



GlobalWafers (6488 TT) 2021 Results Presentation

March, 2022



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Executive Comments

➤ Financial Highlights

● Revenue

- ✓ Q421¹ → NTD \$15.8 billion, 11.4% YoY, record high!
- ✓ 2021² → NTD \$ 61.1 billion, 10.4% YoY, record high!
- ✓ 9 consecutive quarters of growth

(NT\$ mn)	Q419	Q120	Q220	Q320	Q420	Q121	Q221	Q321	Q421
Revenue	13,506	13,515	13,701	14,006	14,137	14,806	15,208	15,364	15,752

● Gross Margin

- ✓ Q421¹ → 41.3%, 4 consecutive quarters of growth and reached record high!
- ✓ 2021² → 38.1%, the second highest in the history!

Q121	Q221	Q321	Q421
35.1%	36.7%	39.1%	41.3%

● Operating Profit Margin

- ✓ 2021² → 28.9%, the third highest in the history!

● EPS

- ✓ Q421¹ EPS → NTD 4.87
- ✓ 2021² EPS → NTD 27.27

1. Q421: Fourth quarter of 2021 / 2. 2021: Full year of 2021



➤ Prepayment

NT\$ 28,635 mn (US\$ 1,034.5 mn)¹

➤ Capacity Expansion Plans

- Increasing Si content, 5G and numerous technological advancements surged in the aftermath of the coronavirus pandemic, the current level of production capacity is insufficient.
- Investments expand across Asia, Europe and the United States of up to NTD 100 billion spanning both brownfield and greenfield projects. Expected to ramp up in 2H23 and to be expanded on a quarterly basis.
- Products include 300mm wafer and EPI, 200mm and 300mm SOI, 200mm FZ, SiC (including SiC Epi), GaN on Si and other large-size next-generation products.

1. FX Rate: NTD:USD = 27.68



➤ Industry & Overview

● Global Economy

IMF predicts 5.9% global GDP growth in 2021; 4.4% in 2022, and 3.8% in 2023.

Downside risks to recovery center around :

- 1) COVID-19 variant
- 2) Supply chain disruption
- 3) Energy price volatility
- 4) Geopolitical tensions
- 5) Climate emergency

● Semiconductor Industry

Unprecedented demand is likely to continue through 2022, but supply chain constraints are expected to undercut the output until 2023.

Key status monitors for drivers of wafer industry:

- 1) Global macro-economy recovery
- 2) COVID-19
- 3) Data industry CapEx in memory
- 4) Smart phone sales



- **Chip Crunch**

The chip crunch is not ending in 2022, as the lead time of some electronic components is stretching into 2023.

The chip shortage effects are expected to be corrected in 2-3 years.

- **Automotive**

By finding alternative ways to address wafer shortage, automotive industry is anticipated to resume recovery in 2023, however the Russian-Ukraine conflict further casts looming shadow.

With policy support and major carmakers upping the ante in EV to retake the initiative, EV are gathering more momentum across most geographies.

- **5G**

Pandemic highlighted the need for connectivity and accelerated digital transformation, contributing to rapid 5G uptake, fast roll-out and wide adoption in numerous applications.

- **SiC, GaN**

Likely to register substantial gains owing to the rising government determination toward renewable energy, increasing applications in consumer electronics, 5G and EVs.



Capacity Expansion Plan



Advanced Technology

Development & Capacities Enhancement

- GlobalWafers estimates total capital expenditures of **NT\$100 billion** (US\$ 3.6 billion) including substantial **brownfield** and **greenfield** investments across **Asia, Europe and the United States**.
- GlobalWafers focuses on strengthening its growth by building new production lines, which specialize in next-generation products for advanced processes targeting **large-size wafers** and **compound semiconductors**.

Capital Expenditures

Total Capital Expenditures Foresee

NT\$100 bn

Brownfield
+
Greenfield

The new production lines are expected to ramp up in **2H23** and to be expanded on a quarterly basis.

Large-Size Wafers

12" Wafer	12" EPI Wafer
12" SOI Wafer	8" SOI Wafer
8" FZ Wafer	

Compound Semiconductors

SiC Wafer	
SiC EPI Wafer	
GaN on Si Wafer	



SiC capacity has been fully booked in 2022, this will sustain the robust demand for high-quality SiC wafers and drive further expansion in the semiconductor market.



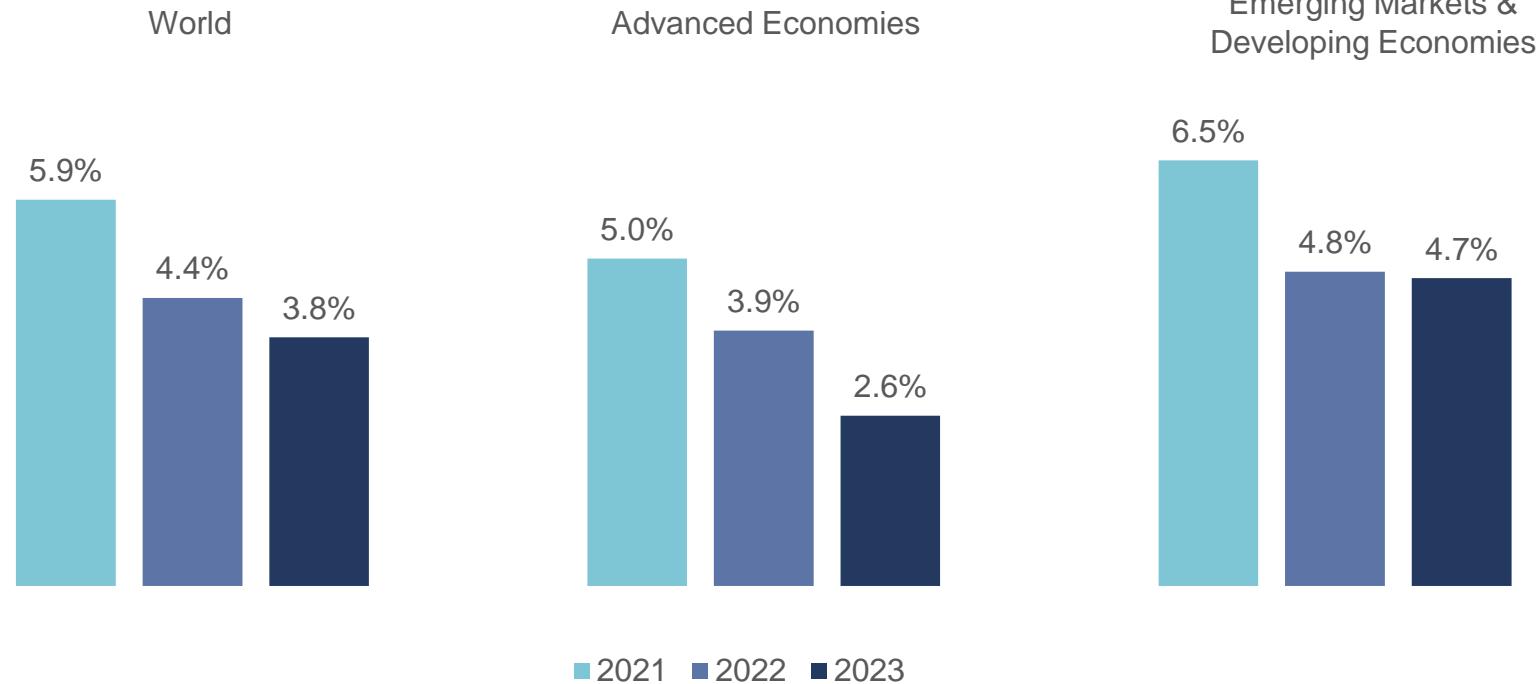
Industry Overview

Global GDP Growth Forecast

- IMF states that following by the booming growth in 2021, the global economy is set to expand in a weaker position with 4.4% in 2022 and 3.8% in 2023.
- Global recovery continues, but the momentum has weakened and uncertainty has increased due to rising energy prices, supply disruptions and higher inflation.

World Economic Outlook

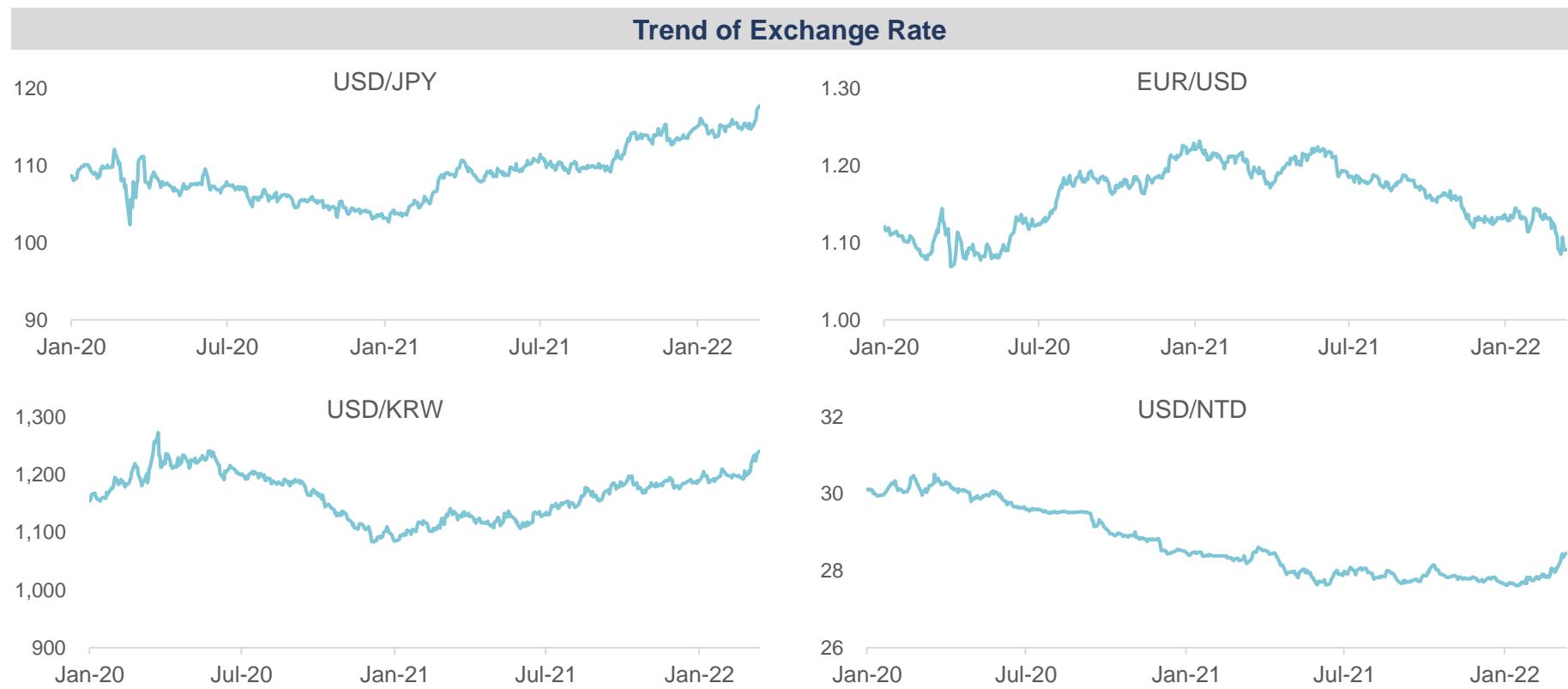
(Unit: %)



Source: IMF, January 2022.

World Uncertainties Intensify FX Volatility

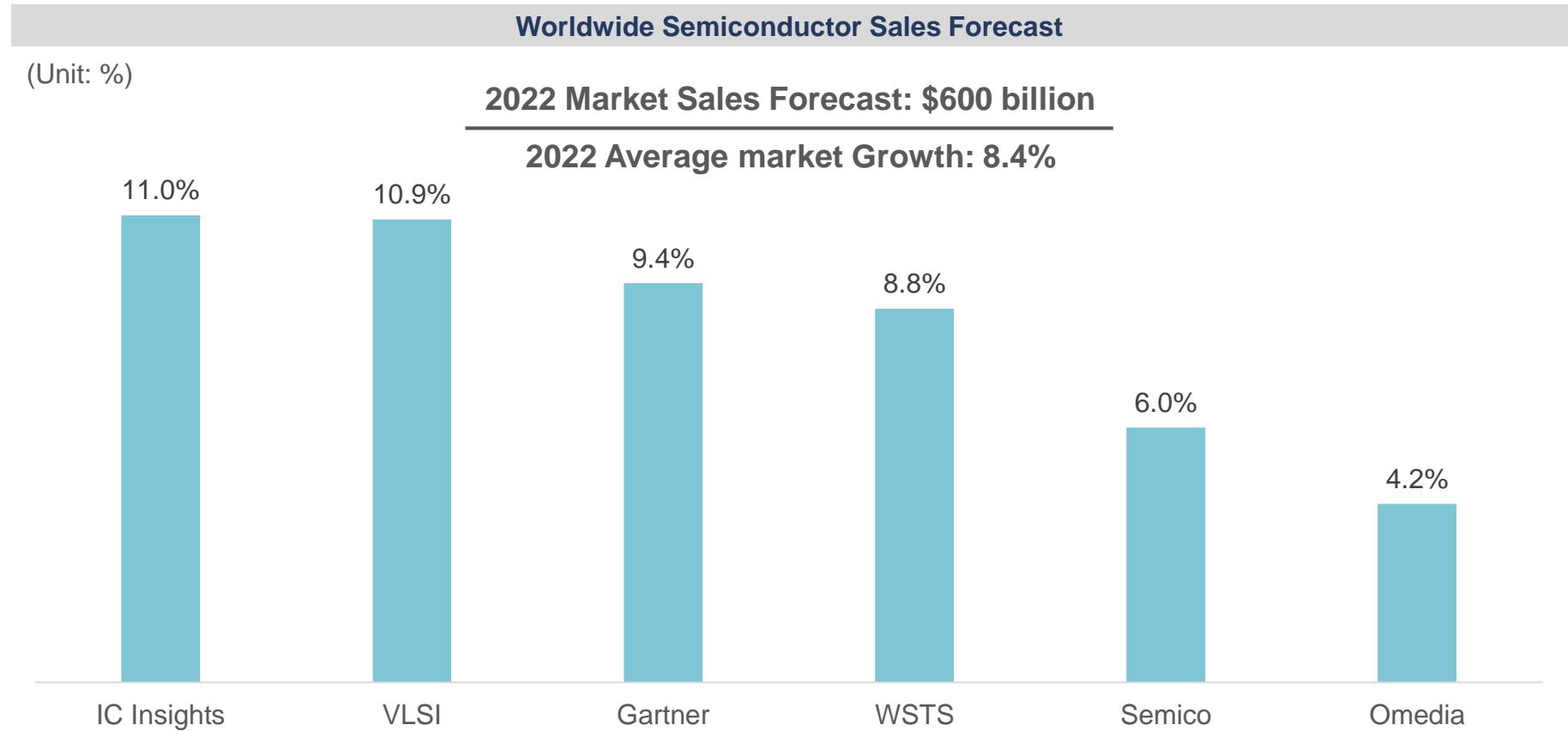
- Successful containment against COVID-19, strong exports, and foreign funds flowing into Taiwan have led to rising New Taiwan Dollars, which negatively reduces GlobalWafers' US dollar-denominated revenues.
- Though NTD exchange rate shows strong appreciation, FX rate will be affected by Fed's Balance Sheet Shrinking Policy and Russo-Ukrainian War in 2022.



Note: Foreign currencies since January, 2020

Worldwide Semiconductor Sales Forecast

- After semiconductor worldwide revenues rebound from the outbreak of Covid-19 virus crisis, the average semiconductor sales growth rate in 2022 reaches 8.4%, crossing the \$600 billion milestone.



Source: SEMI, February 2022

Worldwide Silicon Wafer

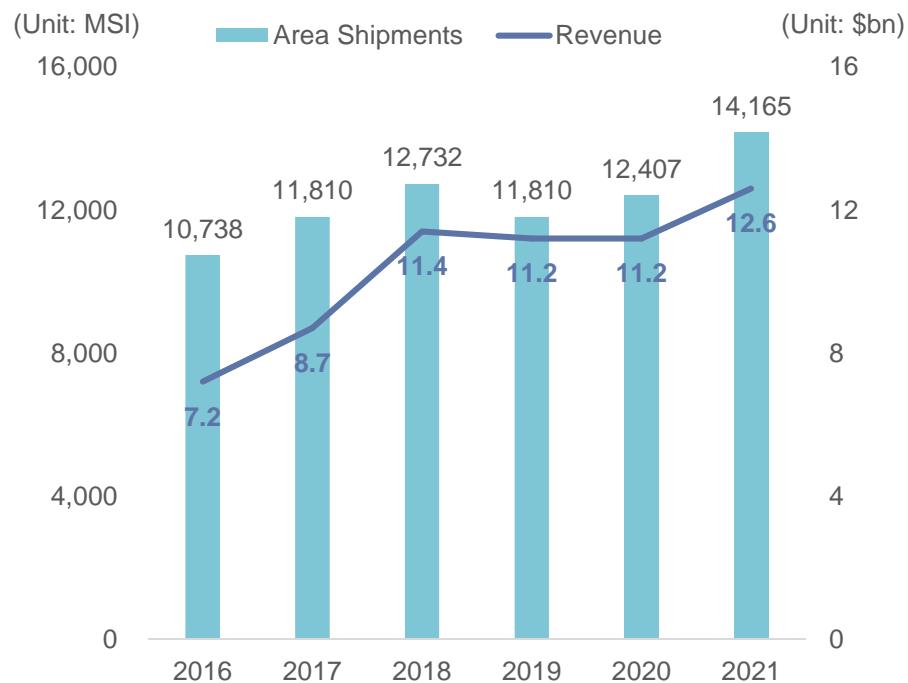


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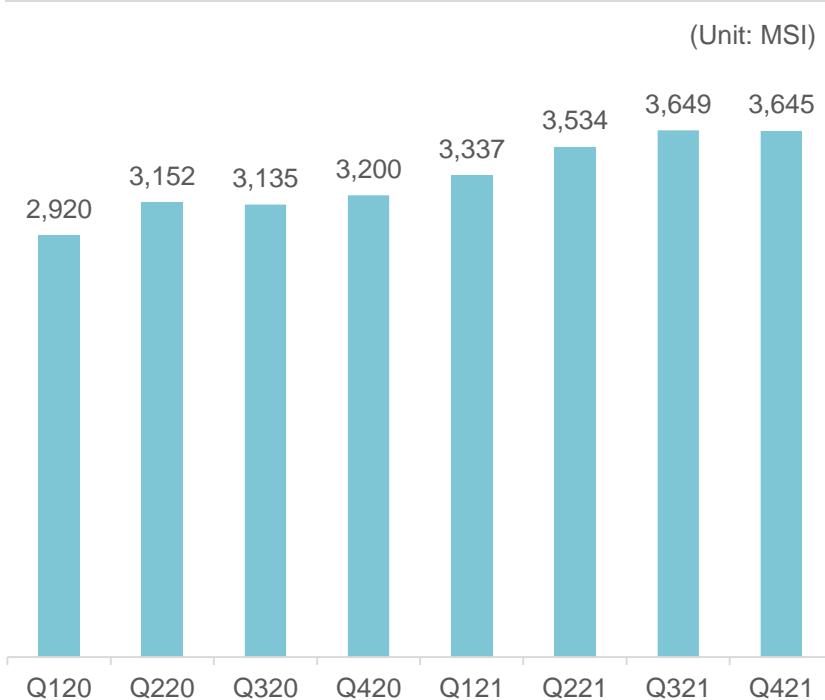
Shipments & Revenue Set New Records in 2021

- Worldwide silicon wafer area shipments in 2021 increased by 14% to 14,165 MSI while wafer revenue rose 13% to \$12.6 billion compared to 2020, reaching new all-time highs.
- Q421 total wafer market revenue went up both QoQ and YoY, setting the second consecutive all-time record. After 3 consecutive quarterly records, Q421 total shipments flat to Q3, but continued growth is expected in 2022.
- SEMI predicts silicon shipments will rise another 4.6% in 2022.

Annual Shipments & Revenue of Silicon Wafer



Quarterly Shipments of Silicon Wafer*



Source: SEMI, February 2022

Note: Shipments are for semiconductor applications only and do not include solar applications

Global Front-End Fab Equipment Spending



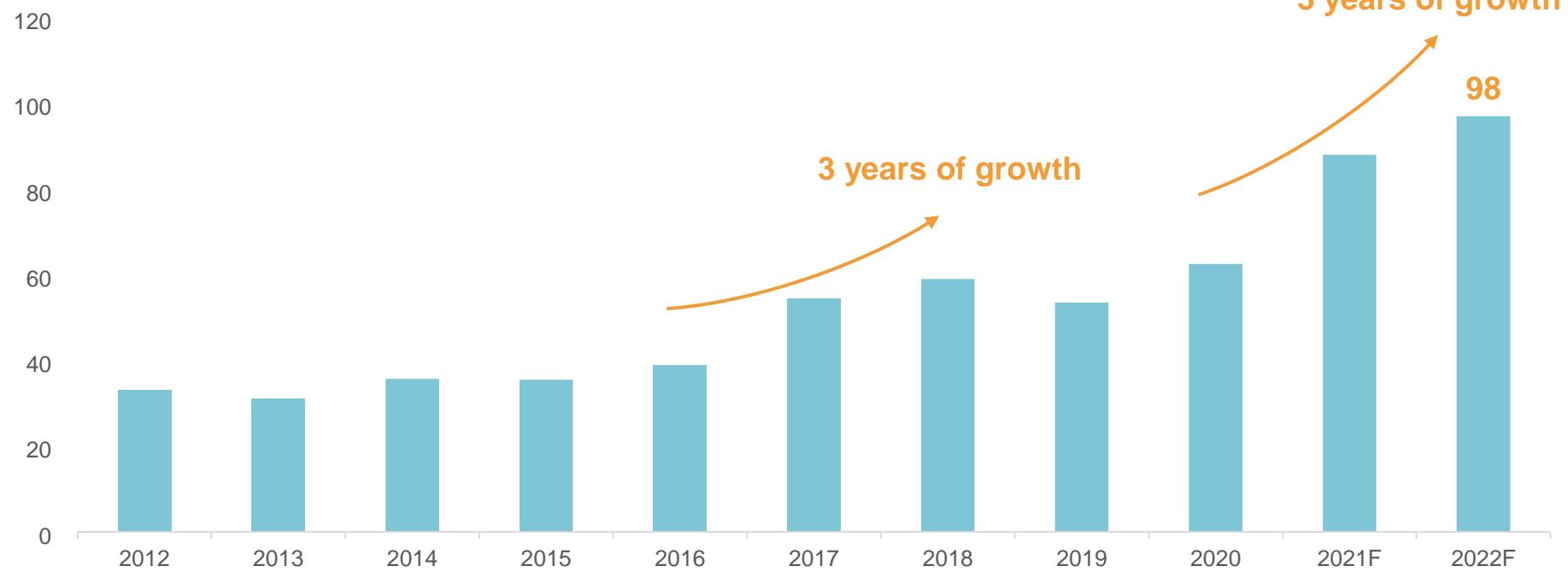
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Hits Record High in 2022

- Benefitted from a wide range use of AI and HPC, global front-end fab equipment spending in 2022 will grow 10% to \$98 billion, hitting an all-time high, marking a third consecutive year of growth again.
- South Korea will lead the fab equipment spending in 2022, followed by Taiwan and China, combining to account for 73% of total worldwide spending.

Front-End Fab Equipment Spending

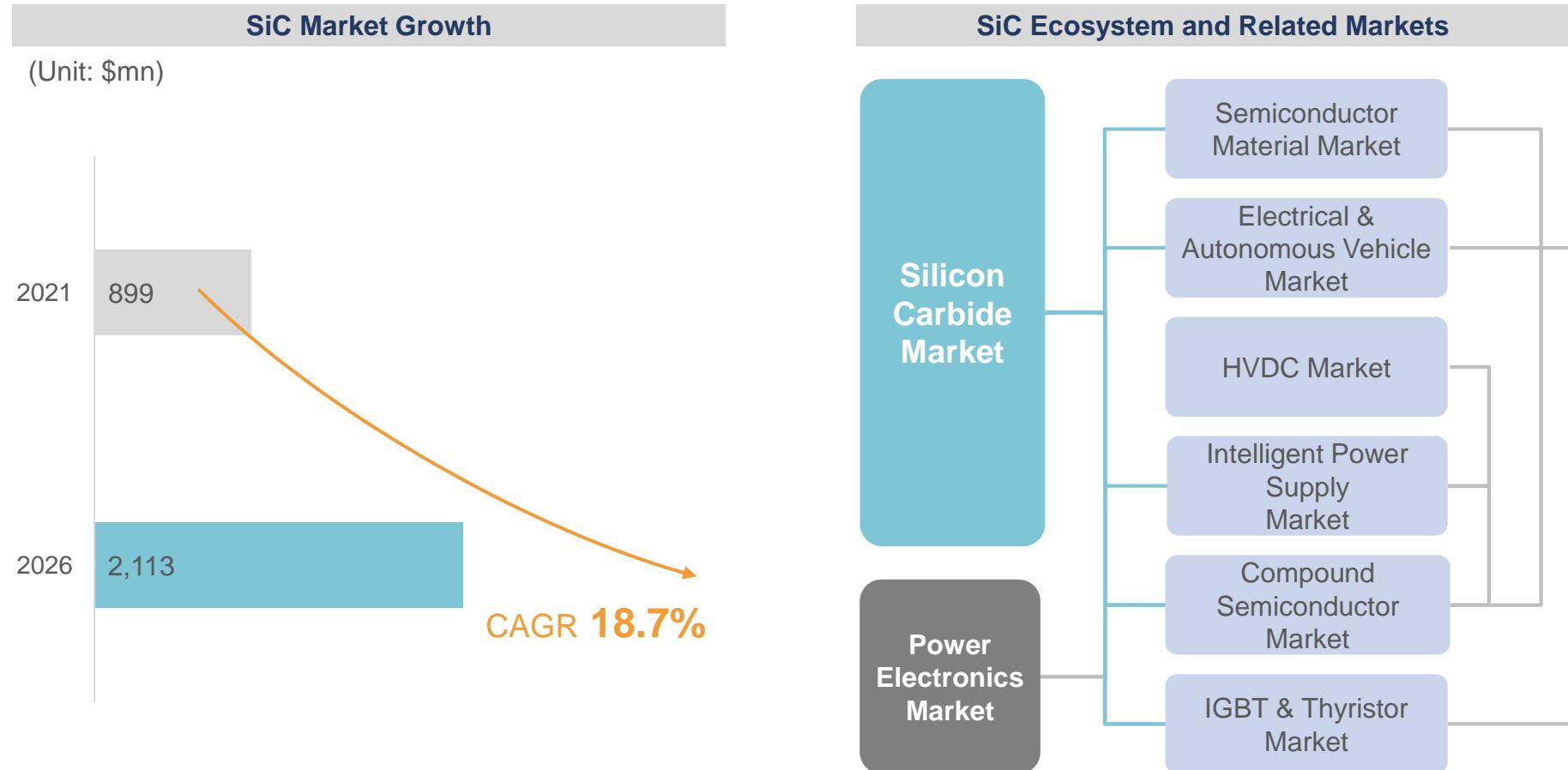
(Unit: \$bn)



Source: SEMI World Fab Forecast Report, January 2022

Attractive Growth Opportunities in SiC Market

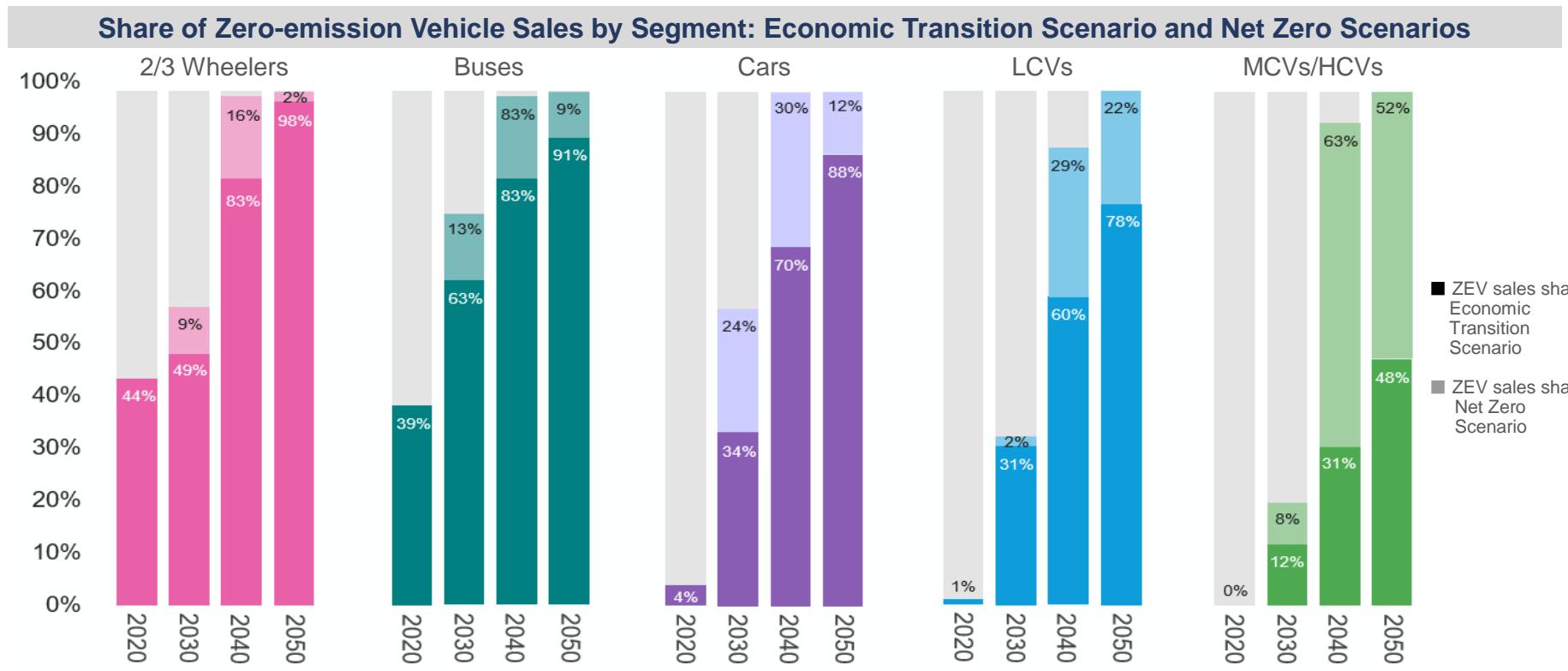
- The Silicon carbide market is projected to reach US\$ 2,113 million by 2026 at a 18.7% CAGR.
- Momentum comes from growing implementation of SiC in power devices applications and EV.



Source: Markets and Markets, September, 2021

Electric Vehicle Outlook

- EV sales are surging due to a combination of policy support, improvements in battery technology and cost, more charging infrastructure being built, and new compelling models from automakers.
- Road transport is one of the largest contributors to global CO₂ emissions. To achieve net zero by 2050, as soon as 2030, nearly 60% of new car sales need to be zero emissions to stay on track for the Net Zero Scenario.



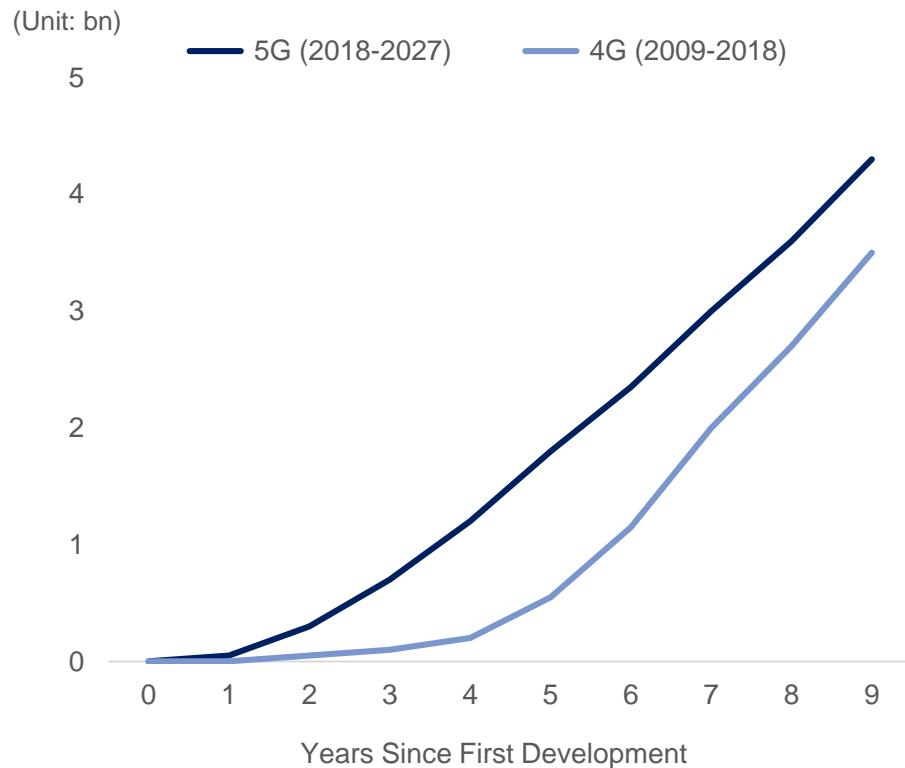
Source: BNEF. Note: 'LCVs, MCVs and HCVs are light-, medium- and heavy-duty commercial vehicles.'

5G Subscription Uptake

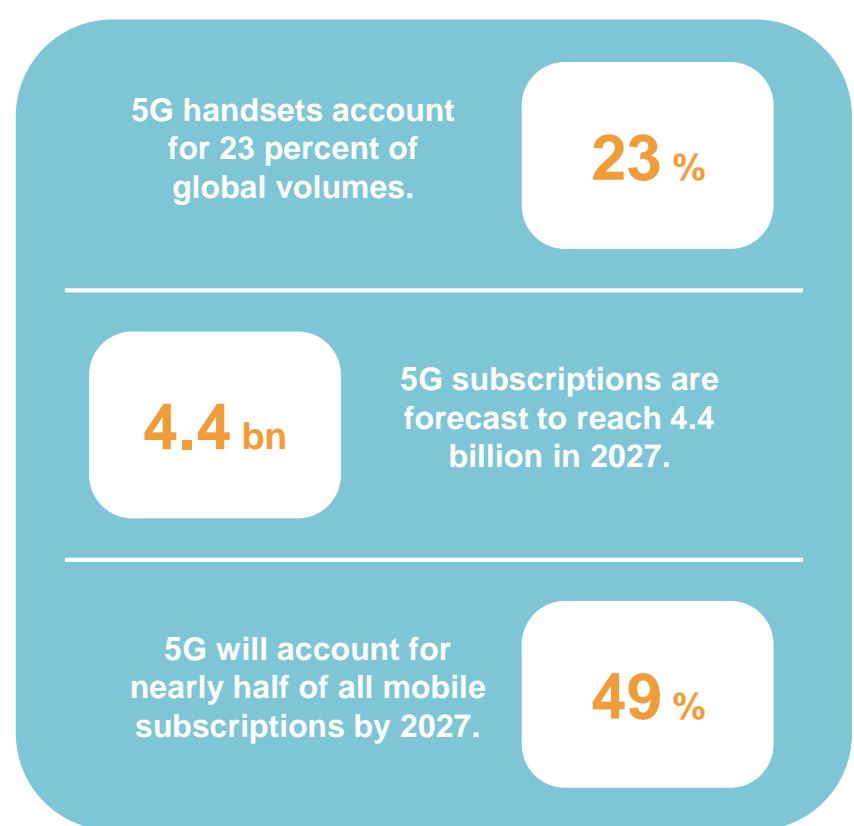
- 5G subscription uptake is expected to be faster than 4G, fueled by price falling and government's early engagement.

Comparison of 5G & 4G Subscriptions

Uptake in the First Years of Deployment



Source: Ericsson Mobility Report, November, 2021



5G Subscriptions Become Mainstream

- The build-out of 5G networks is continuing to accelerate, and 5G is expected to be the fastest-deployed mobile communication technology in history, and is forecast to cover 75% of world's population in 2027.

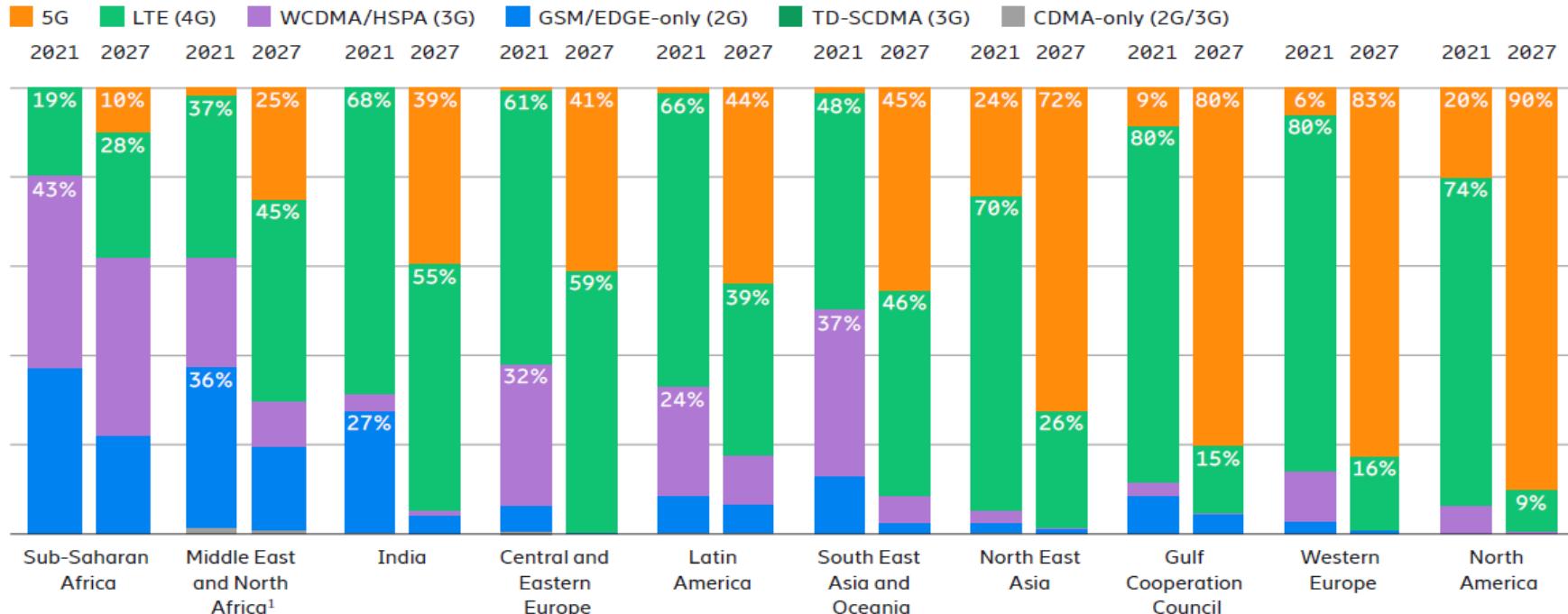
75 %

5G population coverage in 2027.

300 times

Mobile Networks carry about 300 times more mobile data traffic than in 2011.

Mobile Subscriptions by Region and Technology



Source: Ericsson Mobility Report, November, 2021



Performance Update



Financial Highlight : 2021 vs. 2020

(NT\$ mn)	2021	2020	YoY
Revenue	61,131	55,359	10.4%
Gross Profit Margin %	38.1%	37.2%	0.9%
Operating Profit	17,693	15,287	15.7%
Operating Profit %	28.9%	27.6%	1.3%
Net Profit	11,870	13,104	-9.4%
Net Profit %	19.4%	23.7%	-4.3%
EPS	NT\$27.27	NT\$30.11	-NT\$2.84
EBITDA*¹	22,507	21,967	2.5%
EBITDA %	36.8%	39.7%	-2.9%
EBIT	16,610	16,445	1.0%
ROE*² (annualized)	26.4%	29.4%	-3.0%
ROA*³ (annualized)	9.9%	13.8%	-3.9%

1. EBITDA = Net Profit + Tax + Interests + Depreciation + Amortization.

2. ROE = Net Profit / Average Shareholders Equity

3. ROA = (Net Profit + Interest*(1- Effective Tax Rate))/Average Asset



Financial Highlight : Q421 vs. Q321 vs. Q420

(NT\$ mn)	Q421	Q321	Q420	QoQ	YoY
Revenue	15,752	15,364	14,137	2.5%	11.4%
Gross Profit Margin %	41.3%	39.1%	36.3%	2.2%	5.0%
Operating Profit	4,819	4,664	3,175	3.3%	51.8%
Operating Profit %	30.6%	30.4%	22.5%	0.2%	8.1%
Net Profit	2,120	3,105	3,438	-31.7%	-38.3%
Net Profit %	13.5%	20.2%	24.3%	-6.7%	-10.8%
EPS	NT\$4.87	NT\$7.13	NT\$7.90	-NT\$2.26	-NT\$3.03
EBITDA*¹	5,144	5,393	5,740	-4.6%	-10.4%
EBITDA %	32.7%	35.1%	40.6%	-2.4%	-7.9%
EBIT	3,689	3,939	4,194	-6.3%	-12.0%
ROE*² (annualized)	18.2%	26.7%	31.5%	-8.5%	-13.3%
ROA*³ (annualized)	6.0%	9.4%	14.7%	-3.4%	-8.7%

1. EBITDA = Net Profit + Tax + Interests + Depreciation + Amortization.

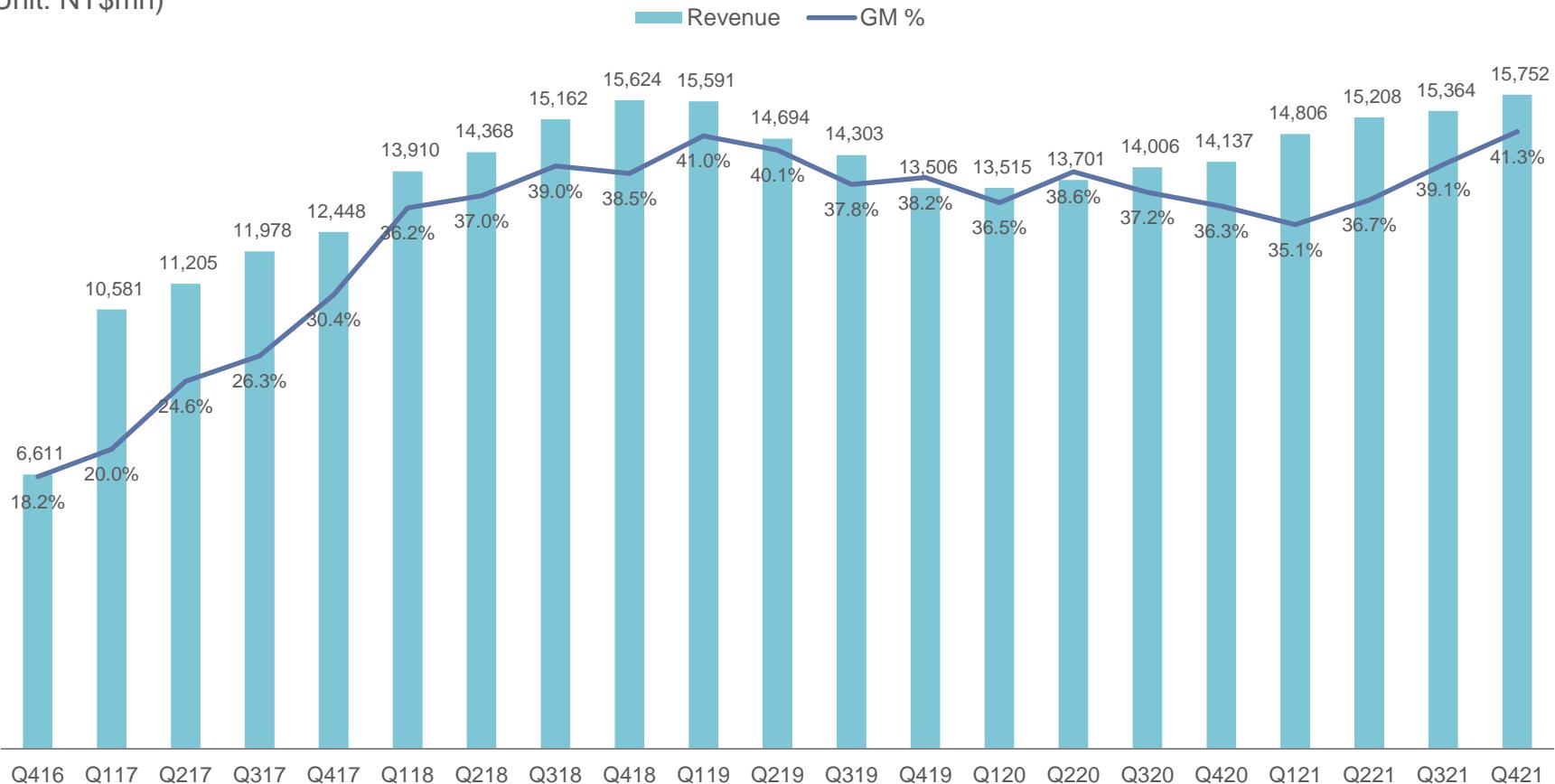
2. ROE = Net Profit / Average Shareholders Equity

3. ROA = (Net Profit + Interest*(1- Effective Tax Rate))/Average Asset

Revenue & Gross Margin

(Unit: NT\$mn)

Revenue & Gross Margin



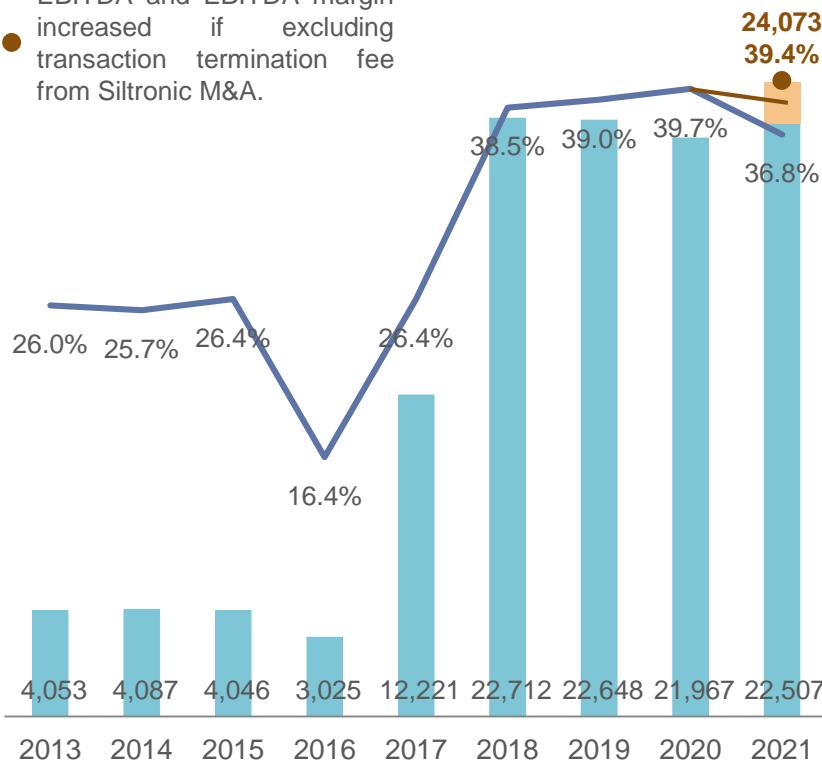
EBITDA & EPS

EBITDA

(Unit: NT\$mn)

EBITDA and EBITDA margin after recognizing termination fee from Siltonic M&A.

EBITDA and EBITDA margin increased if excluding transaction termination fee from Siltronic M&A.

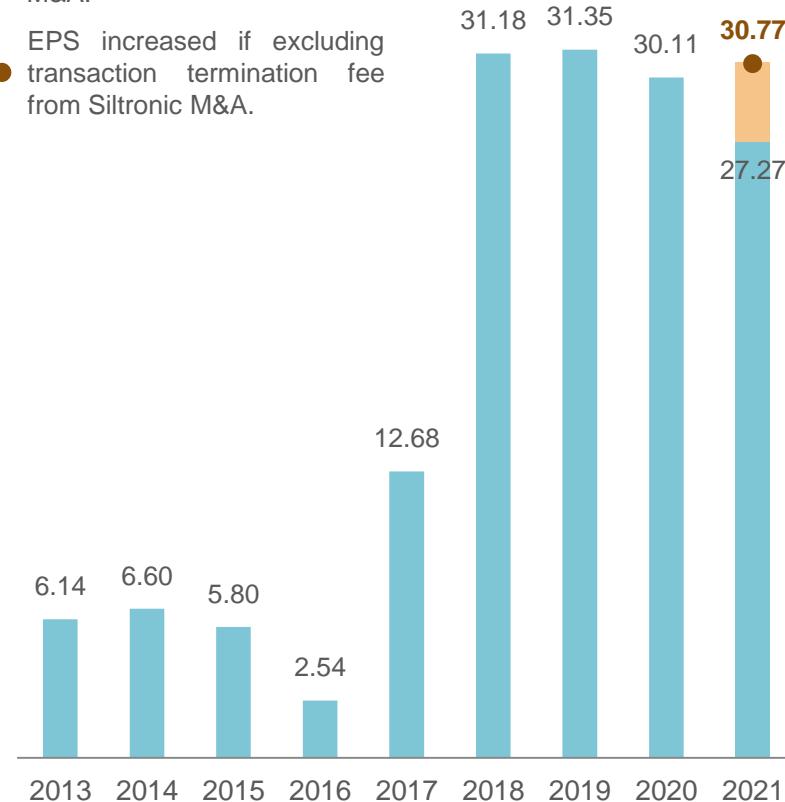


EPS

(Unit: NT\$)

EPS after recognizing termination fee from Siltonic M&A.

EPS increased if excluding transaction termination fee from Siltronic M&A.





Income Statement

Income Statement

(NT\$mn)	2019	2020	2021	Q121	Q221	Q321	Q421
Revenue	58,094	55,359	61,131	14,806	15,208	15,364	15,752
<i>Growth (%)</i>	-1.6%	-4.7%	10.4%	4.7%	2.7%	1.0%	2.5%
Gross Profit	22,847	20,568	23,286	5,193	5,584	6,010²	6,498²
<i>Gross Profit Margin (%)</i>	39.3%	37.2%	38.1%	35.1%	36.7%	39.1%	41.3%
EBITDA	22,648	21,967	22,507	5,051	6,919¹	5,393³	5,144
<i>EBITDA Margin (%)</i>	39.0%	39.7%	36.8%	34.1%	45.5%	35.1%	32.7%
Operating Profit	17,897	15,287	17,693	3,952	4,259	4,664	4,819
<i>Operating Profit Margin (%)</i>	30.8%	27.6%	28.9%	26.7%	28.0%	30.4%	30.6%
Profit before Tax	18,554	16,615	16,445	3,529	5,408¹	3,881³	3,627⁴
<i>Profit before Tax Margin (%)</i>	31.9%	30.0%	26.9%	23.8%	35.6%	25.3%	23.0%
Net Profit	13,636	13,104	11,870	2,690	3,955	3,105	2,120
<i>Net Profit Margin (%)</i>	23.5%	23.7%	19.4%	18.2%	26.0%	20.2%	13.5%
EPS (NT\$)	31.35	30.11	27.27	6.18	9.09	7.13	4.87

1&3. Due to Siltronic share evaluation at fair value.

2. Due to higher ASP and production mix.

4. Due to NT\$1.6 billion (EUR 50 million) of termination fee from Siltronic M&A.



Balance Sheet

Balance Sheet

(NT\$mn)	2019	2020	2021	Q121	Q221	Q321	Q421
Assets							
Cash and cash equivalents	32,822	22,439	65,894	12,700 ¹	46,768 ⁴	56,919 ⁵	65,894
Account receivable	8,140	8,037	9,118	9,094	8,874	9,176	9,118
Inventories	6,849	7,208	7,295	6,772	6,974	7,036	7,295
Property, plant and equipment	34,697	37,111	33,943	35,331	34,163	33,210	33,943
Other assets	14,078	20,056	34,395	32,684 ²	34,723	33,407	34,395
Total assets	96,586	94,852	150,645	96,581	131,502	139,747	150,645
Liabilities							
Short-term loan	9,886	9,871	6,264	15,445 ³	10,543	6,464	6,264
Account payable	3,837	3,895	4,340	4,075	4,027	3,918	4,340
Long term loan	0	0	45,125	0	32,479 ⁴	45,045 ⁵	45,125
Other liabilities	37,789	36,930	49,284	32,314	38,955	36,909	49,284
Total liabilities	51,513	50,697	105,013	51,834	86,004	92,336	105,013
Shareholder equity	45,073	44,155	45,632	44,747	45,497	47,411	45,632

1. Due to Siltronic shares acquisition and cash dividends distribution

2. Due to Siltronic shares acquisition

3. Due to increasing bank loan for acquiring Siltronic shares

4. Due to issuance of ECB & corporate bond

5. Due to issuance of corporate bond



ESG Highlights

ESG Highlights – Sustainable Environment

- By practicing energy saving measures, GlobalWafers saved **2.59% in unit electricity consumption** in 2020 compared to 2019.
- At the end of 2021, cumulative solar capacity reached **19.8 MW**, which generated **24.04 million kWh electricity**, equivalent to reducing **12,066 tons of CO₂ emissions** and planting **1,096,928 trees** per year.

Solar Power Plants

CO₂ Emission Reduction (Accumulated)

(Conversion of electricity consumption generated by solar power plants)

Unit: ton CO₂e

15,000

10,000

5,000

0

185

638

4,433

12,066

1. As of 2021/12/31

2 solar power related SPVs
+
30 solar power plants¹

Secure power supply and expand green energy weight

2030 20% → 2035 35% → 2040 50%

2050 100%

100% Renewable Energy Usage by 2050



Carbon Removal



Purchase Carbon Offset Products



Improve Energy Efficiency



Adopt Renewable Energy

ESG Highlights – Volunteering for Our Earth

- GlobalWafers held beach cleaning event along the coastline of Zhunan Long Fong Port (Miaoli, Taiwan) to raise awareness in marine pollution.
- Total **123 employees** and their families volunteered and cleaned out nearly **500 kilograms of waste**.
- GlobalWafers hopes to contribute a better tomorrow by fostering a common goal among colleagues and arousing employees' awareness about environmental protection.



ESG Highlights – Social Concern

- GlobalWafers holds charity events covering 4 aspects: **education**, **children**, **disability** and **volunteer** to foster a belief about sharing and giving back to the society.
- In Taiwan, our activities include “College Students Aiding Plan”, “Food Box for Children”, “Living Goods and Materials Raising Plan”, etc. These social welfare activities embody our wish to people in need and share our love with warmth.



ESG Highlights – Employee Welfare

- GlobalWafers encourages employees to receive vaccination and regularly updates the epidemic footprint to protect the health of the workplace and maintain stable operation within the Group.
- By collaborating with Employee Assistance Program Service Center (EPAC), GlobalWafers provides hotline for employees' psychological counseling to build a joyful working atmosphere.
- GlobalWafers regularly publishes legal articles to enhance employees' legal awareness and literacy.



ESG Highlights – Corporate Governance

- GlobalWafers has been awarded **top 5% corporate governance among all listed companies for 3 consecutive years** and included as **Top 10 companies in TIP Taiwan TPEx ESG Index**.
- GlobalWafers is dedicated to embodying transparency and ethical management to fulfill its social responsibility and strive to become the benchmark of the world.
- The gender, tenure, and expertise diversity as well as the independence of the board directors are the guidance for GlobalWafers to nimbly navigate in the competitive industry.

Corporate Governance

Awarded Top 5% corporate governance among all listed companies in Taiwan.

Top 5%

TIP Taiwan TPEx ESG Index

Be included in TIP Taiwan TPEx ESG Index as Top 10 companies.

Top 10

Board of Directors

Among 7 directors, 3 seats are independent directors, bringing balance and new perspective to the board.

Functional Committees

Audit Committee, Remuneration Committee, Nominating Committee, and Sustainability Development Committee are established to enhance independence and CSR responsibility.

3+4

Independent Directors
Functional Committees



Q&A



Thank You
