Start of construction	June 2022	
Ready for equipment	Summer 2024	
First volumes out	Second half of calendar year 2024	

Infineon's GaN power solutions provide superior system level efficiency – exemplified by Anker chargers and adapters





1 GaN power devices market Yole Développement (Yole): SiC and GaN power devices: market trends and supply chain evolutions Q2 2022



GaN for power applications

- GaN discretes, GaN drivers, integrated power stages (including the right-fit driver) for 650 V, 600 V, 200 V and 100 V with a broad package portfolio, as well as controllers addressing the consumer and industrial market
- GaN for power chips are focused on high current-carrying capacity at frequencies below 10 MHz
- Increasing revenue and design-wins, e.g. in charger and adapter, servers for data center, edge computing and telecom, notebook as well as handhelds



GaN for RF applications

- GaN power amplifier with frequencies of 2.5 to 2.7 GHz and 8 W output power for 5G applications and satellite communications.
 Power amplifier modules including a RF GaN chip and an integrated bias and control IC in development
- GaN for RF chips are focused on high frequencies beyond 1 GHz
- > GaN power amplifiers are already shipped to a leading global infrastructure provider of power antennas for 5G basebands



GaN design-wins of more than €1bn achieved



Automotive





ATV at a glance



FY21 revenue split by product group

ATV revenue and Segment Result Margin

Key customers





Applications	Market Outlook for CY22	Market Outlook for CY23
Automotive	 Demand-supply uncertainties continue due to COVID-19 pandemic and silicon foundry limitations Ukraine war causing further disruptions, especially in Europe Gradual easing of semiconductor shortages throughout the year; risks of further supply chain disruptions remain 	 Demand-supply situation expected to stabilize due to further easing of semiconductor shortage Demand overhang expected to persist Risks due to (a) general slowdown and (b) potential energy shortages ongoing
eMobility	 Positive momentum for xEV driven by (a) broader vehicle offering, (b) sufficient range and charging infrastructure density, (c) tightening CO₂ regulations Battery price degression came to an end 	 Positive momentum for xEV expected to continue However, further increase in raw material contract prices (esp. for Li, Ni, Cu) will trigger next round of xEV car price increase
Autonomous driving	 Strong growth of L1 and L2 along with decline of L0 L2+ shipments will grow from a comparatively small base; first L3 model launches from OEMs will continue Robotaxi pilot projects and small-scale fleets expected to continue 	 Growth of L1, L2 and L2+ expected to continue L3 shipments will grow from a rather small base supported by additional L3 model launches First commercial robotaxi projects in operation; roll-out in more and more cities

Infineon's top market position is built on system competence based on an industry-leading product portfolio



Automotive semiconductors (2021 total market: \$46.7bn; +31.5% yoy)



- total market grew by 31.5% yoy, reaching all-time-high of \$46.7bn, exceeding previous high in 2018 of \$38.2bn
- > growth clearly supported by content-per-car growth
- #1 in power semiconductors; gaining 1.3%-pt thanks to outstanding position in booming xEV business
- > Undisputed #1 in automotive NOR Flash memory ICs



Strategy Analytics: Automotive Semiconductor Vendor Market Shares. March 2022.



Electromobility



We continue the broad presence of Infineon power semiconductors in Automotive applications with new SiC design-wins





xEV (PHEV + BEV) penetration continues on all-time high level globally in Q2 CY22, China with strongest increase





Source: Based on or includes content supplied by IHS Markit Automotive. July 2022; EV Volumes. July 2022

The road to emission-free cruising: Governments and OEMs indicated when to ban the ICE





2035:

- > EU: all new cars zero-emission.
- > China: public transport vehicles to be fully electrified.
- > Canada: no new ICE on sales.
- > California, Massachusetts, New Jersey, Thailand: no ICE on the street.

2030:

- > USA: ~40% of new vehicle sales to be BEVs.
- > Japan: no ICE on the street.
- > UK, Denmark, Sweden, Ireland, Netherlands: no ICE on sale.
- International Energy Agency: no new ICE car sales recommended. 60% of global car sales to be BEV or H₂.

2020

2025:

- > Norway: no new ICE on sale.
- Mallorca: no Diesel car on sale.
- Netherlands, special zones: only electrified trucks and delivery vehicles allowed.
- Netherlands: in major cities (Amsterdam, Rotterdam, The Hague, Eindhoven, Tilburg), all taxis and rental cars newly registered are to be emission-free. Other areas in the Netherlands have until 2030.

2023: Spain, cities with > 50k inhabitants: only zero-emission vehicles allowed.

2050: Spain, cities with > 50k inhabitants: no ICE on the street.

2040: Spain, cities with > 50k inhabitants: no new ICE on sale.



Honda: "All new vehicles will be BEV."

2039:

BMW: "All new vehicles will be BEV."

2035:

- GM: "All new vehicles will be BEV."
- > VW brand: "To end sales of ICEs in Europe."
- > VW brand: "55% of US sales fully electric."

2030:

VW brand: "> 70% of all new vehicles to be BEV in Europe."

2040

- Volvo: "All new vehicles will be BEV."
- Ford: "All new veh. in Europe will be BEV. 40% of Ford global veh. volume to be BEV."
- Jaguar: "No new ICEs."
- BMW: "50% of all new vehicles to be BEV."
- Porsche: "> 80% BEVs in 2030."

2025:

2030-

Lamborghini: "All new vehicles will be BEV or PHEV."

Mercedes: "The upcoming S class generation will be available as BEV only. All new vehicle architectures are BEV only (no longer PHEV). ~50% of all new vehicle sales to be BEV or PHEV (vs ~25% so far)." Audi: "All new vehicles will be BEV in 2026."



Infineon addresses close to 100% of power semiconductors for all kinds of drive trains





Based on Strategy Analytics: Automotive Semiconductor Demand Forecast 2019 - 2028. July 2022; Infineon. "power" includes voltage regulators, ADCs and ASICs.
 Due to missing ICE engine in BEV the weighted incremental semiconductor content for PHEV and BEV starts below the "~\$500" line.



Automated Driving


The car of the future is driving digitalization in many aspects and Infineon provides the ingredients





ADAS/AD

- > object recognition
- advanced spatial sensing
- MCU (AURIX™, TRAVEO™ 2, PSoC™)
- radar sensor
- > NOR flash and RAM memory



software-over-the-air

- remote OS updates
- > secure feature upgrades
- NOR flash memory
- security solution



infotainment and HMI

- > seamless digital entertainment
- > always-on, secure connectivity
- > intuitive user interface (UI)
- → MCU (AURIX[™], TRAVEO[™] 2, PSoC[™])
- Wi-Fi, Bluetooth®, USB Type C
- > touch controller with CapSense[™]



comfort / premium

- > automatic exterior and interior lighting
- passenger-specific automatic settings
- MCU (AURIX™, TRAVEO™ 2, PSoC™)
- pressure and magnetic sensors
- > LED driver ICs



digital instrument cluster

- real-time driver information
- user-specific digital content
- → MCU (AURIX[™], TRAVEO[™] 2, PSoC[™])
- > NOR flash and RAM memory



AURIX^m – the "gold standard" of Automotive MCUs continues its success story with the recently announced TC4x



Current AURIX[™] TC2x/TC3x microcontroller family

- AURIX[™] is one of the leading Automotive microcontrollers with more than 320m units shipped to date
- 32-bit real-time capable multi-core architecture based on up to 6 unified RISC/MCU/DSP TriCore[™] processor cores, applicationspecific accelerators and security subsystem
- Wide array of automotive applications: inverter control, engine and battery management, transmission control, safety control, ADAS, active suspension, LED pixel lighting, sensor fusion, domain control

New AURIX[™] TC4x microcontroller family

- New AURIX[™] TC4x family for next generation eMobility, ADAS, automotive E/E architectures and affordable artificial intelligence (AI)
- > Highest standards in real-time execution, security and dependability
- > New zero downtime SOTA (Software Over the Air) features
- Smart accelerators like for AI-based real-time control and 4D radar signal processing – up to 78x acceleration vs. previous generation
- > Enabling the next generation of intelligent and connected electric cars

Al-based xEV features

 > Predictive control and virtual sensing
 > Advance State of Health (SoH) and State of Charge (SoC) algorithms



Intelligent safety host

- Companion chip for safety critical applications next to high-performance MPUs
- > Highest safety standards ASIL-D, ISO26262

New AI and neural network features



Enhanced safety and control

AI-based ADAS features

- > Object classification
- > Advanced radar signal processing
- > Sensor fusion

Domain/zone control

- > E/E architecture reduce complexity
- Model predictive control
- > Intrusion prevention and detection

The Infineon AURIX[™] MCU family has become the first-choice automotive architecture for high-growth and safety-critical applications



Infineon AURIX[™] revenue development over time





Industrial Power Control





IPC at a glance



IPC revenue and Segment Result Margin



FY21 revenue split by product group (indicative)

Key customers



Market outlook remains positive due to continuous growth in "save-the-world" applications



Applications (% of FY21 segment revenue)		Market Outlook for CY22		Market Outlook for CY23
Automation and Drives ~35%	, ,	Growth drivers (e.g. new energy, smart manufacturing) are intact Economic stimulus support and healthy order backlog	, ,	Customer expectations remain optimistic for 2023 Analysts expect growth rates above long-term averages but risks remain due to current macro environment
Renewable Energy Generation ~26%)	PV installations remain in double-digit growth Analyst updates of wind installations forecast show 8% growth compared to CY21 (in GW))	Growth rates remain strong for PV installations (supported by governmental policies); for wind growth rates are expected to be softer than for PV
Home appliance	 , 	After strong growth surge in CY21 and beginning CY22, demand is softening; threat of further lock-downs deteriorates customer sentiment in GC	,	Further potential for inverterization remains but customer sentiment may limit growth; focus on energy saving remains a long-term growth driver
Transportation ~5%)	Overall expectations dominated and dampened by still delayed recovery for traction in China	,	Strong growth opportunities for CAV and OBC (electrification) expected; traction business to stabilize, increased demand growth beyond CY23
Power Infrastructure ~9%	,	Continuous installation of renewable energy generation is driving energy storage systems next to strong growth of EV charging infrastructure)	Growth for EV charging infrastructure to continue; further growth of energy storage systems and T&D required to captured renewable energy generated
Others ~8%	 , 	Long-term positive outlook driven by general trend of electrific	cation in em	nerging applications (e.g. eMarine)

Clear leader in discrete IGBTs and IGBT modules; fostering position in IPMs



Discrete IGBTs 2020 total market: \$1.59bn		IPMs 2020 total market: \$1.43bn		IGBT modules ¹ 2020 total market: \$3.63bn		
Infineon	29.3%	Mitsubishi	32.9%	Infineon	36.5%	
Fuji Electric	15.6%	onsemi	17.1%	Fuji Electric	11.4%	
Mitsubishi	9.3%	Infineon	11.6%	Mitsubishi	9.7%	
onsemi	7.7%	Fuji Electric	11.2%	Semikron	5.8%	
Toshiba	5.5%	Semikron	5.5%	Vincotech	3.3%	
STMicro	4.6%	Sanken Electric	3.0%	Starpower	2.8%	
Littelfuse	4.2%	STMicro	2.4%	Hitachi	2.7%	
Renesas	3.8%	ROHM Semi	1.7%	Danfoss	2.5%	
MagnaChip	3.1%	Hangzhou Silan	1.6%	Hitachi ABB PGS	2.3%	
Hangzhou Silan	2.6%	Jilin Sino-Micro	0.9%	Bosch	2.1%	

1 Including standard (non-integrated) IGBT modules and power integrated modules (PIMs) / converter inverter brake (CIB) modules Based on or includes research from Omdia: *Power Semiconductor Market Share Database 2020.* September 2021



Infineon provides solutions for all links in the energy conversion chain



Infineon will benefit from <u>all</u> CO₂ saving measures







Green energy generation provides large business opportunities



1 IEA: Net Zero by 2050 - A Roadmap for the Global Energy Sector. May 2021 | 2 Based on or includes content supplied by IHS Markit Climate and Sustainability Group: Grid Connected Energy Storage Market Tracker H1 2021. August 2021 3 Extrapolation; conservative assumption of equal ratio renewable generation to storage capacity



Increasing share of renewables requires stronger grid

Planned grid expansion in Germany



Source: Bundesnetzagentur

Infineon's 4.5 kV IGBT modules enable HVDC lines

- HVDC High Voltage Direct Current lines are the technology of choice to strengthen the grid
- Converter stations are equipped with power semiconductors
- Infineon offers highly robust, low-loss 4.5 kV IGBT solutions
- 6.5 kV IGBT is in development and will complement offering



4.5 kV IGBT module in IHV-B housing

Converter station



Source: Siemens Energy



Power & Sensor Systems





PSS at a glance



FY21 revenue split by product group

PSS revenue and Segment Result Margin

Key customers



Long-term drivers are valid but current macro environment leads to near-term headwinds in consumer related applications



Applications (% of FY21 segment revenue) ¹	Market Outlook for CY22	Market Outlook for CY23
Computing ~20%	 Structural growth driven by cloud computing and to a lesser extent by enterprise servers PC shipments and particularly Chromebooks are expected to decline YoY after two consecutive years of strong growth² 	 Growth expected to continue in CY23 driven by cloud computing/ enterprise server, but stabilizing on high level PC market expected to further slow down from high Covid level
Communication	 5G cycle will continue to drive telecom equipment spending in 2H CY22 	 5G cycle will also continue to drive telecom equipment spending in CY23; further acceleration expected also due to latecomers that kick off 5G e.g. India
Smartphone ~17%	 Negative unit growth is expected for CY22 considering the ongoing Ukraine-Russia war and Covid disruptions in China 	 Units expected to rebound and therefore positive unit growth is expected for CY23
Consumer ~24%	 Consumer confidence declined due to current macro environment, implying headwinds for consumer spending 	 Recovery expected if inflation is contained and governments put together sufficient aid packages
Industrial 25%	 Demand in renewable energy, EV and EV charging expected to further accelerate; automotive semi shortage to continue in H2 CY22 Tailwinds from US, EU and Asia stimuli packages for green energy initiatives support long-term growth 	 Demand in renewable energy, EV and EV charging expected to further accelerate Stimuli packages for renewables, especially solar, to support growth in CY23

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







- > data center
- > enterprise server
- > PC, notebook
- > peripherals
- chargers and adapters

Communications



- > base stations
- backhaul cellular infrastructure
- > 5G massive MIMO
- telecommunication servers

Smartphones



- > smartphones
- mobile devices
- > wearables
- USB Type-C, USB Type-C PD

Consumer



- > eBikes, eScooter
- > multicopter
- > gaming
- > TV sets
- > smart home

Industrial



- > power supplies
- > EV on-board charger
- charging infrastructure
- > PV inverter
- > power tools
- > lighting
- > Industry 4.0
- > aerospace



PSS – Power



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





1 Discrete Power MOSFET market includes automotive MOSFETs, protected MOSFETs, SiC MOSFETs and GaN power transistors. | 2 Power IC market includes automotive power ICs. Based on or includes research from Omdia: *Power Semiconductor Market Share Database 2020*. September 2021

Data center – AI hyperscaler and telecom/edge computing are driving the growth



Server growth [units m] Power¹: CAGR₍₂₀₋₂₅₎: 8% 20 ~3x 15 ~1.5x 10 ~1.0x 5 0 ~1.0x 2020 2025e Al-enabled hyperscalers hyperscalers telecom & edge enterprise

Power requirement per server

Exponential increase in AI **Training & Networking** (ASIC/SoC/FPGA/CPU/ GPU) power level requires cutting-edge innovation in **Device & Packaging** technologies to solve power efficiency and density challenges

 \rightarrow The bill of material is outpacing unit growth by a factor of ~1.3x.

1 Normalized overall power requirement per server board for x-comparison

Based on or includes research from Omdia: Data Center Server Equipment Market Tracker - 2Q21 Database. September 2021

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



Smart and connected - the communication of tomorrow with 5G



- driver #1: massive growth of data and computing power
- > driver #2: higher number of base stations due to dense network
- driver #3: ~4x higher power semi 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



PSS – RF and Sensing





Main applications addressed by PSS sensors portfolio

MEMS microphone		3D radar (24/60 GHz)		3D ToF image sensor		Environmental	
34-10-20 Lor	Best audio performance		Ultra-low power consumption		Best price / performance	K	High precision and Small form factor
	Low power consumption		Presence detection/ Vital Sensing		Face ID (biometrics), VR/AR		Measure CO ₂
Main applications							
 > Smartphone > True wireless stereo headsets > Smart speaker > Laptop & Tablet 		 > Automotive > Smart home > TV > Security ca > Smart build 	e mera ling	 > Smartphone facing and u > Robotics > Automotive sensing > Payment te 	e: world- user-facing in-cabin erminals	 > Heating, ver conditioning > Air purifier > Smart therm > CO₂/virus ris 	ntilation, air (HVAC) nostat sk reduction



Sensor markets targeted by PSS offer attractive growth potential



Radar IC market (24 GHz and 60 GHz only)



Environmental sensor market*



* Infineon is addressing smart building, smart home, smart appliances, consumer IoT devices and automotive Source: Infineon estimates

3D ToF image sensor market



Source: Infineon estimates

2022-08-03

Unparalleled audio characteristics of our XENSIV[™] MEMS microphones made Infineon #1 in 2019 with further m/s gain in 2020



Infineon's market share development in MEMS microphones (by units)





Based on or includes research from Omdia: MEMS Microphones Dice Market Shares 2021. July 2021

Technological progression of Infineon XENSIV[™] MEMS microphones



Infineon 3D ToF is a versatile technology for many consumer applications







Connected Secure Systems





CSS at a glance



FY21 revenue split by product group

CSS revenue and Segment Result Margin

Key customers



Market outlook affected by weaker macroeconomic conditions and persisting supply constraints



Applicat (% of FY21 segme	ions ent revenue)	Market Outlook for CY22	Market Outlook for CY23		
		 Stable demand despite impact of the Russia-Ukraine conflict and China's fresh lockdown measures 	Growth in industrial IoT is expected to stretch in CY23		
Industrial	Industrial	Further growth momentum across smart home devices expected	Growth in smart home market is expected to stretch in CY23		
and Consumer IoT ~67% Gaming	 Down in fitness bands/feature watch leads to first time ever decline in global wearables shipments in Q1-CY22; growth in smart watches continues 	Growth in wearables market is assumed to stretch in CY23 driven mainly by smart watches			
	 Gaming consoles shipments showing a decrease in FY22. Some players reported continuing production constraints due to chip shortage 	Saming consoles shipments are expected to further decrease.			
	Automotive	 Market is assumed to grow at more limited rates than previously assumed due to supply constraints, increased car prices and weaker macroeconomic conditions 	 The market is assumed to continue its recovery and reach closer towards pre-Covid levels 		
Payment, ID,	Payment	 Demand for and migration to contactless remain strong, while supply constraints inhibit market growth 	 The market is assumed to grow closer towards true demand, despite ongoing supply constraints 		
Ticketing ~33%	Identification	 Positive trend expected driven by recovery in passports issuance as well as project roll-out for other eDocuments 	 Positive trend expected driven by recovery in passports issuance as well as project roll-out for other eDocuments 		



Infineon remains top player in security ICs

Security ICs (excl. NFC controllers; excl. NFC eSE) 2020 total market: \$2.8bn Security ICs (excl. NFC controllers; excl. NFC eSE) 2020 by application



MCU and software are key for the success in IoT as they define the functionality and time-to-market of the device





With a broad set of key enabling technologies, Infineon is well positioned to capture growth opportunities





1 ABI Research: Wireless Connectivity Technology Segmentation and Addressable Markets. July 2021; excluding Chromebooks, desktop PCs, feature phones, media tablets, netbooks, smartphones, white box tablets.

Edge AI is a fast developing market enabled by and calling for many of our core competencies



Edge AI to offer additional growth opportunities as inference workloads move to device level

Cloud Al

- > Public and private clouds offer scalability and flexibility
- Growing performance demand with higher power consumption (ASIC/SoC/FPGA/CPU/GPU)

Edge Al

- > Smart subsystems offer low latency, improved privacy, higher power efficiency
- Growing solution demand for e.g. image and object recognition, autonomous material handling, predictive maintenance, and human-machine interface



Power supply (AC-DC) Power conversion (DC-DC) Infineon: Smart sensors with AI capabilities Embedded control including connectivity and edge AI accelerators Smart power, toolchain/ecosystem, deployment services

Infineon:

AIROC[™] portfolio expansion to support Matter with multiprotocol solutions including BLE and IEEE 802.15.4 low-power SoC



Infineon joins Connectivity Standards Alliance – shaping the future of IoT

- Launching the new AIROC[™] Bluetooth[®] Low Energy (BLE) and IEEE 802.15.4 to support Matter with multiprotocol solutions
 - Built on market-proven wireless IP technology for maximum interoperability —
 - Superior RF performance enables robust and reliable connectivity
 - Low power consumption supports applications requiring long battery life
 - Software enablement reduces development time for BLE and Matter over Thread applications

X matter

A proprietary, license-free home automation connectivity standard that aims to reduce fragmentation between different vendors and achieve interoperability between smart home devices and Internet of Things platforms. Other members include Amazon, Apple, Google, Comcast, the Zigbee Alliance, IKEA, Signify, etc.

AIROC[™] CYW30739

Low power system on chip (SoC) with multiprotocol connectivity and integrated MCU



Multi-protocol subsystem features:

- Bluetooth® v5.3 with LE 2-Mbps support
- Fully compliant IEEE 802.15.4 MAC and PHY layers
- Best-in-class Rx sensitivity of -95.5 dBm (BLE) and -103.5 dBm (IEEE 802.15.4)

Examples of target applications







Residential Lighting



Commercial Lighting



Access Control



Door Locks



The world's first TPM with a quantum-resistant firmware upgrade path

The market for long-term secure applications is opening today

- Quantum-resistant designs offers vast market potential new devices with longer lifetimes and potential replacement cycles
- Quantum computing market estimated to reach €9bn revenues for semiconductor manufacturers by 2030¹
- Connecting devices in a secure way will enable the upcoming growth of IoT
- Quantum-secure encryption methods should already be employed for devices with longer service lives today
- With a leadership position in TPM and a successful R&D team, Infineon is uniquely positioned to capitalize on growth

OPTIGA™ TPM SLB 9672 – new generation of future-proof TPMs

- Post-quantum cryptography (PQC) protected firmware update mechanism
- Stronger cryptographic algorithms
- Extended memory space

- Improved computational performance
- Resiliency features
- Fully compliant with the TCG requirements and certified accordingly

In 10-20 years, quantum computers are likely to attack today's cryptography



ntegra

- > Easy replacement of existing TPMs
- > Tools to support design activities

1 McKinsey – Quantum Computing – what's in for semiconductor companies | ECDSA: elliptic curve digital signature algorithm | XMSS: extended Merkle signature scheme

Robust security



Selected financial figures



Strong presence in all regions; well-balanced customer portfolio; no customer represents more than 10% of total sales





Group financial performance






Automotive (ATV)



- > Positive development driven by additional capacity, favorable pricing dynamics and a supportive US-Dollar exchange rate
- > ADAS and electromobility remain on a strong growth trajectory automotive SiC business continues to gain traction
- > Automotive production volumes continue to be depressed due to material shortages and supply disruptions





- > Renewable energy and power infrastructure solutions continue to thrive, also automation and drives show robust momentum; home appliances are hampered by deteriorating consumer sentiment
- > Decarbonization remains a strong structural driver for renewable energies and the related power infrastructure
- > Industrial drives are supported by the need to invest in alternative energy sources and smart manufacturing



Power & Sensor Systems (PSS)



- > Fewer delivery limitations caused by Covid containment measures in Shanghai than initially feared
- > Strong traction continued for enterprise power solutions, solar installations by residential customers and automotive charging
- > Demand for consumer applications like battery-powered DIY tools, PCs and smartphones sluggish



Connected Secure Systems (CSS)



- Demand in key areas like industrial IoT, smart buildings and identity continues to outstrip supply; capacity constraints also affect payment applications
- > Investments in R&D resources to further strengthen our product roadmap will be a burden in the near term
- > Decreasing consumer confidence weighs on areas like wearables or gaming



Gross margin and Opex





Investments, Depreciation & Amortization and Free Cash Flow





Working Capital, in particular trade working capital components







1 For definition please see page "Notes"

2 Along with the integration of Cypress refund liabilities to customers are presented under "other current liabilities" instead of "trade receivables". Prior quarters' figures were adjusted accordingly for better comparability.



Return on capital employed





Earnings-per-share and total cash return

49 [EUR cent] 44 41 41 39 36 35 35 ■ EPS basic 27 18 EPS adjusted Q3 Q4 Q1 FY22 Q3 Q2

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

Total cash return to shareholders

[EUR m]



- > Dividend for FY21: €0.27 per share
- > Dividend payout of €351m for FY21



Liquidity development

Historical liquidity development

[EUR m]



Maturity profile



Maturity profile from 2022 to 2033



Graph excludes additional debt with maturities between 2022 and 2023 totaling €4.5m.

1) On 1 Oct 2019, Infineon issued a perpetual hybrid bond with two tranches: €600m with first call date in 2025 and €600m with first call date in 2028; both are accounted as equity under IFRS.

Conservative financial policy and strict commitment to investmentgrade rating are the basis for through-cycle flexibility



	Financial Policy Targets	Status Quo (LTM 30 June 2022)	
Gross Cash ¹	€1bn + at least 10% of revenues → €2.2bn	€1bn + 20% of revenues → €3.6bn	
Gross Debt ²	≤ 2.0x EBITDA	1.6x EBITDA	
Comfortable liquidity position	 Flexibility for financing operating activities and investments through the cycle Cushion for net pension liabilities and contingent liabilities 		
Balanced debt position	 > Gross debt target temporarily exceeded for CY acquisition, but still compatible to investment-grade rating > Public commitment to return to target level of ≤ 2.0x – achieved FY22 Q1, one year ahead of schedule, further deleveraging steps taken 		
Rating	Investment grade	BBB stable outlook (by S&P Global)	

1 Gross cash position is defined as cash and cash equivalents plus financial investments | 2 Gross debt is defined as short-term debt and current maturities of long-term debt plus long-term debt. EBITDA is calculated as the total of earnings from continued operations before interest and taxes plus scheduled depreciation and amortization



Part of your life. Part of tomorrow.



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Glossary

AC	alternating current	Mbps
AD	automated driving	MCU
ADAS	advanced driver assistance system	MEMS
AI	artificial intelligence	MHEV
AR	augmented reality	MIMO
ASIC	application-specific integrated circuit	MOSFET
ASIL-D	automotive safety integrity level D	MPU
BEV	battery electric vehicle	OBC
BLE	bluetooth low energy	OEM
BMS	battery management system	P2S
CMOS	complementary metal-oxide-semiconductor	PAS
CPU	central processing unit	
DC	direct current	
DSP	digital signal processor	
 E/E	electrical/electronic architecture	
eSIM	embedded subscriber identity module	BF
FV	electric vehicle	RISC
FHEV	full hybrid electric vehicle	SDK
FPGA	field programmable gate array	Si
GaN	allium nitride	SiC
GPU	granhics processing unit	SMD
	buman machine interaction	SNR
		SoC
		SOTA
		SWP
	Insulated gate bipolar transistor	USB
	Internet of things	VR
	Intelligent power module	WBG
LED	light-emitting diode	xEV

Mbps	megabit per second
MCU	microcontroller unit
MEMS	micro electro-mechanical systems
MHEV	mild hybrid electric vehicle
MIMO	multiple input, multiple output
MOSFET	metal-oxide silicon field-effect transistor
MPU	microprocessor unit
OBC	on-board charger
OEM	original equipment manufacturer
P2S	Infineon's strategic product-to-system approach
PAS	photo-acoustic spectroscopy
PD	power delivery
PHEV	plug-in hybrid electric vehicle
PSoC	programmable system-on-chip
PV	photovoltaic
RAM	random-access memory
RF	radio frequency
RISC	reduced instruction set computer
SDK	software development kit
Si	silicon
SiC	silicon carbide
SMD	surface mounted device
SNR	signal-to-noise ratio
SoC	system-on-chip
SOTA	software over-the-air
SWP	single wire protocol
ToF	time-of-flight
USB	universal serial bus
VR	virtual reality
WBG	wide band gap, specifically referring to SiC and GaN based devices
xEV	all degrees of vehicle electrification (EV, HEV, PHEV)



Notes and ESG footnotes

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 =	Operating profit from continuing operations after tax / Capital Employed = ('Operating profit' – 'Financial result excluding interest result' – 'Share of profit (loss) of associates and joint ventures accounted for using the equity method'-'Income tax') / 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')
DIO (days inventory outstanding; quarter-to-date) =	('Net Inventories' / 'Cost of goods sold') x 90
DPO (days payables outstanding; quarter-to-date) =	('Trade payables' / ['Cost of goods sold' + 'Purchase of property, plant and equipment']) x 90
DSO (days sales outstanding; quarter-to-date) =	('Trade receivables' - 'reimbursement obligations')* / 'revenue' x 90
	*without debtors with credit balances

Order backlog =

The total amount of orders received regardless of their current status

ESG footnotes:

- 1) This figure takes into account manufacturing, transportation, own vehicles, travel, raw materials and consumables, chemicals, water/waste water, direct emissions, energy consumption, waste, etc. as well as direct and indirect energy-related emissions by manufacturing service providers. It is based on data collected internally and publicly available conversion factors and relates to the 2021 fiscal year.
- 2) This figure is based on internally established criteria, which are described in the explanatory notes. The figure relates to the 2020 calendar year and takes into account the following application areas: automotive, LED, induction cookers, servers, renewable energy (wind, photovoltaic) and cell phone chargers as well as drives. CO2 savings are calculated based on the potential savings generated by technologies in which semiconductors are used. The CO2 savings are allocated based on Infineon's market share, semiconductor share, and the lifetime of the technologies concerned, based on internal and external experts' estimations. Despite the fact that carbon footprint calculations are subject to imprecision due to the complex issues involved, the results are nevertheless clear.

For further reading







Financial calendar

Date	Event	Location
30 August 2022	UBS Japan in Focus conference	virtual
1 September 2022	Deutsche Bank dbAccess European TMT Conference	London
8 September 2022	Commerzbank and ODDO BHF Corporate Conference	Frankfurt
8-9 September 2022	Citi 2022 Global Technology Conference	New York
12 September 2022	Goldman Sachs Communacopia & Technology Conference	San Francisco
19 September 2022	Berenberg-Goldman Sachs German Corporate Conference	Munich
20 September 2022	Baader 11th Investment Conference	Munich
27 September 2022	ExaneBNP 2nd ESG Conference	Paris
4 October 2022	ATV presentation with Peter Schiefer, Division President Automotive	London
15 November 2022 ¹	Q4 FY22 and FY 2022 Results	
16-17 November 2022	Morgan Stanley European TMT Conference	Barcelona
28-29 November 2022	Credit Suisse TMT Conference	Scottsdale

1 preliminary

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