soitec

AUTOMOTIVE & INDUSTRIAL

April 2024

DISCLAIMER

The Company's business operations and financial position are described in the Company's 2022-2023 Universal Registration Document (which notably includes the 2022-2023 Annual Financial Report) which was filed on June 14, 2023 with the French stock market authority (Autorité des Marchés Financiers, or AMF) under number D.23-0482 as well as in the Company's 2023-2024 half-year report released on November 15, 2023. The French versions of the 2022-2023 Universal Registration Document and of the 2023-2024 half-year report, together with English courtesy translation for information purposes of both documents, are available for consultation on the Company's website (www.soitec.com), in the section Company - Investors - Financial Reports

Your attention is drawn to the risk factors described in Chapter 2.1 (Risk factors and controls mechanism) of the Company's 2022-2023 Universal Registration Document.

This document contains summary information and should be read in conjunction with the 2022-2023 Universal Registration Document and the 2023-2024 half-year report.

This document contains certain forward-looking statements. These forward-looking statements relate to the Company's future prospects, developments and strategy and are based on analyses of earnings forecasts and estimates of amounts not yet determinable. By their nature, forward-looking statements are subject to a variety of risks and uncertainties as they relate to future events and are dependent on circumstances that may or may not materialize in the future. Forward-looking statements are not a guarantee of the Company's future performance. The occurrence of any of the risks described in Chapter 2.1 (Risk factors and controls mechanism) of the 2022-2023 Universal Registration Document may have an impact on these forward-looking statements.In particular, the future consequences of geopolitical conflicts, notably the Ukraine / Russia situation, as well as rising inflation, may result in greater impacts than currently anticipated in these forward-looking statements.

The Company's actual financial position, results and cash flows, as well as the trends in the sector in which the Company operates may differ materially from those contained in this document. Furthermore, even if the Company's financial position, results, cash-flows and the developments in the sector in which the Company operates were to conform to the forward-looking statements contained in this document, such elements cannot be construed as a reliable indication of the Company's future results or developments.

The Company does not undertake any obligation to update or make any correction to any forward-looking statement in order to reflect an event or circumstance that may occur after the date of this document. In addition, the occurrence of any of the risks described in Chapter 2.1 (Risk factors and controls mechanism) of the 2022-2023 Universal Registration Document may have an impact on these forward-looking statements.

This document does not constitute or form part of an offer or a solicitation to purchase, subscribe for, or sell the Company's securities in any country whatsoever. This document, or any part thereof, shall not form the basis of, or be relied upon in connection with, any contract, commitment or investment decision.

Notably, this document does not constitute an offer or solicitation to purchase, subscribe for or to sell securities in the United States. Securities may not be offered or sold in the United States absent registration or an exemption from the registration under the U.S. Securities Act of 1933, as amended (the "Securities Act"). The Company's shares have not been and will not be registered under the Securities Act. Neither the Company nor any other person intends to conduct a public offering of the Company's securities in the United States.

AGENDA

#01
SOITEC
AT A GLANCE

#02
AUTOMOTIVE
& INDUSTRIAL

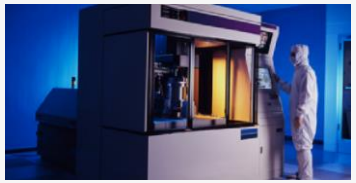
#03
SMARTSiC™
ADOPTION

01

SOITEC AT A GLANCE

SOITEC HAS BUILT A UNIQUE POSITION IN THE VALUE CHAIN

BUILDING CUSTOMER INTIMACY TO MAKE OUR PRODUCTS A STANDARD AND BECOME A REFERENCE



EQUIPMENT

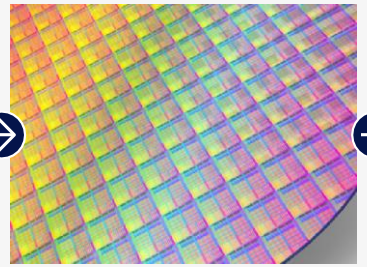
BULK MATERIALS

UTILITIES

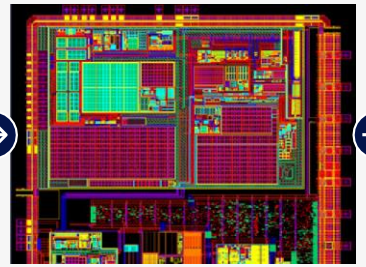
soitec

LEADING SUPPLIER

ENGINEERED SUBSTRATES



FOUNDRIES



DESIGN

FABLESS

END MARKETS

MOBILE COMMUNICATIONS

AUTOMOTIVE & INDUSTRIAL

SMART DEVICES

BUILDING A DIVERSE PRODUCT PORTFOLIO TO FUEL OUR DIVISIONS VALUE CREATION ACROSS 3 STRATEGIC END MARKETS

New materials

InP

SmartGaN

Power-GaN

RF-GaN

SmartSiC™

POI

Photonics-SOI

Imager-SOI

Power-SOI

FD-SOI

RF-SOI

PREPARING EXPANSION BEYOND

EXPANDING INTO COMPOUND SEMICONDUCTORS

STRENGTHENING SOI LEADERSHIP

+ LICENSING / PATENT MONETIZATION

RAMPING GLOBAL INDUSTRIAL FOOTPRINT
TO ADDRESS GROWING DEMAND IN SOI AND COMPOUND ENGINEERED SUBSTRATES

SOITEC BERNIN 1 - SOI 200
FRANCE

RF-SOI | Power-SOI | Photonics-SOI

SOITEC BERNIN 2 - SOI 300
FRANCE

RF-SOI | FD-SOI | Photonics-SOI | Imager-SOI

SOITEC BERNIN 3 - POI
FRANCE

POI

SOITEC BERNIN 4 - SmartSiC™
FRANCE

SmartSiC™ | 300mm Refresh

Extension under construction

SOITEC PASIR RIS 1 - SOI 300
SINGAPORE

RF-SOI | FD-SOI | Photonics-SOI | Refresh

SOITEC PASIR RIS 1A - SOI 300
SINGAPORE

RF-SOI | FD-SOI | Photonics-SOI | Refresh

Extension under construction

SIMGUI PARTNERSHIP - SOI 200
CHINA

RF-SOI | Power-SOI

SOITEC BELGIUM - GaN
BELGIUM

GaN

SOI Wafers

Compound Wafers

~ 1.45 mwpy
200mm SOI capacity reaching limit
- **B1:** full at 1M
- **Simgui:** up to 450K

↗ Up to 2.75 mwpy
300mm SOI capacity target
- **B2:** 750K by end of FY25
- **PR1:** 1M by end of FY25
- **PR1A:** up to 1M in line with customer demand

↗ Up to 700 kwpy
Ramping capacity for POI in **B3**

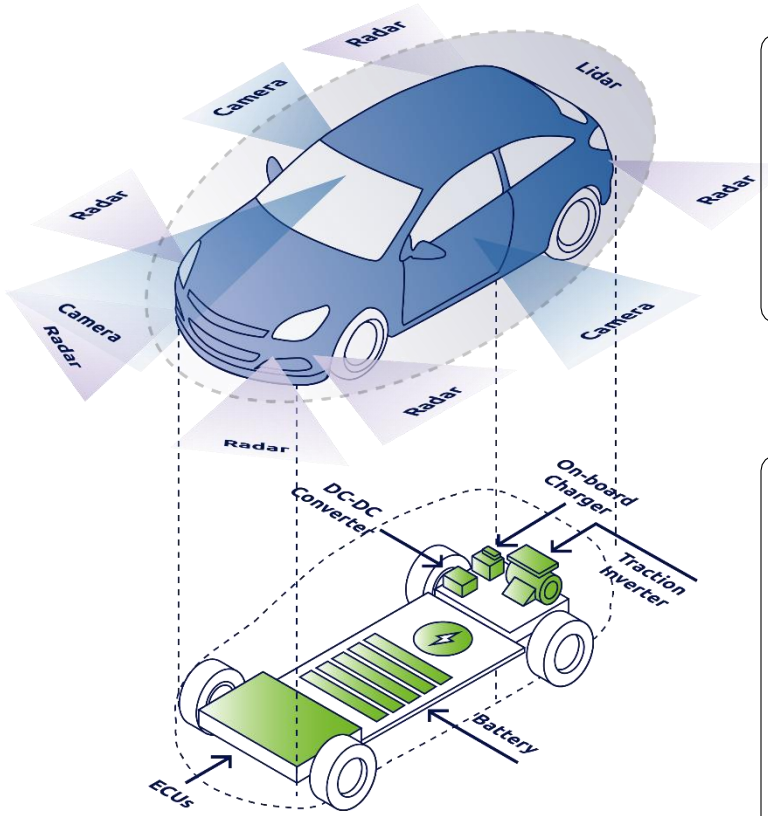
↗ Up to 500 kwpy
Ramping capacity for SmartSiC™ in **B4**
First production expected Q3 FY24

↗ Up to 60 kwpy
For Epi capacity in **Hasselt**

02

AUTOMOTIVE & INDUSTRIAL

AUTOMOTIVE MEGATRENDS
DRIVE INNOVATION FROM SYSTEMS TO SUBSTRATES

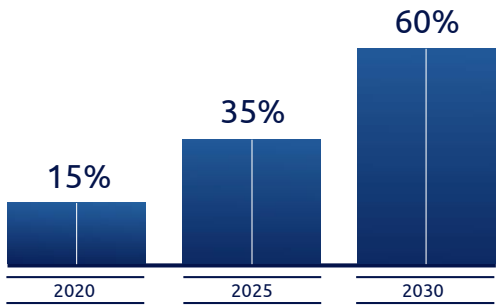


ADAS

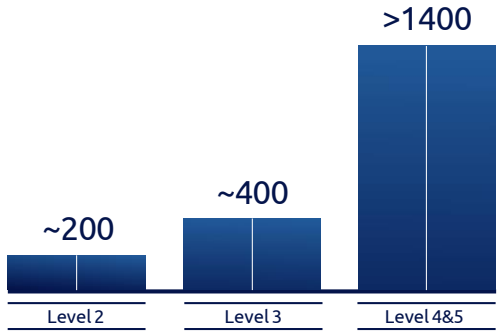
- Fusion processor
- Radar processor
- Image sensor
- Domain controller

ELECTRIFICATION

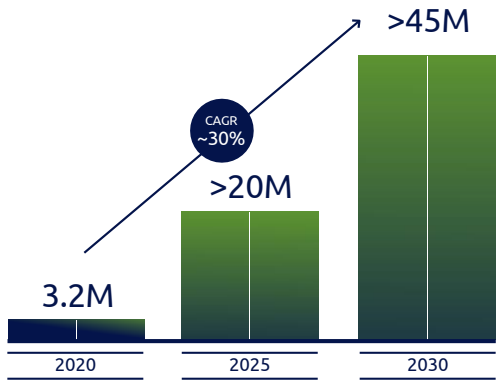
- SiC Diode
- SiC MOSFET
- GaN MOSFET
- PMIC
- BMS
- Gate drivers
- Smart actuator



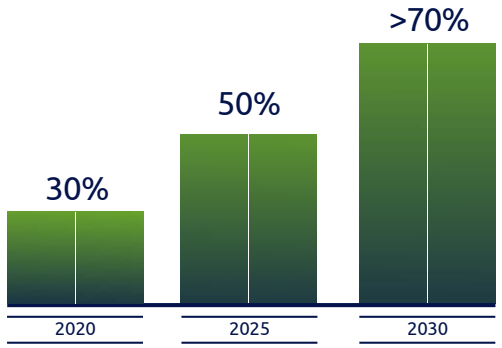
Autonomous cars level 2 & above (%)



ADAS semiconductor content ($)



Global EV sales (units)

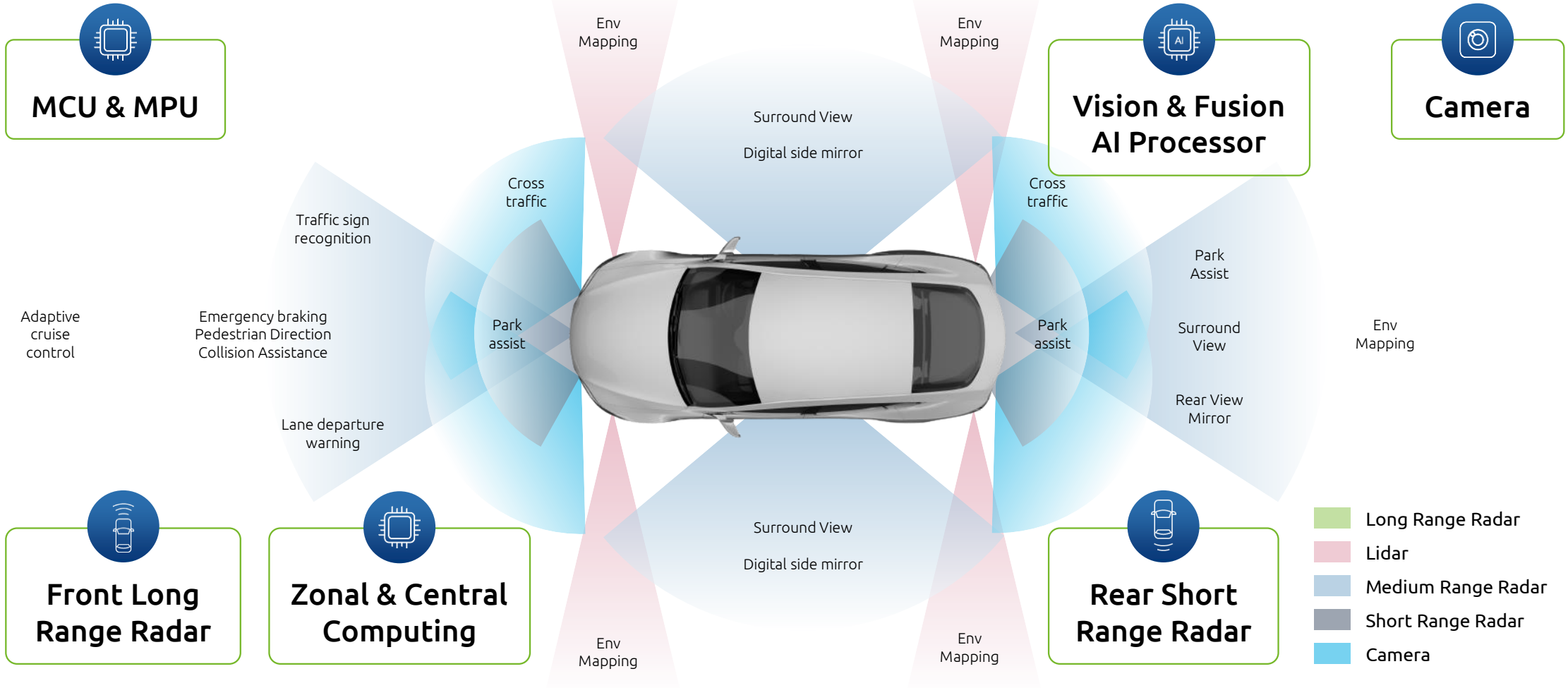


SiC based EV powertrain (%)

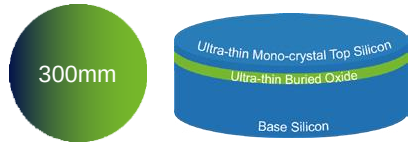
Source: Soitec estimates, Infineon, NXP, IHS, The International Council on Clean Transportation (ICCT) 2020

Auto FD-SOI

Accelerating vehicle autonomy, digitalization and connectivity



AUTOMOTIVE & INDUSTRIAL PRODUCT PORTFOLIO
AUTO FD-SOI



AUTO FD-SOI EMPOWERS THE FUTURE OF AUTOMOTIVE AND INDUSTRIAL SMART DEVICES


ADAS


Radars

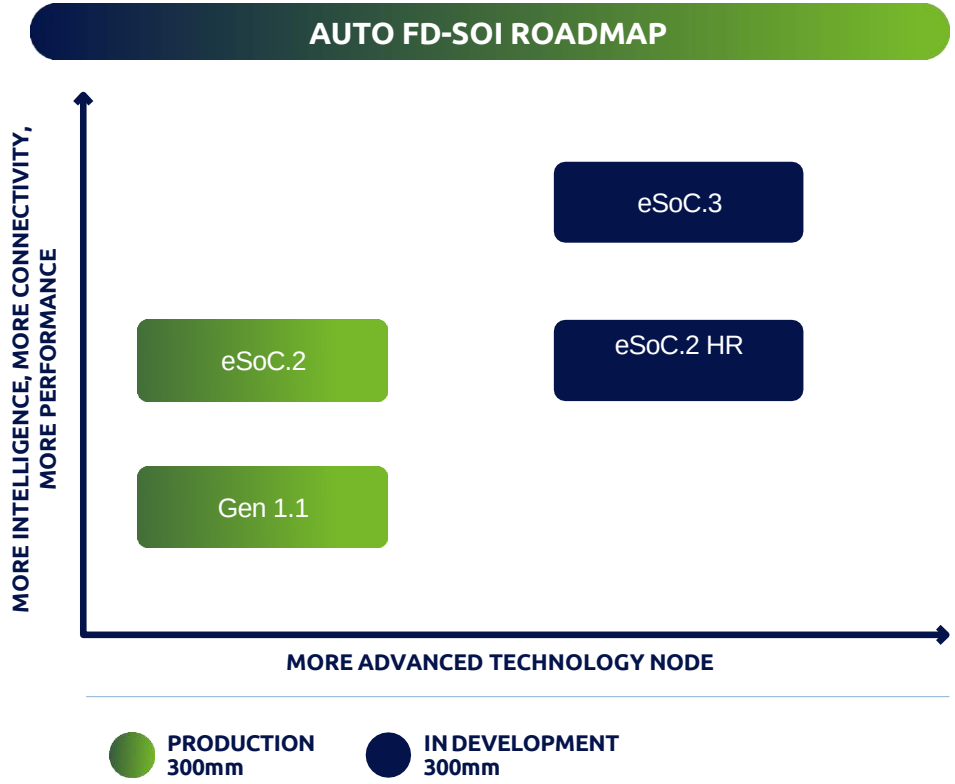

Industrial Automation

AUTO FD-SOI ENABLES SUPERIOR PERFORMANCE OVER BULK SILICON AND FINFET

SAVING POWER
~30%
GREENHOUSE GASES EMISSION REDUCTION

SAVING LIVES
~50%
HIGHER DETECTION RANGE IN RADARS

SAVING COST
~50%
DIE SIZE REDUCTION



Auto POWER SOI

Delivering performance and safety to the Automotive for more than 20 years

ADAS SYSTEM

PMIC, SBC

IVN

INFOTAINMENT SYSTEM

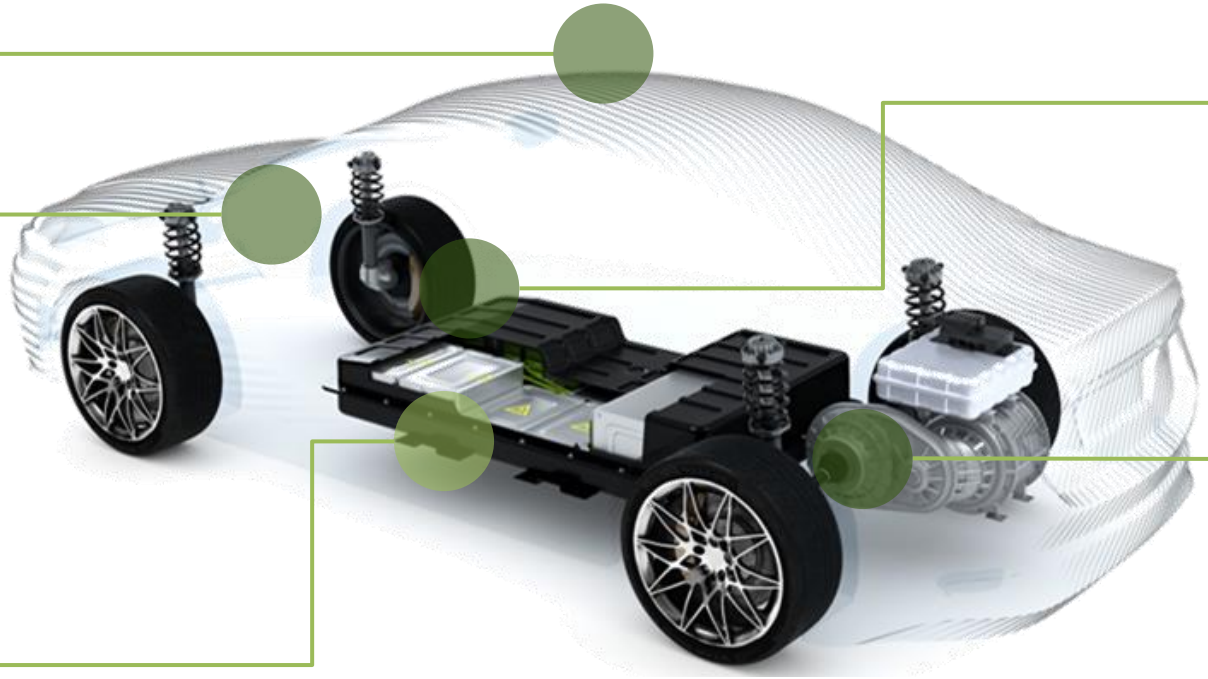
PMIC, SBC

IVN, Class-D amplifier

CONNECTIVITY

PMIC, SBC

IVN



BODY & CHASSIS

PMIC, SBC, IVN

Smart motor, Gate driver IC

Matrix LED driver IC

POWERTRAIN

PMIC, SBC, IVN

Smart motor, Gate driver IC

BMIC

Output switch IC

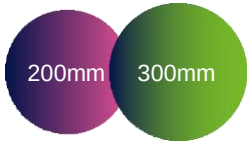
Engine control unit IC

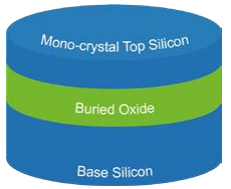
SOI die area per car increases by 1.4x (2023-2028)

~275mm² (CY23) → ~380mm²

55nm/ 65nm potential applications

AUTOMOTIVE & INDUSTRIAL PRODUCT PORTFOLIO
AUTO POWER-SOI





AUTO POWER-SOI FOR IVN, PMIC, SBC, BMS & GATE DRIVERS

Infotainment / Functional Safety

Battery Management System

Industrial Automation

AUTO POWER-SOI ENABLES SUPERIOR PERFORMANCE OVER BULK SILICON

EFFICIENT

>10%

SYSTEM COST REDUCTION & EFFICIENCY IMPROVEMENT

SAFER

HIGHER

ROBUSTNESS, NOISE IMMUNITY AND OPERATING TEMPERATURE

BETTER

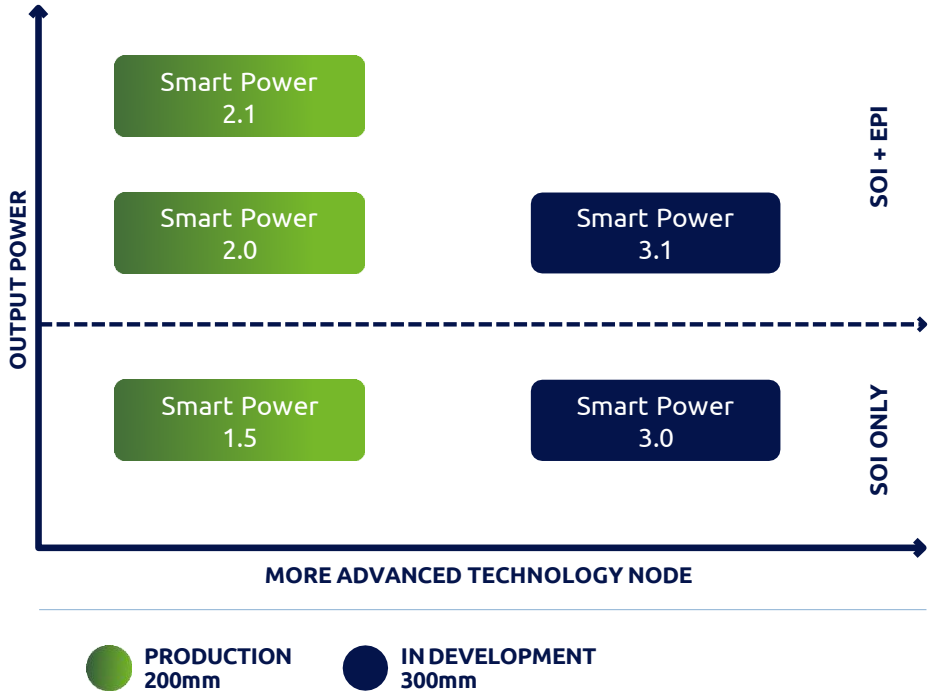
> 40x

SMALLER ISOLATION AREA

> 50%

DIE SIZE REDUCTION

AUTO POWER-SOI ROADMAP



PRODUCTION 200mm

IN DEVELOPMENT 300mm

POWERTRAIN – A CRITICAL COMPONENT OF THE EV MARKET
SiC ADDS VALUE AT SYSTEM LEVEL AND ENABLES COST REDUCTION

POWERTRAIN COST: ~$10,000

ELECTRIC MOTOR
- Electric motors
- e-transmission

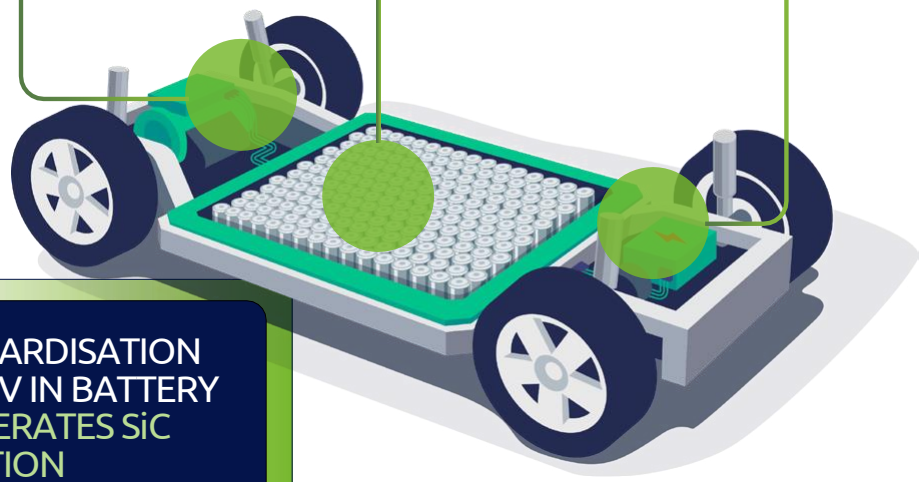
~$1,100↘↘

BATTERY PACK & MODULES
- Battery pack
- Modules and cells
- BMS

~$8,000↘

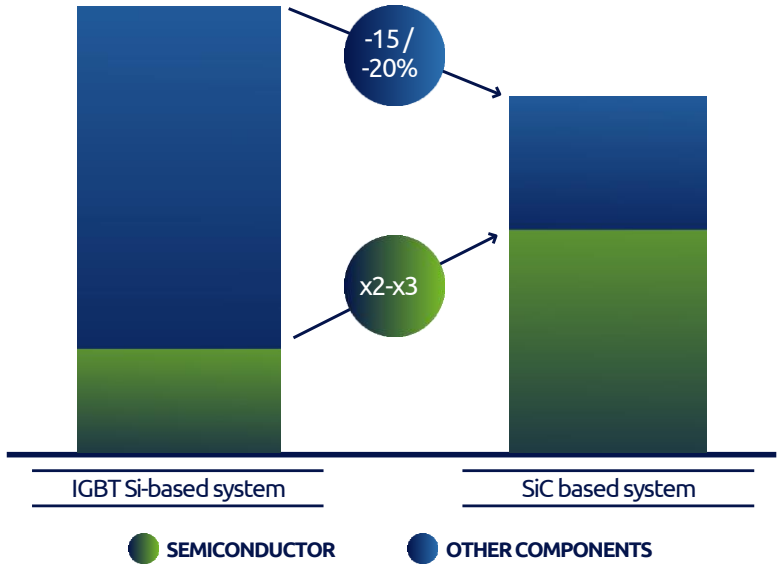
POWER ELECTRONICS
- E-drive / inverter (DC/AC)
- DC/DC Converter
- On-board charger (AC/DC)

~$1,500→



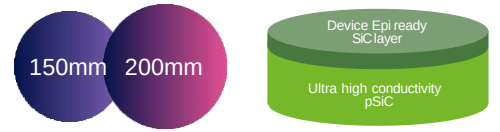
STANDARDISATION OF 800V IN BATTERY ACCELERATES SiC ADOPTION

TOTAL SYSTEM COST – 15-20% REDUCTION



Shorter charge time 800V	**~50% FASTER**
Increased battery range	**~5-10% LONGER**
Reduced system / battery cost	**~$500-$1,000**

AUTOMOTIVE & INDUSTRIAL PRODUCT PORTFOLIO
AUTO SMARTSiC™



NEW FAB BERNIN 4

AUTO SmartSiC™, A DISRUPTIVE SOLUTION FOR LARGER SiC ADOPTION

Powertrain

Charging infrastructure

Renewable energies

AUTO SMARTSIC™, A NEW PARADIGM FOR DEVICE PERFORMANCE AND PRODUCTIVITY

GREENER

~70%

LOWER CO_2 FOOTPRINT THAN STANDARD SIC WAFERS

FASTER

2 YEARS

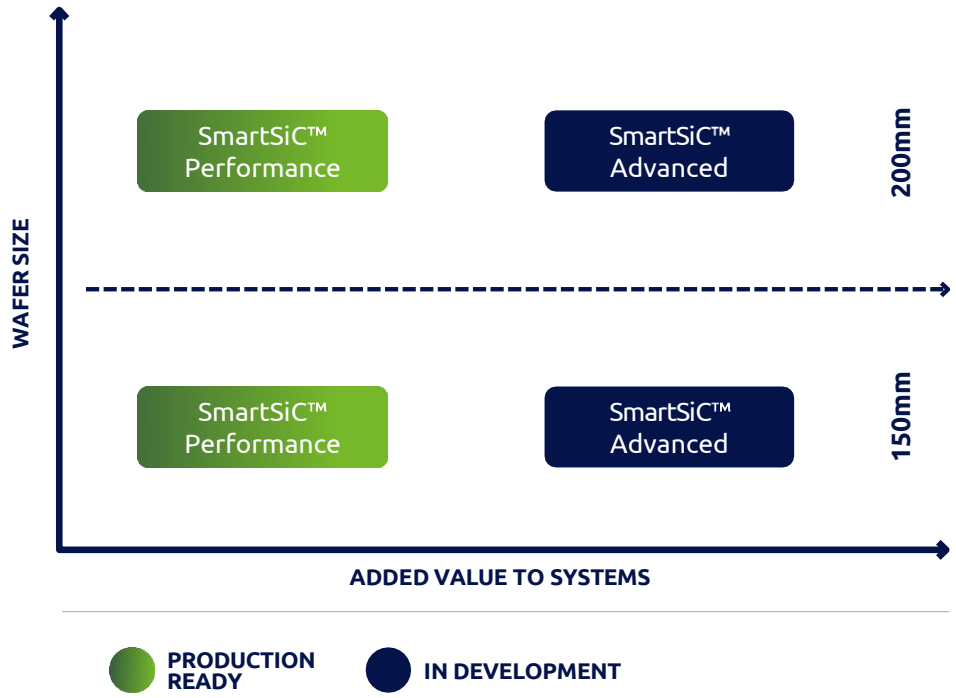
ACCELERATION OF MASS DEPLOYMENT OF 200MM SIC WAFERS

BETTER

UP TO 20%

HIGHER POWER DENSITY, ENABLING MORE COMPACT, LIGHTER AND LESS COSTLY SYSTEMS

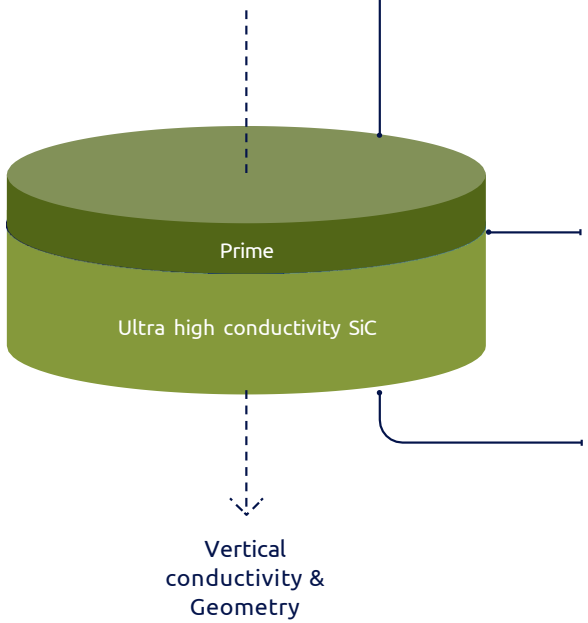
AUTO SmartSiC™ ROADMAP



03

SMARTSiC™ ADOPTION

SMARTSiC™
UNRIVALED VALUE PROPOSITION TO ENABLE EV ADOPTION



EPI-READY HIGH QUALITY
- Single crystal SiC layer (SmartSiC™ Performance)
- or BPD-free layer (SmartSiC™ Advanced)

CONDUCTIVE BONDING

PolySiC BASE WAFER
- Ultra high conductivity
- Enhanced geometry

UNPARALLELLED VALUE PROPOSITION

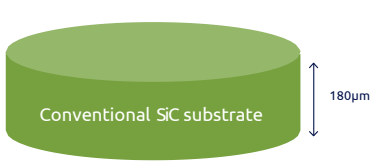
- **40,000 Tons of CO2 reduction** for each 1 million wafers vs SiC
- 200mm scalability to **accelerate SiC adoption** by 2 years through 10x re-usability
- Enabling new generations of SiC devices thanks to an **improvement of R_{DSON} of up to 20%**
- **Reducing CAPEX & OPEX** for device manufacturers

>10x
MONO-SiC WAFER RE-USABILITY

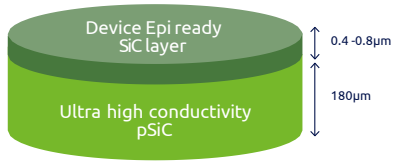
~8x
POLY-SiC WAFER BETTER CONDUCTIVITY

SMARTSiC™ ENGINEERED SUBSTRATE
DRIVING SIGNIFICANT PERFORMANCE GAIN AT DEVICE LEVEL

Lower R_{DSon}.A



Standard SiC substrate



SmartSiC™ substrate

MonoSiC 20mΩ.cm → Substrate → PolySiC 2.5mΩ.cm + Bonding 10µΩ.cm²

100 µΩ.cm² → Back-side metal contact → 5µΩ.cm²

460µΩ.cm² → Total R_{Subs}.A → **60µΩ.cm²**

SmartSiC™ REDUCES THE SUBSTRATE CONTRIBUTION BY ~8x

SmartSiC™ gains the equivalent to one-generation device improvements

MOSFET 1200V		A	B	C	D
Generation (release year)		**3 (2022)**	**3 (2021)**	**2 (2022)**	**4 (2022)**
MOSFET design		Planar	Planar	Trench	Trench
Back-grinding Thickness (in µm)		180	180	110	150
SmartSiC™	**Gain (*) vs SiC**	14.9%	14.9%	11.2%	14%

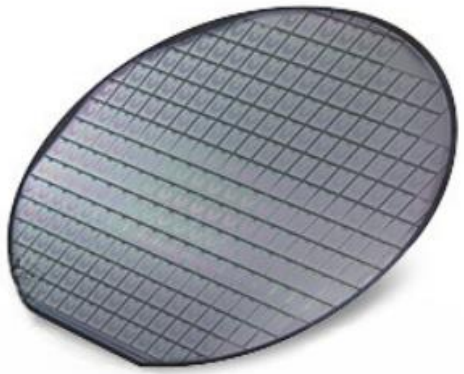
ADDITIONAL GAINS OF SMARTSiC™ ON BETTER FLATNESS AND EASIER BACK-GRINDING PROCESS
+
GAINS ON CAPEX AVOIDANCE

* Soitec estimates based on publicly available information

SMARTSiC™ ENABLES UP TO +25% MORE DIES / WAFER

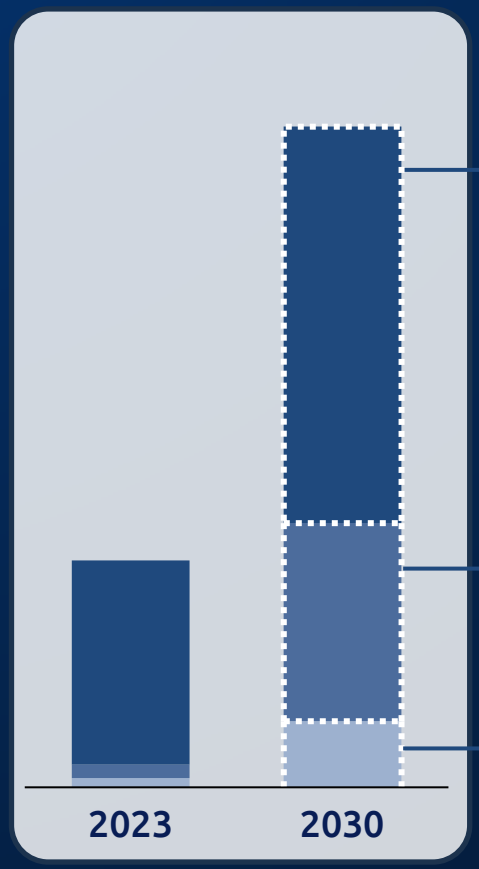
Constant R_{ON} redesign | MOSFET 1200V

	150mm wafer			200mm wafer		
	monocrystal SiC	SmartSiC™		monocrystal SiC	SmartSiC™	
Initial die size	25mm²	21.3mm²	+15%	25mm²	21.3mm²	+15%
Gross dies / Wafer	~600	~710	+18%	~1,110*	~1,315*	+18%
Die process yield	70%	74%	+4%	70%	74%	+4%
Good dies / Wafer	~420	~525	+24%	~775	~975	+25%



Source: Littelfuse

Second SmartSiC™ customer engaged
Partnerships with STMicroelectronics & second customer validate SmartSiC™ roadmap



Top 5

Challengers

Generalists

NEW customer

- **STMicroelectronics x Soitec** cooperate on SiC substrate manufacturing technology
- **Soitec has signed with a Tier 2 customer, with great ambitions**
- Production expected end of 2024
- Agreement validates the disruptive potential of our SmartSiC™ product

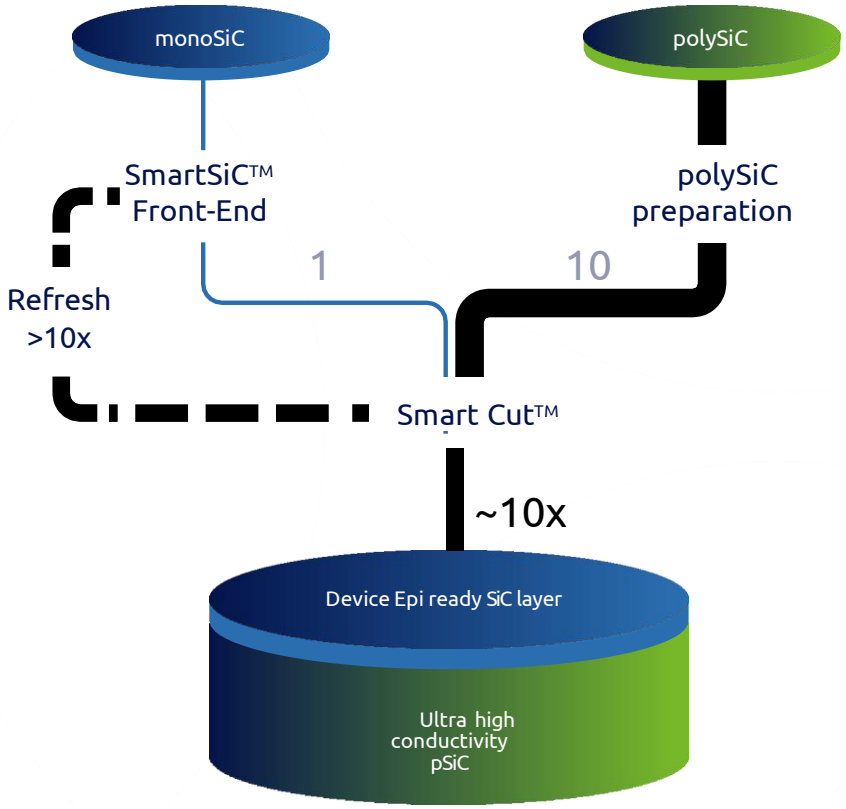
Box size for illustrative purposes only

SUSTAINABLE AND AGILE SUPPLY CHAIN

monoSiC

FLEXIBLE SUPPLY MODEL

- **Qualification strategy customized to customer requirements**
- **3 suppliers already engaged:**
  - vertically integrated
  - independent sources
- **Suppliers located in different regions**



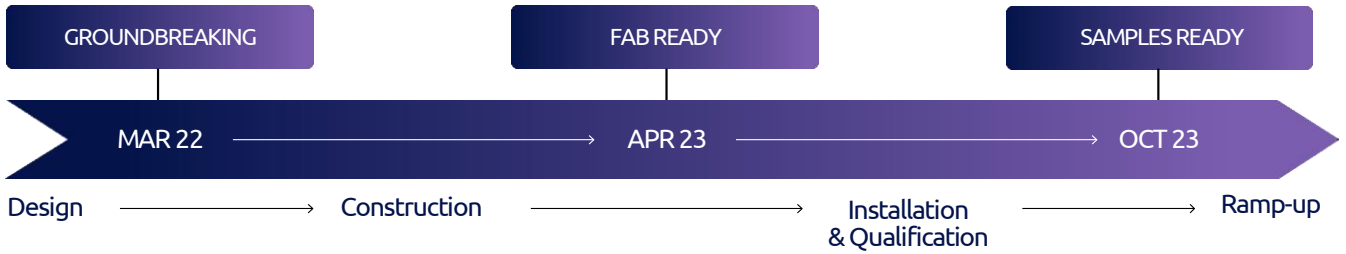
CO_2 EMISSION SAVING OF MORE THAN 70% COMPARED TO CONVENTIONAL SiC

polySiC

ECOSYSTEM DRIVEN BY SOITEC

- **Suppliers targeted across different regions**
  - 1 supplier under LTA
  - 2 suppliers engagement on track with roadmap
  - Others under evaluation
- **Strong collaboration with suppliers to design the most efficient polySiC wafers**
- **High degree of agility between 150mm and 200mm wafers**

BERNIN 4
NEW CLEANROOM FOR SMARTSiC™ 500kwpy 150/200mm CAPACITY



BERNIN 4
TRIGGER SMARTSiC™ CAPACITY

High flexibility 150-200mm Designed with efficient principles

- **2,000m² agile new cleanroom able to produce SmartSiC™ 150/200mm**
- **300mm Refresh located in the same building to enable fixed cost absorption as early as CY24**
- **Facilities redundancy, industrial synergies** (utilities, warehouse, know-how...)
- **Fully connected with former cleanroom and new logistics platform**

AUTOMOTIVE
& INDUSTRIAL

THANK YOU