



INVESTOR CONFERENCE

# MOBILE COMMUNICATIONS

Barcelona | February 27<sup>th</sup>, 2023



# DISCLAIMER

This document is provided by Soitec (the “Company”) for information purposes only.

The Company’s business operations and financial position are described in the Company’s 2021-2022 Universal Registration Document (which notably includes the 2021-2022 Annual Financial Report) which was filed on June 20th, 2022 with the French stock market authority (Autorité des Marchés Financiers, or AMF) under number D.22-0523 as well as in the Company’s FY’23 half-year report released on November 23<sup>rd</sup>, 2022. The French versions of the 2021-2022 Universal Registration Document and of the half-year report, together with English courtesy translations for information purposes of both documents are available for consultation on the Company’s website ([www.soitec.com](http://www.soitec.com)), in the section

Company - Investors - Financial Reports.

Your attention is drawn to the risk factors described in Chapter 2.1 of the Company’s 2021-2022 Universal Registration Document.

This document contains summary information and should be read in conjunction with the 2021-2022 Universal Registration Document and the FY’23 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 of the Universal Registration Document may have an impact on these forward looking statements. In addition, the future consequences of geopolitical conflicts, in particular 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 of the Universal Registration Document may have an impact on these forward looking statements.

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# AGENDA

## MOBILE COMMUNICATIONS

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SOITEC AT A GLANCE	01
MEGATRENDS & APPLICATIONS	02
PRODUCT PORTFOLIO	03



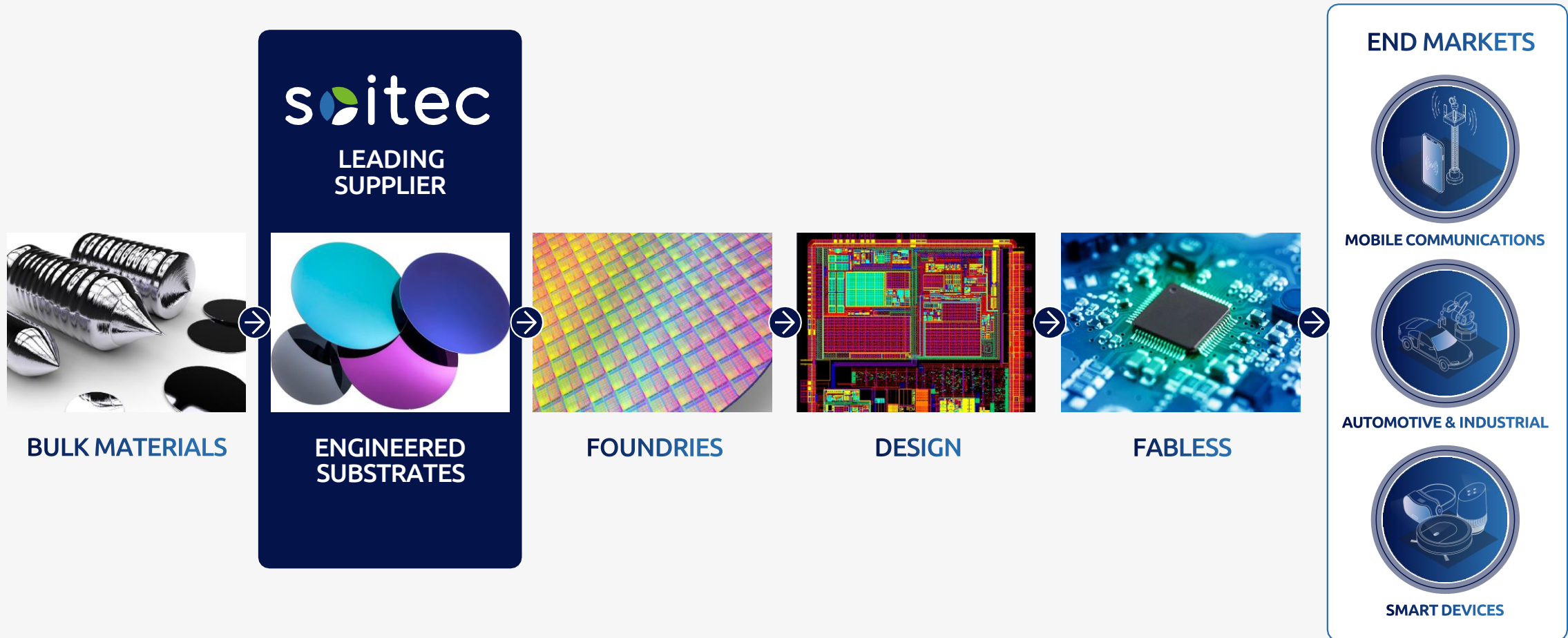
SECTION 01

# SOITEC AT A GLANCE



# SOITEC HAS BUILT A UNIQUE POSITION IN THE VALUE CHAIN

## LEVERAGING STRATEGIC PARTNERSHIPS IN THE ENTIRE SEMICONDUCTOR ECOSYSTEM



# WE HAVE DEVELOPED A COMPREHENSIVE PRODUCT PORTFOLIO FOR OUR 3 STRATEGIC END MARKETS

## MOBILE COMMUNICATIONS



### MAIN DRIVERS

- 5G Sub-6GHz
- 5G mmWave
- Mobile infrastructure & SatCom
- Wi-Fi 6, 6E & 7

### SOITEC PRODUCTS

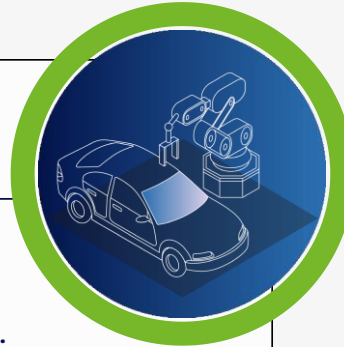
Connect RF-SOI

Connect FD-SOI

Connect POI

Connect RF-GaN

## AUTOMOTIVE & INDUSTRIAL



### MAIN DRIVERS

- Autonomous cars
- Vehicle electrification
- Infotainment
- Industry 4.0

### SOITEC PRODUCTS

Auto Power-SOI

Auto FD-SOI

Auto SmartSiC™

Auto Power-GaN

## SMART DEVICES



### MAIN DRIVERS

- Edge computing
- 3D sensing & Healthcare
- Smart home & Smart cities
- Data centers

### SOITEC PRODUCTS

Smart FD-SOI

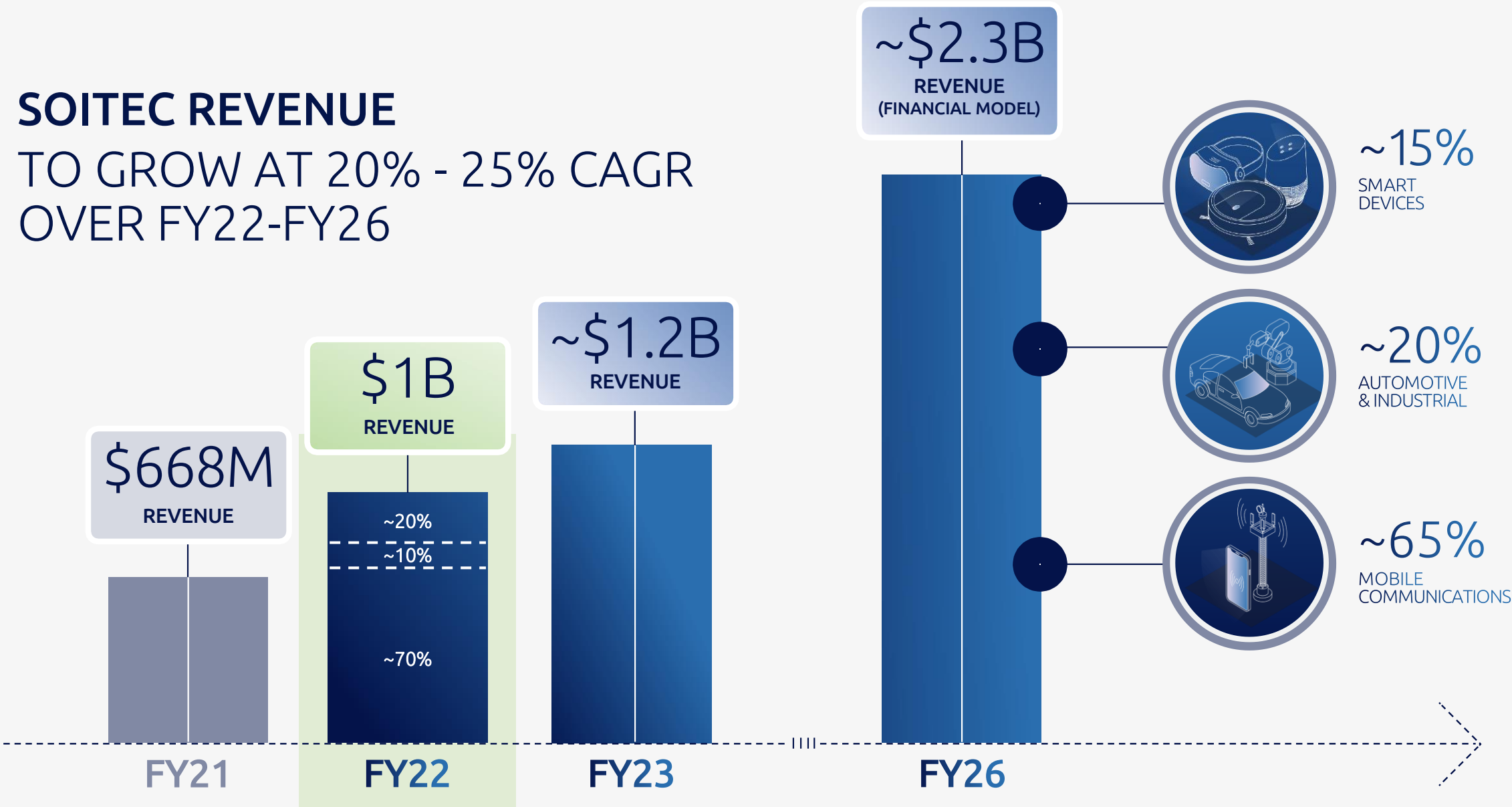
Smart Imager-SOI

Smart Photonics-SOI

Smart PD-SOI

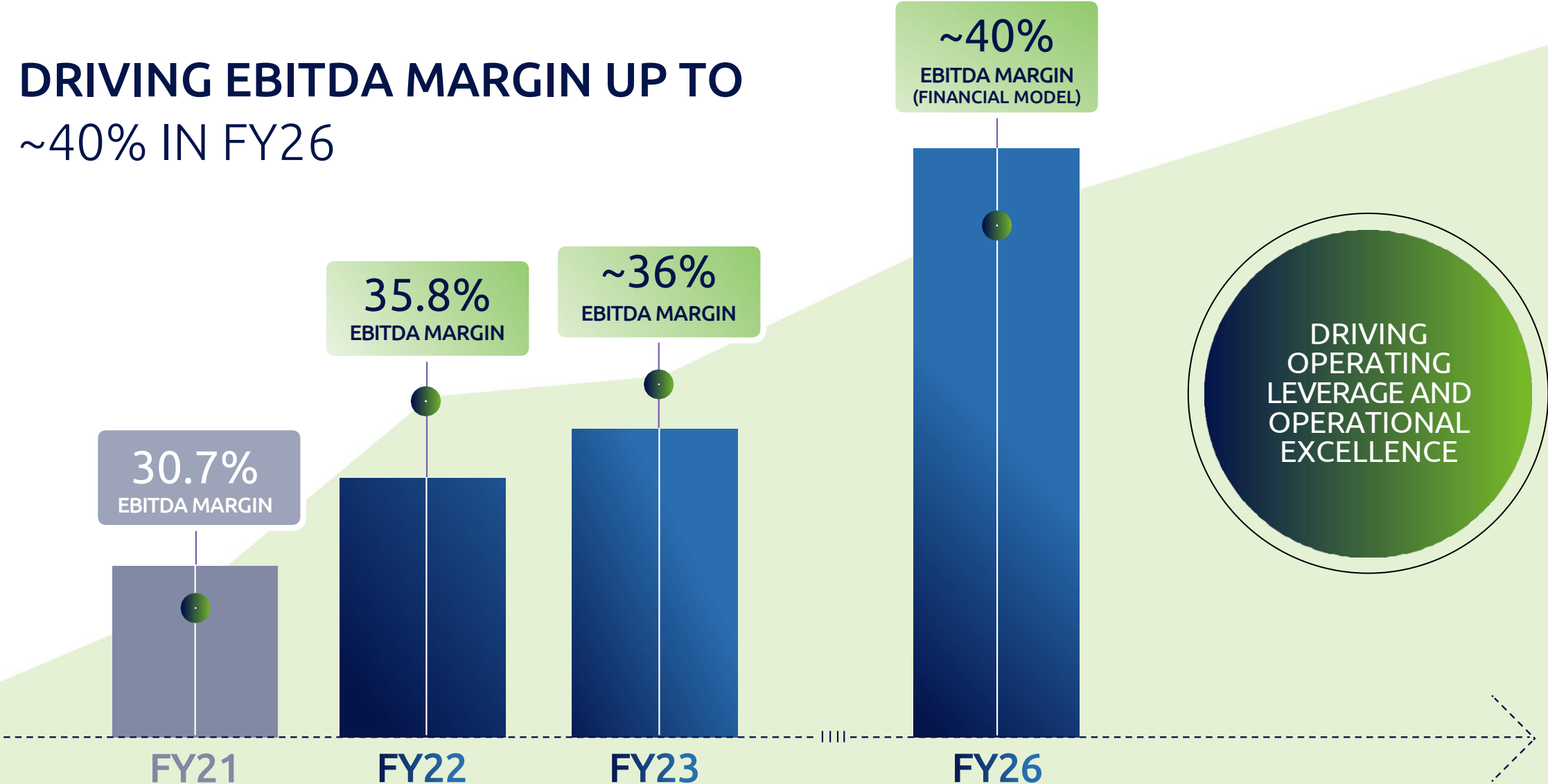
# SOITEC REVENUE

TO GROW AT 20% - 25% CAGR  
OVER FY22-FY26





# DRIVING EBITDA MARGIN UP TO ~40% IN FY26





# GLOBAL INDUSTRIAL FOOTPRINT

## CAPACITY EXPANSION ACROSS ALL PRODUCT LINES

Country	Soitec Fab	Product	Diameter	Max capacity (wafers per year)
FRANCE	BERNIN 1	SOI	200mm	~1Mwpy
	BERNIN 2	SOI	300mm	~700Kwpy
	BERNIN 3	POI	150mm / 200mm	Raising capacity to reach ~750Kwpy
	BERNIN 4 <span>NEW</span>	SiC SOI refresh	150mm / 200mm / 300mm	Building capacity to reach ~500Kwpy in phase 1
SINGAPORE	PASIR RIS	SOI	300mm	Raising capacity to reach ~1Mwpy
	PASIR RIS EXTENSION <span>NEW</span>	SOI	300mm	Expanding capacity to reach ~1Mwpy (production starting by end FY25)
BELGIUM	HASSELT	GaN	150mm / 200mm	Raising capacity to reach ~60Kwpy
CHINA	SIMGUI	SOI	200mm	~450Kwpy



Bernin, France\*



Pasir Ris, Singapore\*

(\*) For illustrative purposes only

# A COMMITTED AND TALENTED MANAGEMENT TEAM DRIVING OUR NEW ORGANIZATION TO EXECUTE OUR AMBITIOUS GROWTH PLANS



**Pierre  
Barnabé**  
CEO



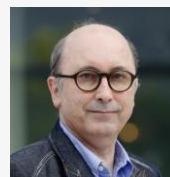
**Bernard  
Aspar**  
COO



**Caroline  
Sasia**  
Communications  
& Chief of staff



**Emmanuelle  
Belly**  
General  
Secretary



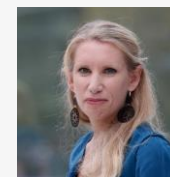
**Pascal  
Lobry**  
People &  
Sustainability



**Christophe  
Maleville**  
CTO



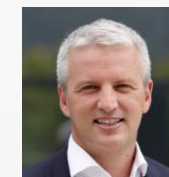
**Steve  
Babureck**  
Strategy &  
Investor Relations



**Léa  
Alzingre**  
CFO



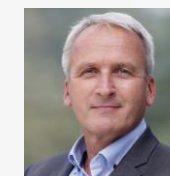
**Thomas  
Piliszcuk**  
Global Business



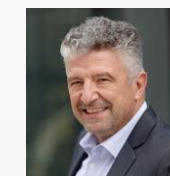
**Cyril  
Menon**  
Global Supply



**Yvon  
Pastol**  
Customer Group



**Reiner  
Breu**  
Quality



**Philippe  
Pellegrin**  
Global Sourcing  
& Procurement

## SECTION 02

# MEGATRENDS & APPLICATIONS





# GROWTH DRIVERS

## MOBILE COMMUNICATIONS

### 5G Sub-6GHz

#### Advancing 5G for a connected society

- 5G penetration ongoing, from ~50% of smartphones in 2022 to ~60%
- 5G Sub-6GHz drives large increases in RF Content (>x2 vs 4G)
- New wave of 5G products offering critical support for driving assistance, XR, IIoT and many others

### 5G mmWave

#### Essential to secure network capacity in high data-rate demanding busy areas

- 15%-20% of 5G smartphones will support mmWave in 2023
- Last mile fiber complement (FWA)
- AR/VR everywhere
- 5G smart factory & private networks

### Wi-Fi 6, 6E & 7 / UWB

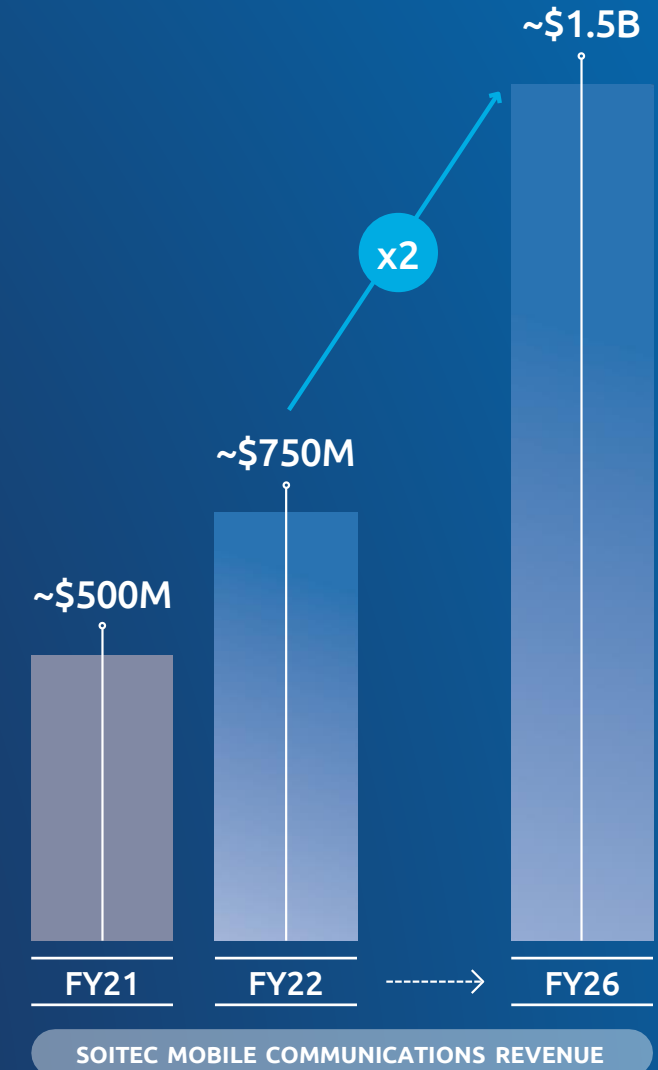
#### Quality, security, low latency and reliability for a multitude of connected objects

- Ever-increasing number of connected objects in the smart-home
- ~x2 growth in mobile Wi-Fi 6/6E/7 in 2025 (vs 2022)
- Complementing 5G in demanding commercial and industrial scenarios

### INFRASTRUCTURE

#### Accelerated worldwide deployment ensuring efficient scalability

- Power efficient, compact form-factor & weight 5G massive MIMO
- Continuous mmWave coverage expansion with network cost optimization - smart repeaters





# 5G – THE NEW ENGINE BEHIND OUR CONNECTED SOCIETY



## Public networks

Enhanced Mobile communications



## XR (VR/AR/MR)

Remote working and training, virtual fitting, entertainment



## Smart transportation

Connected, safer and autonomous vehicles



## Fixed wireless access (FWA)

Ultra high-speed connection in areas with no access to fiber



## Industry 4.0

Factories, warehouses, predictive maintenance



## Massive IoT

Wearables, transports, smart sensors



## Private 5G networks

Tailored 5G connection for enterprise individual safer networks

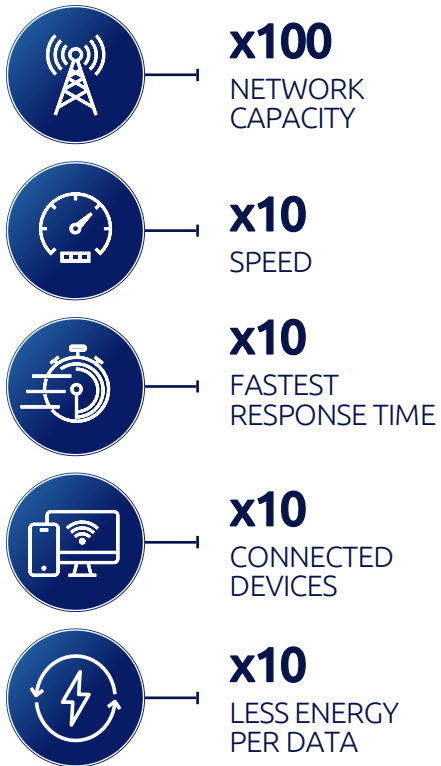


## Non-terrestrial networks (NTN)

Interoperable and standardized wireless experience worldwide

# 5G IS TRANSFORMING THE WORLD

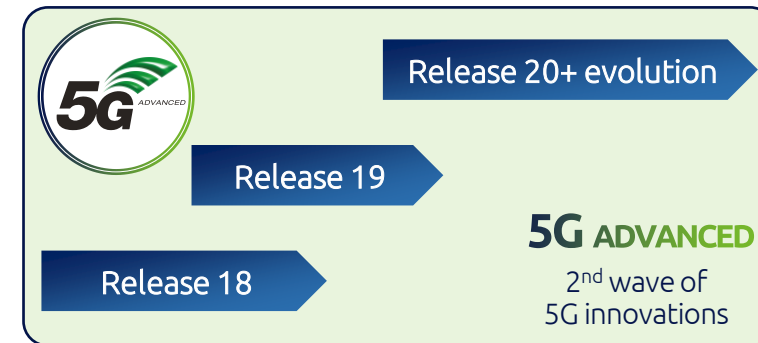
## 5G PERFORMANCE VS. 4G



## MOVING TO AN ALL CONNECTED 5G WORLD

### 5G roadmap extends for 10+ years

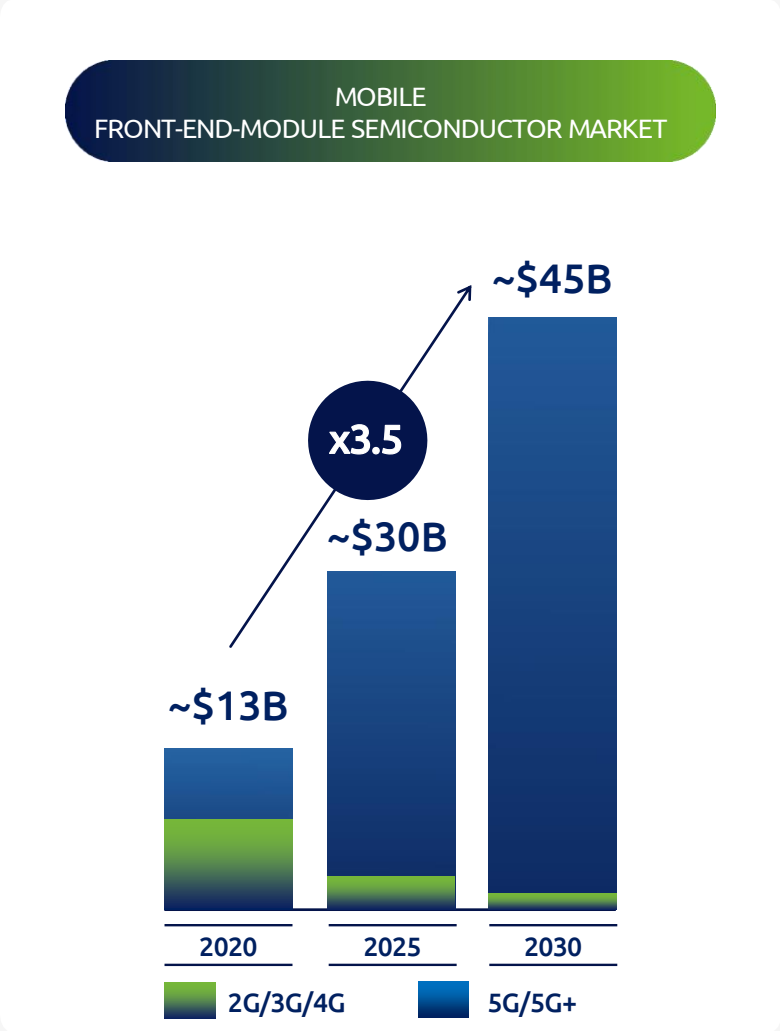
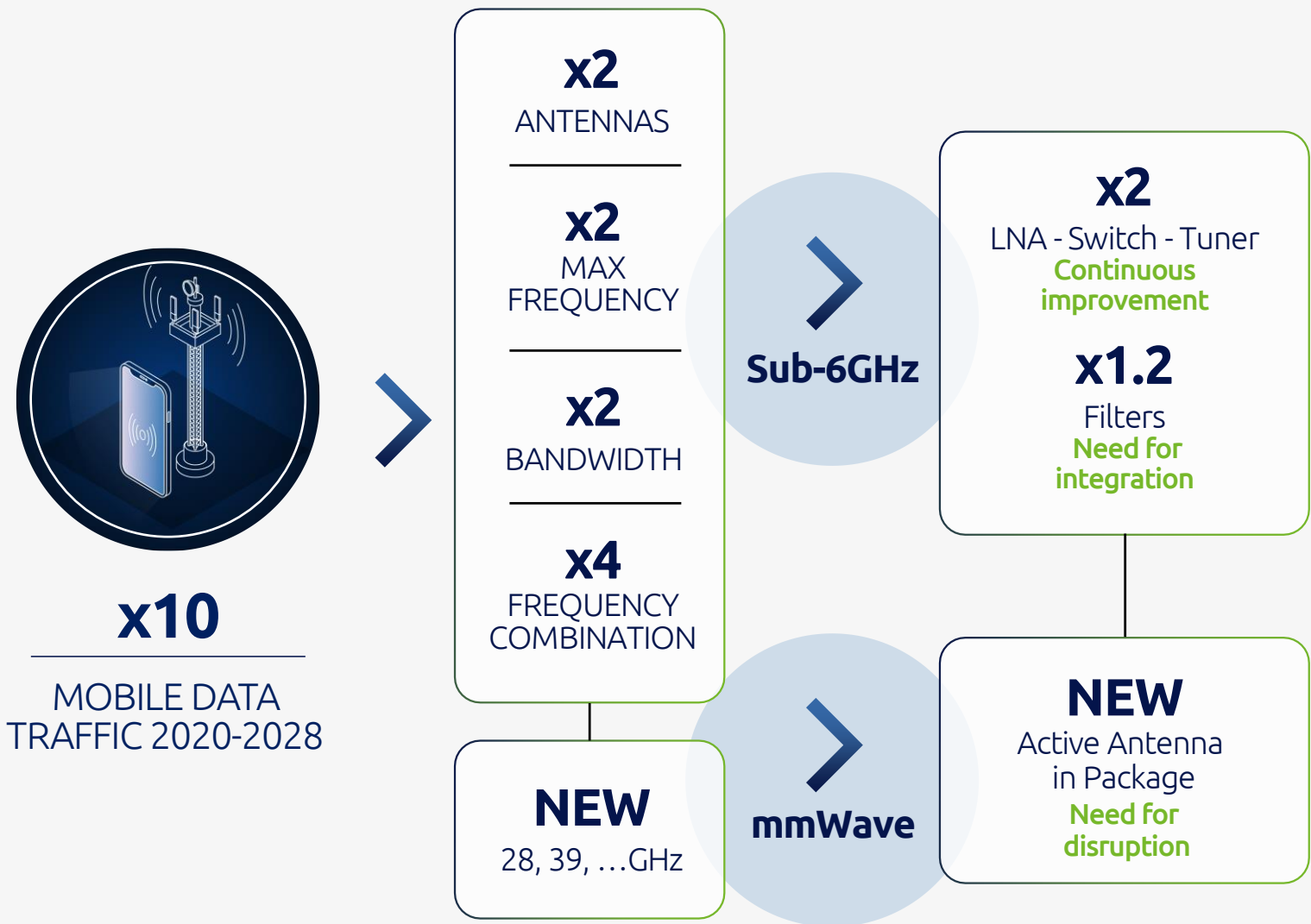
Driving innovation to enhance smartphones and transform other industries



Continued innovation for new vertical deployments, use cases, and spectrums



# 5G – THE X-FACTOR



Source: Soitec estimates, Ericsson Mobility Report 2022  
Note: x factors are on average 5G vs 4G phones, Yole.



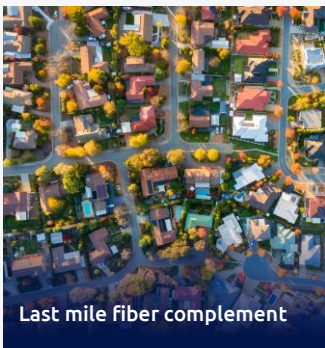


# 5G mmWave – EXPANDING 5G BOUNDARIES

25x MORE BANDWIDTH THAN 4G

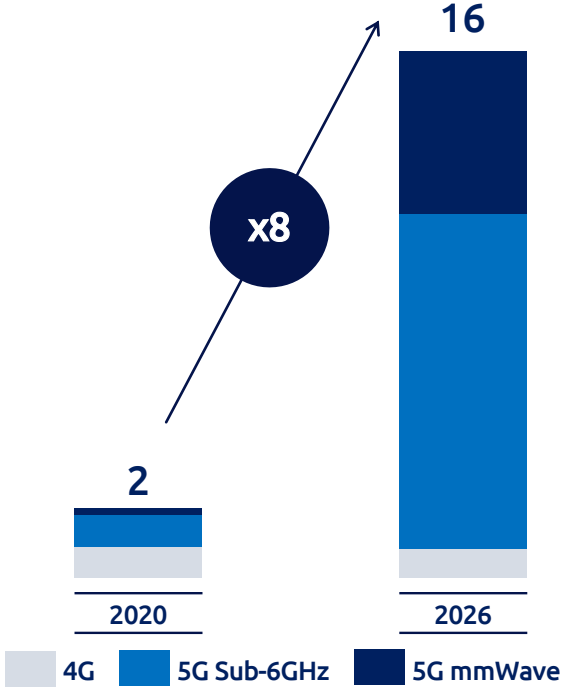


HIGH DATA RATES AND LOW LATENCY FOR NEW USE CASES



5G mmWave REQUIRED TO ADDRESS GROWING DATA TRAFFIC

US Mobile network capacity (EByte/month)



# FIXED WIRELESS ACCESS – GLOBAL EXPANSION



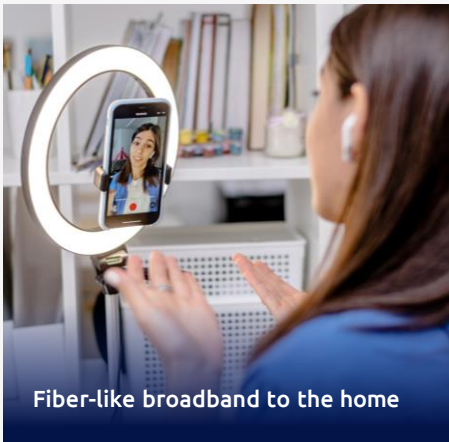
Last-mile technology with fiber-like data speeds



FWA networks could eliminate the need for “last-mile” fiber



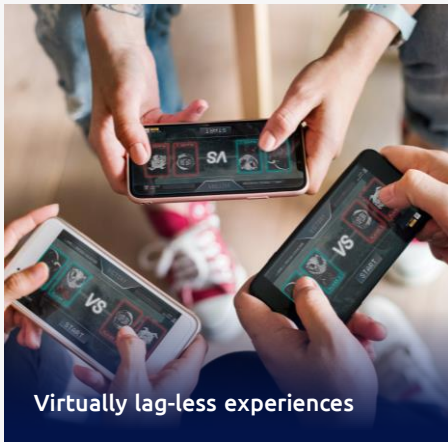
5G mmWave further improves user experience through gigabit wireless and low latency services



Fiber-like broadband to the home

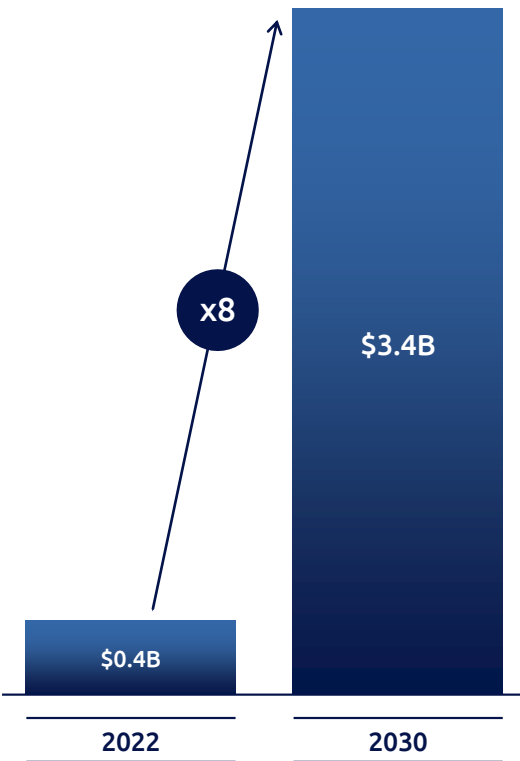


New indoor opportunities



Virtually lag-less experiences

## FIXED WIRELESS ACCESS FRONT-END-MODULE SEMICONDUCTOR MARKET



# Wi-Fi 6 AND 7 – THE NEW PARADIGM FOR WIRELESS CONNECTIVITY

## MOVING TO NEW USER EXPERIENCES

### Wi-Fi 6, 6E and 7 pave the way for new wireless connectivity

Driving innovation to enhance wireless connectivity for new experiences and extended range

Wi-Fi  
7

Extremely High Throughput,  
low latency and/or high reliability  
for demanding applications  
from VR/AR to industrial IoT

Wi-Fi  
6E

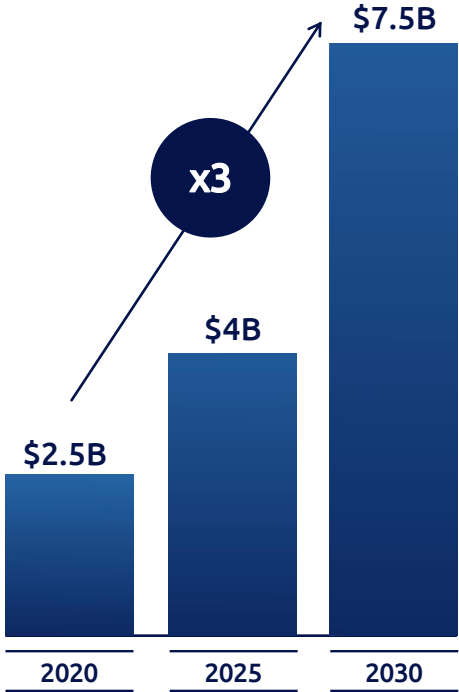
Adding 1GHz spectrum in the 6GHz band  
for higher quality of service (QoS) and secured connectivity

Wi-Fi  
6

High-speed connectivity technology in 2.4GHz and 5GHz bands for smartphone,  
laptop, home, consolidating its place in smart home, wearables and automotive



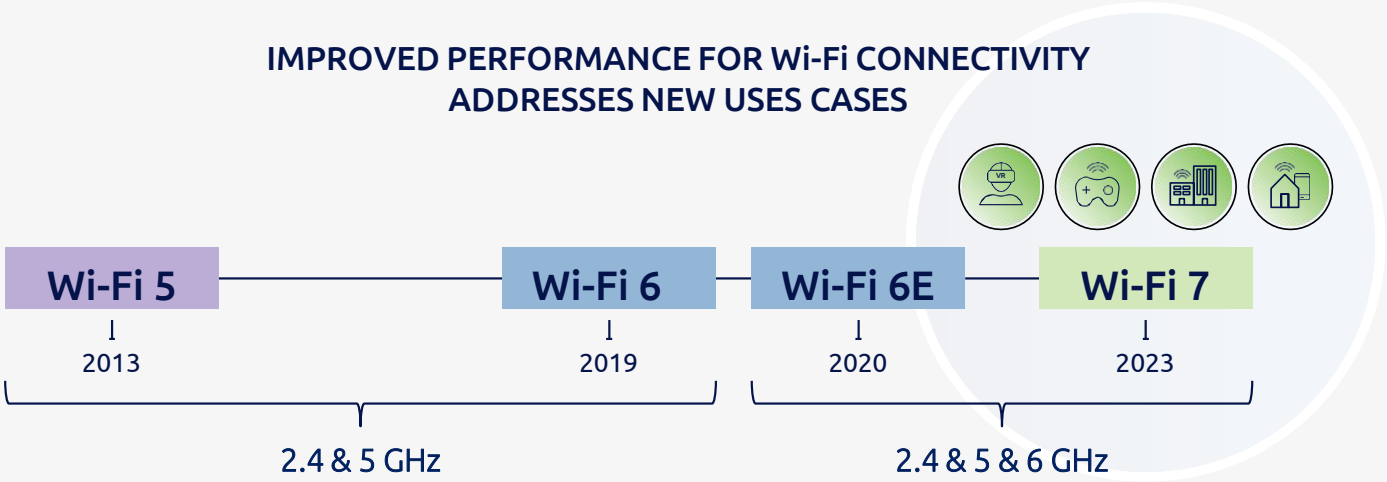
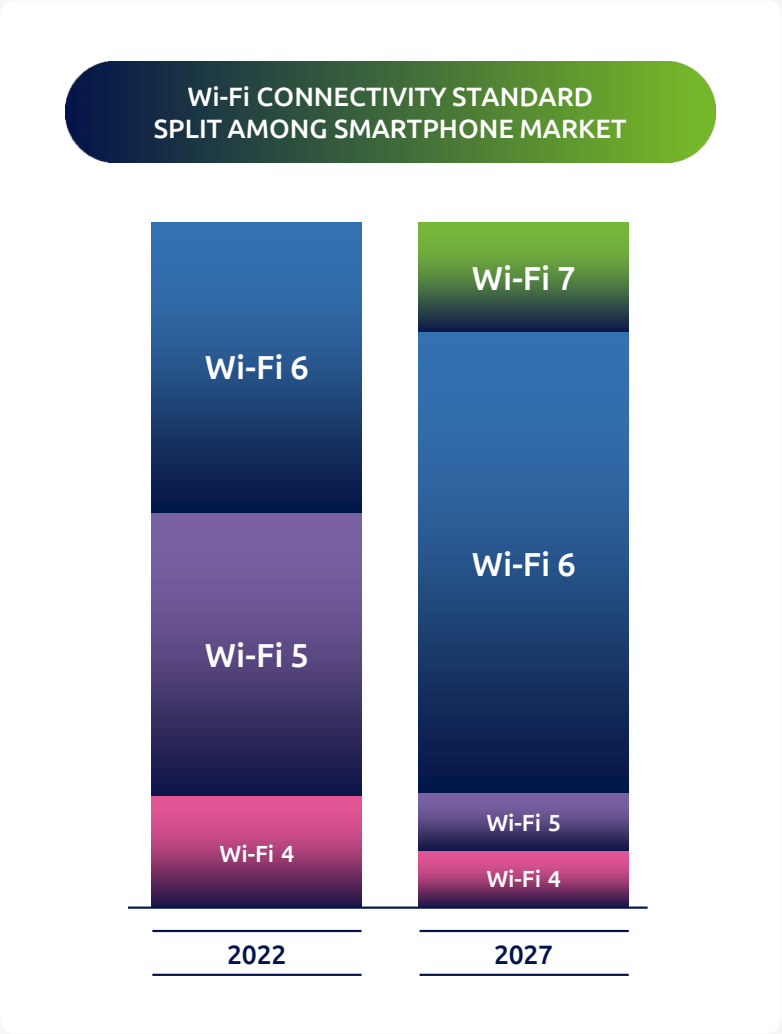
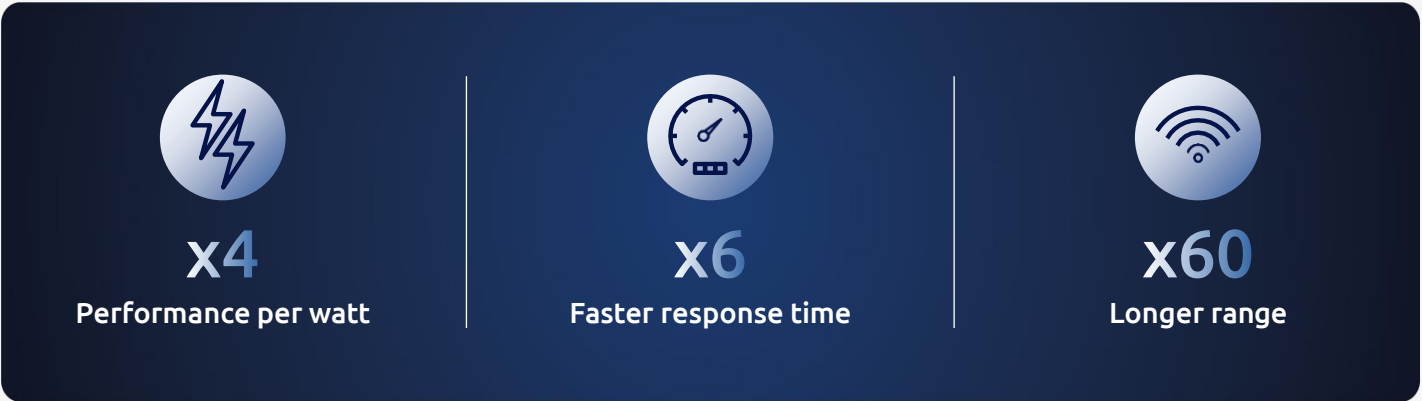
## Wi-Fi FRONT-END-MODULE SEMICONDUCTOR MARKET



Source: Soitec estimates



# Wi-Fi 7 – TRANSITION TO FASTER CONNECTIVITY



Source: Soitec estimates, ABI 2023, Broadcom 2023  
Note: x factors are on average, Wi-Fi 7 vs Wi-Fi 6



# 5G ADVANCED – UNLOCKING NEW GROWTH OPPORTUNITIES



Enhanced mobile  
broadband experiences



Proliferate 5G to virtually all  
devices with 5G advanced



Increasing new  
use cases



Critical services expansion



Enhanced boundaries  
XR experiences



Wireless sensor fusion



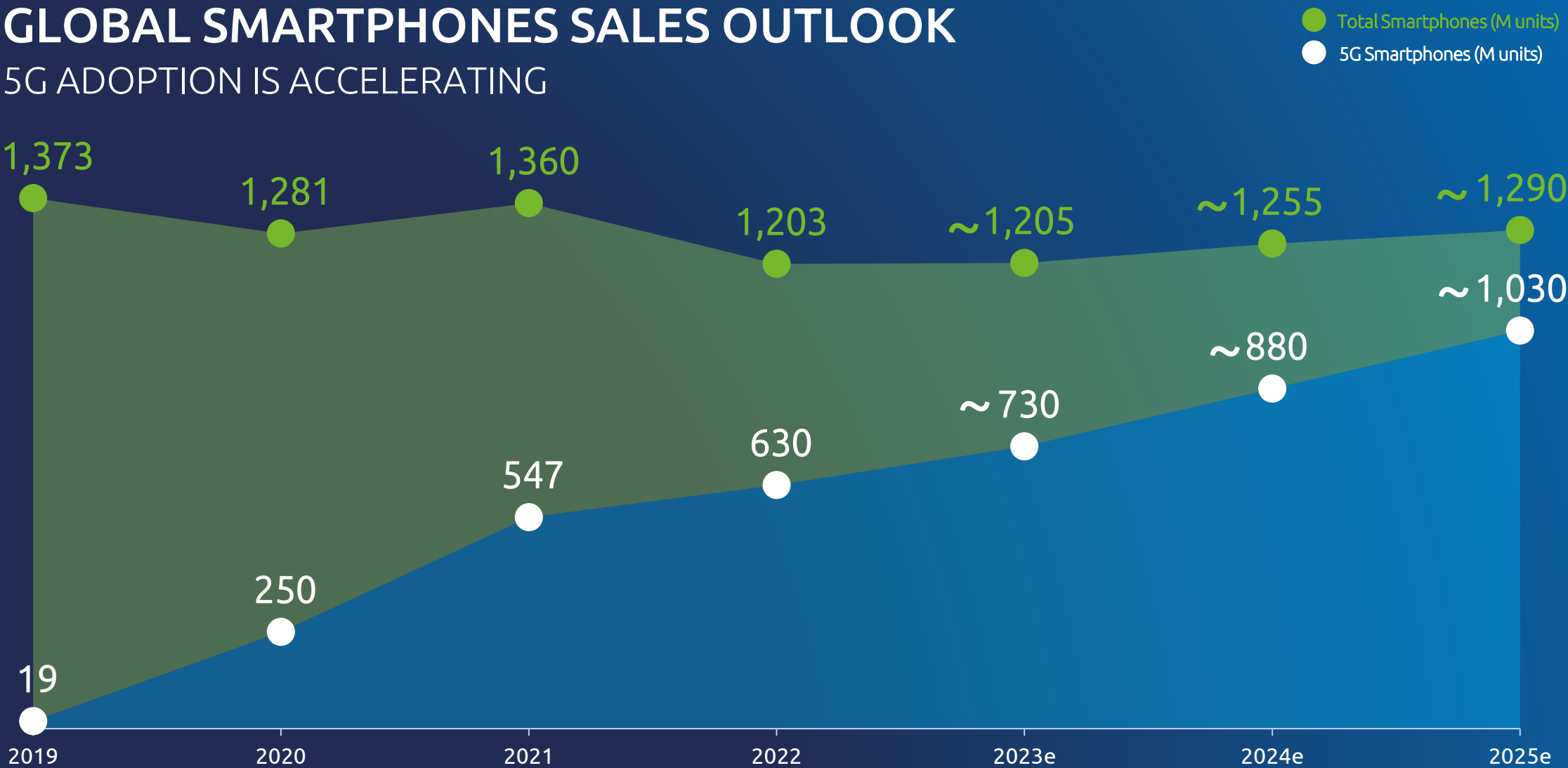
Ultra-wide area to micro  
connectivity

NUMBER OF 5G CONNECTED CONSUMER DEVICES  
BEYOND SMARTPHONE



# GLOBAL SMARTPHONES SALES OUTLOOK

5G ADOPTION IS ACCELERATING





## SECTION 03

# PRODUCT PORTFOLIO





# SOITEC PRODUCT PORTFOLIO

## MOBILE COMMUNICATIONS

### APPLICATIONS

- Smartphones radio-frequency front-end modules
- Networking base stations



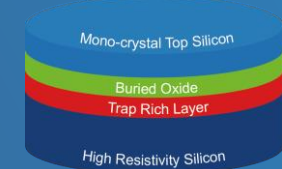
### SOITEC PRODUCTS ENABLE

- 4G
- 5G Sub-6GHz & mmWave
- Wi-Fi 6, 6E, 7 connectivity
- Satellite Communications



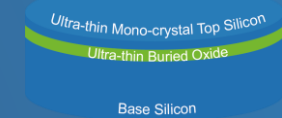
#### Connect RF-SOI

For highly efficient mobile communications



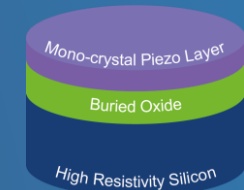
#### Connect FD-SOI

Integrated technology



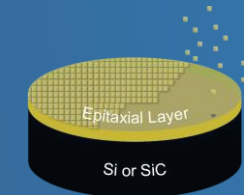
#### Connect POI

High performance 5G filters



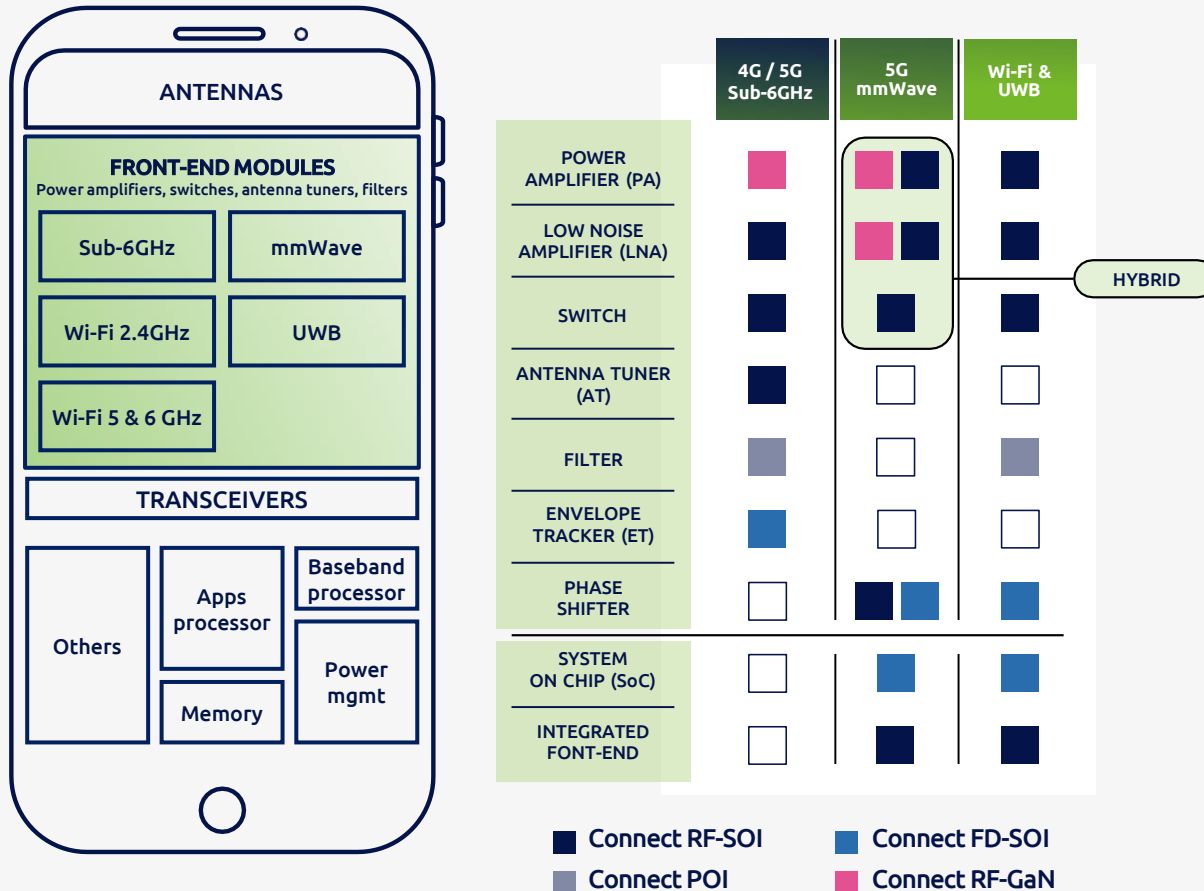
#### Connect RF-GaN

High performance power amplifiers



# SOITEC PRODUCTS ENABLE BEST-IN-CLASS CONNECTIVITY

## A COMPREHENSIVE OFFER FOR Sub-6GHz AND mmWave FRONT END MODULES



### ENGINEERED SUBSTRATES FOR Sub-6GHz

Soitec offers best-in-class RF Front End technologies:

- **Connect RF-SOI** based on our technology embedded in 100% of smartphones
- **Connect POI** for high performance 5G filters
- **Connect RF-GaN** for extended 5G Sub-6GHz ultra high band
- **Connect FD-SOI** for 5G broadband envelope tracker

### ENGINEERED SUBSTRATES FOR 5G mmWave ADOPTION

Soitec offers a complete engineered substrate portfolio to support multiple 5G mmWave RF Front End architectures:

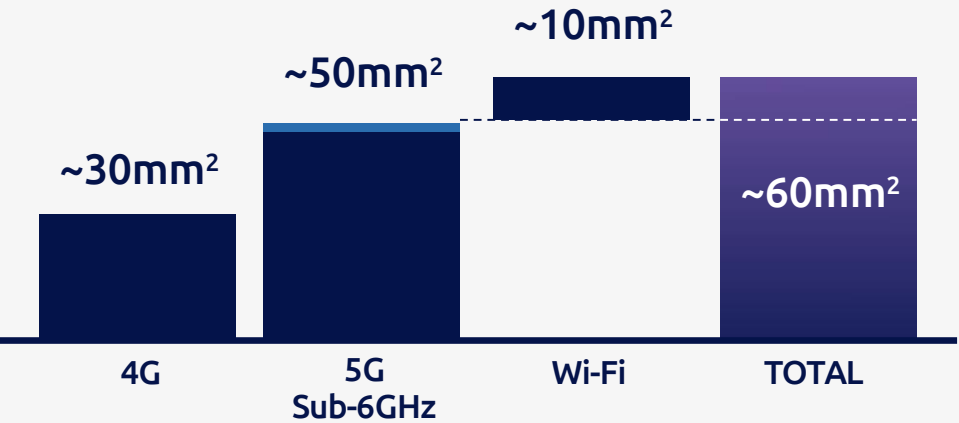
- Hybrid RF Front End combining **Connect RF-GaN** power amplifier best-in-class efficiency with **Connect RF-SOI** LNA and switches
- Monolithic **Connect RF-SOI** mmWave RF Front End with best-in-class performance vs integration trade-off
- Full chip **Connect FD-SOI** mmWave SoC with best-in-class power efficient system integration

# MOBILE CONTENT OPPORTUNITY

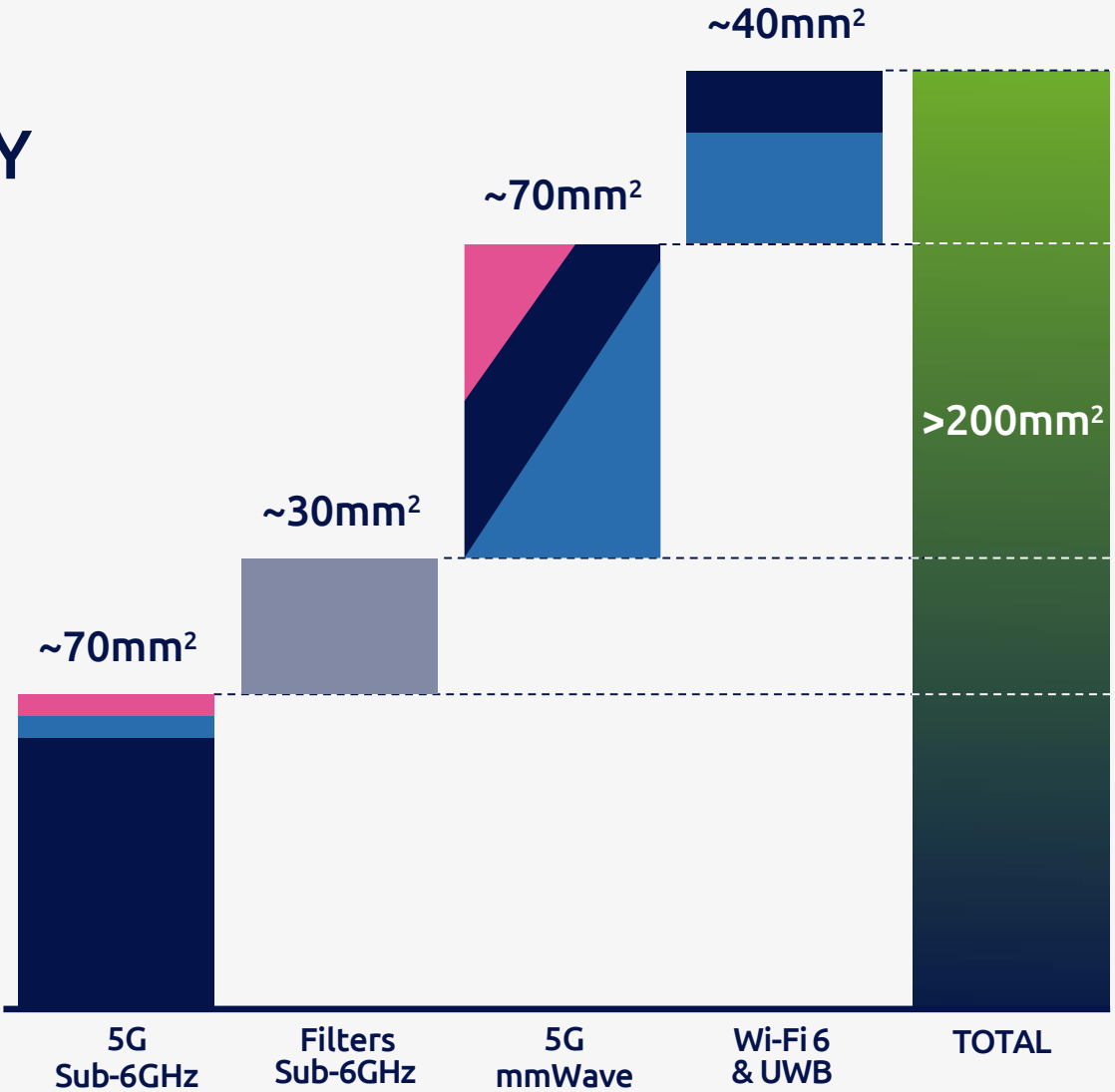
IN THE NEXT FOUR YEARS IN mm<sup>2</sup>

High-end smartphones

- Connect RF-SOI
- Connect FD-SOI
- Connect POI
- Connect RF-GaN



JUNE 2021 CMD ESTIMATES

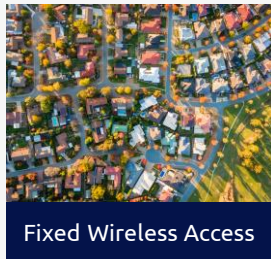
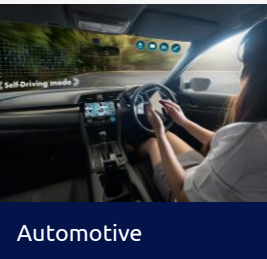


FIVE YEAR OUTLOOK

# CONNECT RF-SOI

Connect RF-SOI embedded in 100% of 5G smartphones

CONNECT RF-SOI IS TARGETING NEW 5G VERTICALS



## OUR RF-SOI SUBSTRATE ENABLES



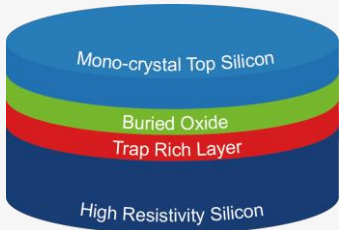
5G CONNECTIVITY  
ENHANCEMENT



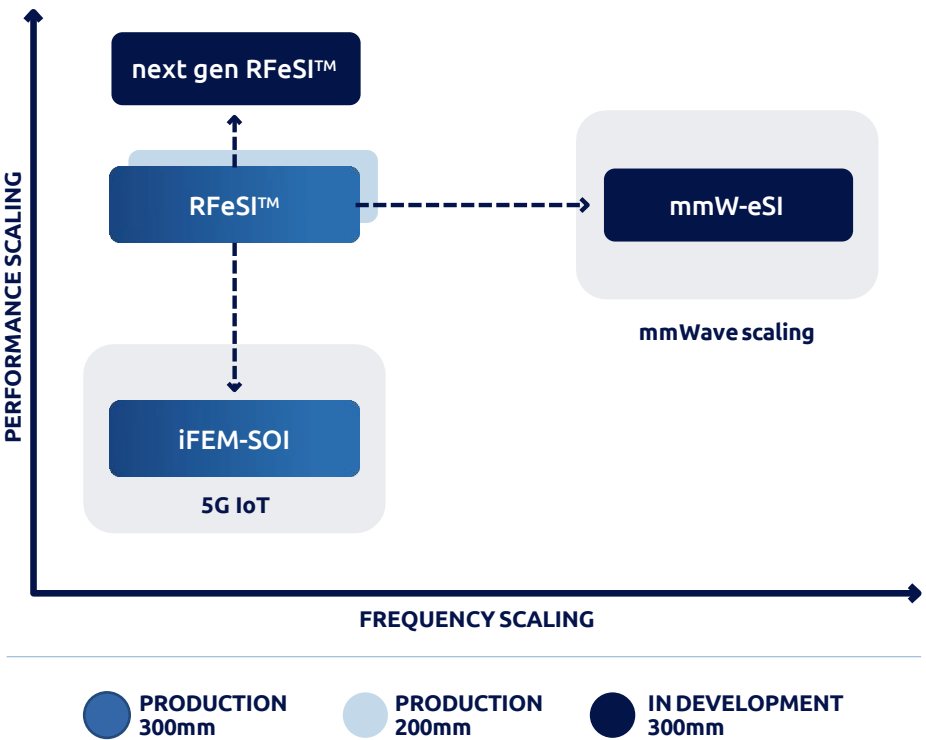
BATTERY  
POWER SAVING



OPTIMIZED FOOTPRINT  
WITH RFFE INTEGRATION



## CONNECT RF-SOI ROADMAP



# CONNECT FD-SOI

FD-SOI for mmWave  
endorsed by major RF players



Google Pixel 6  
Google Pixel 6 Pro



Google Pixel 7  
Google Pixel 7 Pro



Motorola Edge22



Samsung Galaxy A53

## OUR FD-SOI SUBSTRATE ENABLES



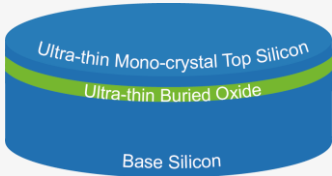
HIGH QUALITY & EXTENDED  
5G mmWave LINK



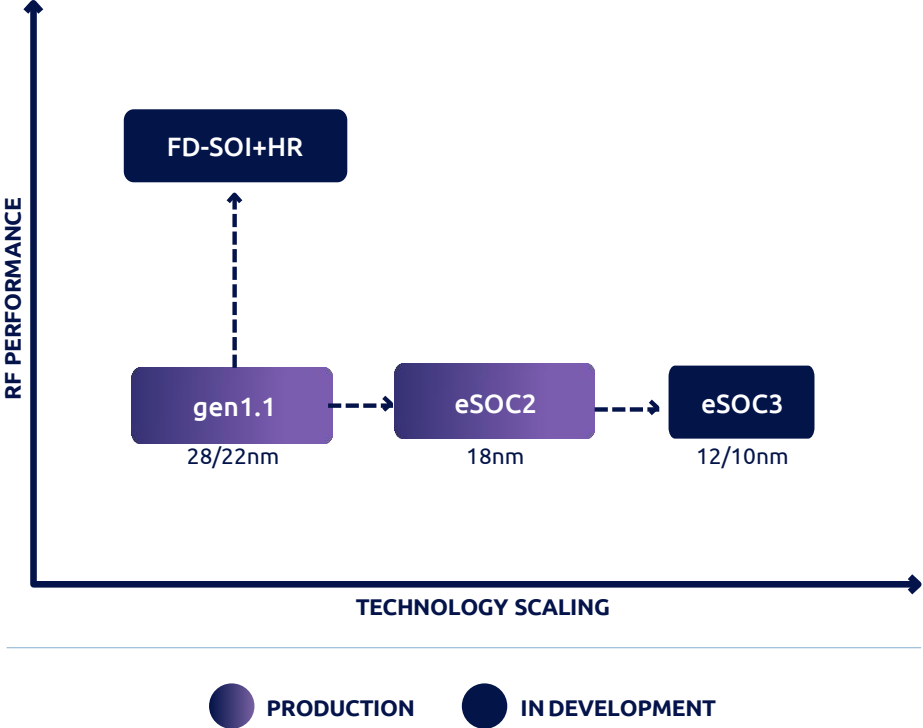
>10% BATTERY  
POWER SAVING



OPTIMIZED FOOTPRINT  
WITH DIGITAL SCALING



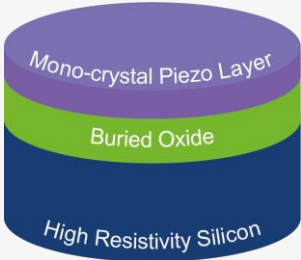
## CONNECT FD-SOI ROADMAP



Images source: store.google.com, motorola.com, samsung.com



# CONNECT POI



## 5G SUB-6 CHALLENGES

- x10 Filter paths
- x2 Bandwidth
- x2 Power requirement

## FILTER CHALLENGES

- More multiplexing
- High quality factor & better coupling factor
- Better insertion losses
- Better temperature stability
- Manufacturing cost

## POI VALUE

- Multiplexer die integration
- x2 quality factor
- Coupling factor up to 20%
- Insertion losses <1dB
- x2 lower temperature drift
- Simpler manufacturing process
- 200mm scaling

## OUR POI SUBSTRATE ENABLES



BETTER FILTER  
PERFORMANCE

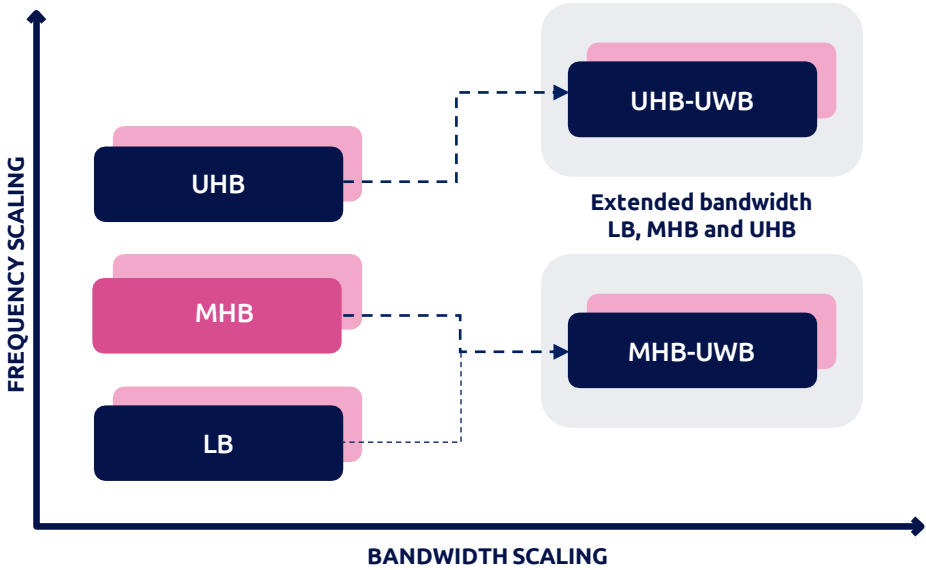


POWER  
SAVING



OPTIMIZED FILTER  
BOM\* FOOTPRINT

## CONNECT POI ROADMAP



**LB:** LOW BAND | **MHB:** MID-HIGH BAND | **UHB:** ULTRA HIGH BAND  
0.6-1GHz | 1.4-2.7GHz | >3.3GHz

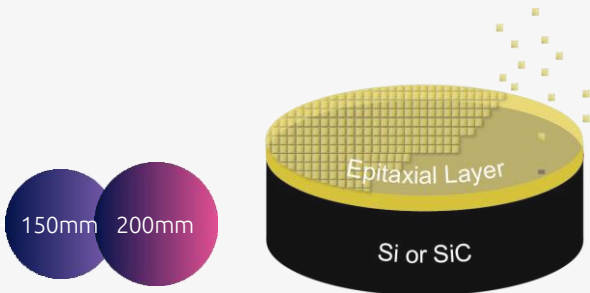
**PRODUCTION**  
150mm

**IN DEVELOPMENT**  
200mm

**IN DEVELOPMENT**  
150mm

\* Bill of Materials

# CONNECT RF-GaN



**GaN** technology is a standard for RF power amplifier in 5G MIMO base station

**GaN-on-Silicon** is penetrating 5G base station market for 5G radio cost reduction



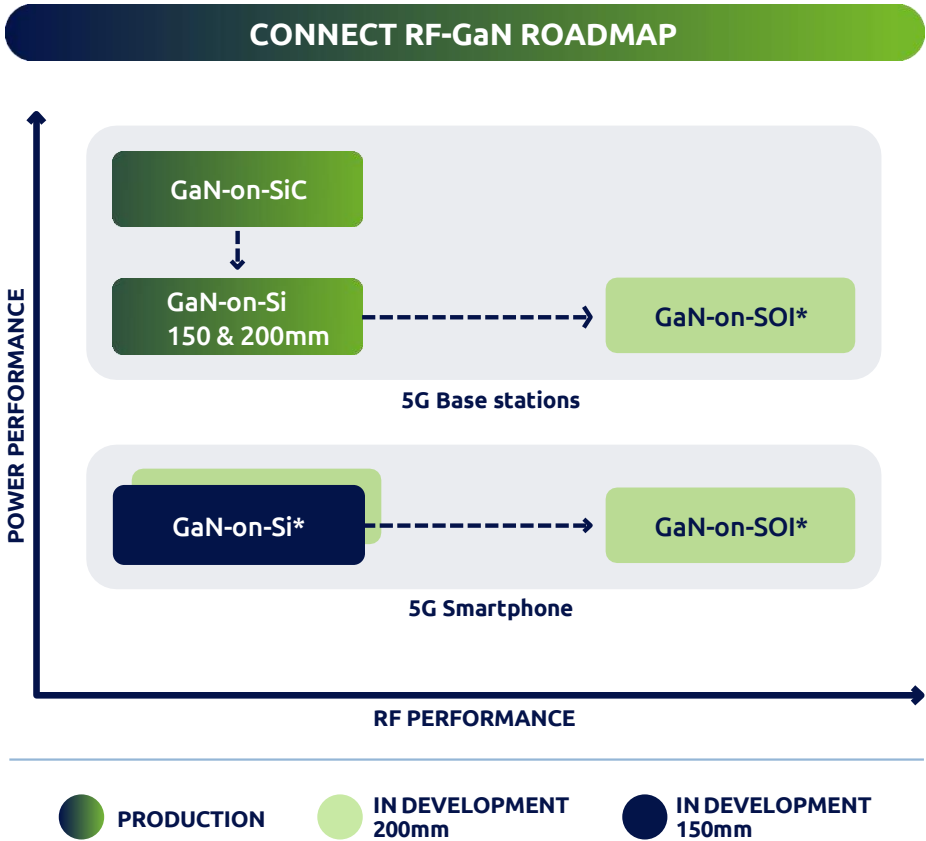
**GaN** technology will meet new 5G mobile requirements with new power class devices and new 5G bands

## SOITEC CONNECT RF-GaN SOLUTION FOR MOBILE AND INFRASTRUCTURE

Unique expertise to capture **GaN-on-Silicon** long-term trend for **mobile and infrastructure**

Strong experience to serve the high volume manufacturing markets

Long term roadmap to meet higher RF performances with **GaN-on-SOI**



\* Low voltage compatible





# KEY MESSAGES

## MOBILE COMMUNICATIONS CONTINUES TO DELIVER SUSTAINED GROWTH

- Soitec is targeting a 20-25% CAGR, towards ~\$2.3B FY26 revenue, from ~\$1B in FY22
- Mobile Communications revenue expected to x2 between FY22 and FY26
- Growth supported by strong drivers: 5G sub-6GHz; 5G mmWave, Wi-Fi 6, 6E & 7 / penetration; and growing opportunities beyond Mobile

## 5G IS DRIVING SIGNIFICANT GROWTH OPPORTUNITIES

- 5G transition continues its momentum with growing penetration across the end markets
- 5G powers our connected society, with smartphones and applications beyond
- Soitec leverages high content growth opportunity with RF Front-end modules as new generations of smartphones are becoming increasingly complex

## SOITEC HAS DEVELOPED THE RIGHT PRODUCT PORTFOLIO TO ADDRESS THIS GROWTH MARKET

- Connect RF-SOI in 100% of 5G Smartphones
- Connect FD-SOI penetration in mmWave is progressing
- Connect POI adding value for better filter performance and power saving
- Connect RF-GaN: clear GaN on SOI roadmap for Mobile & Infrastructure



## MOBILE COMMUNICATIONS

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