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The Company's business operations and financial position are described in the Company's 2020-2021 Universal Registration Document (which notably includes the 2020-2021 Annual Financial Report) which was filed on July 5. 2021 with the French stock market authority (Autorité des Marchés Financiers, or AMF) under number D.21-0681. The French version of the 2020-2021 Universal Registration Document and an English courtesy translation for information purposes are both 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 of the Company's 2020-2021 Universal Registration Document.

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# AGENDA

#01 H1'22 HIGHLIGHTS

#02 END MARKETS HIGHLIGHTS

#03 H1'22 FINANCIALS

#04 OUTLOOK



# H1'22 Highlights











# Continuing our strong profitable growth and value creation trajectory

Key megatrends drive semiconductor growth Differentiated engineered substrates to serve our strategic end markets

**Key figures** H1'22



**5**G





**ARTIFICIAL INTELLIGENCE** 



**AUTONOMOUS & ELECTRIC VEHICLES** 



AR & VR



**EDGE COMPUTING** 



**INDUSTRY 4.0** 



**WORK & LEARN** FROM HOME



**HEALTHCARE** 



**SMART HOME** & SMART CITIES

- (1) At constant exchange rate
- From continuing operations



Mobile **Communications** 







**Smart Devices** 

€373m revenue

> +53% yoy revenue growth<sup>(1)</sup>

36.8% EBITDA<sup>(2)</sup> margin

> €59m operating cash flow<sup>(2)</sup>



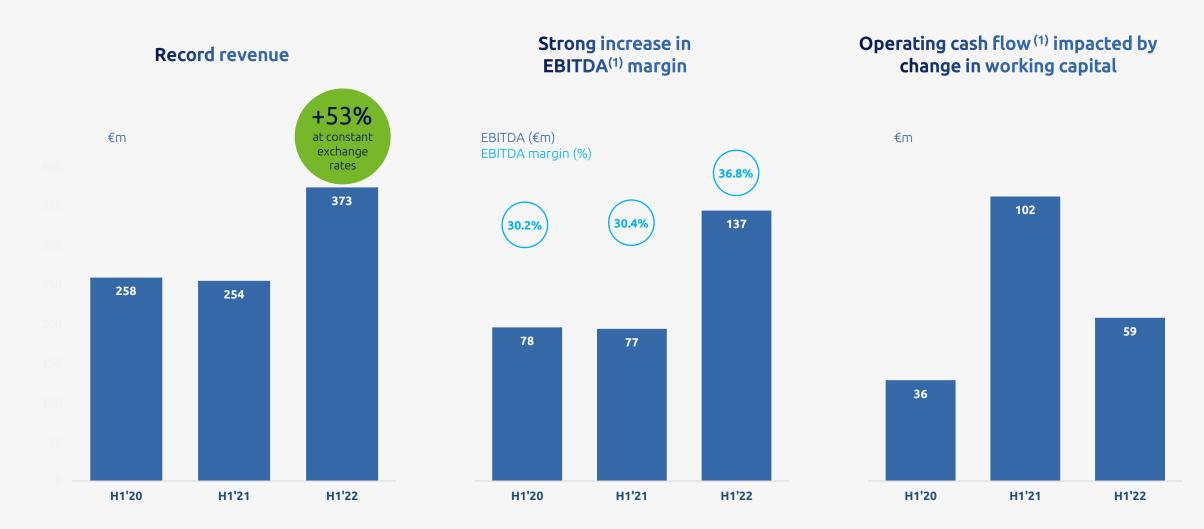








# H1'22 Financial highlights



(1) From continuing operations



# Steady expansion across the company to support profitable growth

# **TALENT**



#### 1,850 employees globally

- 280 recruitments in H1'22
  - > 70% France
  - > 20% Singapore
- ~160 expected in H2'22
  - > ~50% France
  - > ~40% Singapore
- Active recruitment campaign and integration to support Soitec growth: Organization of our largest ever "job dating" event
- Diversity & Inclusion at the heart of the HR policy: ambitious commitments to increase proportion of women in the Group: adherence to the United Nations Standards of Conduct

# **INNOVATION**



#### 44 m€ invested in innovation

> 14 m€ in funding

18 new patent families

#### Mobile Communications:

- Extending RF-SOI roadmap to address new verticals (5G mmW and IoT, Automotive)
- Developed several POI products to address mid and high band filters, and developing products for low band filters
- Developed Gen 2 FD-SOI with improved uniformity and roughness for high volume production, for both Mobile Communications and Automotive & Industrial end markets
- Developing GaN on Silicon or SiC epi wafers with customers for 5G Power Amplifier infrastructure and handsets Automotive & Industrial:

- > Improving product performance for Power-SOI applications
- → 150mm SmartSiC<sup>TM</sup> substrates in customer qualification. Developing 200mm SmartSiC<sup>TM</sup> wafers

#### Smart Devices:

Improving product performance for Silicon Photonics

# **SUPPLY CHAIN**



Raw Materials sourcing Long term contracts in place

- Long term contracts in place to secure a clear and predictable spending in raw materials over the next 2 to 3 years
- Favorable phasing of long-term agreements with suppliers on bulk material prices
- Secured capacity expansion with manufacturing equipment vendors to support steep capacity ramp Further tools deliveries secured for Singapore in the next 18 months











# Ramping capacity across all product lines

# 150mm / 200mm POI & Compounds

# **200mm SOI**

# **300mm SOI**

#### Bernin 3 – POI substrates

- > Ramping at a very fast pace on 150mm
  - > H1'22 x4 vs H1'21
- > Industrial performance & Yield significantly improved
- First tools installed to prepare 200mm POI qualification

#### Hasselt - GaN substrates

- > 150mm High volume manufacturing MOCVD tools running
- > 200mm High volume manufacturing MOCVD tools under qualification

# SiC plant

> Site selection confirmed, subject to financial terms negotiation

SmartSiC™ POI GaN

#### Bernin 1 - SOI substrates

- Running full capacity in H1'22
- Significant yield improvement on new products

# Simgui – SOI substrates

Running at full capacity in H1'22

**RF-SOI** Power-SOI Photonics-SOI

#### Bernin 2 – SOI substrates

- > Running at full capacity in H1'22
- > Increase capacity from 650k up to 700kwpy earlier than planned
- Significant yield improvement thanks to large number of digital initiative & process optimization

#### Pasir Ris - SOI substrates

- Major SOI ramp-up have started (x7 HoH)
- > Additional capacities implemented and qualified for SOI, Epitaxy (RF-SOI) & Si refresh
- > Further tools deliveries secured for 18 coming months
- > Hiring ongoing as per plan

**RF-SOI** FD-SOI Photonics-SOI Imager-SOI









# Delivering on our ESG commitments

Our Corporate Purpose voted at July 2021 AGM perpetuates our engagements towards sustainability and all our stakeholders



Validation of our GHG emissions reduction targets by the Science Based Target initiative, in line with the 1.5°C pathway



Strong commitments towards diversity and inclusion



Publication of our FY21 **Sustainability Report** 



Ongoing discussions with rating agencies to better reflect our **ESG** engagements

# Soitec is taking action for the **United Nations Sustainable Development Goals**











# END MARKETS HIGHLIGHTS











# **Mobile Communications**



# H1'22 Highlights

# Sub-6GHz Smartphones – RF Front-End Module, WiFi, UWB

- > RF-SOI leadership in RFFE confirmed: securing increasing technology market share in cellular, WiFi and UWB FEs
- POI strong ramp-up enabled by increased 150mm industrial capacity. Several customers under qualification

# mmW Smartphones

- Design activities underway using FD-SOI platform for system level integration
- > 1st smartphone integrating FD-SOI mmW commercialized

#### 5G infrastructure

- > RF-SQI secured market share for sub-6GHz switches and other functions, and is currently a technology of choice for mmW infrastructure integrated Front-End
- > GaN on Silicon or GaN on SiC: Developing epi wafers with customers for 5G Power Amplifier infrastructure and handsets

# **End Market Dynamics**

High-single digit growth for global smartphones in 2021

> ~520 M 5G smartphones

Low-single digit growth for global smartphones in 2022

> ~750 M 5G smartphones

# **Product portfolio for Mobile Communications**

#### **MAIN DRIVERS**

5G Sub-6GHz

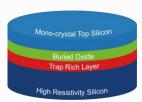
Mobile infrastructure

5G mmW WiFi 6 / UWB

#### **SOITEC PRODUCTS**

**RF-SOI** 

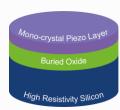
For highly efficient mobile communications



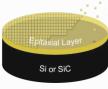
FD-SOI Integrated technology



POI High performance 5G filters



GaN High performance Power amplifiers







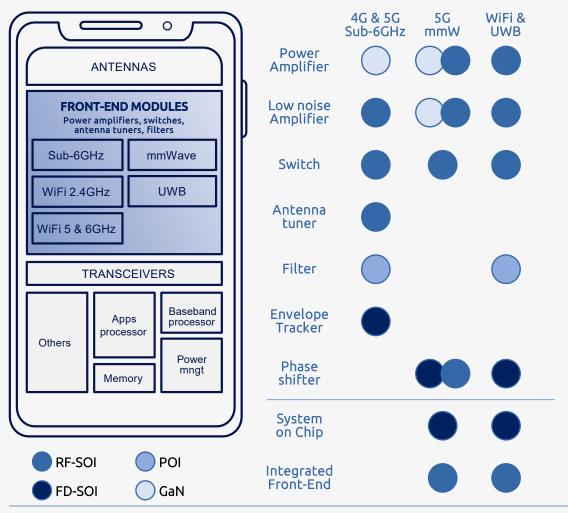




# Soitec products enable best-in-class connectivity



# Comprehensive offer for RF and mmW FE modules



# **Engineered substrates for Sub-6GHz**

- > RF-SOI enables best in class integrated switch and the top performance RF Front-End relying on it
- > RF-SOI embedded in 100% of 5G smartphones and a growing number of wireless devices
- POI enables high performance filters to address 5G requirements
- Soitec POI used for multiple SAW filters

# Engineered substrates for 5G mmW adoption

- System opportunity with higher integration; more sensing, better control and adaptive power
- Lower power per antenna: need to calibrate to optimize beam
- Absence of antenna tuner creates need for a digital feedback loop to calibrate transmission, and combine High-speed analog and Low power digital

Best in class RFFE performance

Best in class system integration

Best in class low power system

Best in class PA efficiency

Specific Epi design for mmW, up to 94 GHz

High efficiency - high power density

SOI GaN















# **Automotive and Industrial**



# H1'22 Highlights

#### Power-SOI

- Strong activity rebound confirmed
- Extension of customer commitments duration

#### FD-SOI

- Strong demand in Infotainment and ADAS FD-SOI based semiconductor IC
- 2 new iMX.8 application processors launched using 28nm FD-SOI

#### SmartSiC<sup>TM</sup>

> Progressing on development, evaluation and qualification with several SiC device makers

#### GaN

- > Developing applications for highly efficient power conversion at 600V, on 200mm Silicon Substrates
- Leveraging SmartCut technologies to design vertical devices beyond 600V, up to 1200V

# **End Market Dynamics**

- ~25% growth for Automotive semiconductor in 2021
  - > Electric Vehicle penetration expected around 5% of global Automotive
- $\rightarrow$  ~10% ~15% growth for Automotive semiconductor in 2022
  - > Electric Vehicle penetration expected around 10% of global Automotive

# **Product portfolio for Automotive & Industrial**

# **MAIN DRIVERS**

**Autonomous cars** 

Vehicle electrification

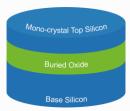
Infotainment

Industry 4.0

# **SOITEC PRODUCTS**

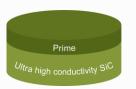
#### Power-SOI

Power management ICs, In-vehicle networking & gate drivers



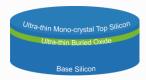
# **SmartSiC<sup>TM</sup>**

**Automotive** electrification

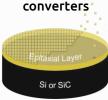


#### FD-SOI

MCUs, ADAS-Radars **ADAS-Vision** 



# GaN DC-DC 48V











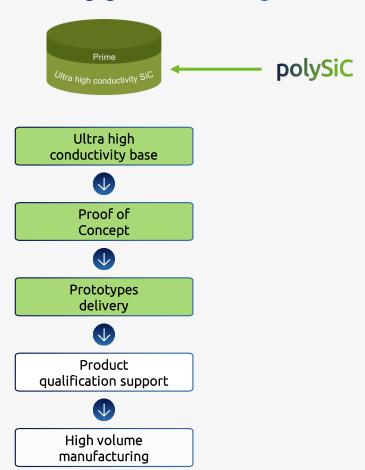


# SmartSiC<sup>TM</sup> substrates for Electric Vehicles



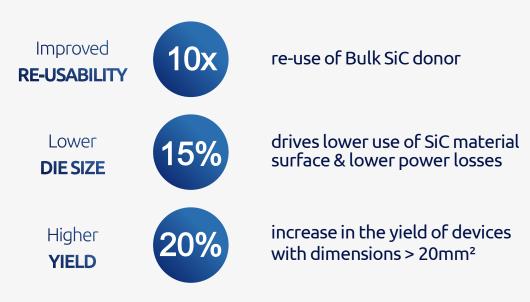
# SmartSiC<sup>™</sup> Progressing towards industrialization

# Multiple customer engagements across regions



# SmartSiC<sup>™</sup> – Enabling further energy efficiency

# Low environmental impact driven by:



~20,000t of CO<sub>2</sub>

Energy savings per 500k wafers vs current SiC technologies













# Strategic partnerships to support SmartSiC<sup>TM</sup> industrialization



# NOVASiC acquisition adds critical technological block



State of the art wafering and polishing services for highperformance semiconductors and industrial crystals

# Corporate ID

> Created in 2000 – 21 employees – HQ in France

## Strategic Rationale

- > Unique expertise to bring critical technology acceleration for SmartSiC<sup>™</sup> and internalize polishing capabilities
- Leverage specific know-how to integrate into global SmartSiC<sup>TM</sup> differentiation
- Leverage customer access with leading SiC bulk & device makers
- Opportunity to accelerate cost of ownership reduction roadmap

#### **NOVASIC Business & Operations**

- Polishing Services key product: 150mm SiC epitaxy reclaim
- Epitaxy, Wafer dicing, Edge grinding, Laser marking, Wire sawing

# Polishing enhances SmartSiC<sup>™</sup> value proposition

High precision Flatness through High final Polishing surface preparation surface quality **Improved** Higher Lower **RE-USABILITY DIE SIZE YIELD** 

# JDA with Mersen to develop polySiC supply



Strategic JDA to develop polySiC substrates designed for the Electric Vehicles market

#### Scope

- Strategic JDA to develop a new range of polySiC substrates for the FV market
- Soitec and Mersen teams will leverage Soitec's Substrate Innovation Center within CEA-Leti to validate progress towards industrialization

# Strategic Rationale

- > Very low electric resistivity polySiC substrates, in conjunction with SmartCut<sup>™</sup> technology, will optimize Power / SiC Power components
- polySiC is compatible with SmartCut<sup>TM</sup> technology and customers specs
- polySiC substrates will enable higher energy efficiency, fostering the development of more energy efficient Electric Vehicles

# PolySiC enables further value creation

	Traditional SiC Monocrystalline	SmartSic <sup>™</sup> Polycrystalline
Cost of ownership	High	Low
Electrical performance	Limited by technology	High, enabling ultra high conductivity

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# **Smart Devices**



# H1'22 Highlights

# FD-SOL

> Increasing demand for FD-SOI based Low Power Connectivity SoC with Design wins on WiFi and Bluetooth

## Imager-SOI

Strong demand driven by success on high-end smartphones

#### Silicon Photonics

> Deployment of >100GbE transceivers in Data Centre Interconnect (200mm and 300mm)

# Dolphin Design

- > Progress on IP portfolio: Audio Class-D DAC and single inductance multiple output DC-DC converters Design launch
- > Launch of Processing IP Portfolio commercialization: Microcontroller subsystem, neural network hardware accelerator, DSP

# **End Market Dynamics**

- 3D Sensing: Solid perspectives on high-end smartphones for the next vears
- > Data traffic still increasing in Data centers, supported by silicon photonics transceivers
- > Increasing number of Healthcare applications being developed on Silicon Photonics

# **Product portfolio for Smart Devices**

# **MAIN DRIVERS**

**Edge computing** 

3D sensing and Healthcare

Data centers

Smart home & **Smart cities** 

## **SOITEC PRODUCTS**

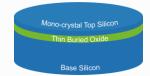
FD-SOI

Crossover MCUs, connected MCUs, scalable FPGAs



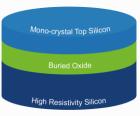
# Imager-SOI

For improved imager performance in NIR



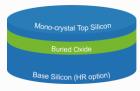
#### **Photonics-SOI**

Optical transceivers and bio-sensing



## PD-SOI

High performance computing







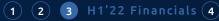






# H1'22 FINANCIALS



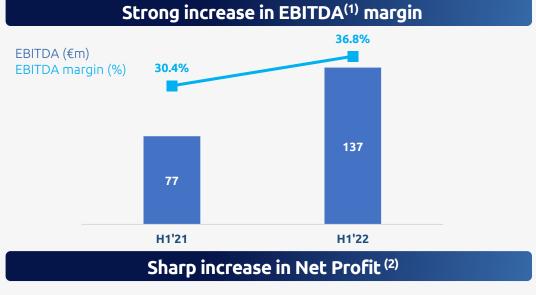


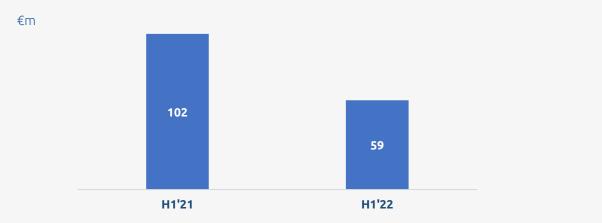


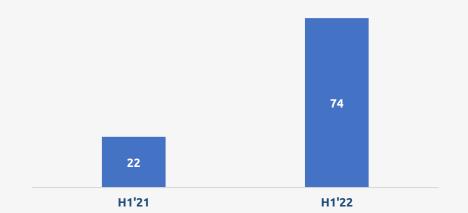
# H1'22 Highlights











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- (1) From continuing operations
- (2) Net profit includes Net profit from continuing operations (Electronics activities) and Net profit/(loss) from discontinued operations

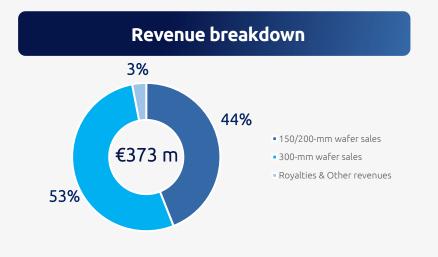




€m

# Strong increase in Revenue: record semester

€m	H1'22	H1'21	Change vs H1'21	
			%	% at constant FX
150/200-mm wafer sales	164	138	+19%	+23%
300-mm wafer sales	198	105	+88%	+97%
Royalties and Other revenues	11	11	+6%	+7%
Revenue	373	254	+47%	+53%



# 150/200-mm wafer sales up 23% (at constant exchange rates)

- Slight increase in 200-mm RF-SOI
- Higher Power-SOI (automotive recovery)
- Strong increase in 150-mm POI for RF filters enabled by good ramp-up in production

# 300-mm wafer sales up 97% (at constant exchange rates)

- Sharp increase in 300-mm RF-SOI supported by 5G
- Higher FD-SOI (Edge Computing, Automotive, 5G)
- Increase in Imager-SOI (3D sensing) and Photonics-SOI (data centers)

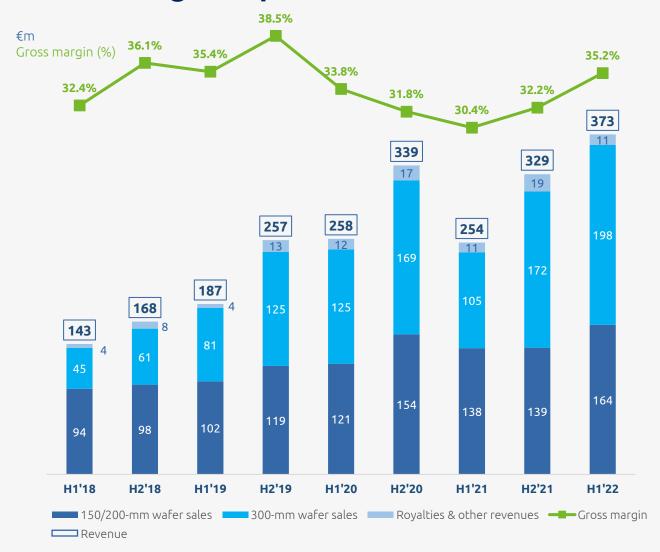








# Gross Margin improved to 35.2%





# Strong operating leverage

- Robust increase in activity
- Very good industrial performance
- Costs under control

Bulk material prices: favorable phasing due to long-term agreements



Gross margin headwinds

Unfavorable currency impact





# Current Operating Income has more than doubled

€m	H1'22	H1'21	Change
Revenue	373	254	+47%
Gross Profit	131	77	+70%
As a % of revenue	35.2%	30.4%	
Gross R&D expenses	(44)	(31)	41%
Prototype sales and other revenue	2	3	-22%
Subsidies and income tax credit	14	11	30%
Net R&D expenses	(28)	(18)	+58%
As a % of revenue	7.4%	6.9%	
Sales and Marketing expenses	(7)	(5)	23%
General and Administrative expenses	(22)	(17)	26%
SG&A expenses	(28)	(23)	+25%
As a % of revenue	7.6%	8.9%	
Current Operating Income	75	37	+103%
As a % of revenue	20.2%	14.6%	

# Current operating income has reached 20% of revenue

- Thanks to a strong increase in gross profit
- Despite intensified efforts in R&D and higher SG&A to support the Group's expansion

# Net R&D expenses represent 7.4% of revenue

- Net R&D expenses up €10m
- 41% increase in gross R&D expenses reflecting new hirings, higher external costs and higher depreciation to support product portfolio expansion

# SG&A expenses under control: up €5.8m, but down to 7.6% of revenue

 Increase in charges related to employee compensation (higher number of staff and share-based payment reflecting the surge in stock price)







# Sharp increase in Net Profit

€m	H1'22	H1'21
Current Operating Income	75	37
Other operating income and expenses	9	(0)
Operating Income	85	37
Financial expenses	(8)	(4)
Net foreign exchange gain / (loss)	3	(6)
Net Financial Result	(5)	(10)
Income Tax	(6)	(5)
Net profit from continuing operations	74	22
Net loss from discontinued operations	(0)	(0)
Net profit (Group share)	74	22
Basic EPS (in €) Diluted EPS (in €)	2.23 2.14	0.67 0.66
Number of shares Number of diluted shares	33,311,866 36,680,990	33,176,479 33,466,404

Other operating income includes the full reversal of an impairment loss related to Singapore industrial building for €8.8m

#### Net financial result

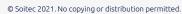
- Increase in financial expenses (mostly related to OCEANEs 2025 issued in October 2020)
- Net foreign exchange gain of €3.1m recorded in H1'22 vs a loss of €(6.4)m in H1'21

**Income tax** includes a €2.5m deferred tax income related to the first recognition of a deferred tax asset on Singapore tax loss carryforwards









# Strong improvement in EBITDA margin at 36.8% of revenue

€m EBITDA margin (%)



(1) EBITDA = Electronics EBITDA (EBITDA from continuing operations)









# Lower Operating Cash Flow reflects surge in Working Capital

€m	H1'22	H1'21
Operating Income	85	37
Depreciation and Amortization	37	27
Other items	16	13
EBITDA <sup>(1)</sup>	137	77
Change in Working Capital	(82)	31
- incl. Inventories	(37)	(24)
- incl. Trade receivables	(19)	60
- incl. Trade payables	7	1
- incl. Others	(32)	(5)
Tax Paid	3	(6)
Net Cash generated by Operating activities <sup>(1)</sup>	59	102
Intangible assets	(13)	(9)
Tangible assets	(87)	(40)
Others	(3)	1
Adjusted Investment Flows <sup>(2)</sup>	(102)	(48)
Free Cash Flow	(44)	55

€82m Working Capital cash outflow due to strong growth in activity after flat year in FY'21

- €37m increase in inventories (strong expansion in 300-mm)
- €19m increase in trade receivables.
- €32m increase in Other items include a €19m increase in other receivables (research tax credits and tax receivables) and lower social debt due to social contributions payment

Operating cash flow at €59m

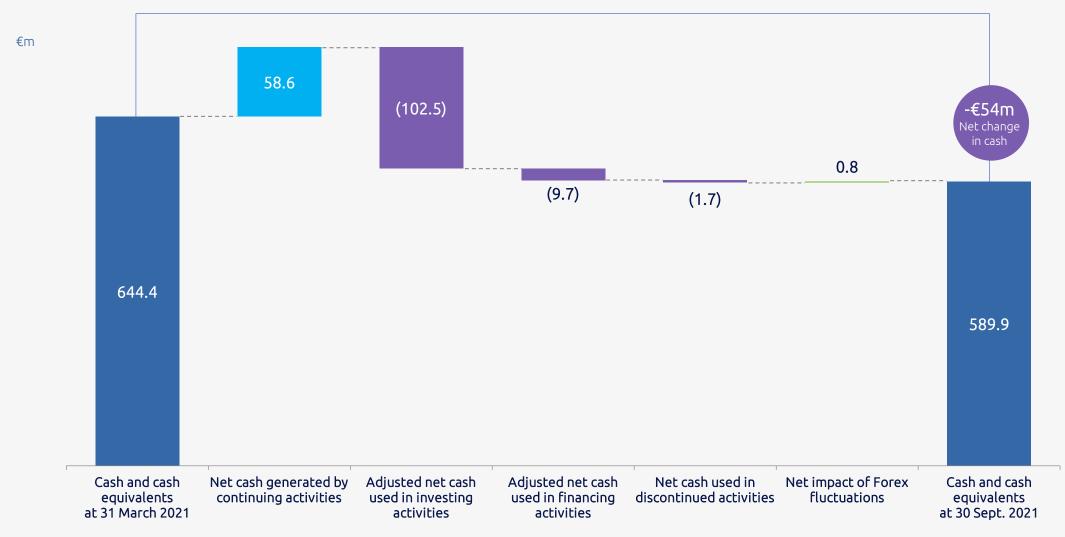
CAPEX up from €48m to €102m, mostly reflecting capacity investments (Singapore, Bernin III)



From continuing operations

<sup>(2)</sup> Adjusted net cash used by investing activities includes €1.2m in H1'22 (vs. €3.5m in H1'21) of investments which have been financed through leasing (lease-back)

# Strong cash position retained



Note: The above investment and financing cash flows are taken from the IFRS cash flow statement adjusted to include new finance leases in the financing cash flow in the case of lease-back transactions







# **Sound Balance Sheet**

ASSETS - €m	30-Sep-21	31-Mar-21
Intangible assets	102	99
Tangible assets	473	378
Other non-current assets	31	28
Deferred tax assets	41	53
Total non-current assets	648	559
Inventories	148	124
Trade receivables	185	157
Other current assets	96	83
Cash and cash equivalents	590	644
Total current assets	1,018	1,010
Total Assets	1,667	1,568

LIABILITIES AND EQUITY - €m	30-Sep-21	31-Mar-21
Total Equity	765	676
Long-term financial debt	467	612
Provisions and other non-current liabilities	42	44
Total non-current liabilities	509	656
Short-term financial debt <sup>(1)</sup>	170	36
Trade payables	91	79
Other current liabilities	132	121
Total current liabilities	393	236
Total Liabilities and Equity	1,667	1,568

# €95m increase in tangible assets includes extension capacity CAPEX of:

- €53m in Singapore 300-mm SOI facility
- €38m in Bernin III 150-mm POI facility

# €637m financial debt includes

- €50m leasing contracts
- €423m OCEANEs (2023<sup>(1)</sup> and 2025)
- €131m bank loans (incl. IPCEI)

(1) Short-term financial debt includes €130m of OCEANEs 2023, fully converted on October 8th, 2021



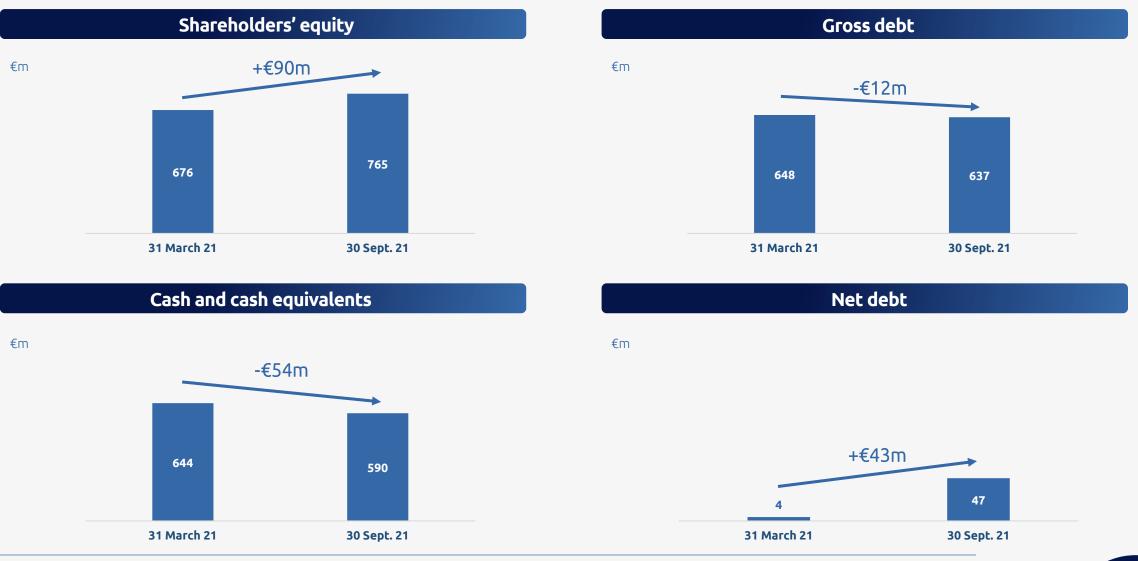








# Healthy financial structure maintained







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# OUTLOOK











# Outlook – FY'22

# **REVENUE**

# FY'22 revenue expected at around \$975m

> ~45% growth at constant exchange rates

# Organic growth will continue to be driven by all 3 end-markets

- Ongoing 5G deployment
- > Further recovery of automotive market
- > Solid market trends for smart devices

# **EBITDA MARGIN<sup>(1)</sup>**

# FY'22 EBITDA margin expected at around 34%, with a potential upside to reach around 35%:

- Higher operating leverage
- Strong industrial performance
- > Fully hedged on a €/\$ rate of ~1.20

# H2'22 headwinds:

- > Raw materials and energy costs
- > Phasing on some FX hedging contracts

# **CAPITAL EXPENDITURE**

FY'22 adjusted net cash out related to capital expenditure confirmed at around €240m

# Capacity investments to support

- > Singapore ramp-up in 300-mm SOI
- Capacity increase in 150-mm at Bernin III for POI products

(1) EBITDA margin = Electronics EBITDA (EBITDA from continuing operations) / Revenue













