



台灣茂矽電子股份有限公司

Investor **R**elation Presentation

February 18, 2020

POWER saving by MVI

風險聲明

Risk Disclosures Statement

This presentation material contains certain forward-looking statements that are based on current expectations and are subject to known and unknown risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements.

2019 Result Highlights

Amount : NT\$ Million	2019/12/31	2018/12/31
	Amount	Amount
Net Revenue	1,358	1,853
Net Income (Loss)	(397)	184
Operation (109) Non-Operation (288)		
EPS(NT\$)	-2.56	1.54
Cash and Financial Instruments	687	1,805
Equity	1,952	2,335
Total Wafers Shipped(Kpcs)	466	676

Note : Consolidated financial information for 2019 has not been audited and certified by CPA

Statements of Comprehensive Income

Amount : NT\$ Million

	2019		2018		YoY
	Amount	%	Amount	%	%
Net Revenue	1,358	100.0	1,853	100.0	-26.7
Cost of Revenue	(1,251)	(92.1)	(1,498)	(80.8)	-16.5
Gross Profit (Loss)	107	7.9	355	19.2	-69.9
Operating Expenses	(216)	(15.9)	(229)	(12.4)	-5.7
Operating Income (Loss)	(109) *	(8.0)	126	6.8	-186.5
Gain (Loss) on valuation of financial Assets	(271) *	(20.0)	35	0.0	-874.3
Net Other Non-operation Income	(17)	(1.2)	25	3.2	168.0
Income before Income Tax	(397)	(29.2)	186	10.0	313.4
Net Income (Loss)	(397)	(29.2)	184	9.9	315.7
EPS(NT\$)	-2.56		1.54		

Note : Consolidated financial information for 2019 has not been audited and certified by CPA

* Sales decreased

* Financial assets measured at fair value through loss

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Consolidated Balance Sheet

Amount : NT\$ Million	2019/12/31		2018/12/31	
	Amount	%	Amount	%
Total Assets	2,742	100.0	3,698	100.0
Cash	687 *	25.1	1,805	48.8
Accounts Receivable	259	9.5	310	8.4
Inventories	183	6.7	195	5.3
Total Current Assets	1,432	52.2	2,516	68.0
Property, Plant and Equipment	306	11.2	317	8.6
Right-of-use Assets	340	12.4	0	0.0
Notes and Accounts Payable	152	5.6	174	4.7
Accrued Liabilities and Others	214	7.8	1,055	28.5
Total Current Liabilities	366 *	13.4	1,229	33.2
Total Equity	1,952	71.2	2,335	63.1
Book Value (NT\$)	12.45		14.92	

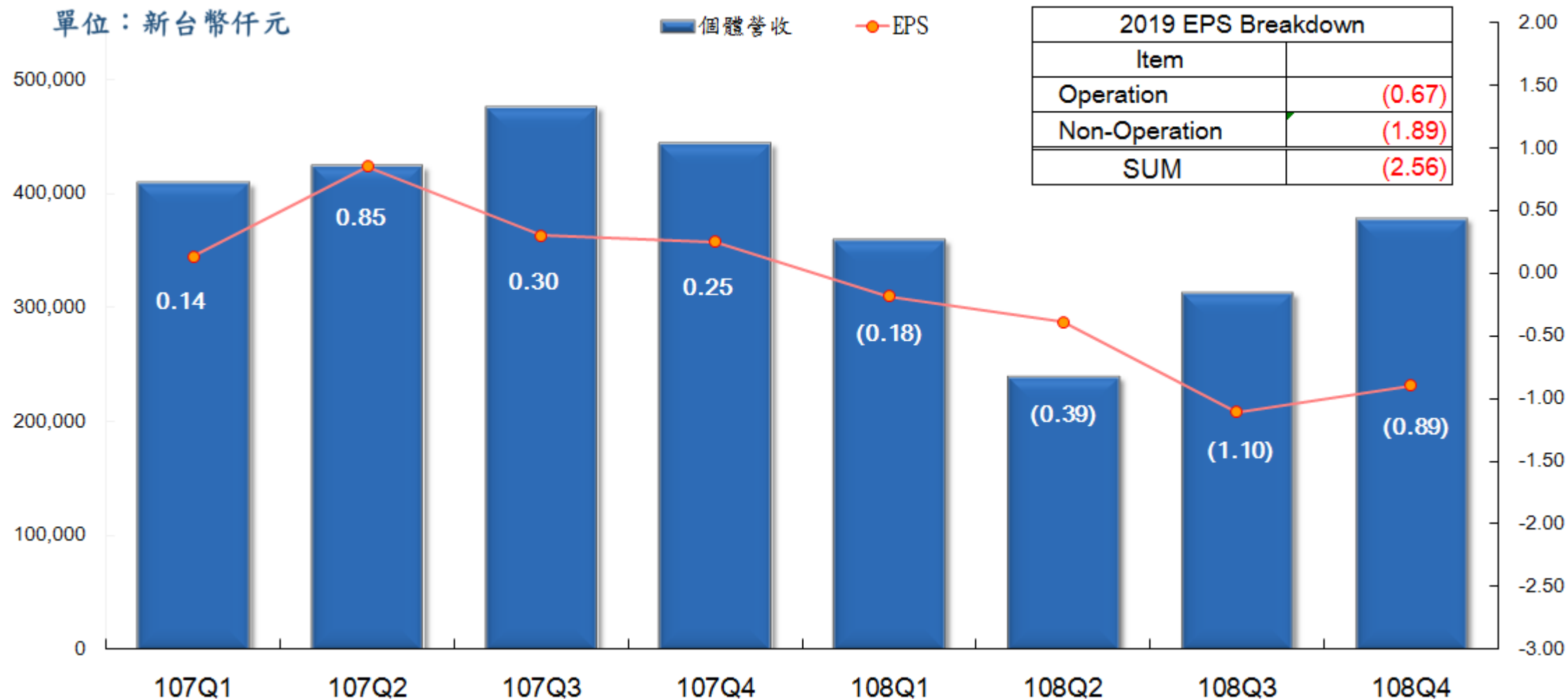
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The company paid off all loan balance of all financial institutions on April 12, 2019

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Quarterly Financial Highlights

近年季度營運表現



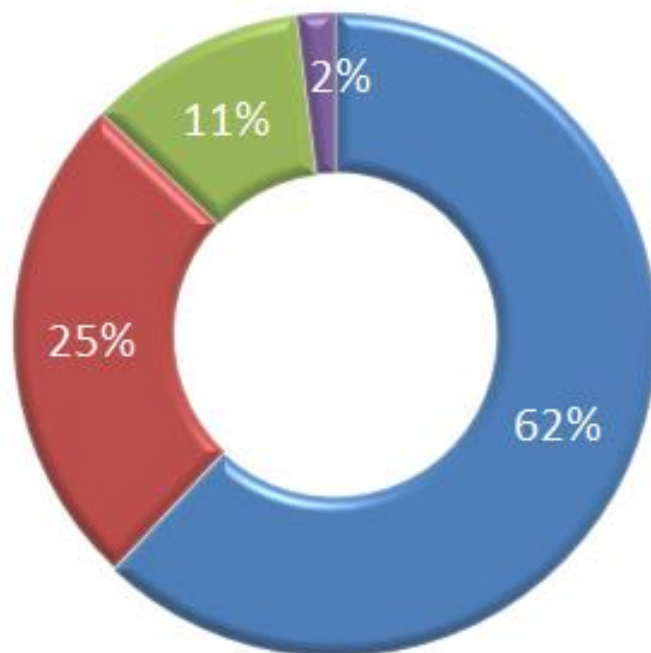
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2018-2019 Revenue Breakdown

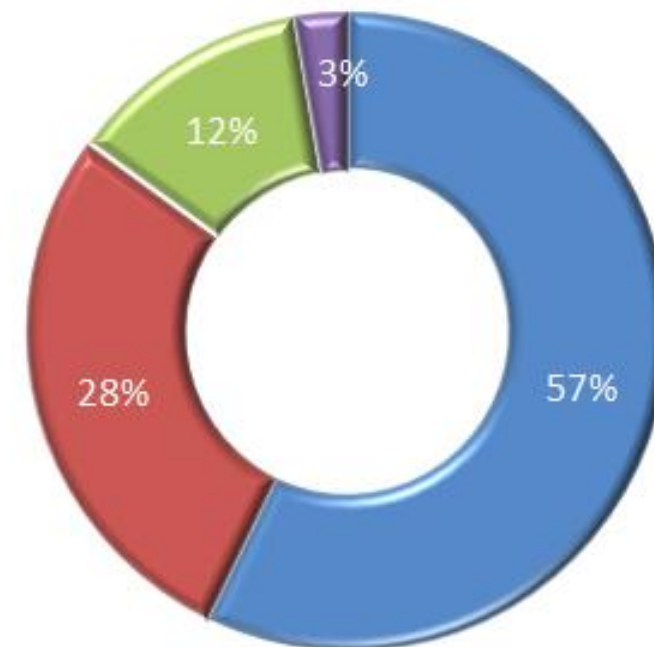
銷售分析 - 產品別

Y2019



■ MOSFET/IGBT ■ Diode/MCD ■ Analog/TVS ■ Others

Y2018

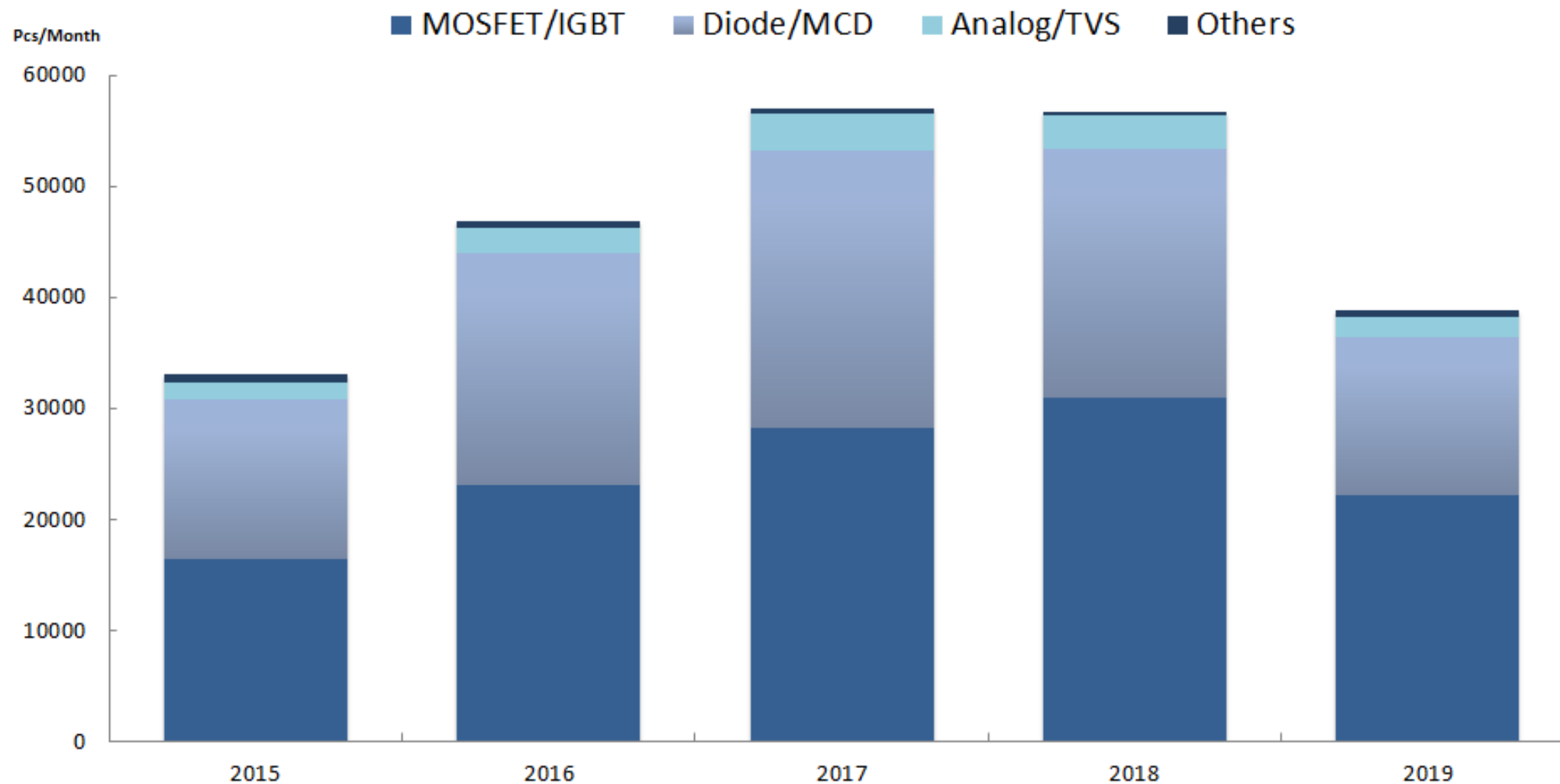


■ MOSFET/IGBT ■ Diode/MCD ■ Analog/TVS ■ Others

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Wafer Foundry Output Trend (average per month)

平均每月晶圓製造產出數量

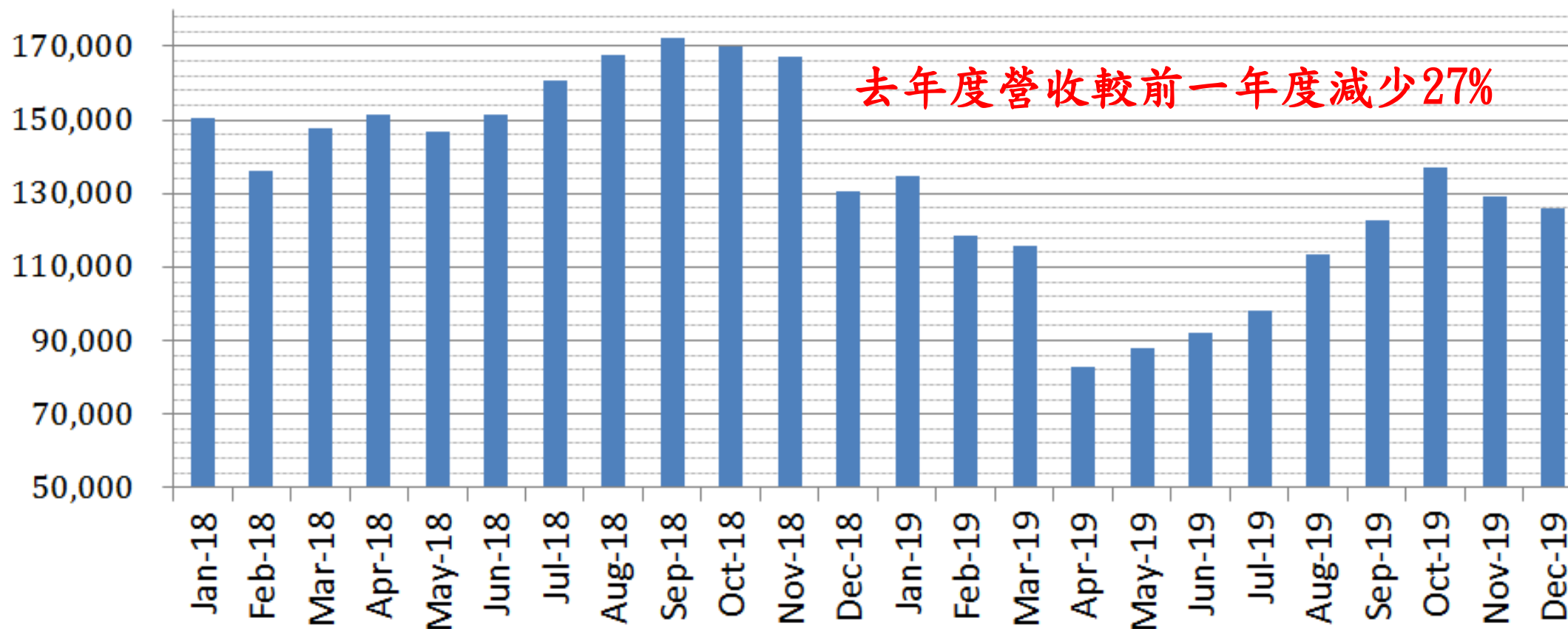


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Monthly Sales 每月營收表現

單位：新台幣仟元

2018-2019 合併營收



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Mosel IGBT Products Overview – IGBT產品一覽表



Voltage Rating (V)	Current Rating (A)	Technology	Availability
650	10	Trench NPT	Released
650	15	Trench NPT	Released
650	20	Trench NPT	Released
650	30	Trench NPT	Released
650	100	Trench NPT	Released
750	150	Trench SPT	Under development
750	150	Trench Field Stop	Under development
1200	20	Trench NPT	Released
1200	30	Trench NPT	Released
1200	40	Trench NPT	Released
1200	100	Trench NPT	Released
1200	150	Trench SPT	Under development
1200	150	Trench Field Stop	Under development
1200	200	Trench NPT	Released

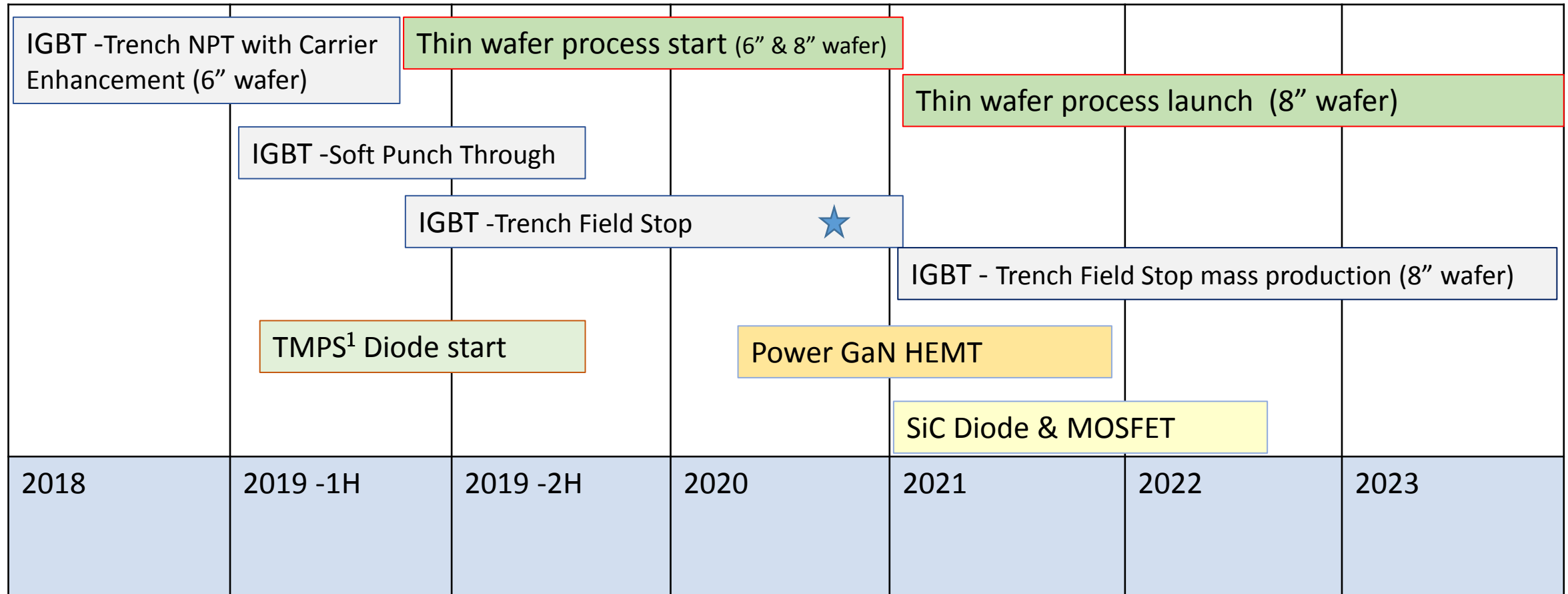
Mosel Si- IGBT and WGB Technology Roadmap

Trench IGBT

- Field Stop
- Soft Punch through
- Non punch through

With Advance wafer thinning

- 50 ~ 90um
- Taiko like grinding process



Note 1: TMPS : High voltage fast recovery diode, Mosel patent pending

★ Q4-2020, FS-IGBT BGBM Fab ready

八吋/六吋共用

8in/6in Compatible:

- 預計Q2完成八吋/六吋共用之IGBT晶背製程無塵室建置
Fab expansion project for BGBM and IGBT backside process in progress
- tentative completion time by end of Q2
- 計劃Q3完成關鍵設備裝機並陸續添購車規要求之軟硬體設備，持續優化生產線
State of the Art Field Stop IGBT backside process tools to be installed in Q3
- 預估Q4進入試產階段
BGBM and Field Stop IGBT Pilot production from Q4
- 第一階段產能約5000wf/month
Phase 1 capacity- 5000wf/month

Summary- 經營現況總結

攻佔車用、工業及高端 MOSFET應用市場

To Capture AUTOMOTIVE , INDUSTRIAL and HIGH END MOSFET Markets

- 2019年順利間接通過多家車用零件大廠品質稽核，車用產品訂單量成長5倍，目前營收比重約10%，預估2020年將持續成長
In 2019 Successfully passed multiple key customers' automotive products audits with >10% shipment for automotive applications .
Projects continuous growth in 2020
- 開始出貨工業用600-1200V IGBT產品，並計劃擴充系列至1700V兼容FREDs產品
Start to deliver 600-1200V IGBT products for industrial applications.
Plan to broaden IGBT product portfolio to 1700V with compatible FREDs
- 進入電動車及白色家電領先企業，並開發次世代功率產品GaN技術平台
Engaged with 1st Tier Electric Vehicle, Appliances manufacturing companies for FS-IGBT market
Passed world class customers audits on High End MOSFETs for Portable Devices
To develop Power GaN Technology Platforms for next generation power products

Thank You !

Q and A !