

Soitec IR presentation

Q419 sales, April 2019



Disclaimer

This document was prepared by Soitec (the “Company”) on April 17th, 2019 in connection with the announcement of the sales figures of the fourth quarter of fiscal year 2018-2019.

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The Company’s business operations and financial position is described in the Company’s registration document 2017-2018 registered by the Autorité des marchés financiers (the “AMF”) on June 18th, 2018 under visa D.18-0586 (the “Document de Référence”) and in the Company’s FY’19 half-year report released on November 28th, 2018. Copies of the Document de Référence and of the FY’19 half-year report are available in French and English languages through the Company and may also be consulted and downloaded on the Company’s website (www.soitec.com). The Document de Référence is also available on the AMF’s website (www.amf-france.org).

Your attention is drawn to the risk factors described in Chapter 4 of the Document de Référence. A review of these risk factors has been conducted after the closing of FY’19 first half and no new risk was found.

This document contains summary information and should be read in conjunction with the Document de Référence and the FY’19 half-year report. In the event of a discrepancy between this document and the Document de Référence or the FY’19 half-year report, the Document de Référence or, as the case may be, the FY’19 half-year report, shall prevail.

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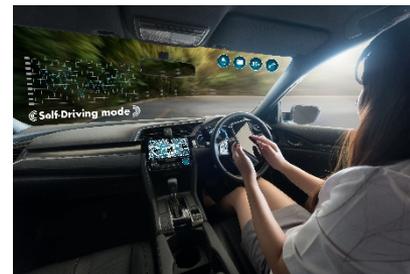
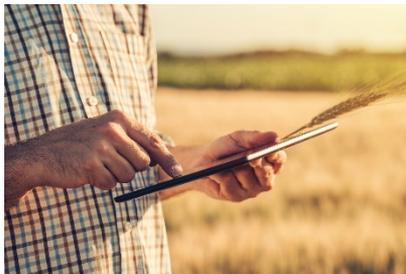
Agenda

- 1** 5G & AI – At the heart of the next human (r)evolution
 - 2** Soitec current end markets and products applications
 - 3** Financials and Guidance for FY'19
- Appendix

Agenda

- ▶ **1** 5G & AI – At the heart of the next human (r)evolution
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5G & AI – At the heart of the next human (r)evolution



4 strategic end markets



Smartphones



Cloud infrastructure



Automotive



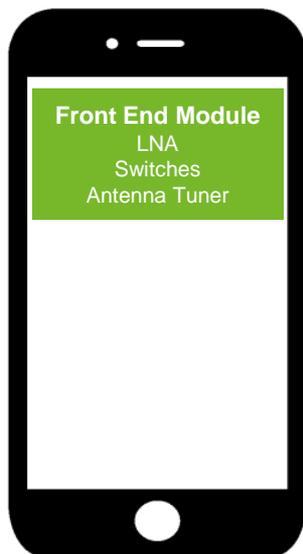
Internet of Things

Soitec RF footprint in smartphones to further increase

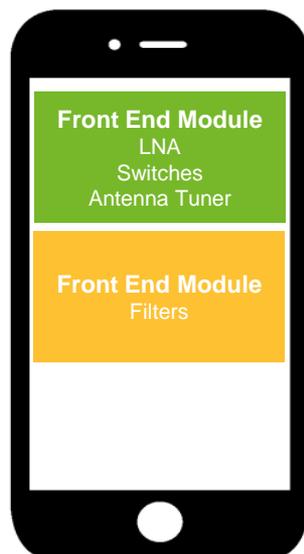
4G LTE Advanced pro

5G sub 6GHz

5G mmW



5G NSA
5G new bands
CA DL & UL
More Antennas
Multiplexer

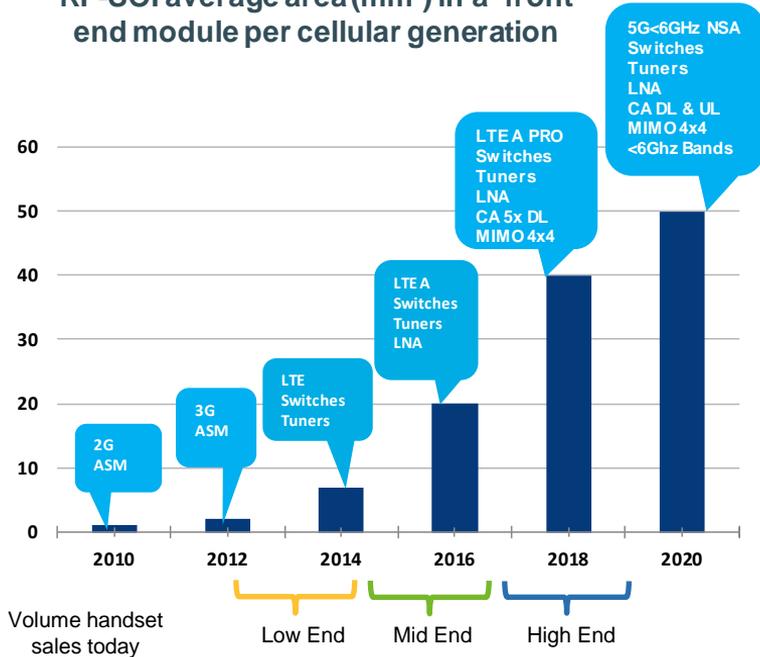


5G 28GHz and
39GHz new
bands
Antenna arrays

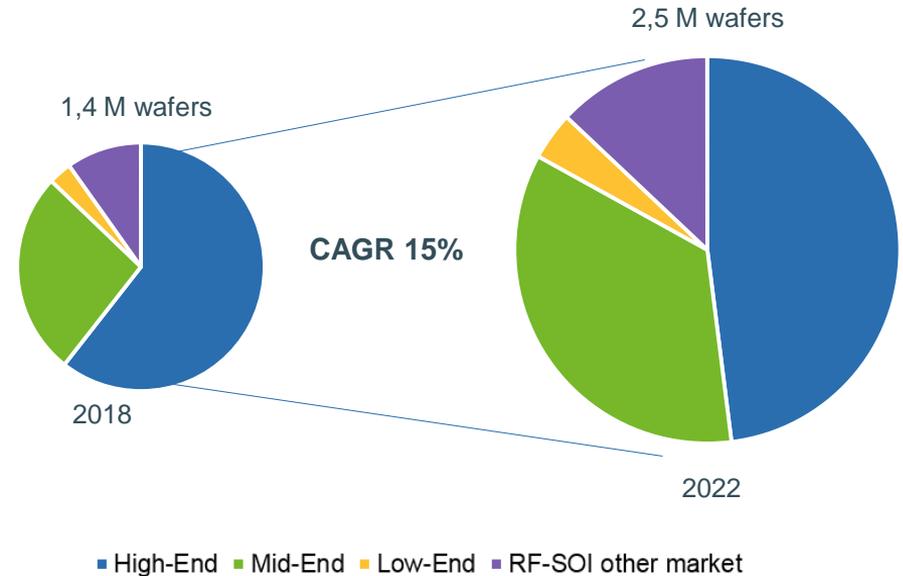


RF-SOI market dynamics

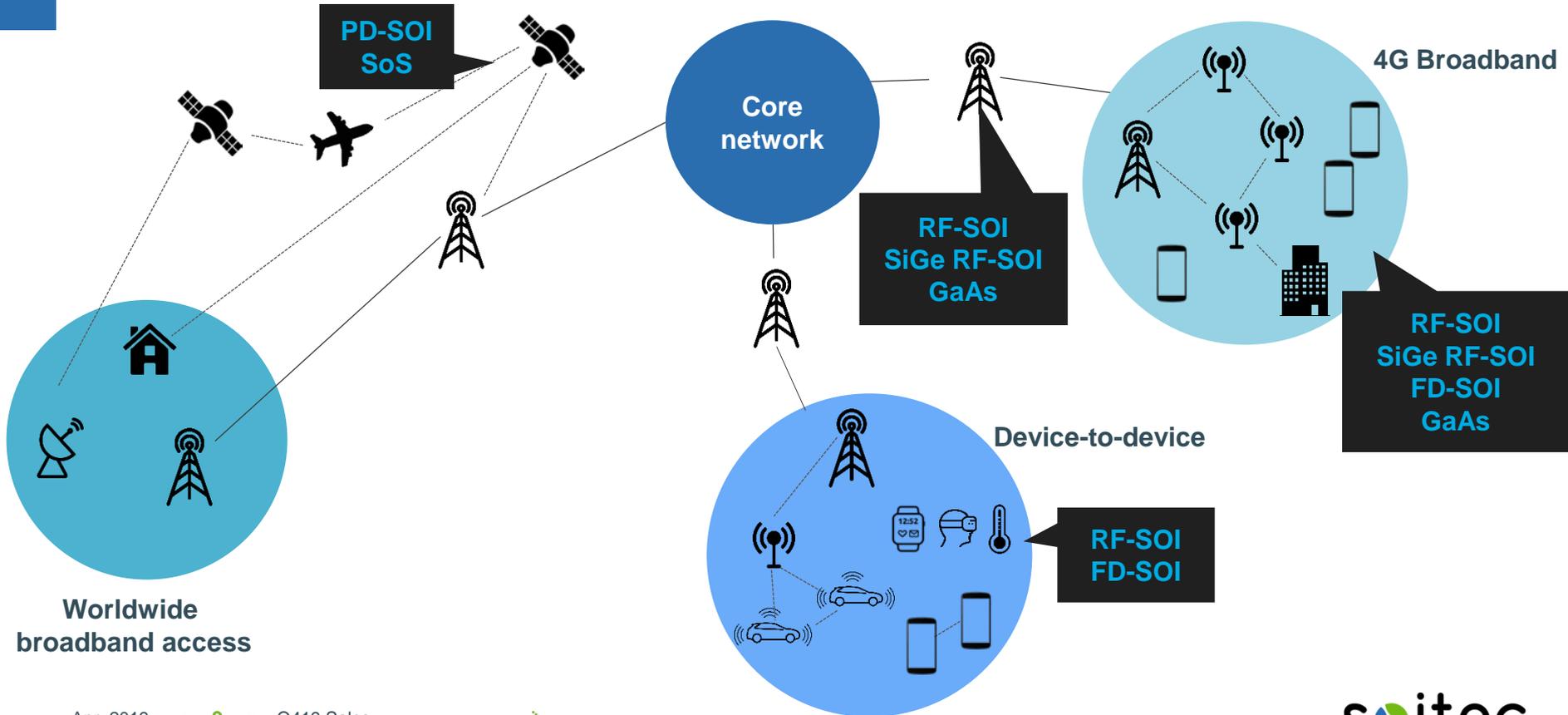
RF-SOI average area (mm²) in a front end module per cellular generation



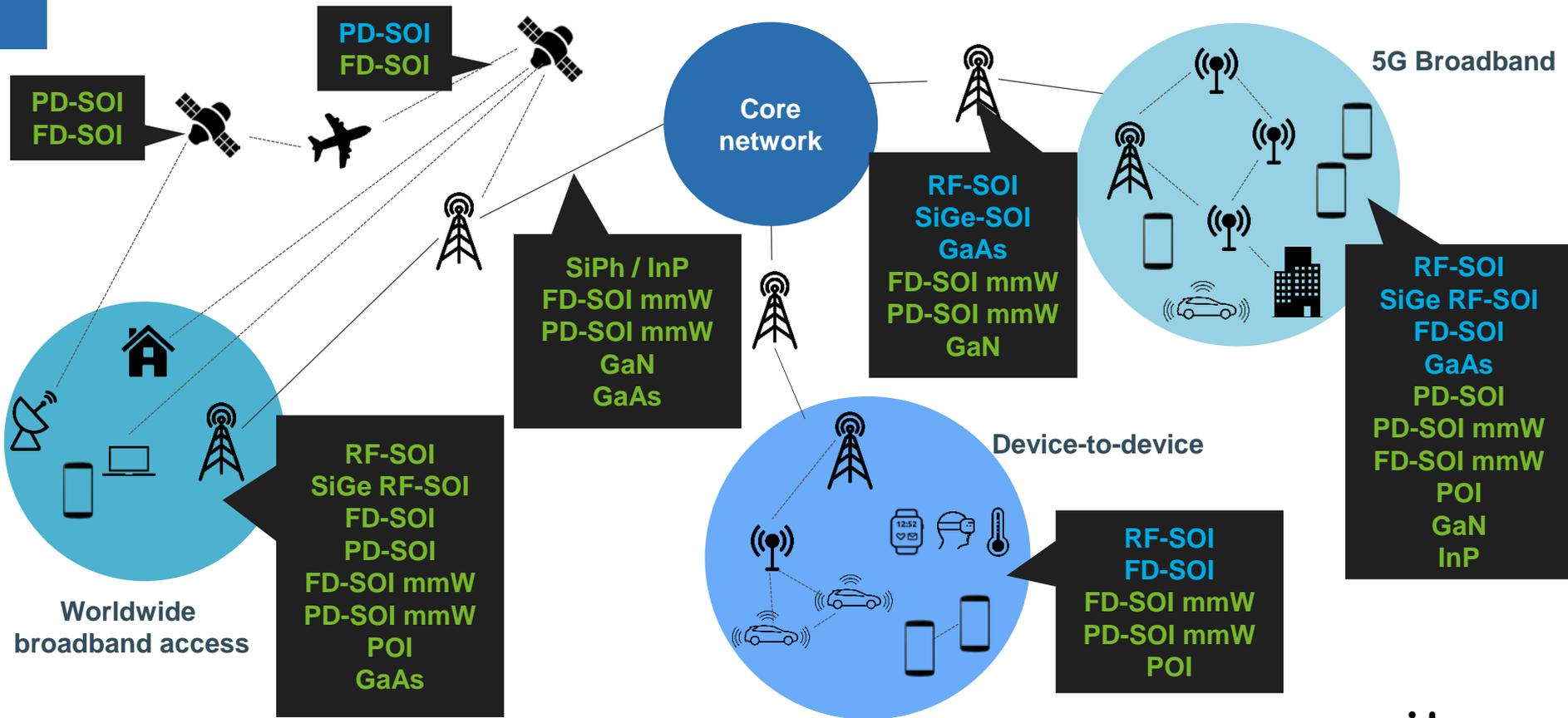
RF-SOI wafer market (8" eq)



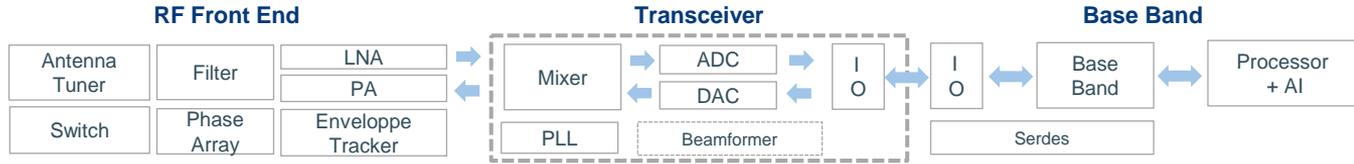
4G – Engineered substrates on the market today



5G – Engineered substrates on the market tomorrow



5G – Engineered substrates offer unrivalled integration



5G sub 6GHz Cellular & Infrastructure	LDMOS, III-V	Bulk - FinFET sub 22nm	Bulk - FinFET sub 14nm
	RF-SOI	Bulk - RF CMOS 28nm	Bulk - CMOS < 28nm
	Bulk - SiGe	FD-SOI	
	Piezo		

5G mmW Cellular & Infrastructure	III-V	Bulk - FinFET sub 22nm	Bulk - FinFET sub 22nm
	Bulk - SiGe, RF CMOS		
	PD-SOI / HR < 65nm		
	FD-SOI		

IoT long range Combo connectivity	RF-SOI	Piezo, III-V	Bulk - FinFET sub 22nm	Bulk - FinFET sub 22nm
		Bulk - SiGe, RF CMOS		
		FD-SOI		

IoT short range	Bulk - RF CMOS < 65nm	
	FD-SOI	



AI is being pushed from the cloud to the edge

4 drivers pushing AI at the edge

Latency / Reliability



Data privacy



Power consumption

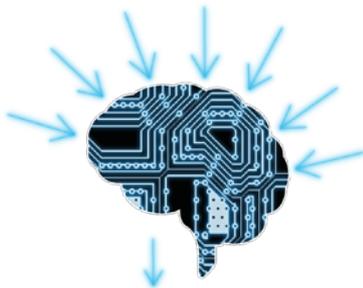


Cost



Classifying raw data into metadata

Giga/Mega bytes per second of **incoming** raw data from sensors



Few (kilo) bytes per second of **outgoing** heavily processed data @ minimum joule per operation

Examples of applications

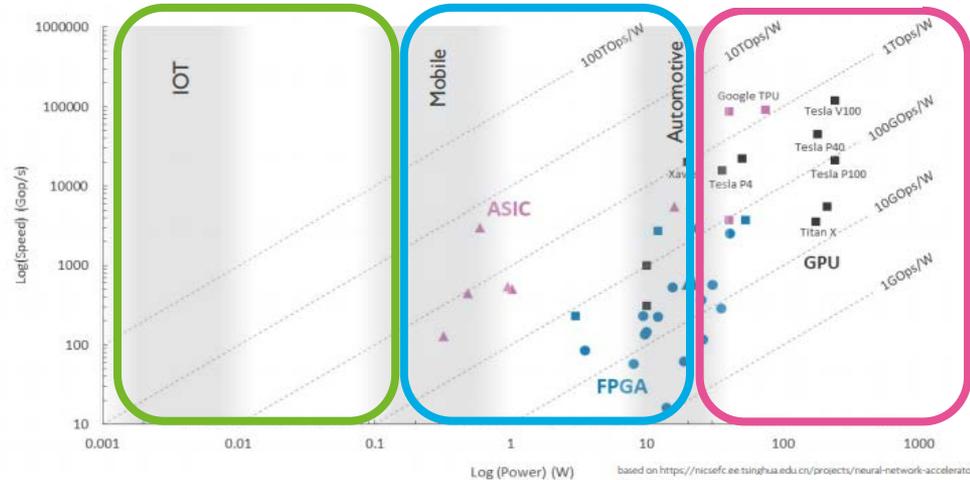
Home Assistant



Automotive



AI – Edge computing requires energy efficient solutions

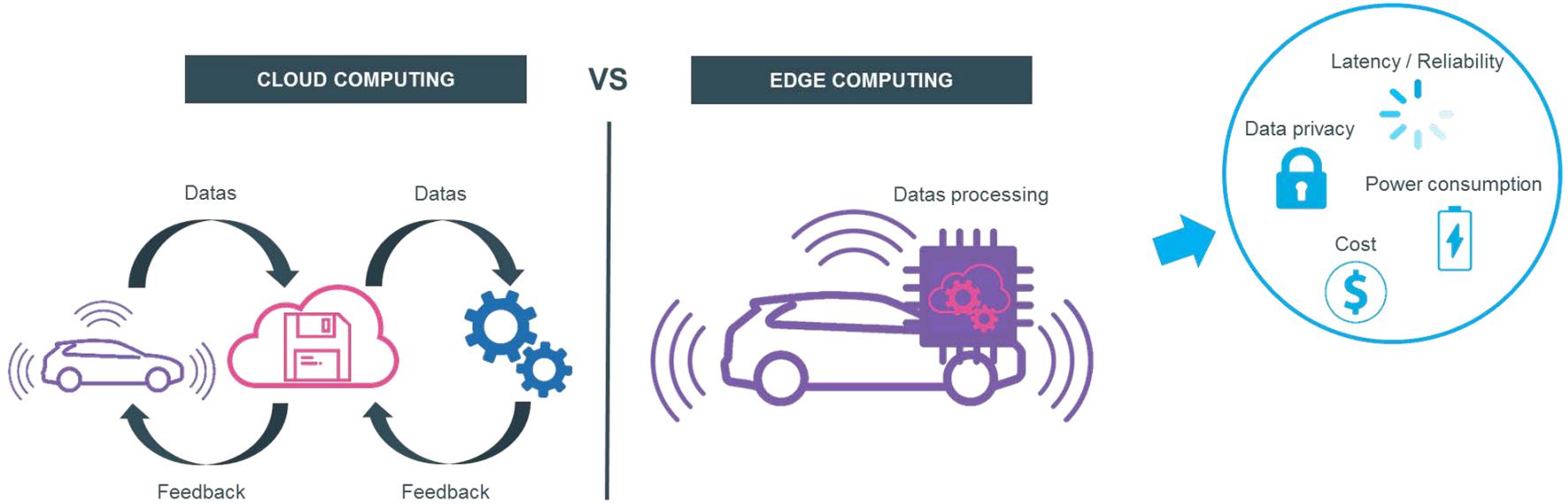


based on <https://ricsefc.ee.tsinghua.edu.cn/projects/neural-network-accelerator/>

Source: IMEC, ITF2018



Edge computing vs. Cloud computing



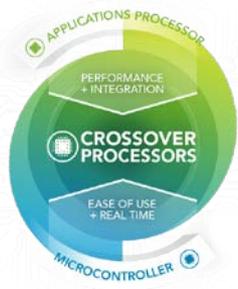
Applications



AI – FD-SOI powers more and more AIoT devices



i.MX RT600 crossover processors unlocking the potential of machine learning and artificial intelligence at the edge, are [based on FD-SOI](#)

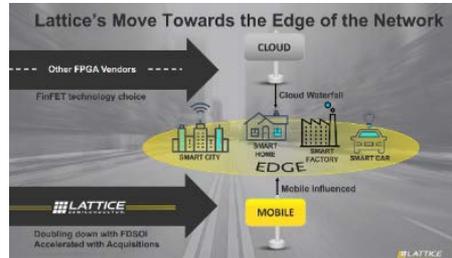


Powering the next generation of voice-assisted end nodes

i.MX RT600 Family of Crossover Processors



Next generation always-on FPGA low power machine learning inferencing (from 1mW to 1W) [based on FD-SOI](#)



“ Designers need silicon that allows them to build compact high-performance AI devices that deliver excellent performance without violating footprint or thermal management constraints. Cost is also a crucial factor. ”

Source: Lattice white paper, May 2018



Next generation Human Machine Interfaces powered by AI ambient computing [based on FD-SOI](#)



“ The intelligence has to move to the edge [..]. 22FDX has that mix of performance and power and the ability to aggregate functions such as RF or non-volatile memory that we are looking towards. We need also extremely low power so the ability to do active body biasing is very important to us. ”

Source: Synaptics CEO, GTC, September 2018



Rockchip RK1808, an AIoT solution with built-in 3TOPs NPU solution, designed for various AI applications is [based on FD-SOI](#)



“ Ultimate low power consumption adopting 22nm FD-SOI process. Power consumption reduced by about 30%, compared with mainstream 28nm process under the same performance ”

Source: <http://www.rock-chips.com>

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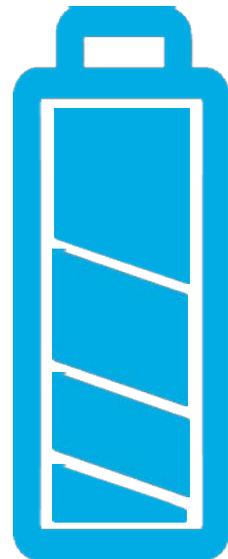
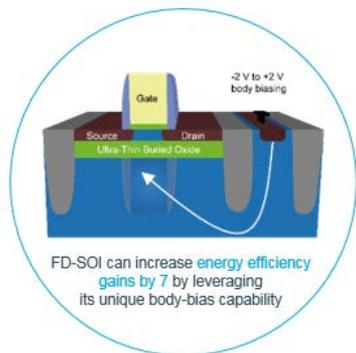


Dolphin Integration, a critical IP player to enable AIoT

“ABB” to improve SoC energy efficiency



- **Stand-alone ABB IP** for process, voltage, temperature and aging **compensation**
- **Embedded body-bias generator, sensors and control loop**
- Increase SoC energy-efficiency for a wide voltage range from **0.4V to 0.9V**
- **1% area overhead** vs. logic area, less than **10μW power consumption**
- **Fully compatible with GF 22FDX Foundation IPs**
- Delivered with a comprehensive design, test and sign-of **methodology**



Energy efficiency gain

Body-bias impact (AVS, ABB) on energy efficiency

Agenda

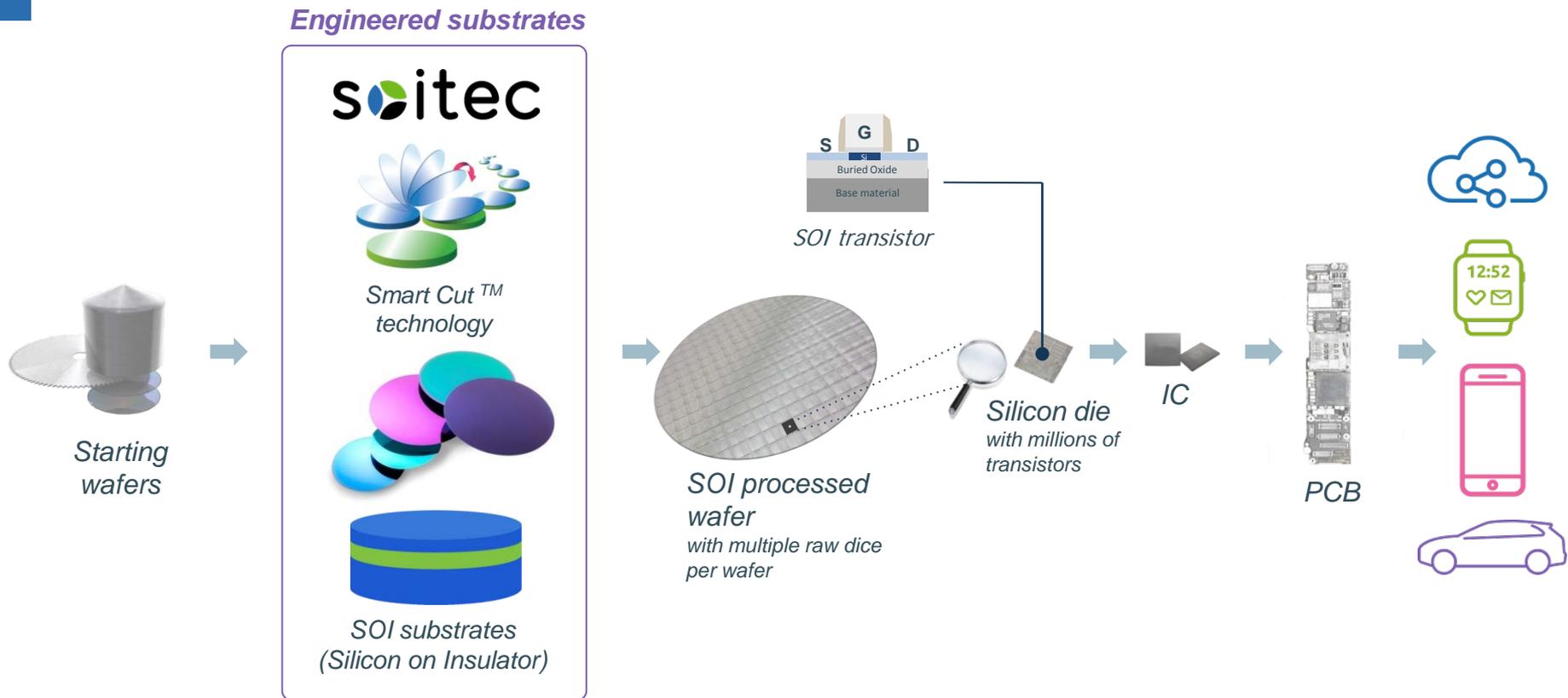
1 5G & AI – At the heart of the next human (r)evolution

 2 **Soitec current end markets and products applications**

3 Financials and Guidance for FY'19

Appendix

Soitec in the value chain



Smartphones

3G/4G fuelling current growth 5G around the corner



4G



5G



RF-SOI for Antennas & Switches



RF-SOI for Low Noise Amplifiers & Power Amplifiers



POI - New engineered substrates for filters

3D image sensors initial adoption for facial recognition – use cases for AR/VR



Facial recognition



Mobile AR/VR

FD-SOI value proposition recognized for several critical applications

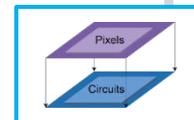
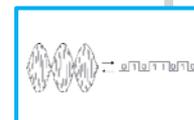


Image signal processors



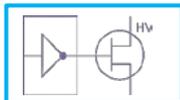
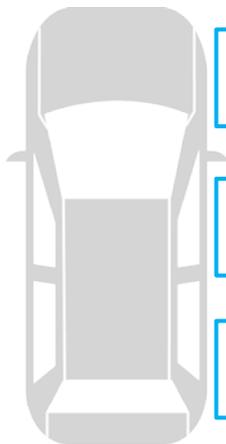
Artificial intelligence system-on-chips



5G transceivers

Automotive

Power-SOI to benefit from structural semi content increase



Power-SOI for gate drivers



Power-SOI for Class D audio amplifiers



Power-SOI for in-vehicle networking

FD-SOI to ramp for ADAS Development in radars



Super computing chips

ASICs for radars



Image classification

FD-SOI chips ramping up for infotainment application processors



Multimedia application processors



Voice-recognition processors



... and a wide range of microcontroller applications for automotive



Automotive – View from a leading car maker



Audi Project Manager Andre Blum says SOI stands for Solutions, Opportunities and Innovation — at the 2018 SOI Symposium in Silicon Valley



FD-SOI value proposition (AUDI)

› Key benefits

› Ultra low voltage operation

Down to 0.4 V by corner trimming / bias trimming
> 70% power reduction possible

› Performance gain

By corner trimming / bias trimming
« more bang for the buck »

› Dynamic switching between situation specific optimum operating points

High performance ADAS systems: not always need for 100% performance
Application / situation adaptive biasing

› New applications and use cases

Due to new ultra low power sensors and microcontrollers (acoustic, MEMS, optical/light...)

Dr André Blum, AUDI AG | 2018-04-26 | SOI Silicon Valley Symposium, Santa Clara, CA

Internet of Things

FD-SOI for consumer applications



GPS for smartwatches



Ear buds



Smart home speakers



Drones

FD-SOI for industrial applications



Smart cities

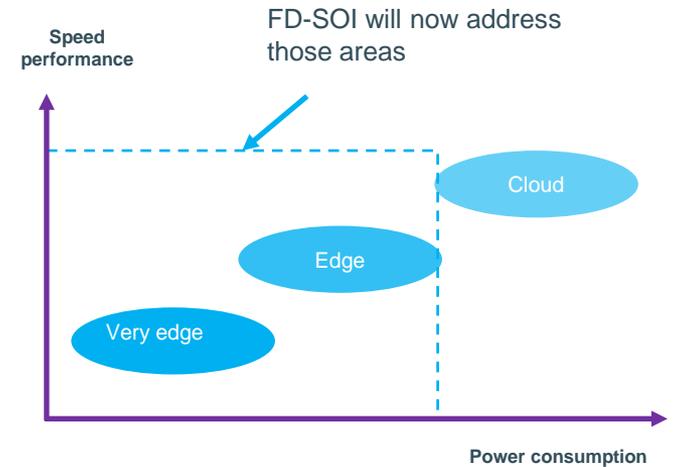


Smart meters



Security cameras

FD-SOI offers the best value proposition for edge-computing and ultra-low power applications



Infrastructure for cloud, mobile and satellite

Photonics-SOI

For datacenters optical transceivers



FD-SOI

For crypto-currency mining



FD-SOI

For base stations

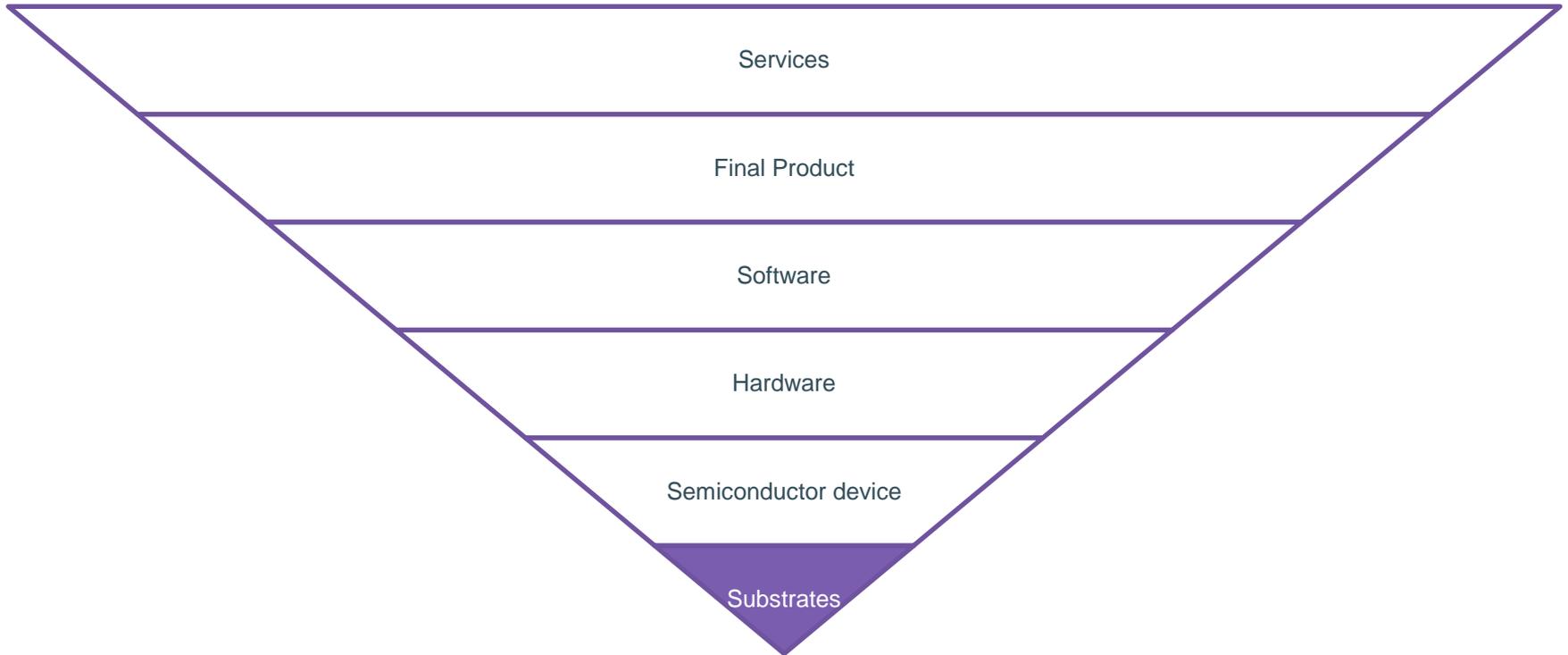


FD-SOI

For broadband communications in Low Earth Orbit (LEO) satellites



Substrate materials at the base of electronics innovation



Towards more partnerships in our innovation model

Today – A global R&D network



Tomorrow – More partnerships with OEMs



Soitec leading industry-wide consortium (+25 companies) to accelerate FD-SOI adoption in critical automotive applications

CEAN₁₂
(Opportunity to Carry European Autonomous driving further with FD-SOI technology up to 12nm node)



Soitec footprint to expand in every end market

Smartphones



Automotive



Cloud infrastructure



Internet of Things



Multi-sites industrial footprint to support growth

200mm SOI

Soitec Bernin I, France HVM



950K wafers/year capacity

Singui, China
Ramp to HVM



350K wafers/year capacity

Total 200mm capacity
→ 1.3M wafers/y.
by FY'19

300mm SOI

Soitec Bernin II, France
HVM



650K wafers/y. capacity with
plan to extend to 800K

Pasir Ris, Singapore
Ready HVM

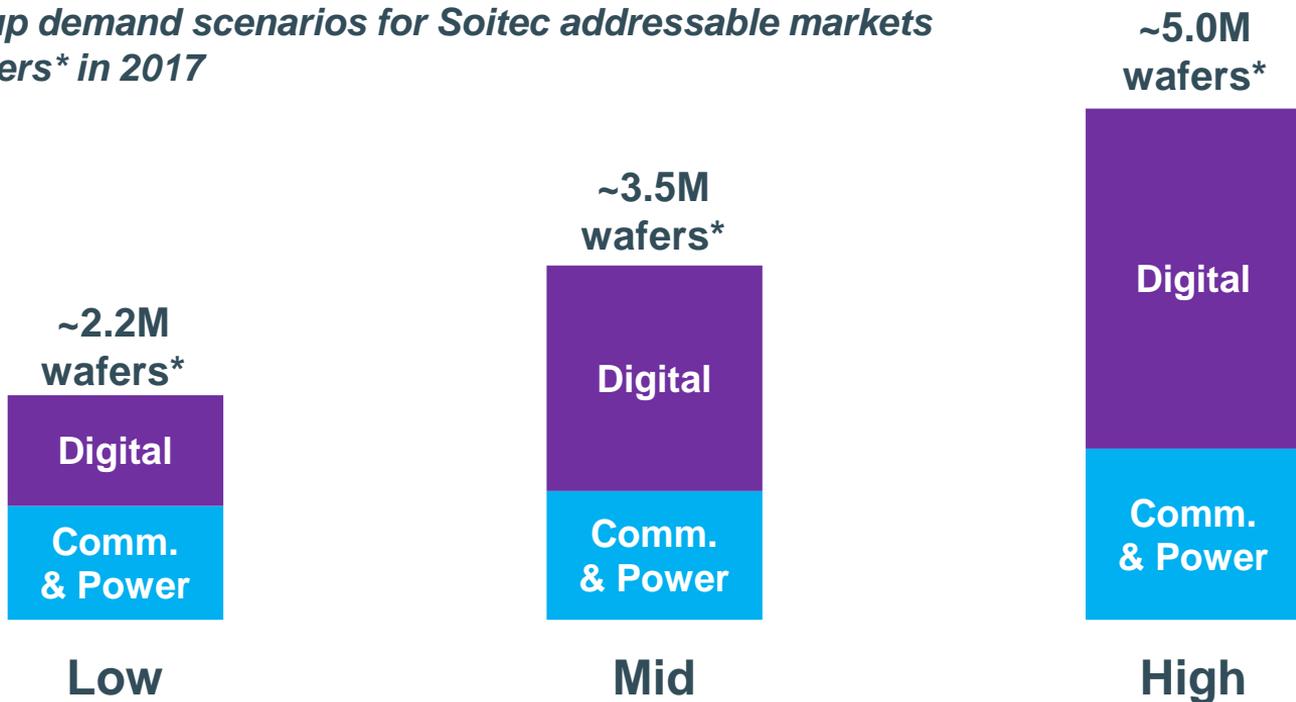


Contemplated capacity:
800K wafers/y.

Total potential 300mm
capacity
→ Up to 1.6 M wafers/y.

Strong business trends support our FY22 TAM outlook

*Bottom-up demand scenarios for Soitec addressable markets
>1 M wafers* in 2017*



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FY'19 and Q4'19 Revenues

	FY'18	FY'19	FY'19/FY'18	
(Euros thousands)			change reported	chg. at const. exch. rates and perimeter ¹
200-mm	192,413	220,991	+15%	+17%
300-mm	106,300	205,671	+93%	+97%
Royalties and other revenues	11,918	17,284	+45%	-43%
Total revenues	310,631	443,946	+43%	+42%

	Q4'18	Q4'19	Q4'19/Q4'18	
(Euros thousands)			change reported	chg. at const. exch. rates and perimeter ¹
200-mm	49,136	60,206	+23%	+21%
300-mm	36,495	72,300	+98%	+95%
Royalties and other revenues	6,055	7,776	+28%	-65%
Total revenues	91,686	140,282	+53%	+45%

H1'19 highlights – On track to deliver a very strong year

Business

- › **H1'19 sales up 36% Y/Y at constant exchange rates and perimeter**
- › Growth mostly driven by **RF-SOI** (300mm) and **FD-SOI** adoption
- › **Soitec content growth story validated in each strategic end markets**



Manufacturing

- › **Capacity expansion** in sync with customer demand
 - › **Bernin I** annual capacity raised to 950k
 - › **Bernin II** annual capacity for FD-SOI raised to 350k
 - › **Singapore** installation and qualification of pilot line
- › **Recruitment** of ~200 year-to-date people in production in 2018

Expanding capacity



Recruiting talent



Financials

- › **Strong operating leverage**
 - › 35.4% gross margin (vs. 32.4% in H1'18)
 - › 22.2% current operating margin (vs. 15.8% in H1'18)
- › **Capex deployment in line with plan**
 - › €65.2m in H1'19 out of €120m planned for FY'19
- › **Issuance of a €150m convertible bond to strengthen balance sheet**
 - › Zero coupon
 - › 5-year maturity
 - › €20.7m recognized as equity, €129.3m as debt



H1'19 highlights – Solid momentum for SOI adoption

RF-SOI

- › **Nokia** ReefShark chipset for 5G basestation to be built on RF-SOI
- › **GlobalFoundries'** 8SW 300-mm RF-SOI new products for LTE and Sub-6 GHz front-end module applications: 5G IoT, mobile
- › **pSemi (Murata)** introduced the 1st monolithic SOI Wi-Fi Front-end Module (LNA + PA + 2 switches on the same chip)
- › **TowerJazz** to ramp its RF-SOI 65nm process (300-mm fab in Japan) site and signing of a wafer supply agreement with Soitec

FD-SOI

- › **ARM/Samsung** 1st embedded MRAM (eMRAM) on 28FDS
- › **Blink/Amazon** (home security cameras) new chip tape-out on 28FDS
- › **Renesas** energy-harvesting embedded controller for IoT device on 65nm SOTB*
- › **Samsung** 1st 5G mmWave cellular chip on 28FDS
- › **Synaptics** low-power accelerator for neural networking on 22FDX

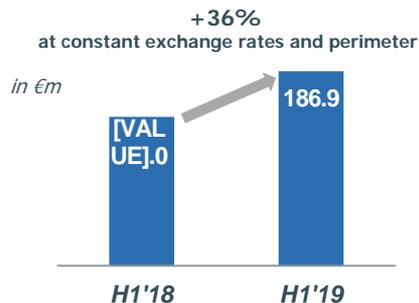
Innovation and M&A

- › **Leti and Soitec** launched a new substrate innovation center to accelerate time to market of new engineered substrates from R&D to Prototypes
- › **Dolphin Integration** assets acquisition
 - › Soitec 60% / MBDA 40%
 - › Skillset to reinforce a full IP and service offering related to energy efficient solutions for chip design on FD-SOI.
 - › Financial investment of around €6m (Soitec+MBDA)
 - › Consolidated into Soitec's financials as of Sept. 2018

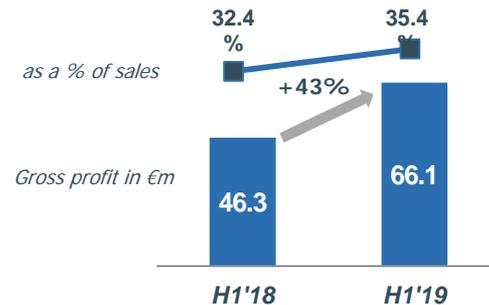


H1'19 highlights – Strong financial performance

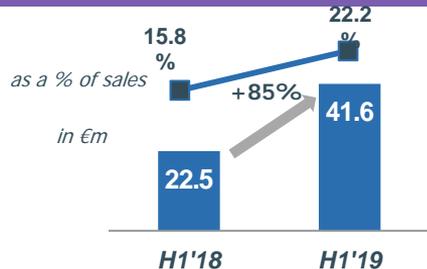
Accelerated growth in sales (Electronics)



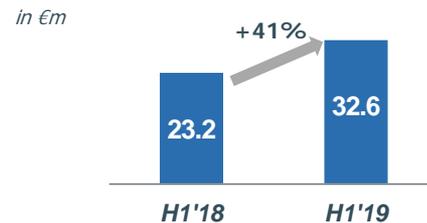
Strong improvement in gross margin



Significant increase in current operating income



Strong increase in net result



The income and expenses related to discontinued operations are directly reported as "Net result from discontinued operations". Down to the line "Net result after tax from continuing operations", the Group consolidated P&L account now exclusively and fully reflects the Electronics activities as well as corporate expenses.

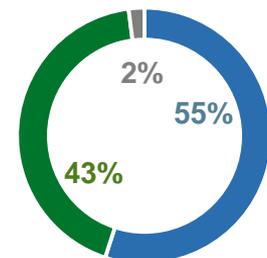


H1'19: strong growth in sales

In million euros

	H1'18	Q1'19	Q2'19	H1'19	H1'19/H1'18 change	
					reported	constant forex and perimeter ¹
200mm wafer sales	93.9	50.9	51.2	102.0	+9%	+13%
300mm wafer sales	44.9	39.3	41.3	80.6	+80%	+87%
Royalties and other revenues	4.2	1.7	2.5	4.3	+2%	-21%
Total sales	143.0	91.9	95.0	186.9	+31%	+36%

H1'19 sales breakdown



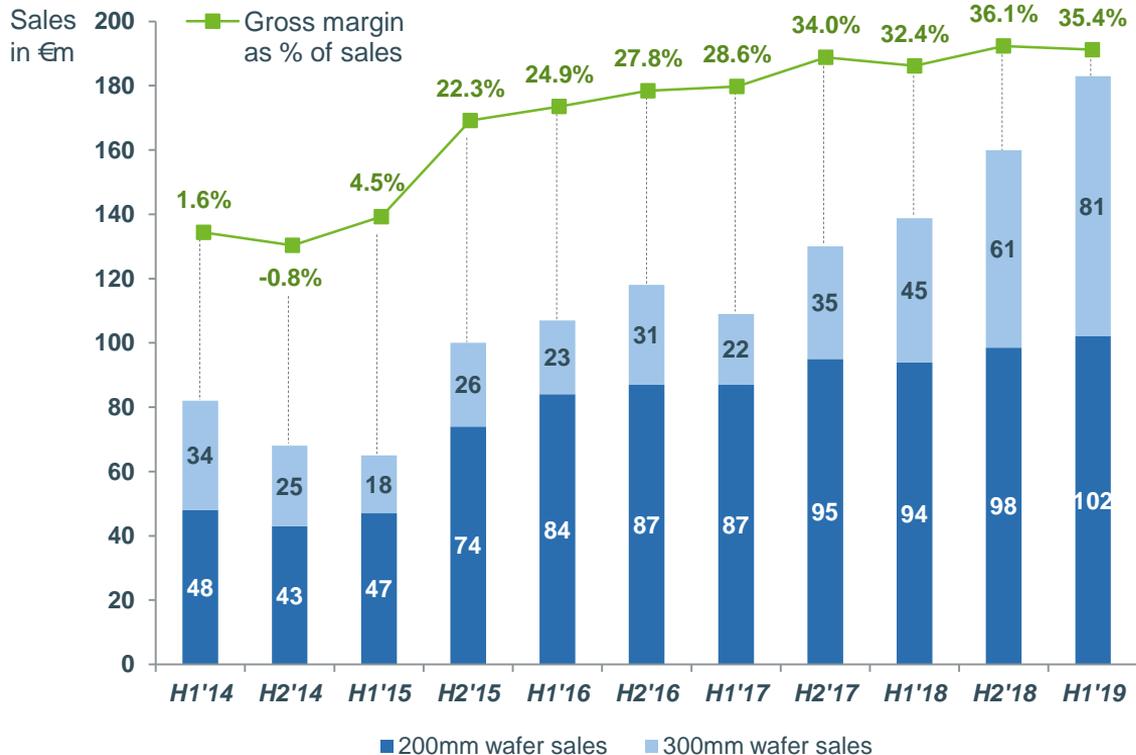
- 200mm
- 300mm
- Royalties and other revenues

- › **200mm wafer sales up 13% at constant exchange rates and perimeter**
 - › Growth reflecting higher volumes thanks to outsourced production, a more favorable product mix
 - › Supported by the sustained demand for radiofrequency (RF-SOI) and power electronics applications (Power-SOI) in the mobile and automotive markets
- › **300mm wafer sales up 87% at constant exchange rates and perimeter**
 - › Strong growth in sales resulting from higher volumes and, to a lesser extent, a more favorable product mix
 - › Very strong surge in both FD-SOI and RF-SOI 300 mm
- › **Lower Royalties and IP revenues offset by revenues generated by Frec|n|sys and Dolphin Integration assets**



¹ At constant exchange rates and comparable scope of consolidation; scope effects relate to the acquisitions of Frec|n|sys in October 2017 and Dolphin Integration assets in August 2018, both included in the segment Royalties and other revenues

H1'19 gross margin above 35%



- › Steady revenue growth over the last semesters
- › Bernin I running at full capacity
- › Bernin II capacity utilization from an average of slightly above 30% in H1'18 to an average of nearly 60% in H1'19
- › Better absorption of production costs vs H1'18 despite unfavorable forex impact, higher bulk material prices and higher expenses incurred by the restart of Singapore facility

Group consolidated P&L (1/2)

<i>In €m</i>	H1'19	H1'18	Change
Sales	186.9	143.0	+31%
Gross profit	66.1	46.3	+43%
<i>As a % of sales</i>	<i>35.4%</i>	<i>32.4%</i>	
Gross R&D expenses	(24.0)	(22.3)	+8%
Prototype sales	5.6	3.7	+54%
Subsidies and research tax credits	10.1	9.1	+10%
Net R&D expenses	(8.3)	(9.5)	-13%
<i>As a % of sales</i>	<i>4.4%</i>	<i>6.7%</i>	
Sales & Marketing expenses	(4.2)	(3.5)	+21%
General and administrative expenses	(12.0)	(10.7)	+12%
Total SG&A expenses	(16.2)	(14.2)	+14%
<i>As a % of sales</i>	<i>8.7%</i>	<i>10.0%</i>	
Current operating income	41.6	22.5	+85%
<i>As a % of sales</i>	<i>22.2%</i>	<i>15.8%</i>	

R&D expenses:

- › Slight increase in Gross R&D costs
- › More than offset by higher prototype sales as well as higher subsidies and research tax credits

SG&A expenses:

- › Moderate increase in expenses and additional charges related to the share incentive plan implemented for all staff
- › Decrease as a percentage of sales



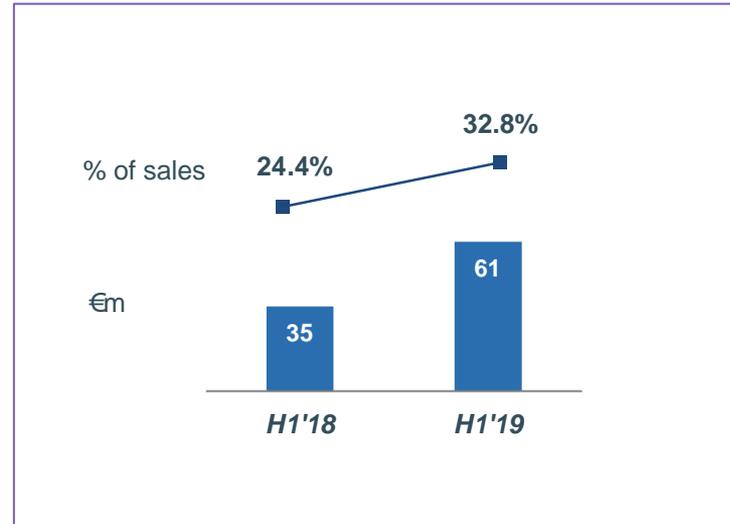
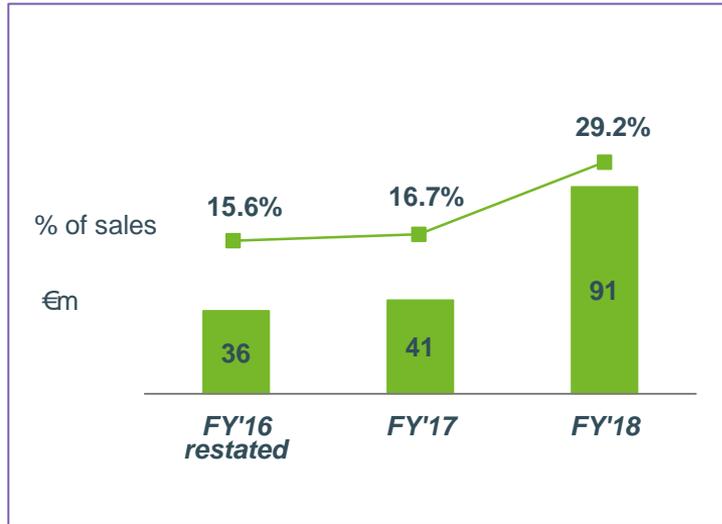
Group consolidated P&L (2/2)

<i>In €m</i>	H1'19	H1'18	Change
Current operating income	41.6	22.5	+85%
Other operating income and expenses	(0.0)	(0.1)	
Operating income	41.6	22.5	+85%
Net financial result	(0.4)	4.5	
Income tax	(5.2)	(2.6)	
Net profit from continuing operations	35.9	24.4	+47%
Net profit / (loss) from discontinuing operations	(3.3)	(1.2)	
Net profit	32.6	23.2	+41%

Net financial result:

- › H1'18 benefitted from a €4.6m non recurring financial income (early repayment of a guarantee deposit related to Touwsrivier)

Strong H1'19 EBITDA of the continuing operations (Electronics)

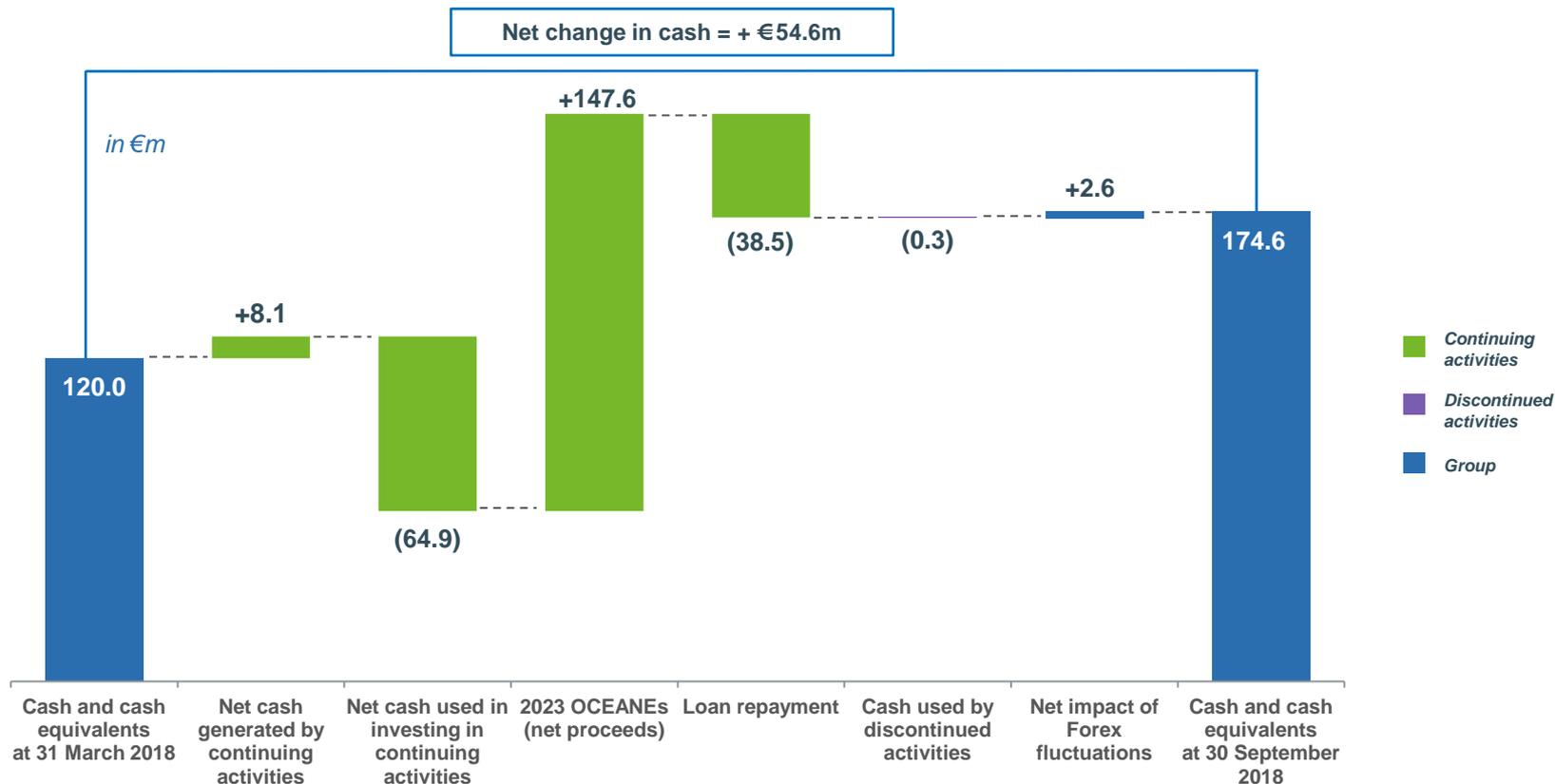


Cash generation from operating activities

In €m	H1'19			H1'18		
	Continuing operations	Discounted operations	Total	Continuing operations	Discounted operations	Total
Net profit	35.9	(3.3)	32.6	24.4	(1.2)	23.2
Depreciation and amortization	10.6	-	10.6	9.3	-	9.3
Other items	14.9	1.8	16.7	1.2	(0.9)	0.3
EBITDA	61.4	(1.5)	59.9	34.9	(2.1)	32.8
R&D redeemable advance reversal to income	0.2		0.2	0.3	-	0.3
Change in working capital	(53.5)	1.1	(52.4)	(29.3)	0.0	(29.3)
Net cash generated by / (used in) operating activities	8.1	(0.4)	7.7	5.9	(2.2)	3.8

- › Strong Electronics EBITDA
- › Increase in working capital requirement: higher level of activities, including an increase in inventories and in trade receivables

H1'19 cash generation



Simplified consolidated balance sheet

In €m

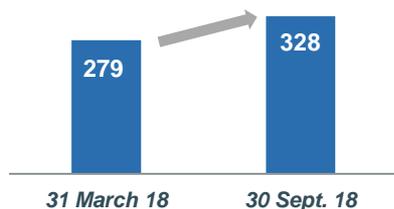
	30 Sept. 2018	31 March 2018
Intangible assets	27.2	8.2
Tangible assets and other non current assets	280.2	207.3
Total non-current assets	307.4	215.5
Current assets	165.0	120.3
Cash and cash equivalents	174.6	120.0
Total current assets	339.5	240.2
Assets held for sale and discontinued	18.1	24.0
Total assets	665.0	479.7

In €m

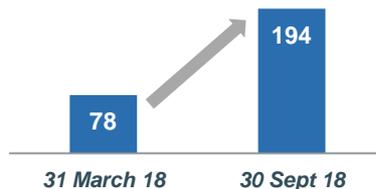
	30 Sept. 2018	31 March 2018
Total equity	328.4	278.6
Long-term financial debt	174.9	59.6
Provisions and other non-current liabilities	15.0	11.4
Total non-current liabilities	189.9	71.1
Short-term financial debt	18.6	18.6
Current liabilities	118.8	99.2
Total current liabilities	137.4	117.8
Liabilities from discontinued operations	9.3	12.2
Total liabilities and equity	665.0	479.7

Solid financial position

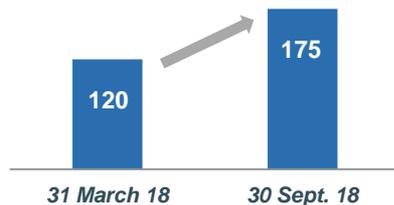
Shareholders' equity €m



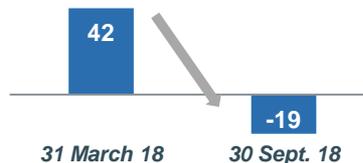
Gross debt €m



Cash and cash equivalent €m



Net cash position €m



Equity reinforced by +€50m:

- › +€33m retained H1'19 earnings
- › +€20m recognized as equity out of the €150m OCEANE 2023 bonds issues
- › +€9m capital increase related to share-based payments
- › -€13m revaluation of hedge instruments fair value

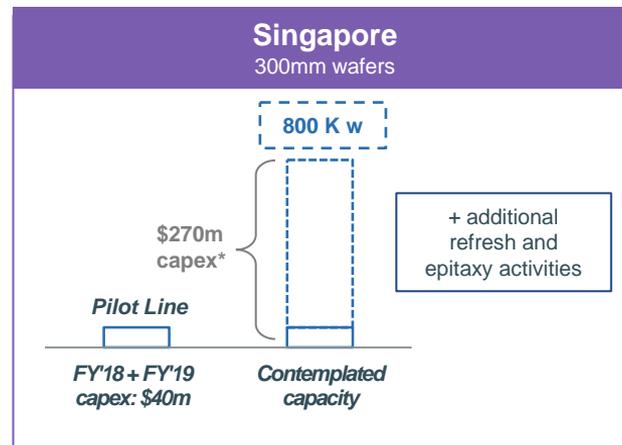
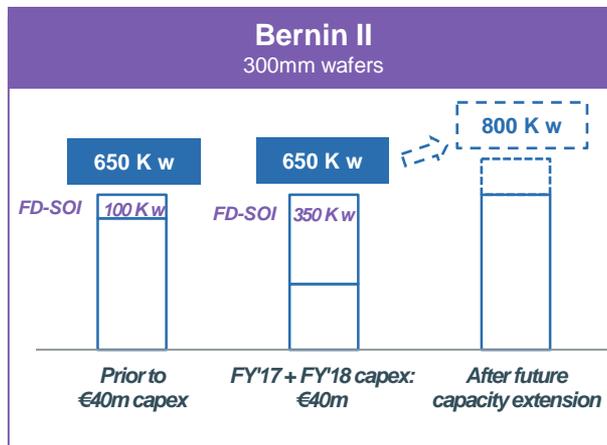
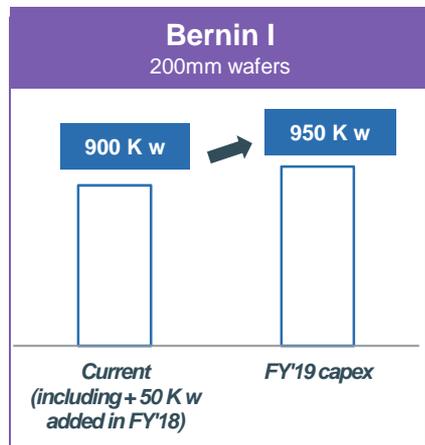
Gross debt increase:

- › €128m recognized as debt out of the €150m OCEANE 2023 bonds issues partly offset by €30m of credit lines redeemed during H1'19
- › Finance lease increase: +€5.5m
- › €4.4m of lease debt recognized with first time application of IFRS 16
- › Put option granted to the minority shareholder of Dolphin Design: debt valued at €7.7m



Investment projects related to industrial sites

- › FY'19 capex planned at approx. €120m, including:
 - › Bernin I: increase capacity by adding 50 K wafers
 - › Bernin II: start extending the existing building with a view to later subsequently increase capacity by +150 K wafers
 - › Singapore: complete the FD-SOI 300 mm pilot line and also add refresh and epitaxy activities
- › Contemplated capacity extension of existing sites:



* As already announced, excluding refresh and epitaxy activities

Updated Guidance for FY'19

Revenue growth

**Up 42% at
constant
exchange rate and
perimeter**

Electronics EBITDA margin

**Around 33% of
sales**

Electronics Capex

Approx. €120m

Appendix



Net profit from discontinued operations

Directly reported at the bottom of consolidated P&L

<i>In €m</i>	H1'19	H1'18
Sales	0.1	0.8
Expenses	(0.4)	(0.3)
Current operating income/(loss)	(0.4)	(0.5)
Other operating income and expenses	(0.7)	(0.8)
Operating income/(loss)	(1.0)	(0.3)
Net financial income/(expense)	(2.2)	(0.8)
Income tax	(0.1)	(0.1)
Net profit / (loss) from discontinued operations	(3.3)	(1.2)

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