

The Runway for Sustainable Growth



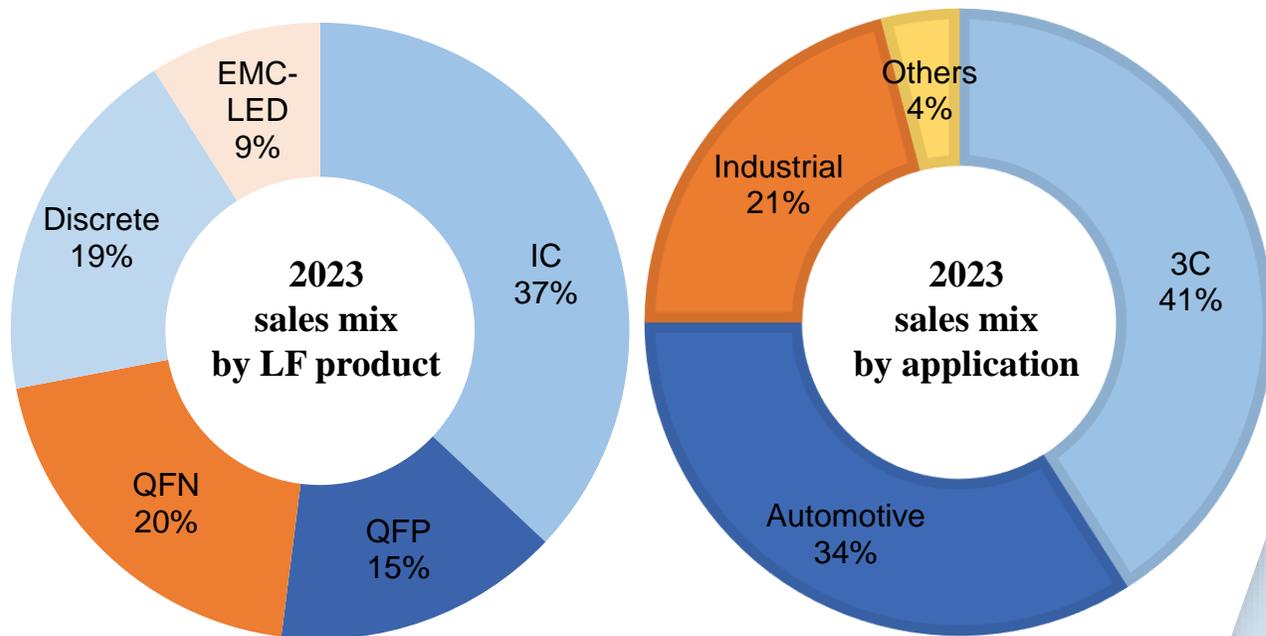
2024 Investor Presentation (6548 TT)

Forward-looking Statement

Information included in this press release that are not historical in nature are "forward looking statements". CWTC cautions readers that forward looking statements are based on CWTC's reasonable knowledge and current expectations and are subject to various risks and uncertainties. Actual results may differ materially from those contained in such forward looking statements for a variety of reasons including without limitation, risks associated with demand and supply change, manufacturing and supply capacity, design win, time to market, market competition, industrial cyclicalities, customer's financial condition, exchange rate fluctuation, legal actions, amendments of the laws and regulations, global economy change, natural disasters, and other unexpected events which may disrupt CWTC's business and operations. Accordingly, readers should not place reliance on any forward looking statements. Except as required by law, CWTC undertakes no obligation to update any forward looking statement, whether as a result of new information, future events, or otherwise.

A Leading Lead Frame(LF) Solution Expert

- Ticker : 6548 TT
- Market Cap (Mar. 31th, 2024) : US\$ 1.0bn
- Client Scope : Outsourcing Semiconductor Assembly & Testing (OSAT), Integrated Device Manufacturers (IDM) and IC Design



QFN : Quad-Flat No-Leads. Discrete : Small-Outline transistor, SOT
 QFP : Quad Flat Package
 IC : SOP, TSSOP, TSOP,etc.

30+ years LF experience

US\$ 377mn 2023 Total sales

328 No. of global LF patents

2,157 No. of global employees

Why Invest In CWTC?

■ CWTC continues to produce industry-leading ROE and FCF for maximizing shareholder return

Through technology leadership and operation efficiency, CWTC expects to deliver an ROE in excess of 25% during the next five years. With abundant free cash flows, CWTC plans to implement quarterly dividend payment and pay at least NT\$1.6 cash dividend per share since 2023.

■ High-end LF applications drive CWTC's growth through cycles

As prevailing trend of high-end LF applications continues, CWTC's LF products for automotive, WiFi 7 and Gallium nitride (GaN), etc., are driving both revenue growth and profitability through industry cycles. CWTC's LF product diversity and long-term clients' collaboration would support its revenue to outgrow the industry in the long-run.

■ Technology, manufacturing leadership and disciplined capex to support long-term profitability

Through its plants in Taiwan, China and Malaysia, CWTC owns industry-leading manufacturing capabilities, offers diversified LF technologies and is well-prepared for geopolitical risk. CWTC's disciplined capex investment and industry-leading efficiency would underpin CWTC's path to sustainable growth of profitability and ROE.

Agenda

Industry-Leading ROE

Growth Drivers

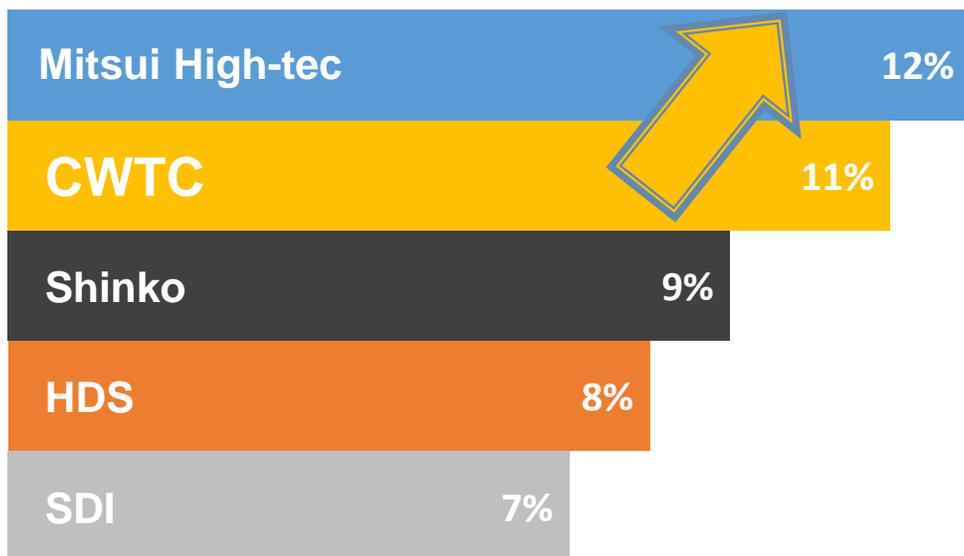
Technology & Execution

Financials

Target to Increase Market Share and Generate Superior ROE

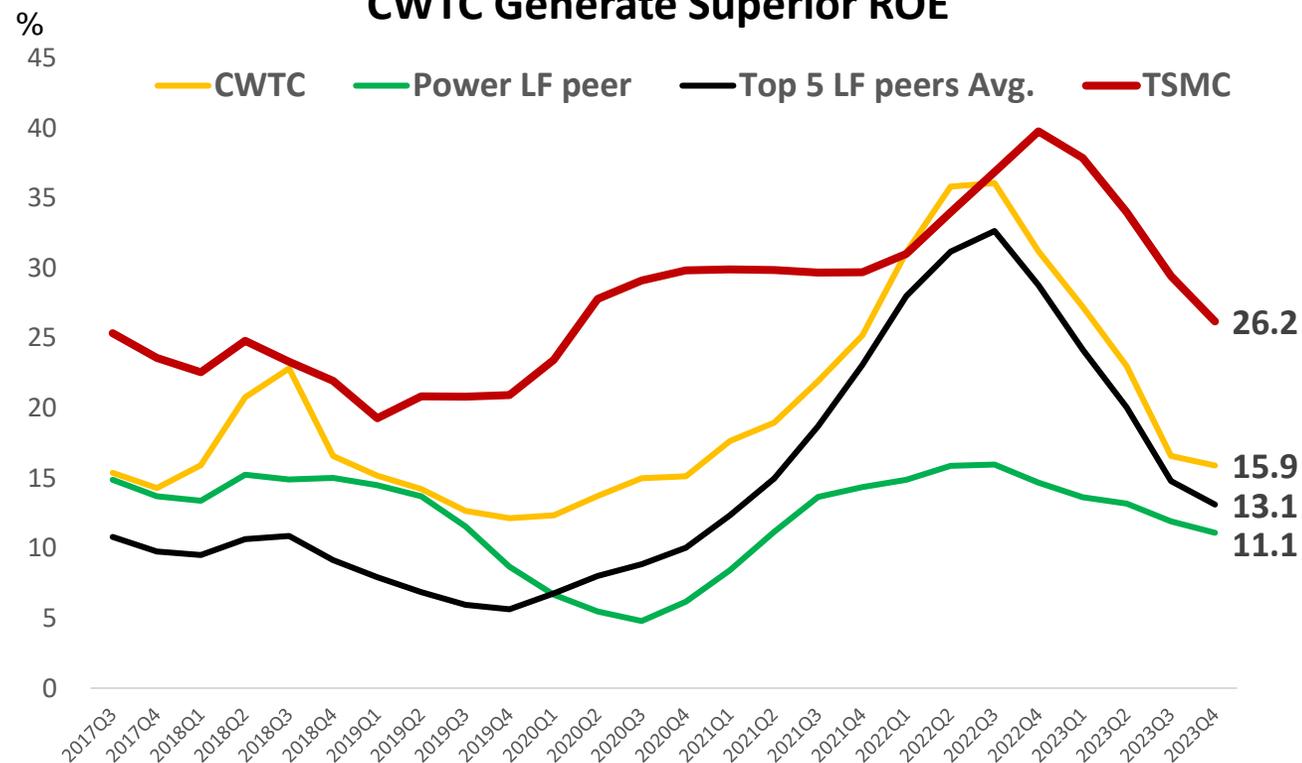
- Among leading LF peers, CWTC targets to increase market share and become the IC LF **Spec. definer**.
- CWTC generated **ROE above LF industry average through cycle**.

2020E Global Top 5 LF makers market shares



Source: Company estimates. Stock tickers: Mitsui High-tec: 6966 JP, Shinko: 6967 JP, HDS: 195870 KS, SDI: 2351 TT

CWTC Generate Superior ROE

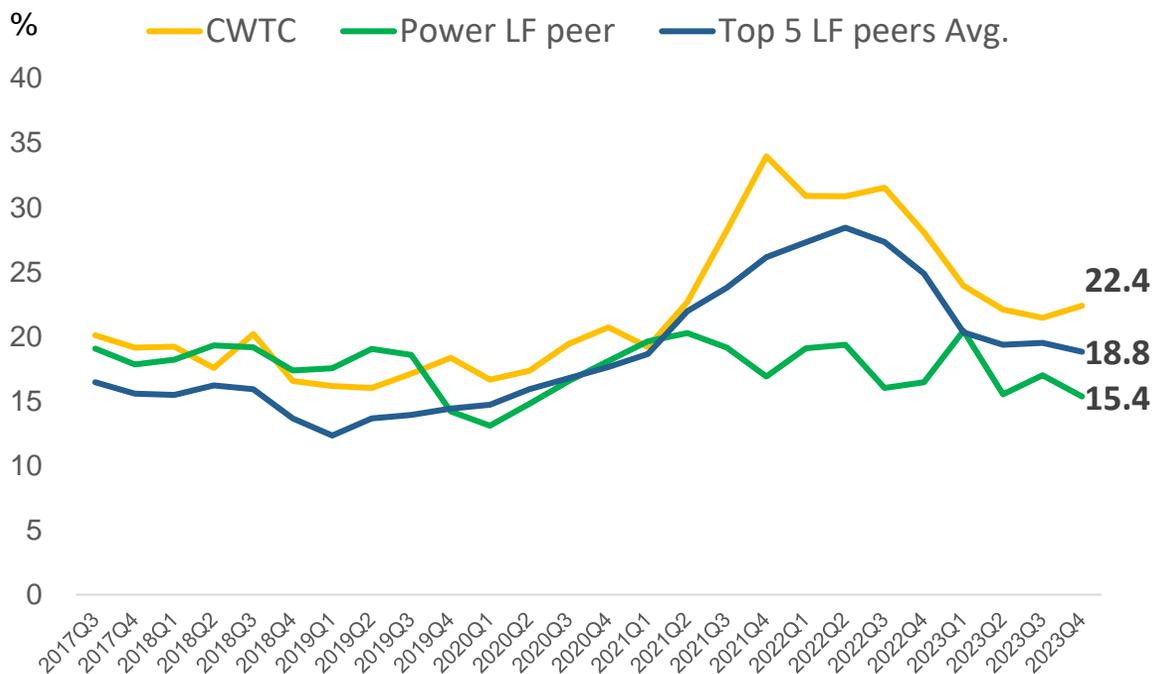


Source: Bloomberg

We Strive to Maintain Industry Leading Profitability

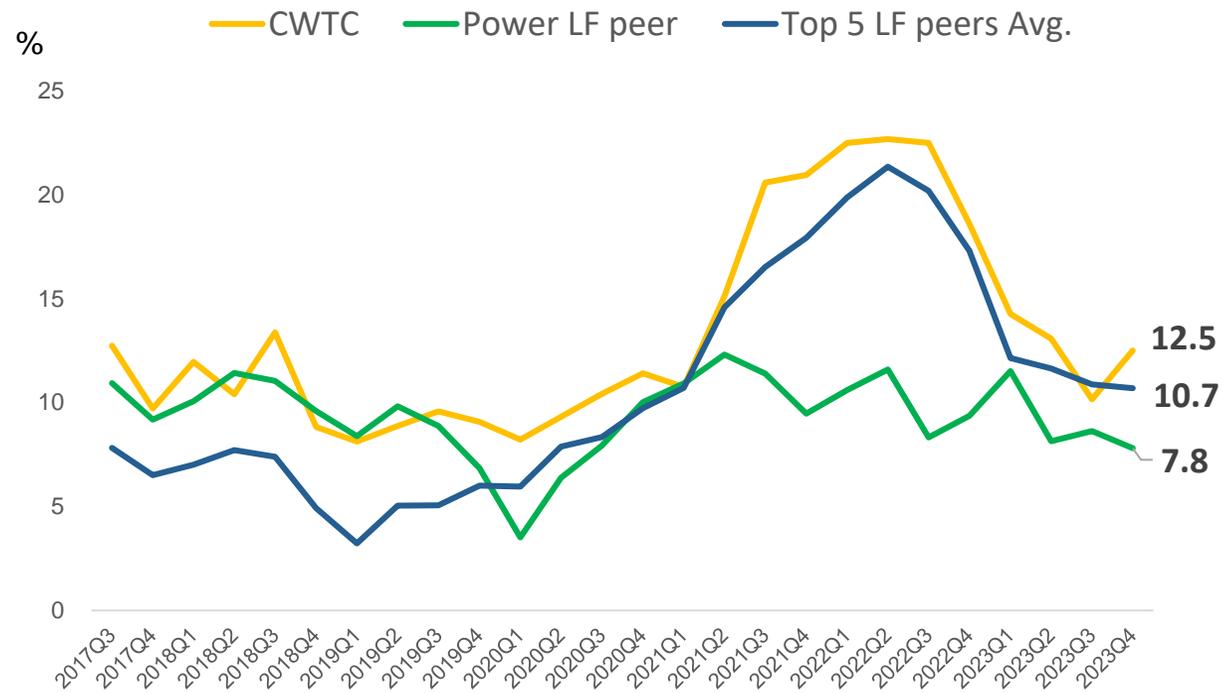
Based on our LF technology leadership and operation efficiency, we expect to maintain our profitability to be above LF industry's average, leading to our superior ROE **through industry-cycle**.

LF Technology Leadership For Higher Gross Margin



Source: Company estimates. Stock tickers: Mitsui High-tec: 6966 JP, Shinko: 6967 JP, HDS: 195870 KS, SDI: 2351 TT

Operation Efficiency For Higher Operating Margin



Source: Bloomberg

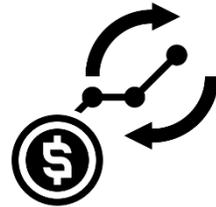
Capital Allocation to Maximize Shareholder Return

- We expect to outgrow the semiconductor manufacturing industry by organic growth and M&A.
- Through efficient investment in capex for LF diversity, we continue to generate industry leading FCF.
- We aim to deliver an ROE in excess of 25% and execute consistent dividend policy in the long-term.



Sustainable Growth

- Disciplined investment to secure organic growth drivers
- Potential M&A and collaboration



Industry-leading FCF

- Superior profitability
- Low capex intensity and high efficiency
- Decent 5-y avg. FCF margin and yield

2019-23	CWTC	Top 5 LF peers avg.	Power LF peer
FCF margin	11.1%	5.5%	5.0%
FCF yield	5.5%	3.2%	3.2%



Maximize Shareholder Return

- Long-term ROE target: **>25%**
- Dividend payout ratio: **>50%**
- The second Taiwan semi company paying **quarterly cash dividend**

Industry-Leading ROE

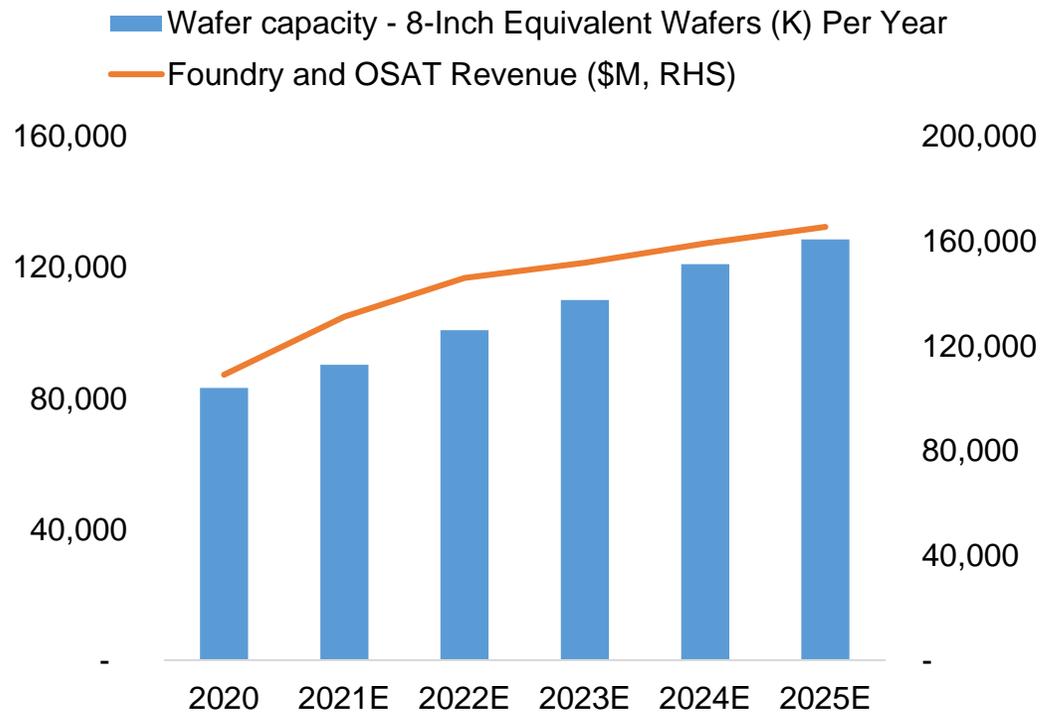
Growth Drivers

Expertise & Execution

Financials

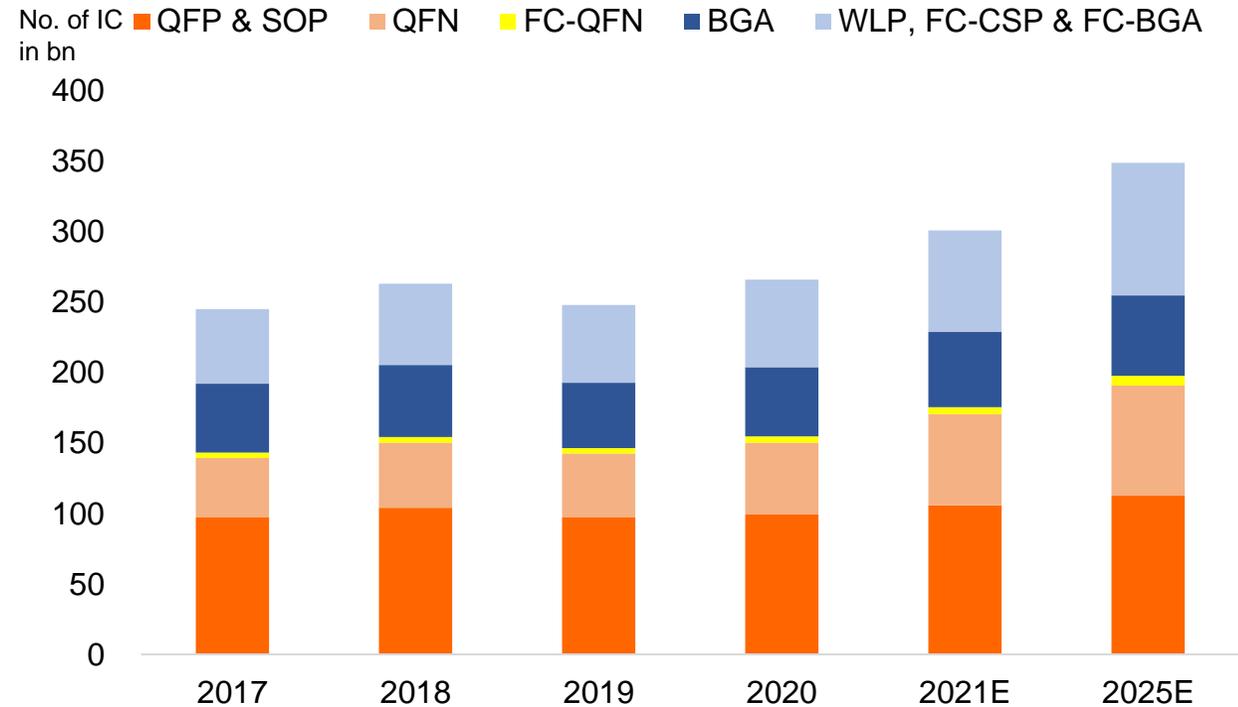
Increasing LF Demand

Wafer capacity expansion fuels industry's 9% CAGR. No. of IC will grow faster due to node migration, e.g. 65/40nm to 28/22nm.



Source: Gartner

Same with industry trend, we've seen growing QFP & QFN demand from global tier-one customers, including IDM, OSAT and IC design.



Source: Prismark

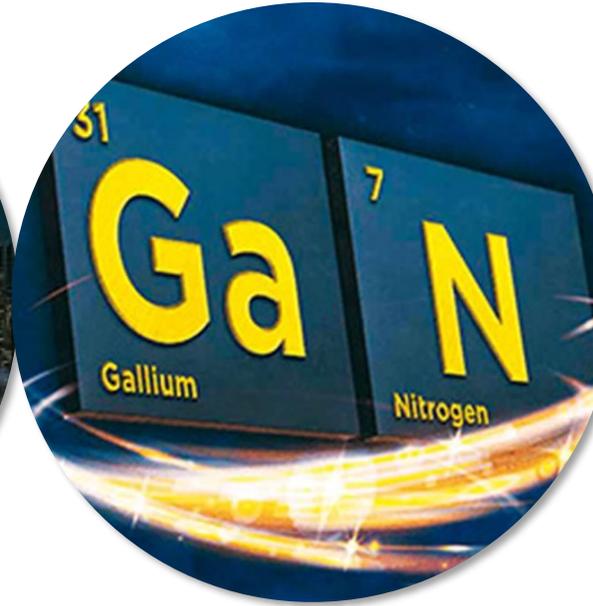
Our Multiple Applications



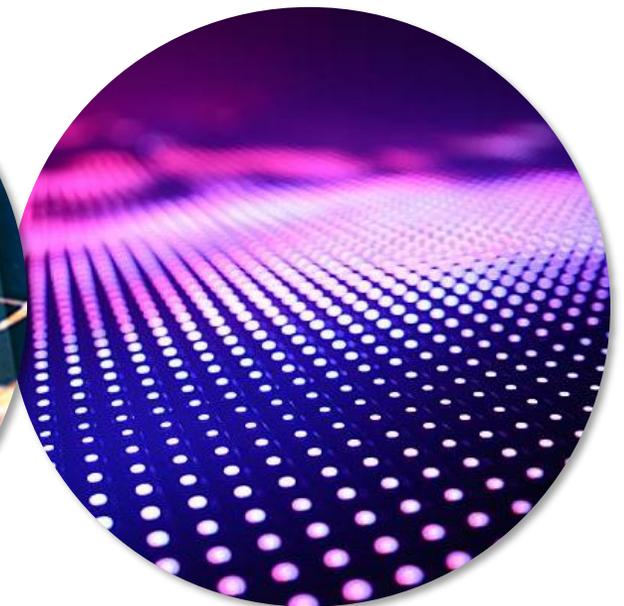
Automotive



**5G & WiFi
Connectivity**



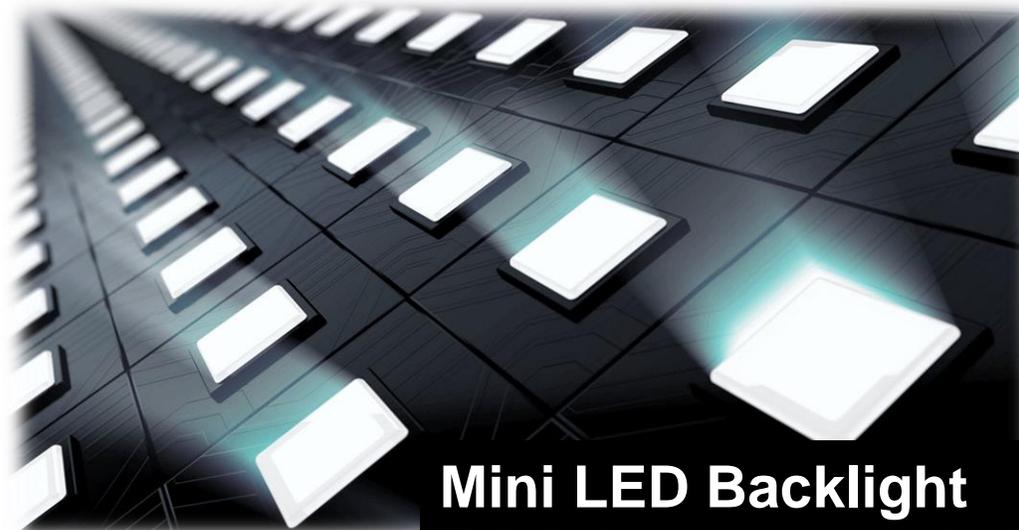
**III-V
Semiconductor**



Mini LED

Various LF Spec. Requirement: No. of I/O, Form factor, Reliability, Thermal conductivity and Electrical performance

We've Seized Opportunities Across High-End Applications

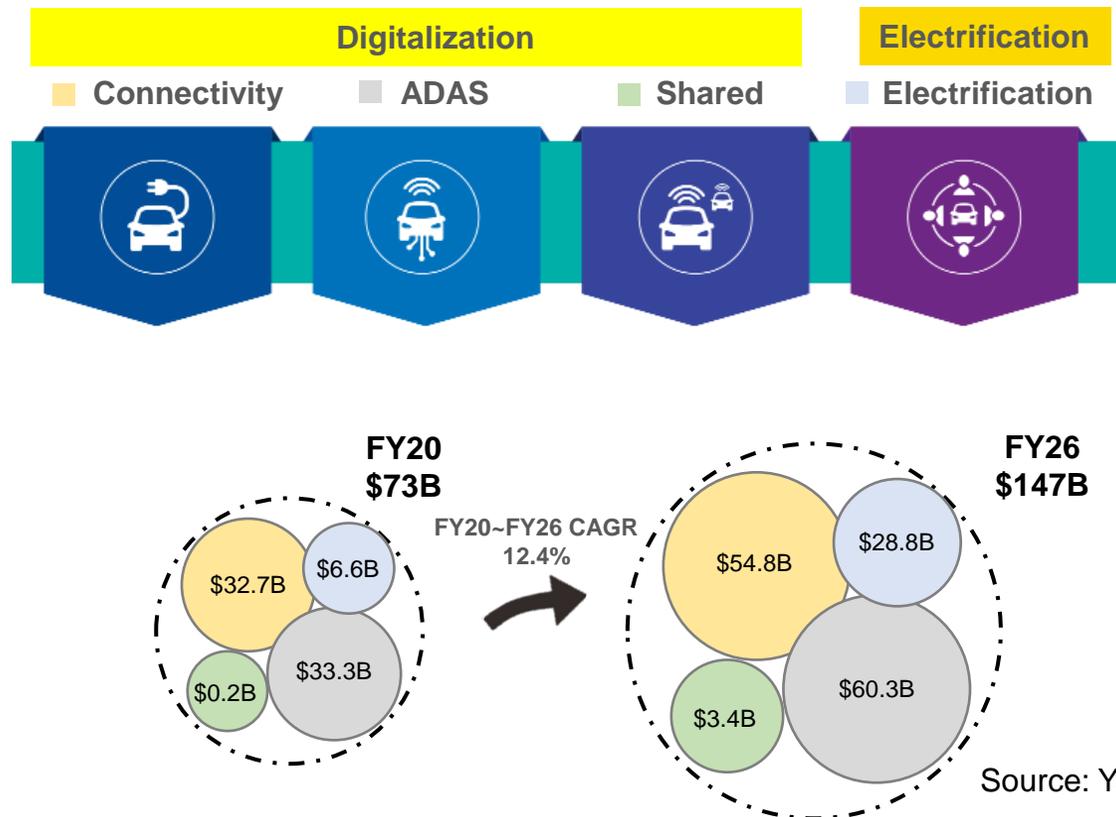


China HEV/PHEV/EV Brands

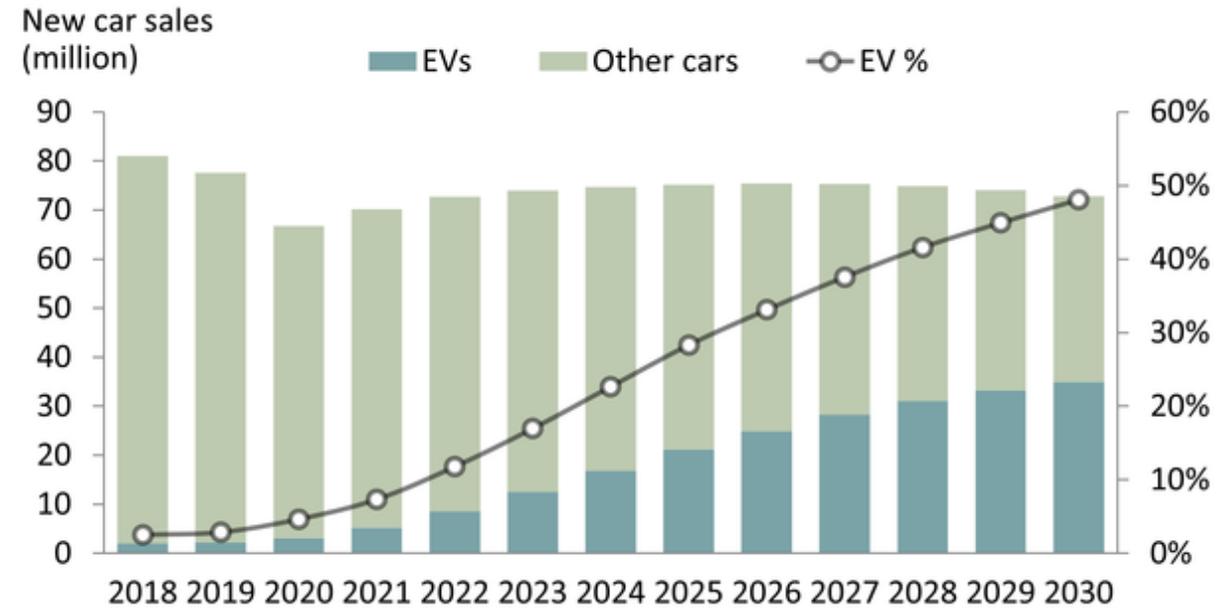
We Address All Vehicles Amidst the Trend of C.A.S.E

- Automotive Evolution is driven by technological developments of Connectivity, ADAS, Shared Mobility and Electrification (C.A.S.E). The **C.A.S.E market** would grow from US\$73bn, 2020 to US\$147bn, 2026, a **12% CAGR**.
- Not just electrified vehicles (EV), the C.A.S.E evolution of automotive industry applies to all kinds of powertrains – including new energy and traditional internal combust engine (ICE) vehicles.

2020-2035 C.A.S.E automotive market forecast at module level



2018-2030 Global passenger car sales

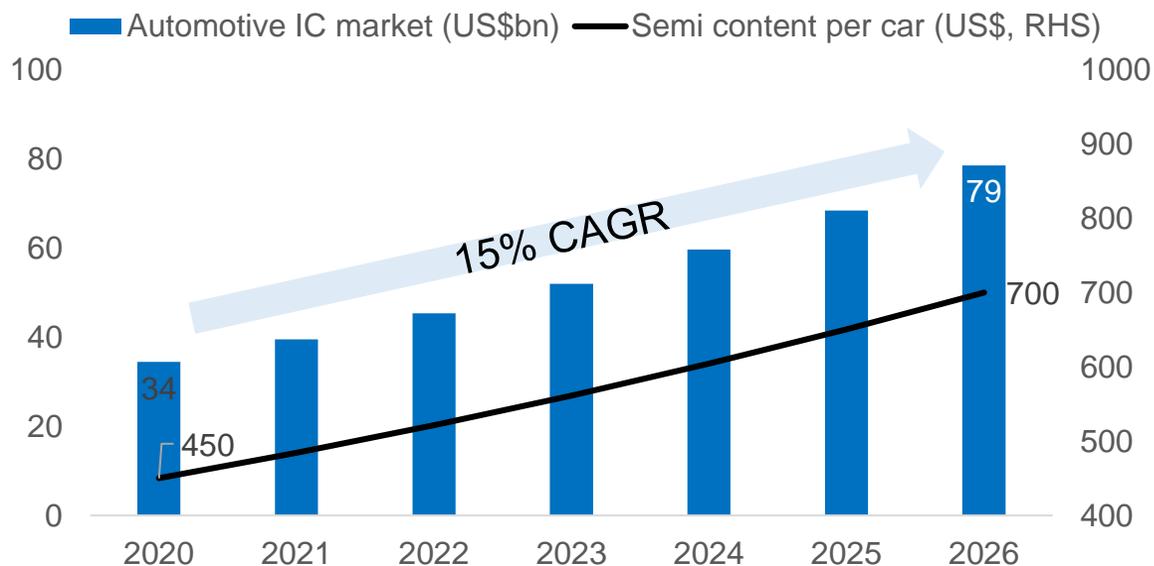


Source: Yole, 2021; Canalys, 2021

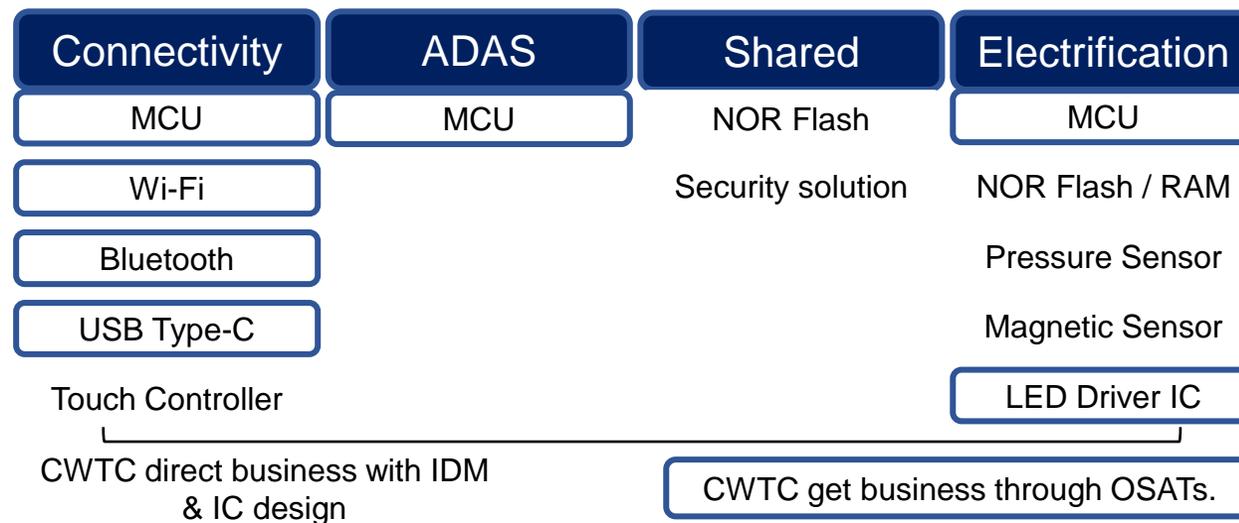
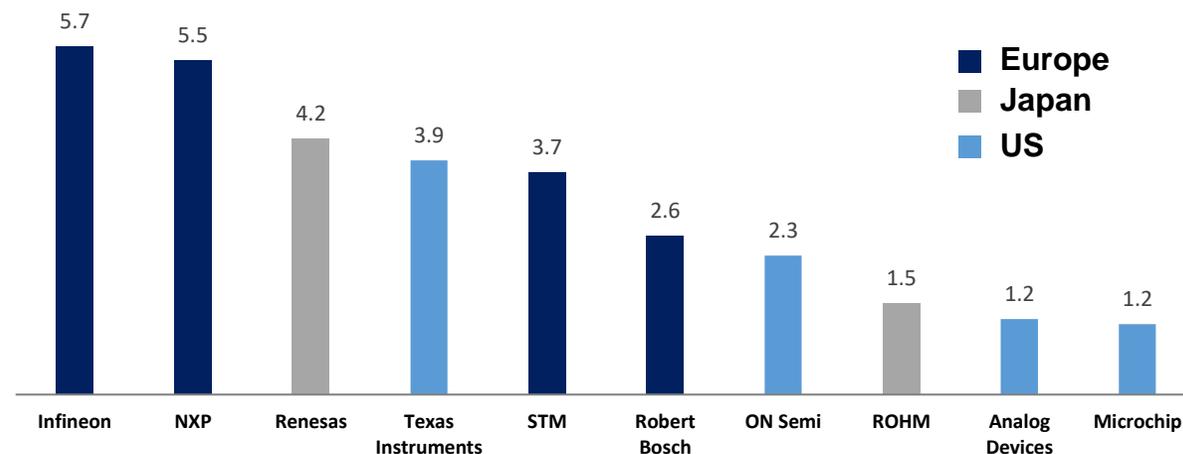
CWTC Collaborates with Top Global Auto Semi Clients

We've captured the trend of increasing silicon content per car in the growing automotive IC market through long-term collaborations with global top 10 auto semi companies.

Increasing semi content per car to drive 15% CAGR of automotive IC market



2021 sales ranking of top 10 auto semi companies (in US\$bn)



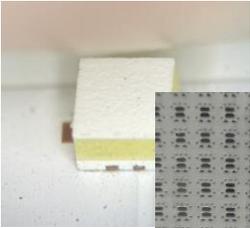
Industry-Leading ROE

Growth Drivers

Technology & Execution

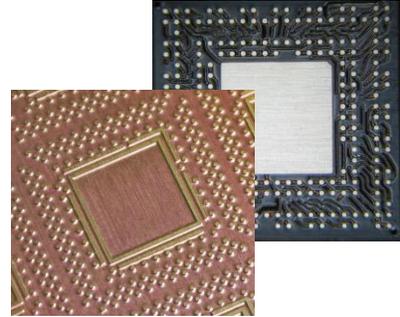
Financials

Our Leading Technology Portfolio



Pre-mold QFN

- World's leading EME-filled QFN technology
- Excellent **thermal efficiency & rigidity**
- **Higher throughput** for IC, Mini LED back-light unit, sensor and MEMS
- Replacing entry-level organic substrate



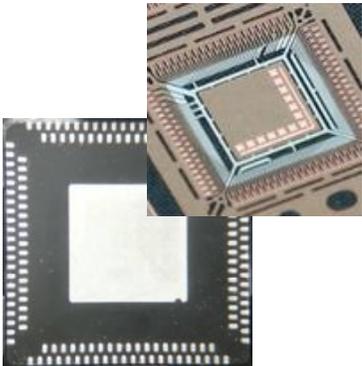
aQFN

- No. of I/O: **100-400**
- World's leading exclusive QFN LF
- Replacing BGA
- TW Fab started production since 4Q21



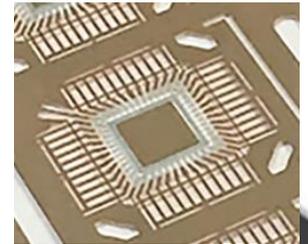
QFN

- No. of I/O: **32-180**
- Replacing SOP, co-exist with QFP and low-end BGA



QFP

- No. of I/O: **32-256**
- Flexible capacity switch between stamping and etching
- Increasing demand from OSAT & IDM customers



Our Execution Plan



Excellent Manufacturing

- Stamping
- Etching
- Plating
- Molding

Disciplined Investment

Industry-Leading Manufacturing Process

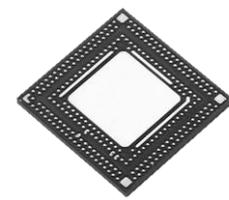
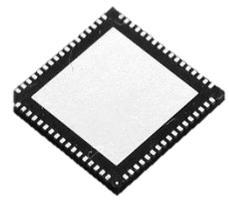
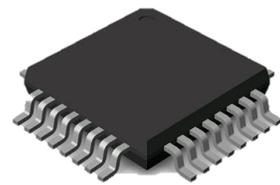
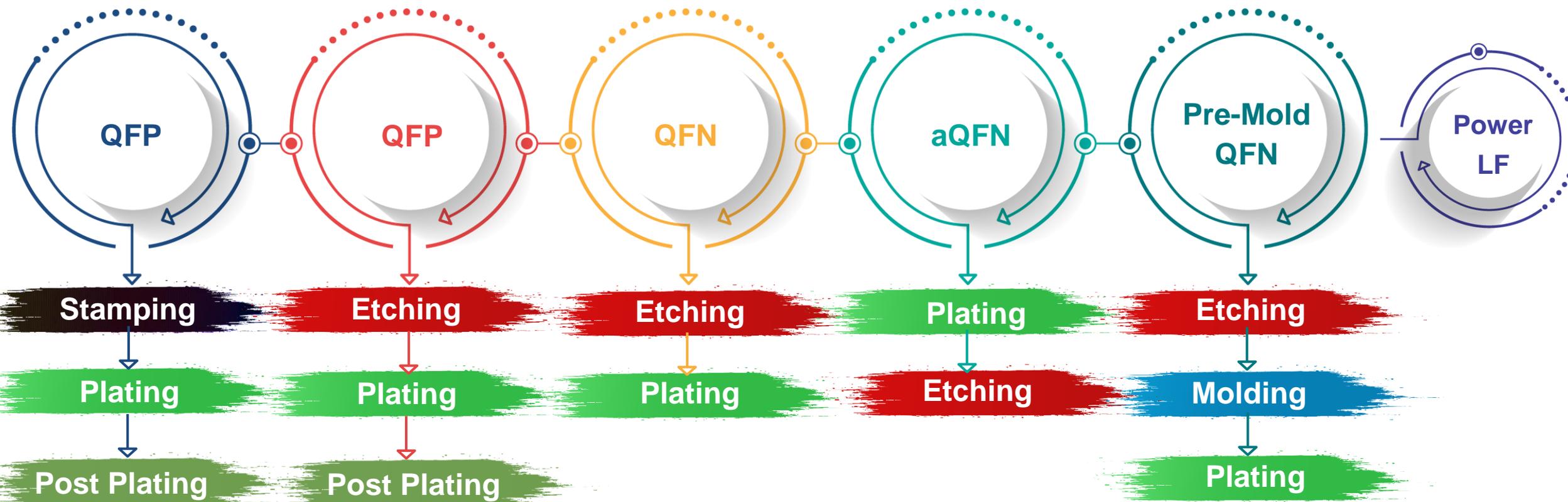


Photo: CWTC, ASE and Infineon



Japan & Korea Peers



Operation Efficiency

- After acquiring LF business from Sumitomo Metal Mining (5713 JP) in 2018. Through its plants in Taiwan, China and Malaysia, CWTC owns industry-leading manufacturing capabilities and efficiency.
- Through **leadership in efficiency and technology; early and disciplined investment**, CWTC will efficiently pursue sustainable growth and gain share.



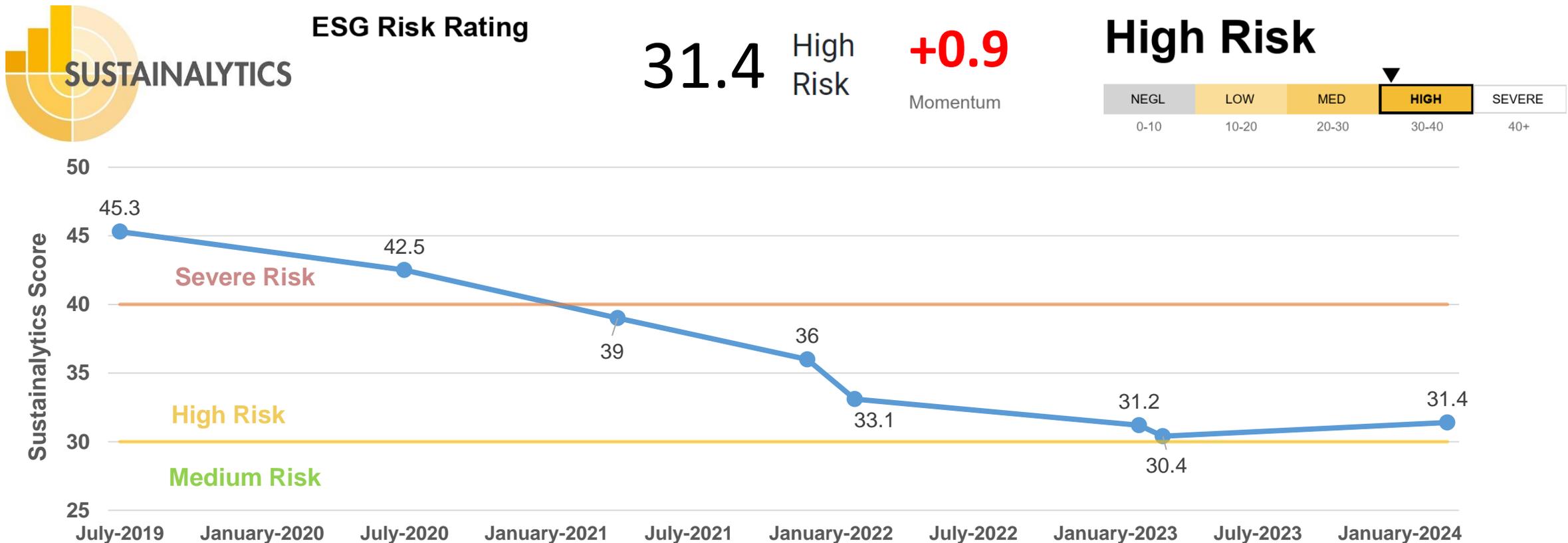
Technology Leadership



China Peers

Our Ever-Improving ESG Performance

- Year over year improvement in our Sustainalytics ESG Score
- We expect further improvement into the medium risk category by 2024



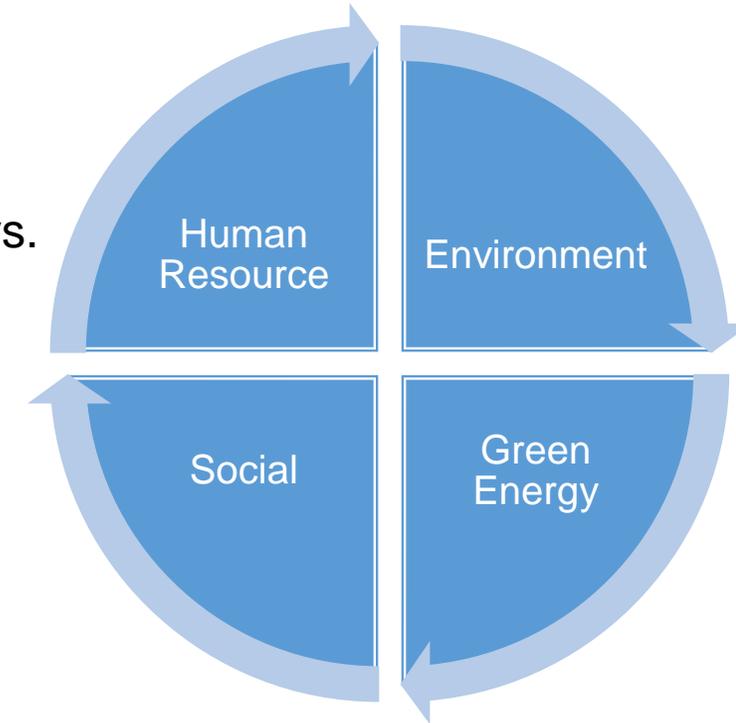
We Pursuit Our Sustainable Growth in an Eco-friendly Approach

Environment:

- Water recycling rate reached **45%** in 2022 vs. 27% in 2019.
- **4%** of electricity demand at the new factory will be supplied from solar energy vs. existing factory of only 0.3%.

Social:

- We are committed to complying with the Responsible Business Alliance (RBA), the Global e-Sustainability Initiative (GeSI), and also the Responsible Minerals Initiative (RMI).
- ESOP program transferred over **1,341,000** shares to employees.
- Our new fab is expected to create more than **150** new job opportunity.
- Stringent Environmental, Health, & Safety Policy across all of our Asia factories.



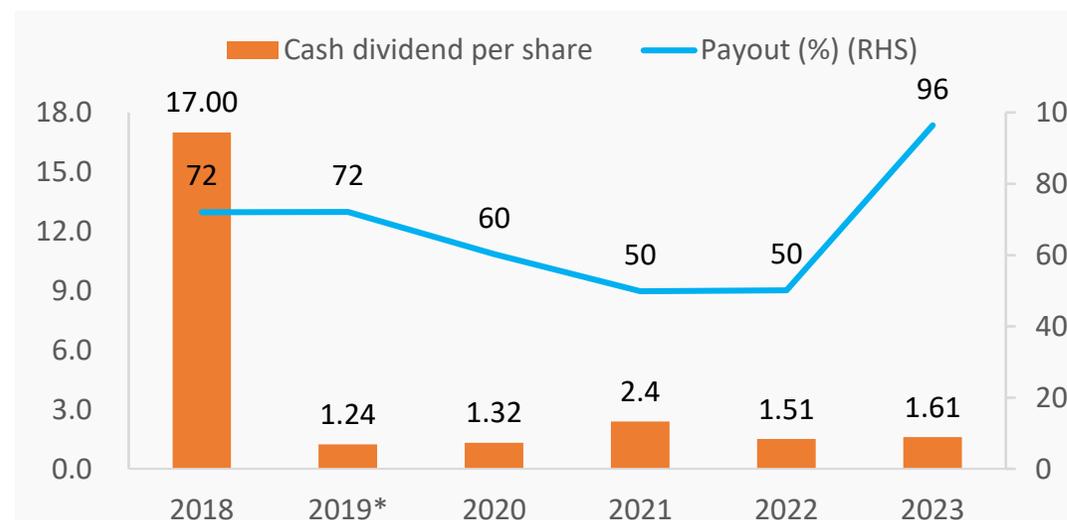
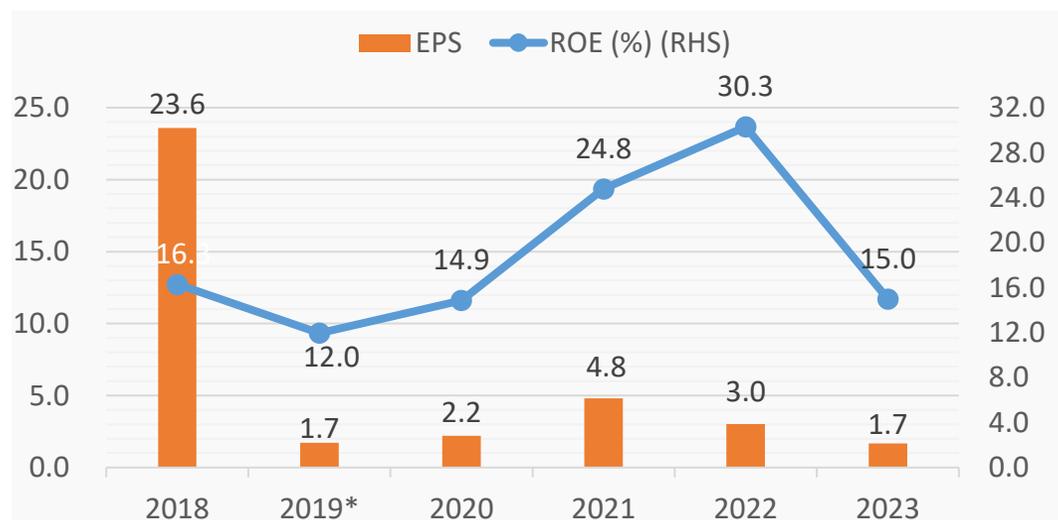
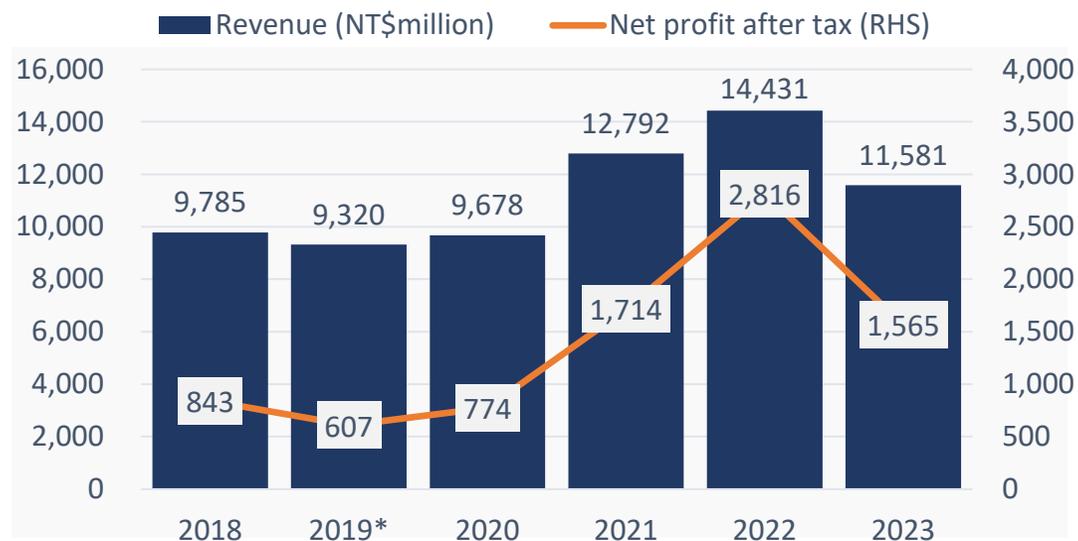
CWTC
2022 ESG
Report



Industry-Leading ROE
Growth Drivers
Technology & Execution

Financials

Robust Financial Performance



*Since Sep. 9th, 2019, CWTC changed the par value of stock from NT\$10 to NT\$1. The EPS and dividend are one-tenth of the original numbers.

**Since Sep. 5th, 2022, CWTC changed the par value of stock from NT\$1 to NT\$0.4. The EPS and dividend are two-fifth of the original numbers.

2018~2023 Income Statement

NT\$m	2018	2019	2020	2021	2022	2023	YoY (%)				
							2019	2020	2021	2022	2023
Revenue	9,785	9,320	9,678	12,792	14,431	11,581	-4.7	3.8	32.2	12.8	-19.7
Gross Profit	1,802	1,581	1,805	3,406	4,386	2,601	-12.3	14.2	88.7	28.8	-40.7
Operating Expenses	-708	-748	-845	-1,195	-1,264	-1,152	5.7	12.9	41.5	5.7	-8.8
Operating Profit	1,094	833	960	2,210	3,122	1,448	-23.9	15.3	130.2	41.2	-53.6
Pretax Income	1,206	899	966	2,249	3,634	1,970	-25.4	7.5	132.7	61.6	-45.8
Tax Expenses	-354	-280	-176	-511	-789	-373	-20.8	-37.3	190.5	54.6	-52.7
Net Income to Parent	843	607	774	1,714	2,816	1,565	-27.9	27.4	121.5	64.3	-44.4
Basic EPS (NT\$)	23.60	1.72*	2.19*	4.81*	3.01**	1.67**	-	-	-	-	-
Key Financial Ratios (%)											
Gross Margin	18.4	17.0	18.6	26.6	30.4	22.5					
Operating Expense Ratio	7.2	8.0	8.7	9.3	8.8	9.9					
Operating Margin	11.2	8.9	9.9	17.3	21.6	12.5					
Effect Tax Rate	29.3	31.2	18.2	22.7	21.7	18.9					
Net Margin	8.6	6.5	8.0	13.4	19.5	13.5					

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2018~2023 Balance Sheet

NT\$m	2018	2019	2020	2021	2022	2023	YoY (%)				
							2019	2020	2021	2022	2023
Total Assets	9,788	10,544	12,164	14,842	18,829	20,073	7.7	15.4	22.0	26.9	6.6
Cash	2,304	3,076	2,502	3,685	5,626	5,497	33.5	-18.7	47.3	52.6	-2.3
AR & NR	1,927	2,003	2,114	2,859	2,564	2,275	4.0	5.5	35.2	-10.3	-11.3
Inventories	1,437	1,296	1,437	2,196	2,456	2,140	-9.8	10.9	52.8	11.9	-12.9
Fixed Assets	2,441	2,210	2,252	2,475	3,586	3,933	-9.5	1.9	9.9	44.9	9.7
Total Liabilities	4,617	5,558	6,738	6,430	8,655	9,602	20.4	21.2	-4.6	34.6	10.9
AP & NP	1,019	1,148	1,105	1,337	942	891	12.6	-3.8	21.0	-29.5	-5.5
Total Equity	5,171	4,986	5,426	8,412	10,173	10,471	-3.6	8.8	55.0	20.9	2.9
Key Financial Ratios											
A/R Turnover Days	70.4	77.9	78.2	71.7	70.0	78.6					
Inventory Turnover Days	61.0	63.5	62.5	69.7	83.4	87.9					
A/P Turnover Days	69.6	77.2	82.3	80.4	89.3	102.3					
Cash Conversion Days	61.8	64.2	58.3	61.0	64.1	64.3					
ROE (%)	16.5	12.2	15.2	25.2	31.2	15.9					
ROA (%)	9.0	6.1	7.0	12.9	16.9	8.2					

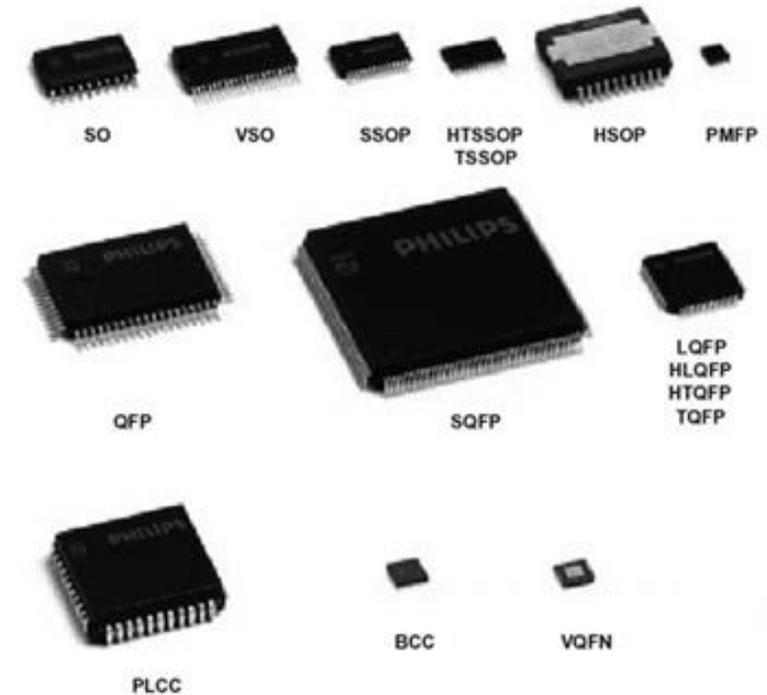
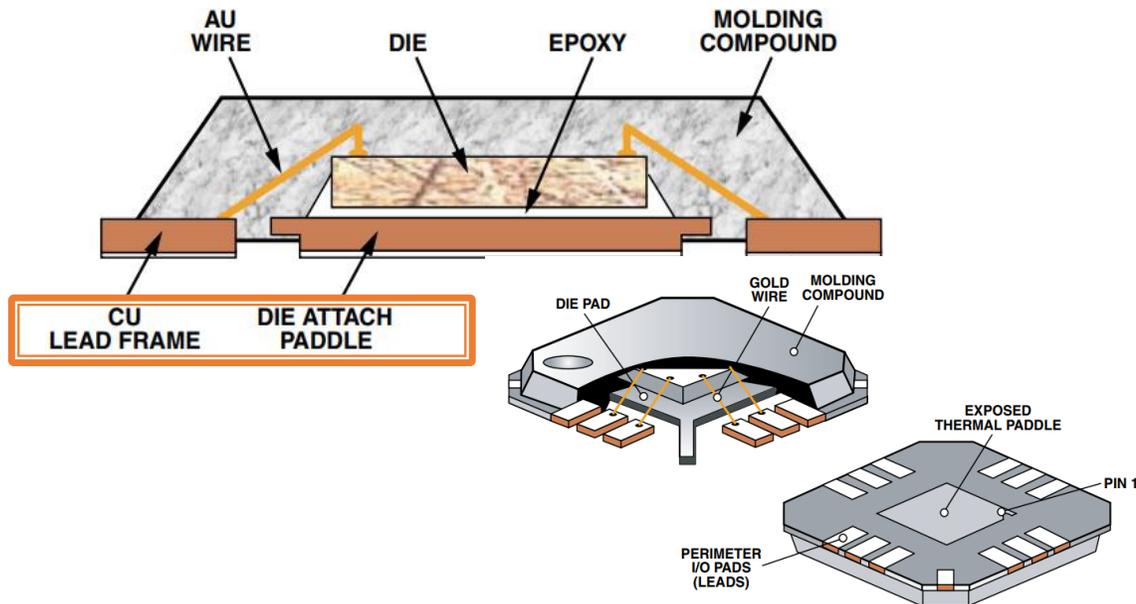
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Appendix

What is Lead Frame (LF)?

- LF is the **metal substrate** inside a chip package that carry signals from the die to the outside.
- LF is the interface between die and PCB, communicating signal input/output (I/O).
- By removing material from a flat plate of copper, LF are manufactured by two major processes: etching (for high I/O density with small footprint) or stamping (for less variety orders).
- There are more than dozens types of LF-based IC packages, each characteristic varying based on user requirements.



Source: Analog Device and ResearchGate

What is QFN?

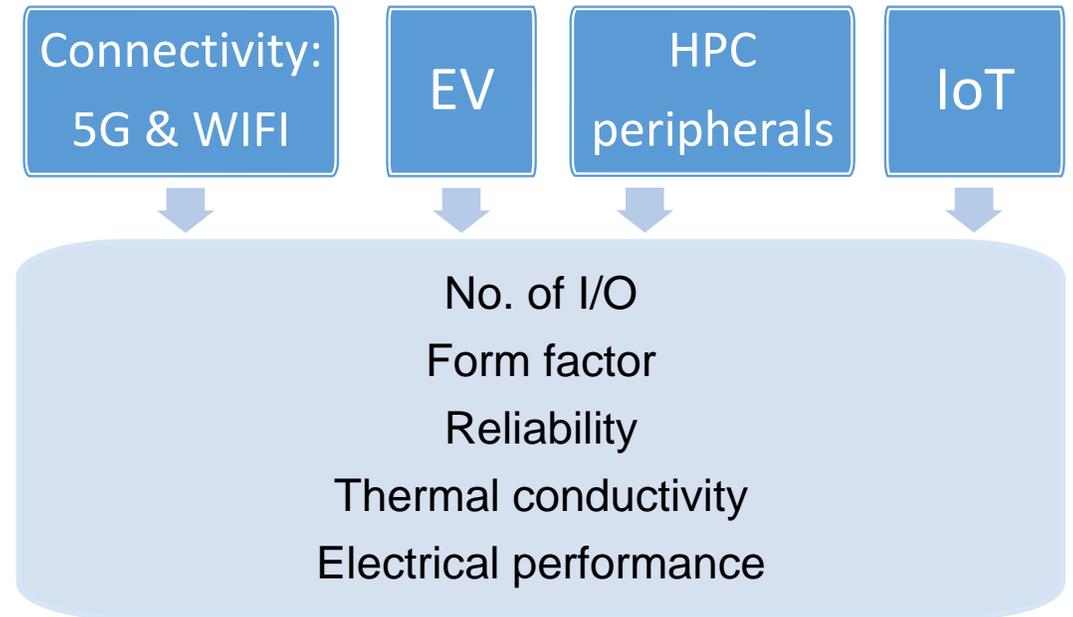
- As one type of LF-based packaging, QFN is a small sized “near chip scale” plastic encapsulated IC package.
- QFN is an ideal package for IC applications where **no. of I/O**, **size**, **weight**, **thermal and electrical performance** are important.



QFN LF



QFN IC package



Source: CWTC and ASE

CWTC Automotive Lead Frame Inside

CWTC's automotive lead frame solutions to meet automotive industry specification:

Consumer Electronics

7nm ~ 28nm
100M+
900MHz ~ 2.7GHz
0.5V ~ >1.8V
0°C ~ 40°C
1-3 years
<10%

Process
Design Sizes
Frequencies
Voltages
Temperatures
Lifetime
Failure Rate



Automotive

7nm ~ >180nm
<1M ~ 100M+
30MHz ~ 5.9GHz
1V ~ >60V
-40°C ~ 155°C
10 ~ 15 years
Target Zero Failure



CWTC's automotive lead frame solutions:

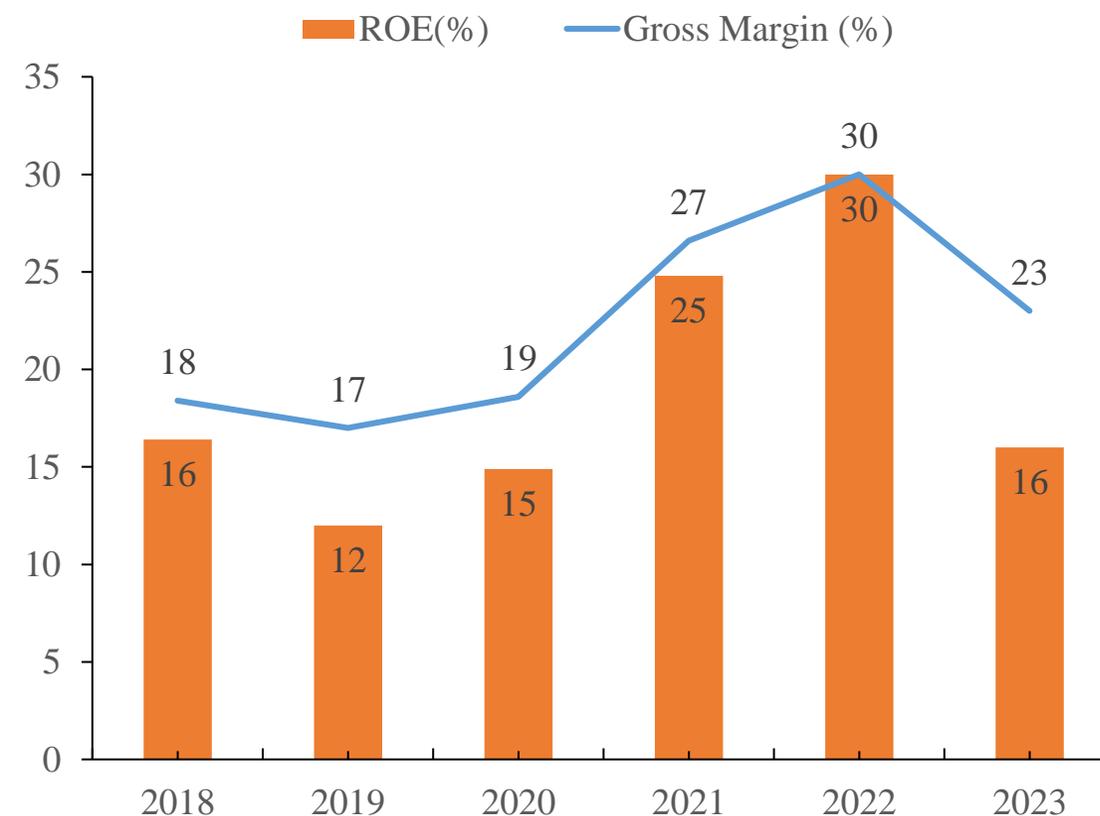
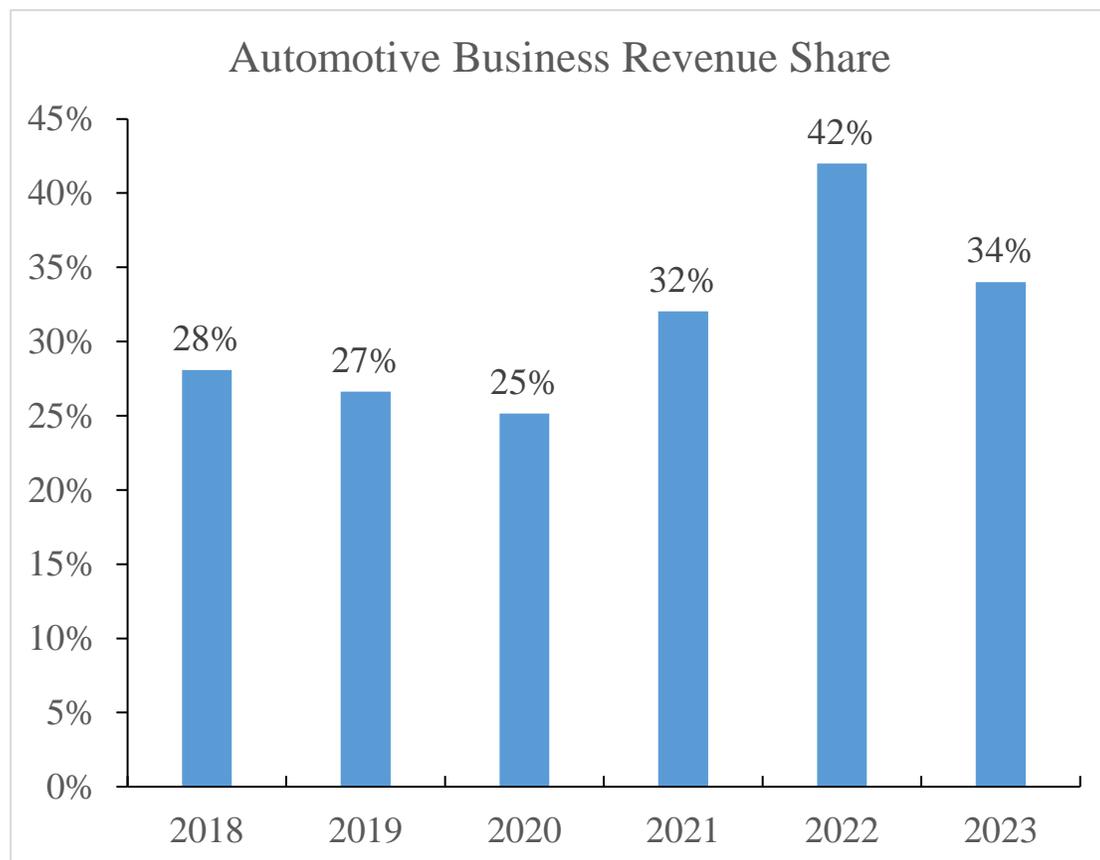
- QFP
- QFN
- aQFN
- Pre-mold
- SOT

CWTC Lead Frame Inside:

- **Analog IC :**
Amplifiers, Voltage regulators
- **Discretes :**
Rectifiers, Diodes
- **Logic IC :**
FPGA
- **Memory IC :**
NOR, NAND Flash
- **Microcomponent IC :**
Digital signal processor, MCU
- **Optical Semiconductor :**
LED backlight & lighting, Image sensors
- **Sensors & Actuators :**
LIDAR

CWTC's Automotive Business

CWTC's automotive sales contribution has increased from 28% in 2018 to 34% in 2023. We expect automotive LF business to continue to be one of growth drivers of our sustainable profitability.



Our Manufacturing Strength

Stamping

- Self-developed tool and mold support all QFP and SOP LF, enable to produce “CWTC-only” items.
- High flexibility to switch different products to maximize throughput

Etching

- Precise QFN half-etching technology to enhance efficiency
- **Highly-automated, customized and flexible** etching tools to share with QFP LF lines
- Industry leading **wastewater treatment technology**

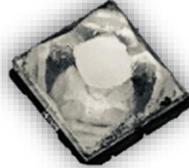
Plating

- Self-developed **plating mask** process covering from high-end to low-end QFN
- High flexibility to switch different products.
- Self-developed photo-mask production line will be available in 2Q21

Molding

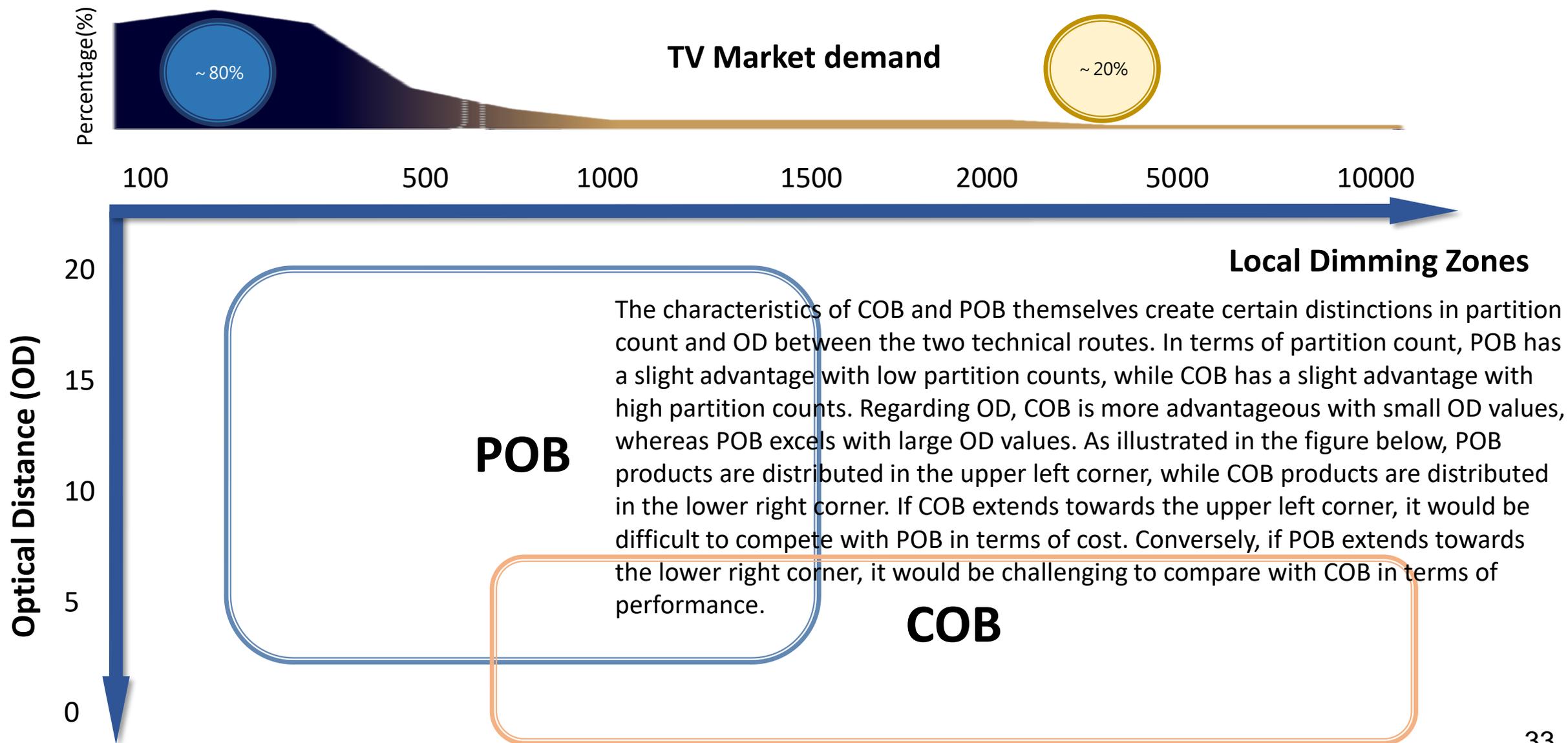
- Self-developed **molding process** to provide value-add to QFN LF
- **Increasing pricing power** for niche applications: Mini LED

Mini LED Backlight Comparison

Mini LED Solution for Backlight		POB			COB
Package Type		 CWTC EMC-2525	 CWTC EMC-1515	PLCC-2016	Chip on Board
Appearance					
Application		Monitor/ TV/ Automotive	Monitor/ TV/ Automotive	Monitor/ TV/ Automotive	Monitor/ TV/ NB/Tablet
LED Light color		Blue/White Light	Blue/White Light	Blue/White Light	Blue
LED Viewing Angel ($2\theta_{1/2}$)		 170°	150°	135°	125°
Backlight OD (Optical Distance)		2.5-5mm	3-5mm	5-10mm	 0-5mm
Feature	Module Thickness	Thinner	Middle	Thicker	Thinner
	Optimized view angle	 Excellence	Workable	Difficult	Difficult
	Hight/Pitch(H/P) Ratio	 1:4	1:2.5	1:2.3	1:1.5
Case Comparison	LED usage in a12.3" display	 384	768	1536	3456
	Local Dimming Zones	384	384	384	384
	Total cost	 Low	Middle	High	Ultra-high

Remark : POB=Package On Board ; COB=Chip On Board ; PLCC=Plastic Leaded Chip Carrier ; HP Ratio=Optical distance /LED Pitch . .

Mini LED Backlight by Different Solutions



Glossary

- SO/SOP: Small Outline and Small Outline Package
- TSSOP: Thin Shrink Small Outline Package
- TSOP: Thin Small Outline Package
- COL: Chip-n-Lead
- QFP: Quad Flat Package
- SQFP: Small Quad Flat Package
- TQFP: Thin profile Quad Flat Package
- LQFP: Low profile Quad Flat Package
- PDIP: Plastic Dual In-line Package
- PLCC: Plastic Leaded Chip Carrier
- VSO: Very Small Outline Package
- PMFP: Plastic Micro Flat Package
- BCC: Bump Chip Carrier

- QFN: Quad Flat No-lead
- DRQFN: Dual Row Quad Flat No-Lead Package
- aQFN: advanced Quad Flat No-lead
- VQFN: Very Thin Quad Flat No-lead Package