

# The Runway for Sustainable Growth



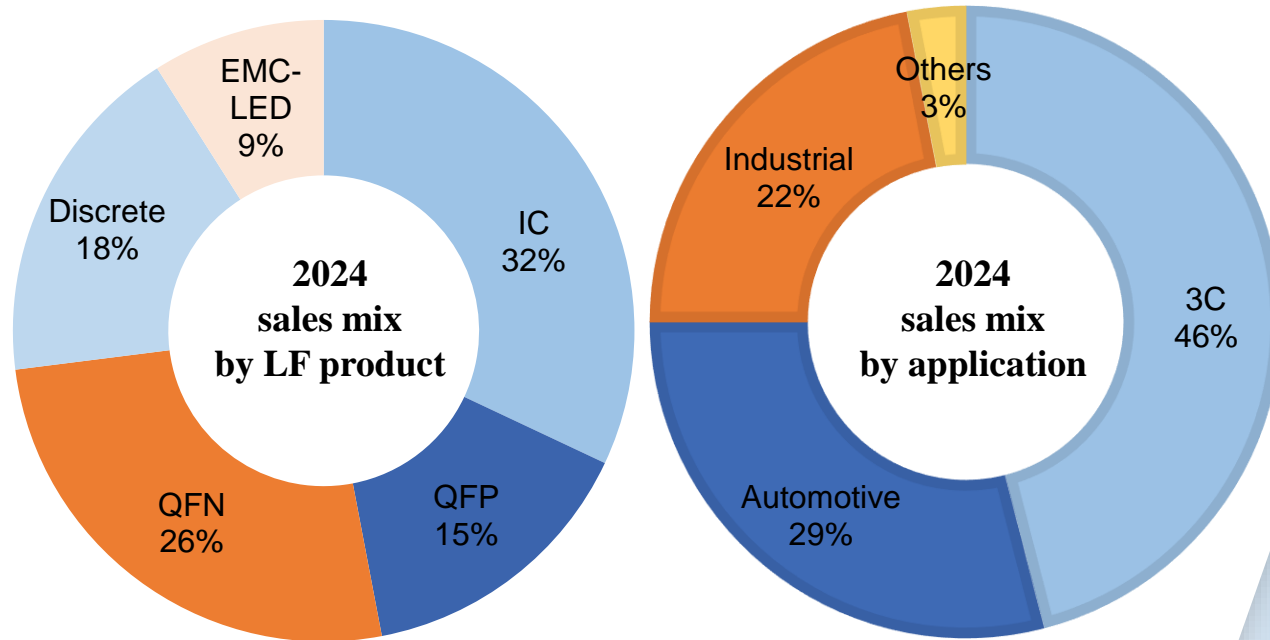
2025 Investor Presentation (6548 TT)

# 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. 20<sup>th</sup>, 2025) : US\$ 1.05bn
- 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\$ 400mn** 2024 Total sales

**328** No. of global LF patents

**2,250** No. of global employees

# Why Invest In CWTC?

## ROE



### Industry leading ROE

CWTC expects to deliver an ROE in excess of 25% next five years and implements quarterly dividend payment and pay at least NT\$1.6 cash dividend per share.

## Diversity



### Diversity in product 、 client & clusters

CWTC offers diversified LF products, and all factories located in 3 big semi packing clusters in Asia.

## Technology



### Technology

Over 30+ years experience, CWTC derives leading technology and knowhow to develop high-end LF for next generation product.

# Agenda

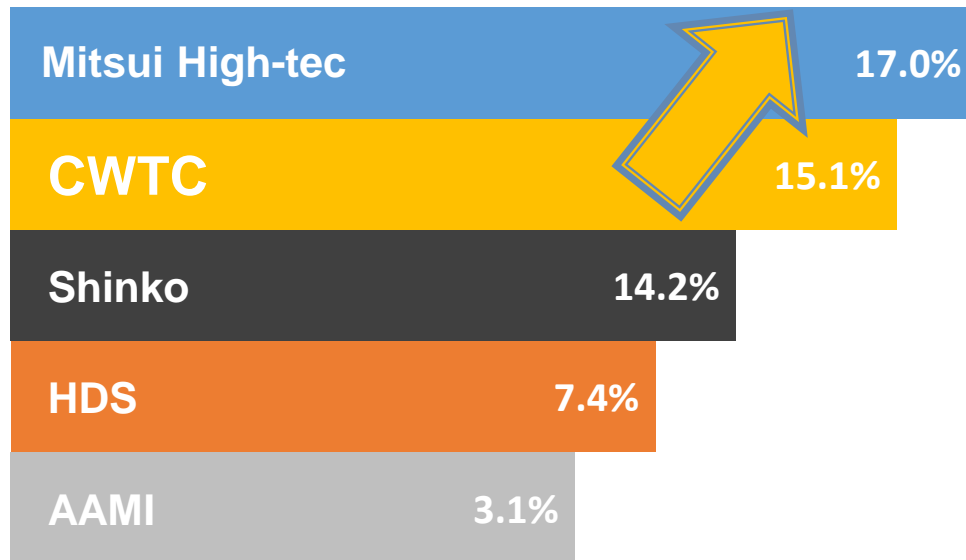
**Industry-Leading ROE**

**Growth Drivers**  
**Technology & Execution**  
**Financials**

# Target to Increase Market Share and Generate Superior ROE

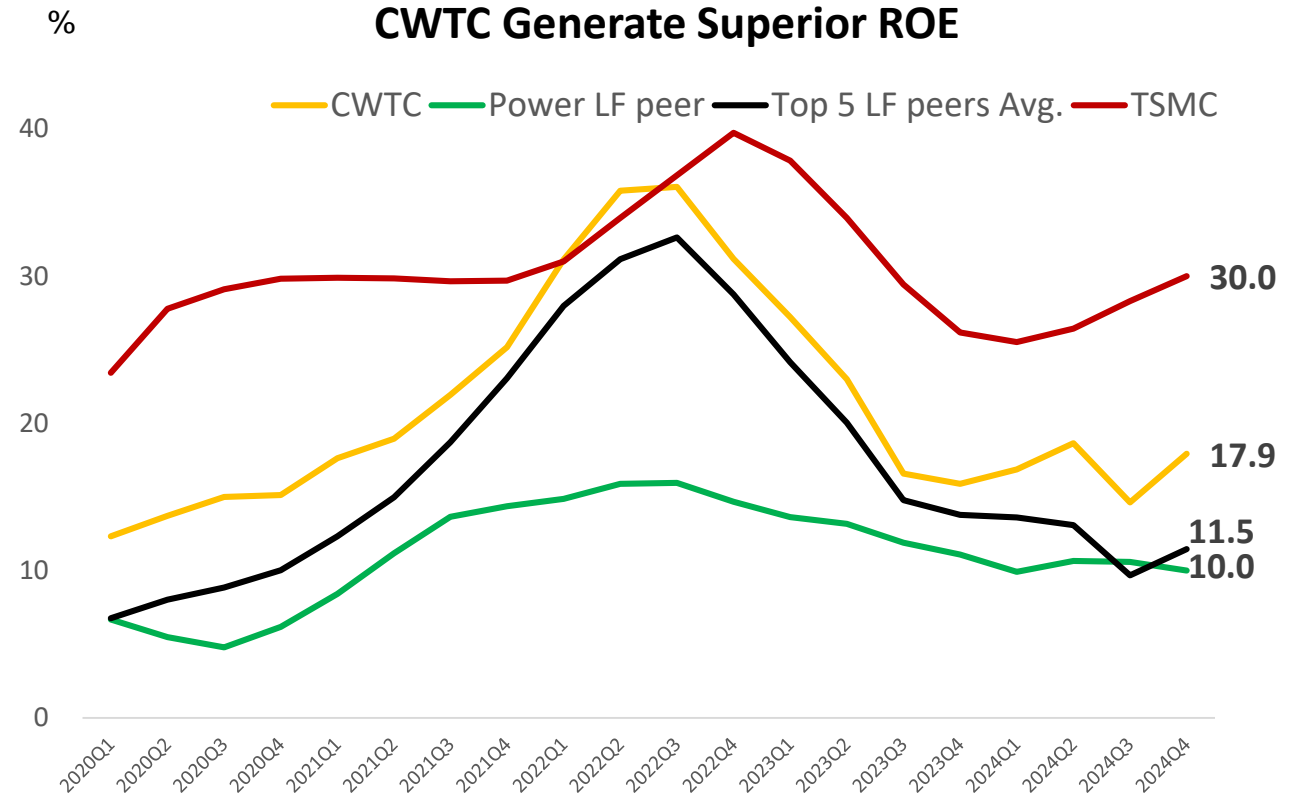
- Among leading LF peers, CWTC targets to increase market share and become the IC LF **Spec. definer**.
- CWTC generated **ROE above LF industry average through cycle**.

## 2023E Global Top 5 LF makers market shares



Source: Fuji Keizai 2024.  
CWTC use actual production data (Ori. Data 17.4%)

## CWTC Generate Superior ROE

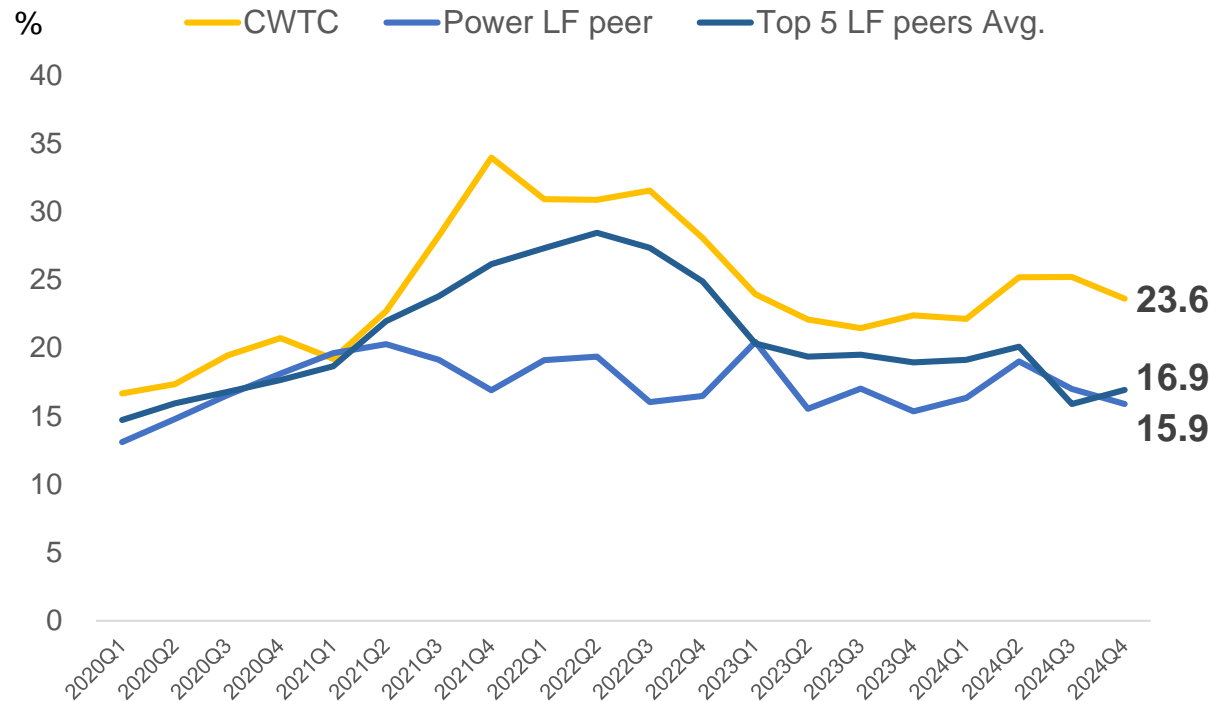


Source: Bloomberg

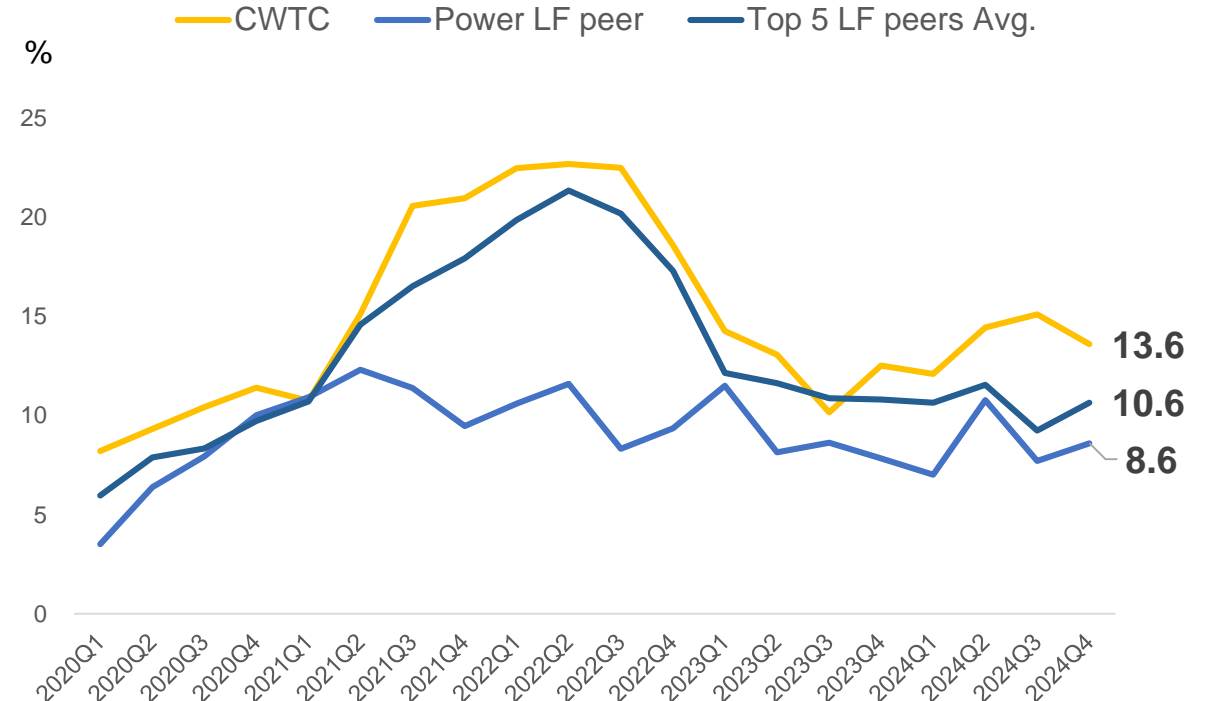
# We Strive to Maintain Industry Leading Profitability

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



## Operation Efficiency For Higher Operating Margin

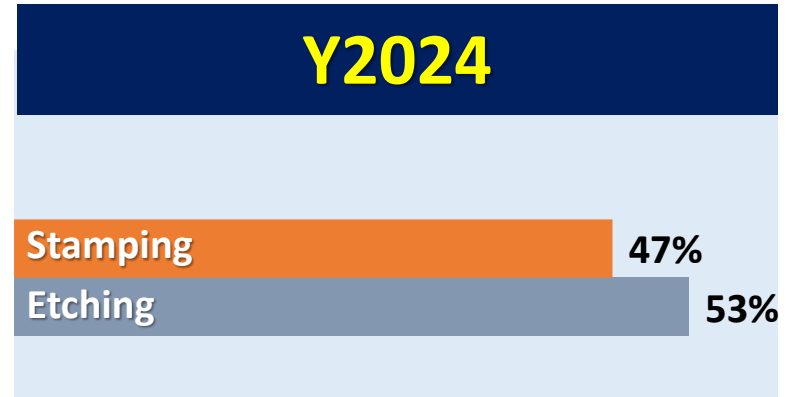
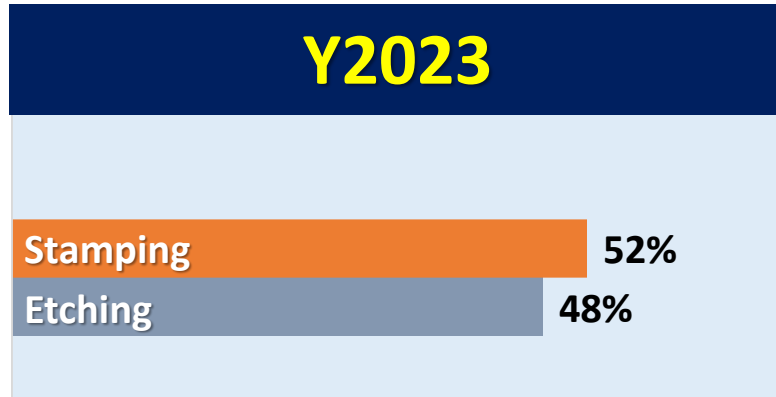


Source: Company estimates. Stock tickers: Mitsui High-tec: 6966 JP, Shinko: 6967 JP, HDS: 195870 KS, SDI: 2351 TT

Source: Bloomberg

# Diversity in All Aspect

By  
Product



**Industry-Leading ROE**

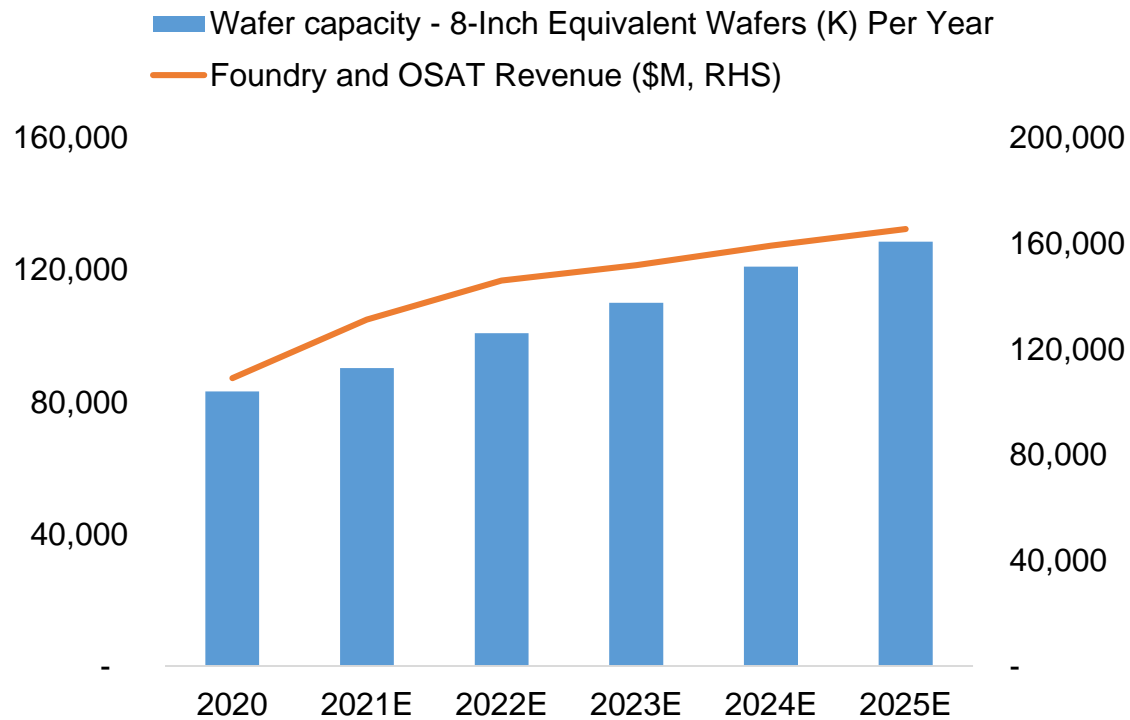
**Growth Drivers**

**Expertise & Execution**

**Financials**

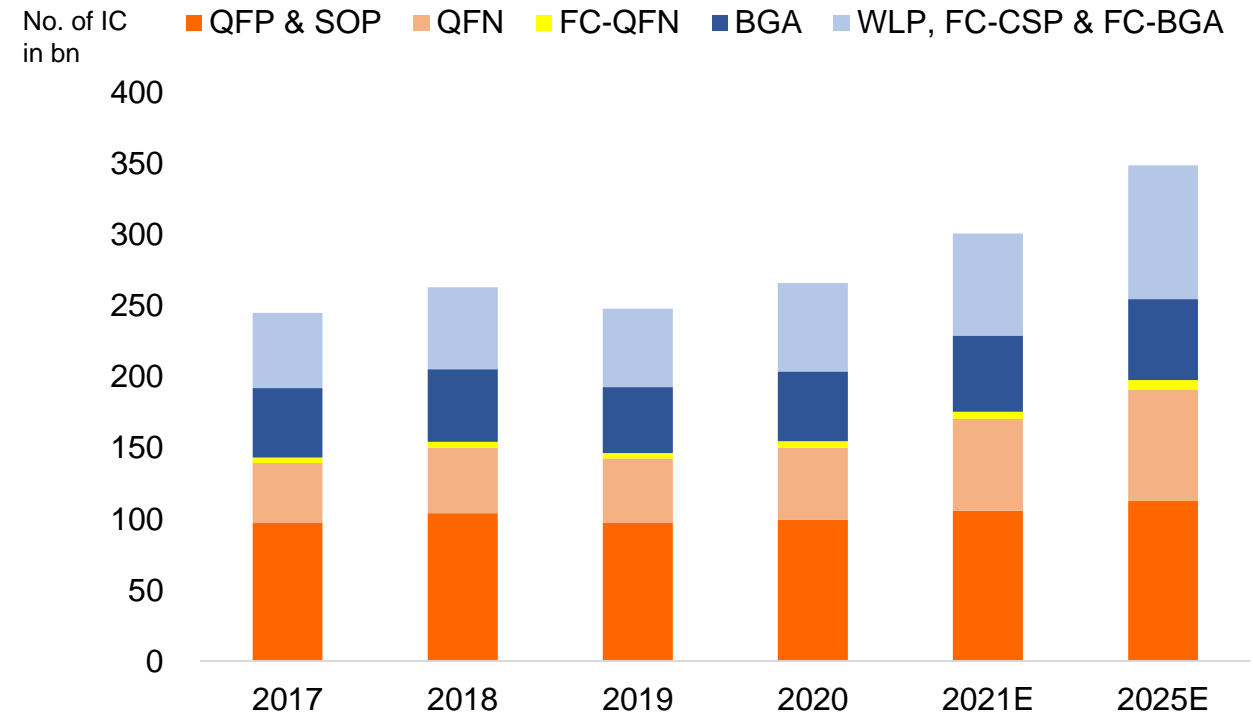
# Increasing LF Demand

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

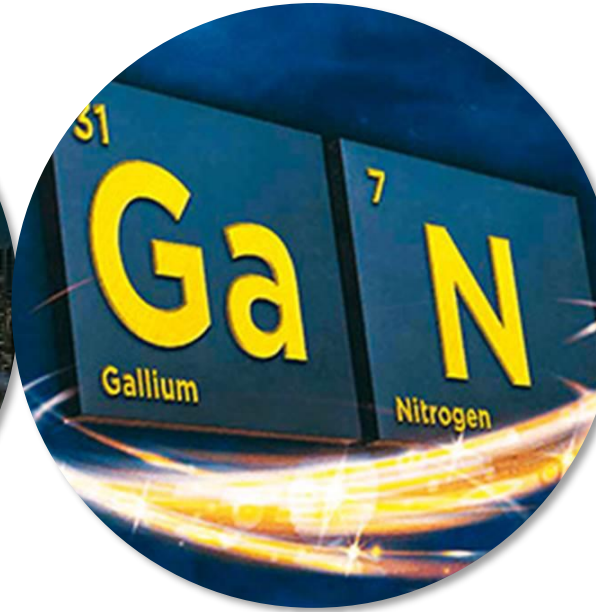
# Our Multiple Applications



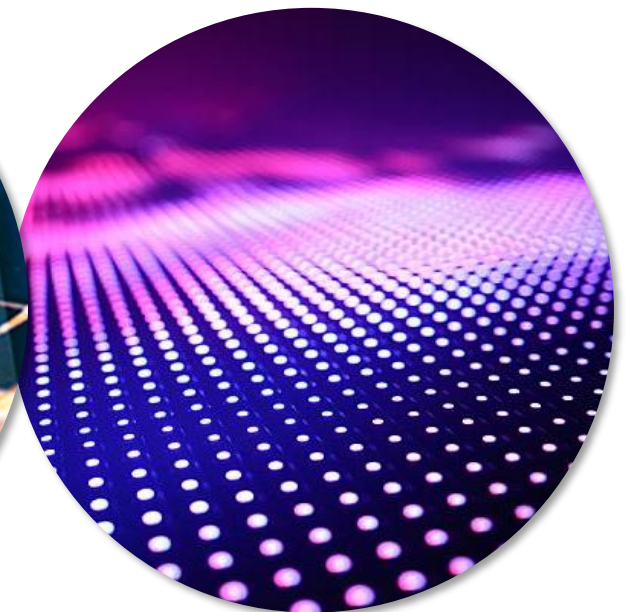
**Automotive**



**5G & WiFi  
Connectivity**



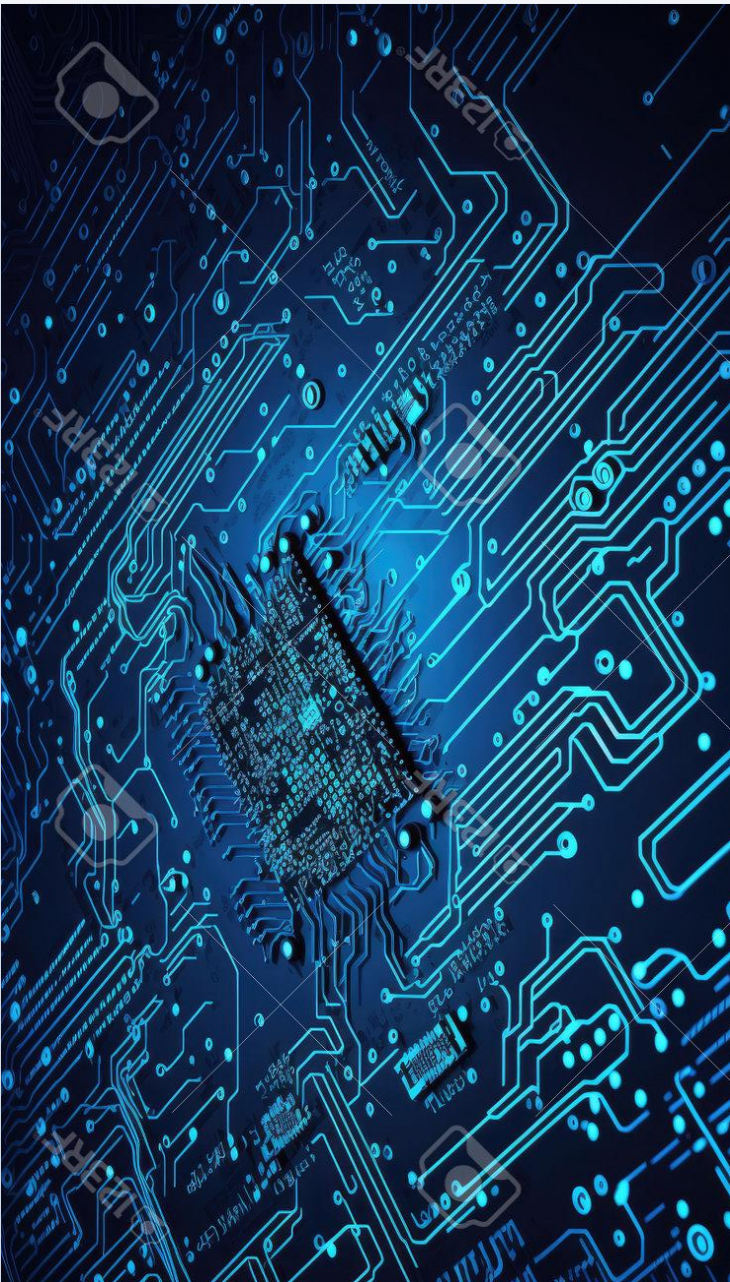
**III-V  
Semiconductor**



**Mini LED**

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

# GaN IPM Module



## High Efficiency



- Applied GaN Technology
- 99% inverter efficiency
- 50% reduction in power loss

## Excellent Thermal Performance

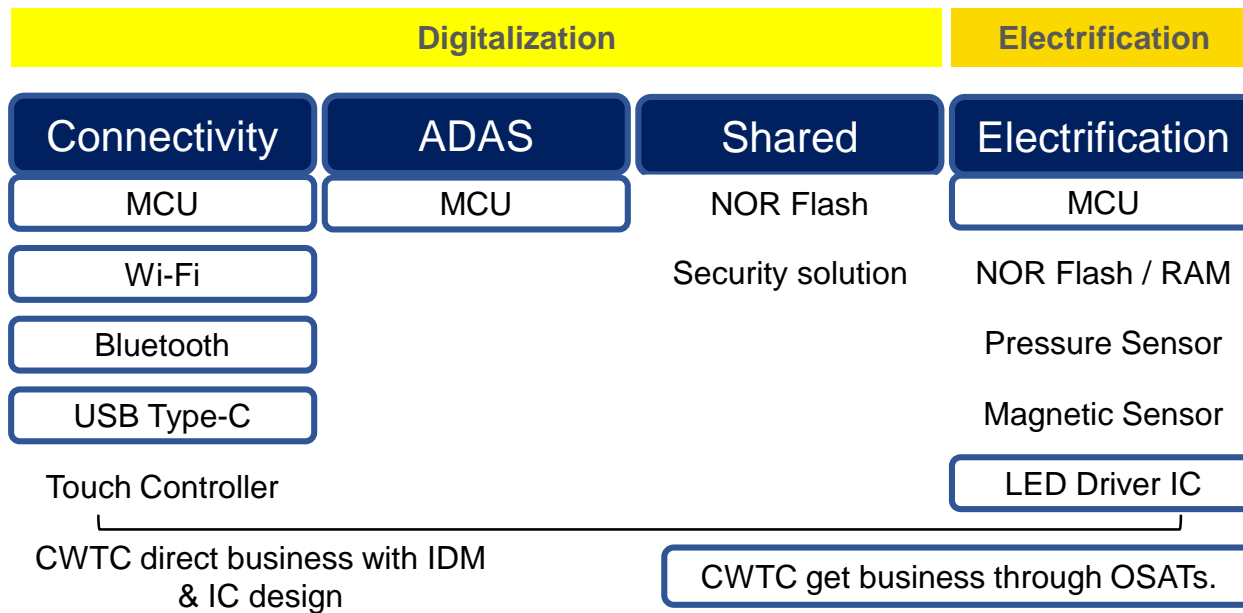


- No need for heat sink
- Reducing 50% PCB space

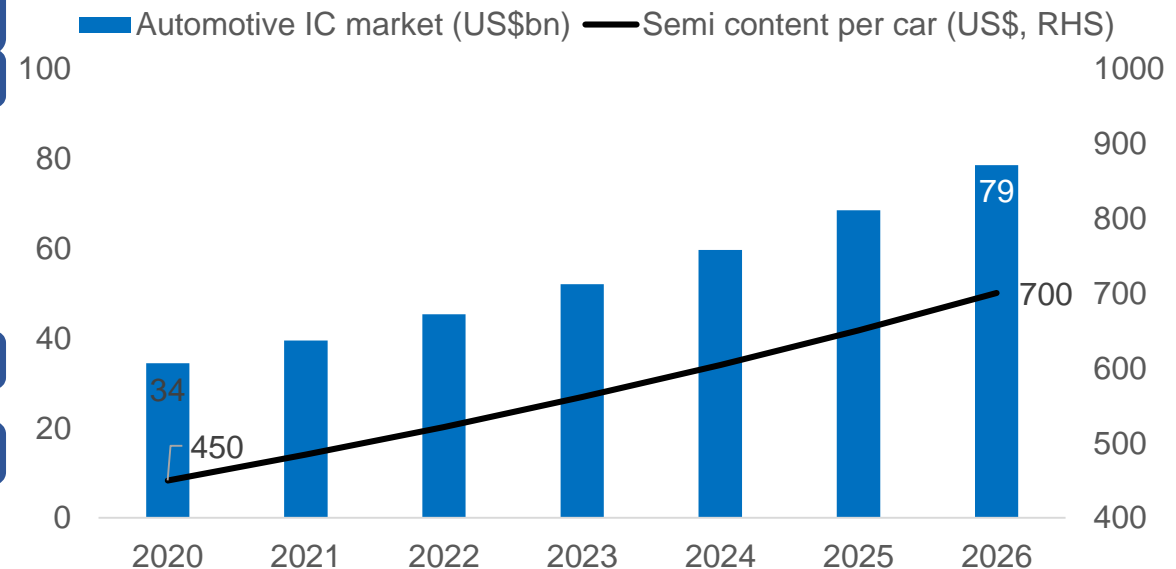


# We Address All Vehicles Amidst the Trend of C.A.S.E

- 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.



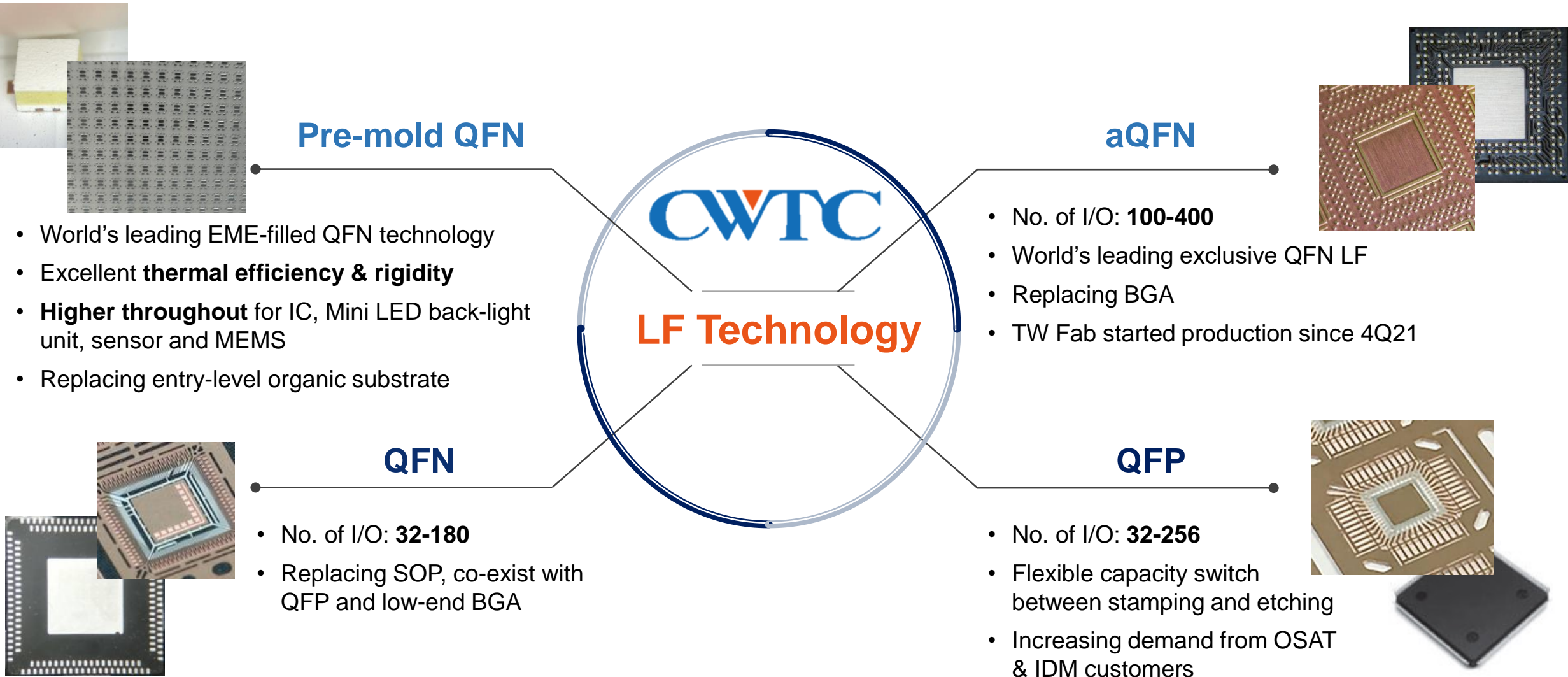
Increasing semi content per car to drive 15% CAGR of automotive IC market



Source : Yole; WSTS; 2021 Oct. IFX day; WSTS

**Industry-Leading ROE**  
**Growth Drivers**  
**Technology & Execution**  
**Financials**

# Our Leading Technology Portfolio



# Industry-Leading Manufacturing Process

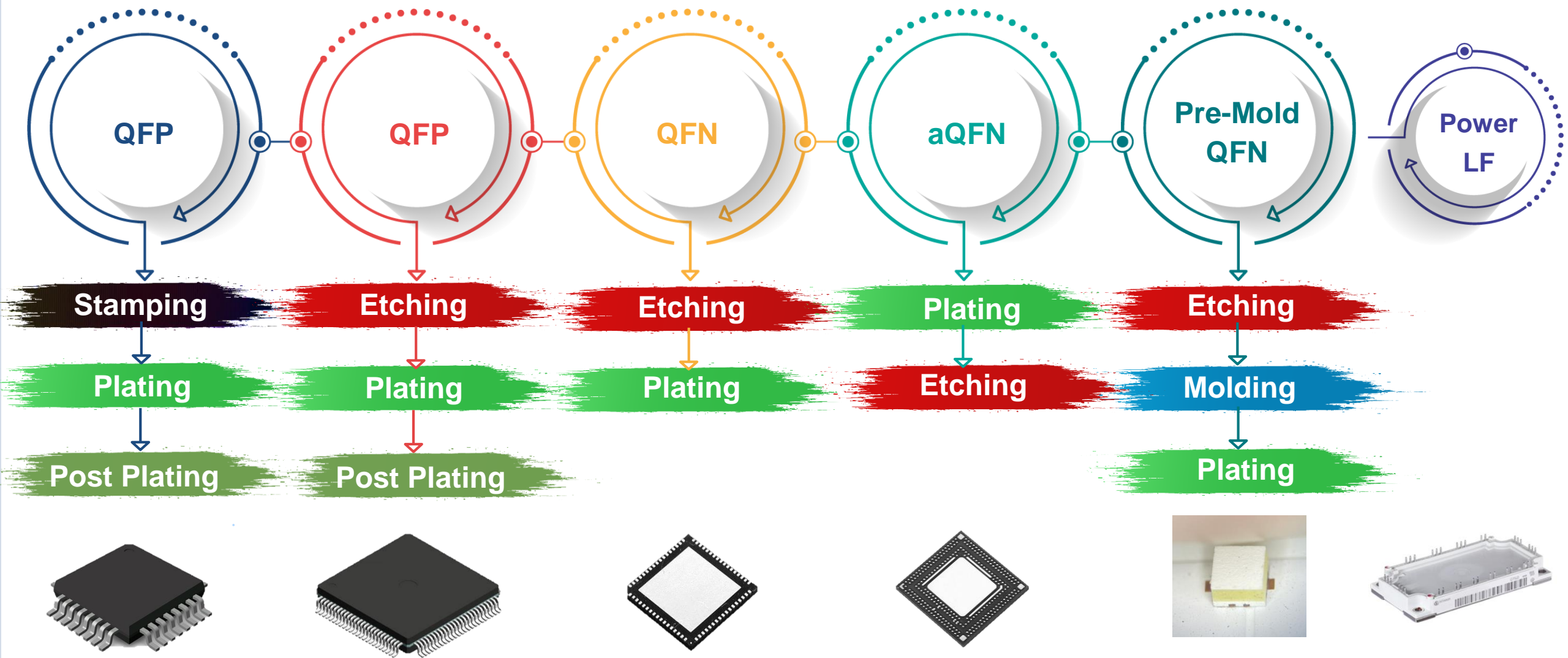


Photo: CWTC, ASE and Infineon



## 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

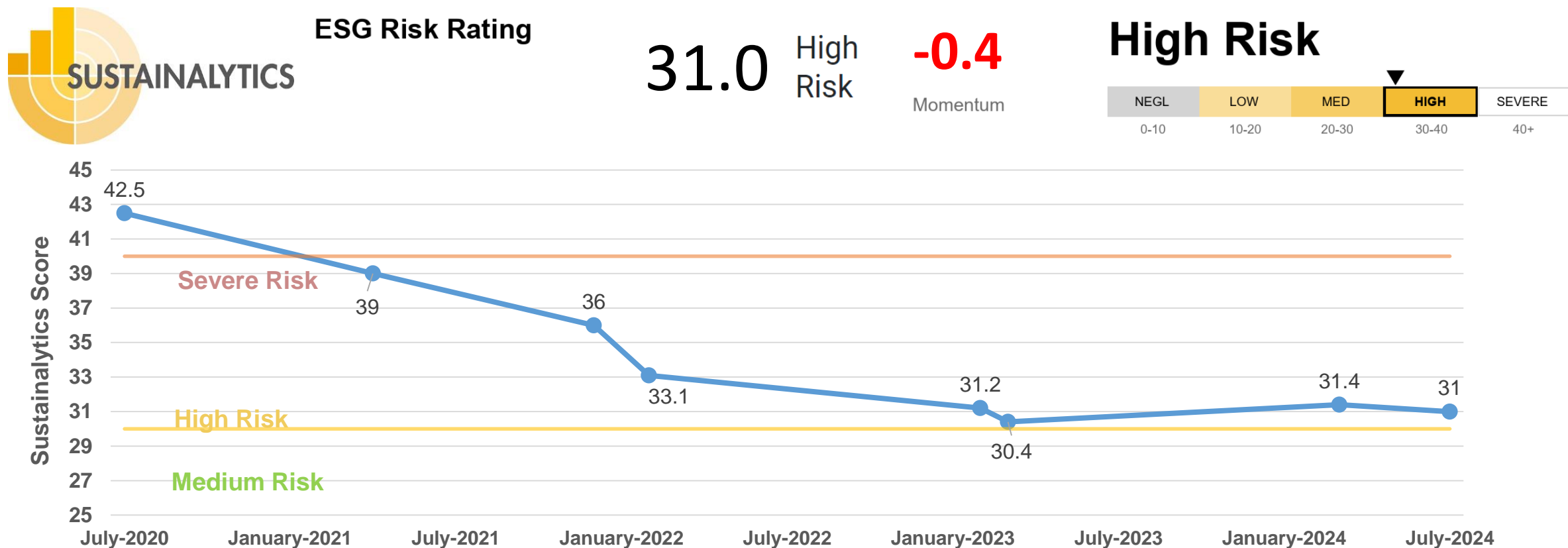
# Expansion Plan in SE-Asia



CWTC announced will invest USD100M to expand Malaysia factory!  
All plants located in 3 major semiconductor back-end cluster.

# Our Ever-Improving ESG Performance

- Year over year improvement in our Sustainalytics ESG Score
- We expect further improvement into the medium risk category by 2025



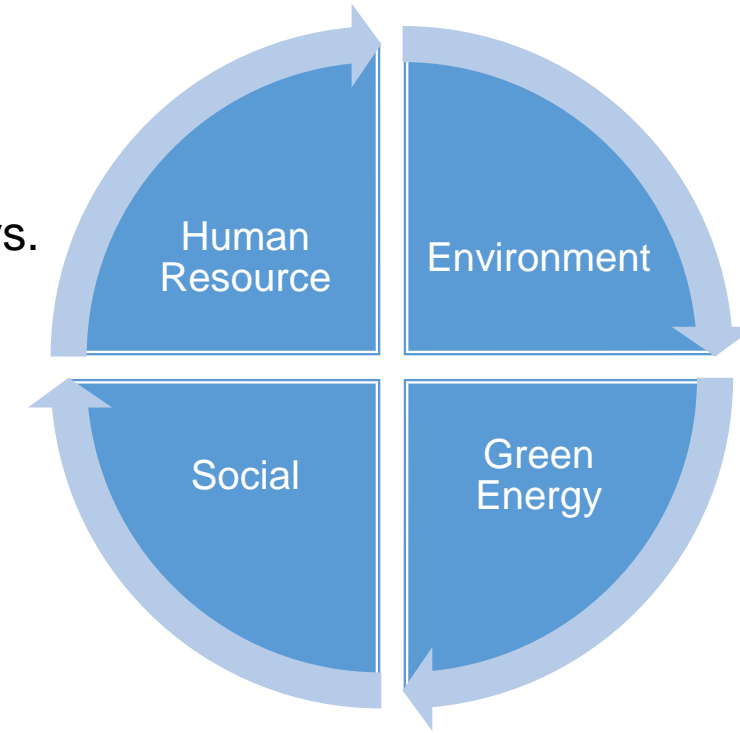
# We Pursuit Our Sustainable Growth in an Eco-friendly Approach

## Environment:

- Water recycling rate reached **23%** in 2024 vs. 6% in 2020.
- **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.



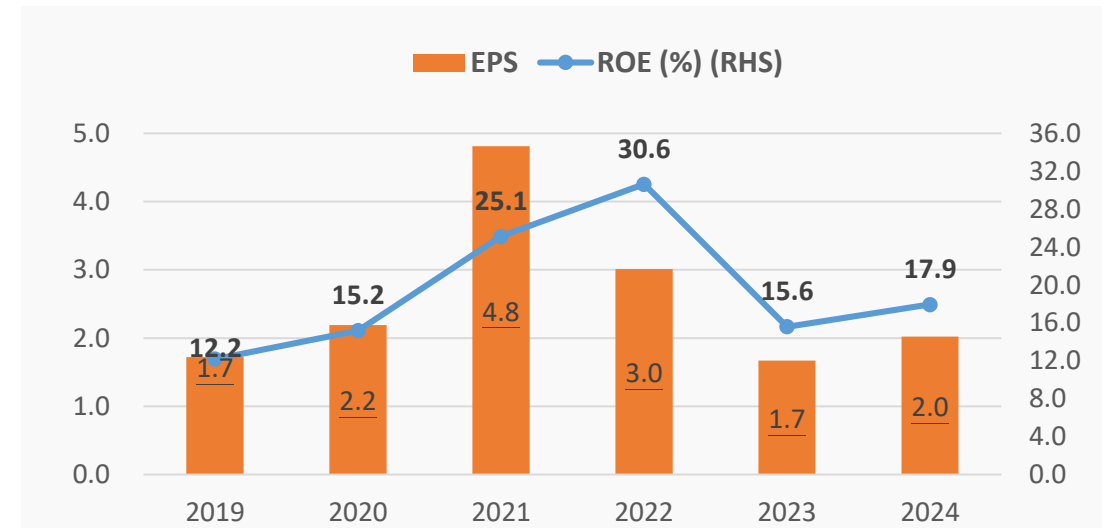
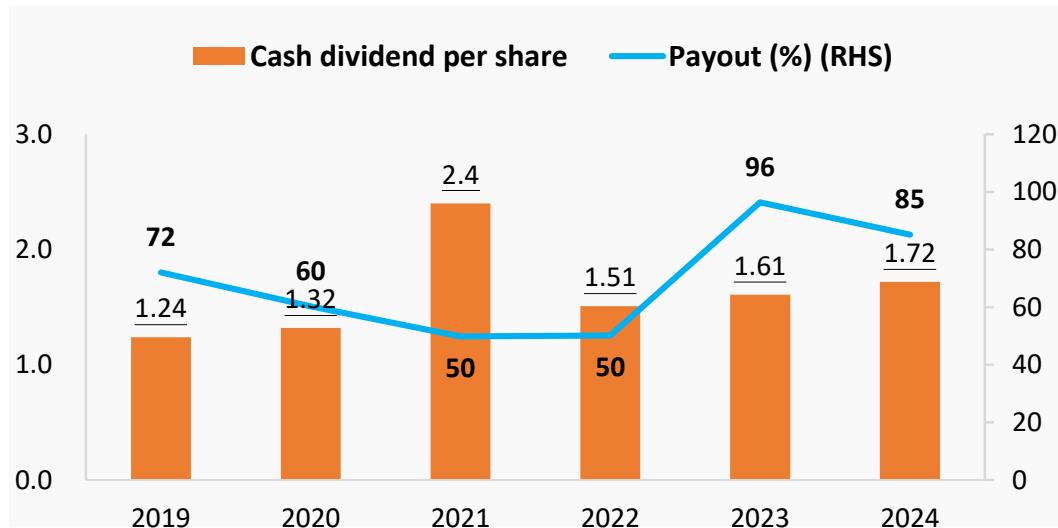
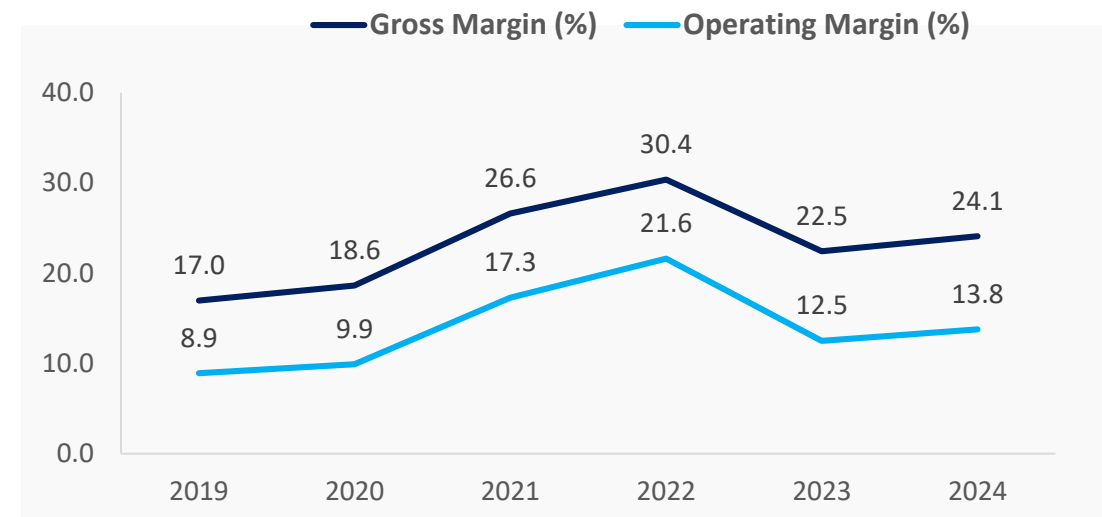
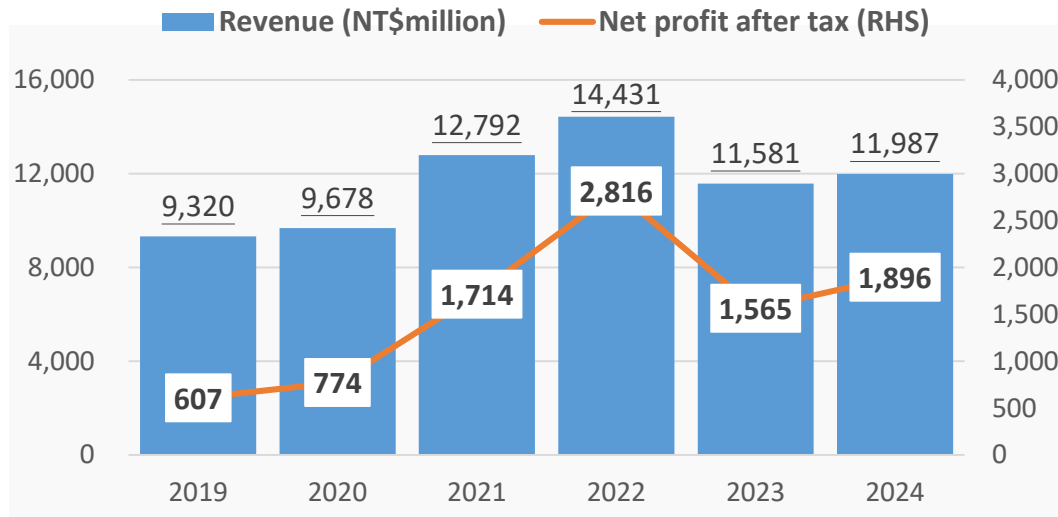
CWTC  
2023 ESG  
Report



**Industry-Leading ROE**  
**Growth Drivers**  
**Technology & Execution**

**Financials**

# Robust Financial Performance



\*Since Sep. 9<sup>th</sup>, 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. 5<sup>th</sup>, 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.

# 2019~2024 Income Statement

NT\$m	2019	2020	2021	2022	2023	2024	YoY (%)					
							2019	2020	2021	2022	2023	2024
<b>Revenue</b>	<b>9,320</b>	<b>9,678</b>	<b>12,792</b>	<b>14,431</b>	<b>11,581</b>	<b>11,987</b>	<b>-4.7</b>	<b>3.8</b>	<b>32.2</b>	<b>12.8</b>	<b>-19.7</b>	<b>3.5</b>
Gross Profit	1,581	1,805	3,406	4,386	2,601	2,885	-12.3	14.2	88.7	28.8	-40.7	10.9
Operating Expenses	-748	-845	-1,195	-1,264	-1,152	-1,228	5.7	12.9	41.5	5.7	-8.8	6.6
<b>Operating Profit</b>	<b>833</b>	<b>960</b>	<b>2,210</b>	<b>3,122</b>	<b>1,448</b>	<b>1,657</b>	<b>-23.9</b>	<b>15.3</b>	<b>130.2</b>	<b>41.2</b>	<b>-53.6</b>	<b>14.4</b>
Pretax Income	899	966	2,249	3,634	1,970	2,361	-25.4	7.5	132.7	61.6	-45.8	19.9
Tax Expenses	-280	-176	-511	-789	-373	-430	-20.8	-37.3	190.5	54.6	-52.7	15.3
<b>Net Income to Parent</b>	<b>607</b>	<b>774</b>	<b>1,714</b>	<b>2,816</b>	<b>1,565</b>	<b>1,896</b>	<b>-27.9</b>	<b>27.4</b>	<b>121.5</b>	<b>64.3</b>	<b>-44.4</b>	<b>21.2</b>
<b>Basic EPS (NT\$)</b>	<b>1.72</b>	<b>2.19</b>	<b>4.81</b>	<b>3.01</b>	<b>1.67</b>	<b>2.02</b>						
<b>Key Financial Ratios (%)</b>												
Gross Margin	17.0	18.6	26.6	30.4	22.5	24.1						
Operating Expense Ratio	8.0	8.7	9.3	8.8	9.9	10.3						
Operating Margin	8.9	9.9	17.3	21.6	12.5	13.8						
Effect Tax Rate	31.2	18.2	22.7	21.7	18.9	18.2						
Net Margin	6.5	8.0	13.4	19.5	13.5	15.8						

\*Since Sep. 9<sup>th</sup>, 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. 5<sup>th</sup>, 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.

# 2019~2024 Balance Sheet

NT\$m	2019	2020	2021	2022	2023	2024	YoY (%)					
							2019	2020	2021	2022	2023	2024
<b>Total Assets</b>	<b>10,544</b>	<b>12,164</b>	<b>14,842</b>	<b>18,829</b>	<b>19,967</b>	<b>21,576</b>	<b>7.7</b>	<b>15.4</b>	<b>22.0</b>	<b>26.9</b>	<b>6.0</b>	<b>8.1</b>
Cash	3,076	2,502	3,685	5,626	5,946	5,334	33.5	-18.7	47.3	52.6	5.7	-10.3
AR & NR	2,003	2,114	2,859	2,564	2,296	2,574	4.0	5.5	35.2	-10.3	-10.5	12.1
Inventories	1,296	1,437	2,196	2,456	1,931	2,539	-9.8	10.9	52.8	11.9	-21.4	31.5
Fixed Assets	2,210	2,252	2,475	3,586	3,857	3,627	-9.5	1.9	9.9	44.9	7.6	-6.0
<b>Total Liabilities</b>	<b>5,558</b>	<b>6,738</b>	<b>6,430</b>	<b>8,655</b>	<b>9,634</b>	<b>9,884</b>	<b>20.4</b>	<b>21.2</b>	<b>-4.6</b>	<b>34.6</b>	<b>11.3</b>	<b>2.6</b>
AP & NP	1,148	1,105	1,337	942	821	987	12.6	-3.8	21.0	-29.5	-12.9	20.2
<b>Total Equity</b>	<b>4,986</b>	<b>5,426</b>	<b>8,412</b>	<b>10,173</b>	<b>10,333</b>	<b>11,692</b>	<b>-3.6</b>	<b>8.8</b>	<b>55.0</b>	<b>20.9</b>	<b>1.6</b>	<b>13.2</b>
<b>Key Financial Ratios</b>												
A/R Turnover Days	77.9	78.2	71.7	70.0	78.6	74.2						
Inventory Turnover Days	63.5	62.5	69.7	83.4	87.9	89.7						
A/P Turnover Days	77.2	82.3	80.4	89.3	102.3	105.8						
Cash Conversion Days	64.2	58.3	61.0	64.1	64.3	58.1						
ROE (%)	12.2	15.2	25.2	31.2	15.9	17.9						
ROA (%)	6.1	7.0	12.9	16.9	8.2	9.7						

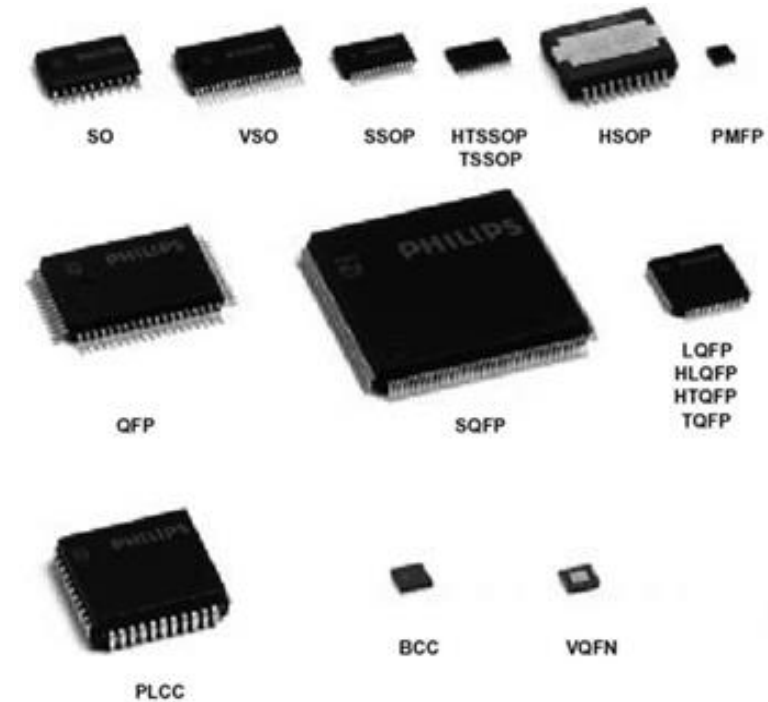
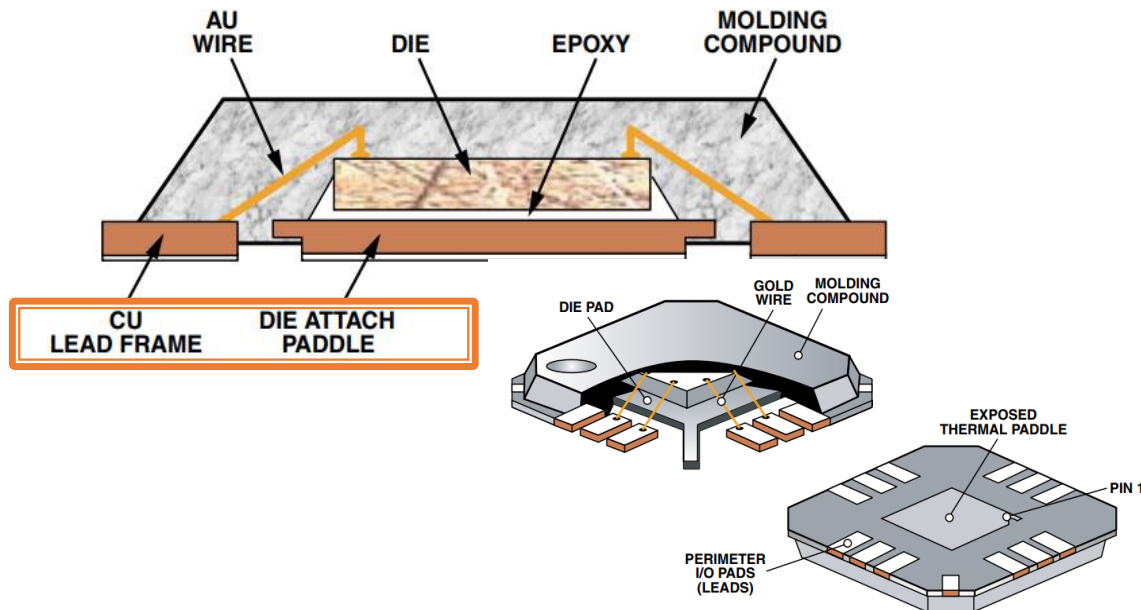
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# Appendix

# 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.



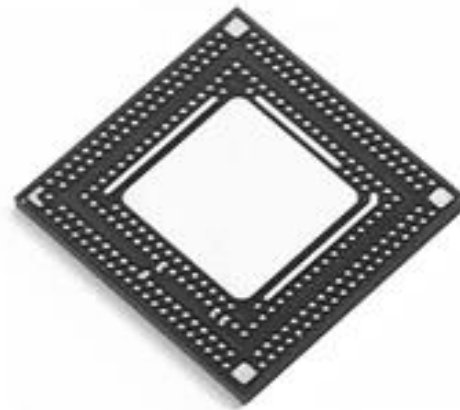
Source: Analog Device and ResearchGate

# What is QFN?

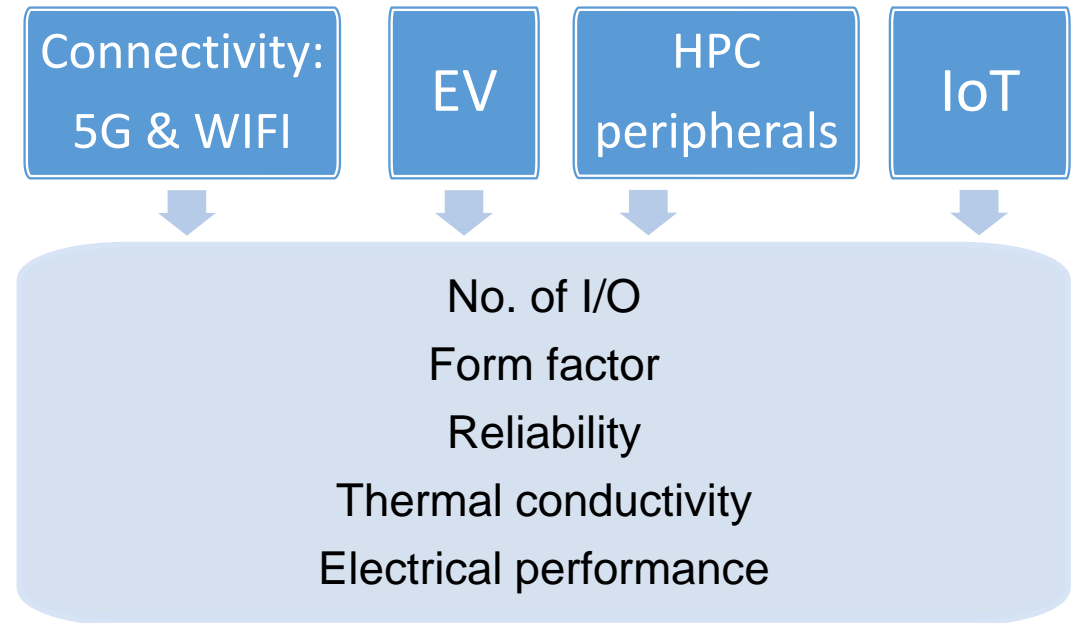
- As one type of LF-based packaging, QFN is a small sized “near chip scale” plastic encapsulated IC package.
- QFN is an ideal package for IC applications where **no. of I/O**, **size**, **weight**, **thermal** and **electrical performance** are important.



QFN LF



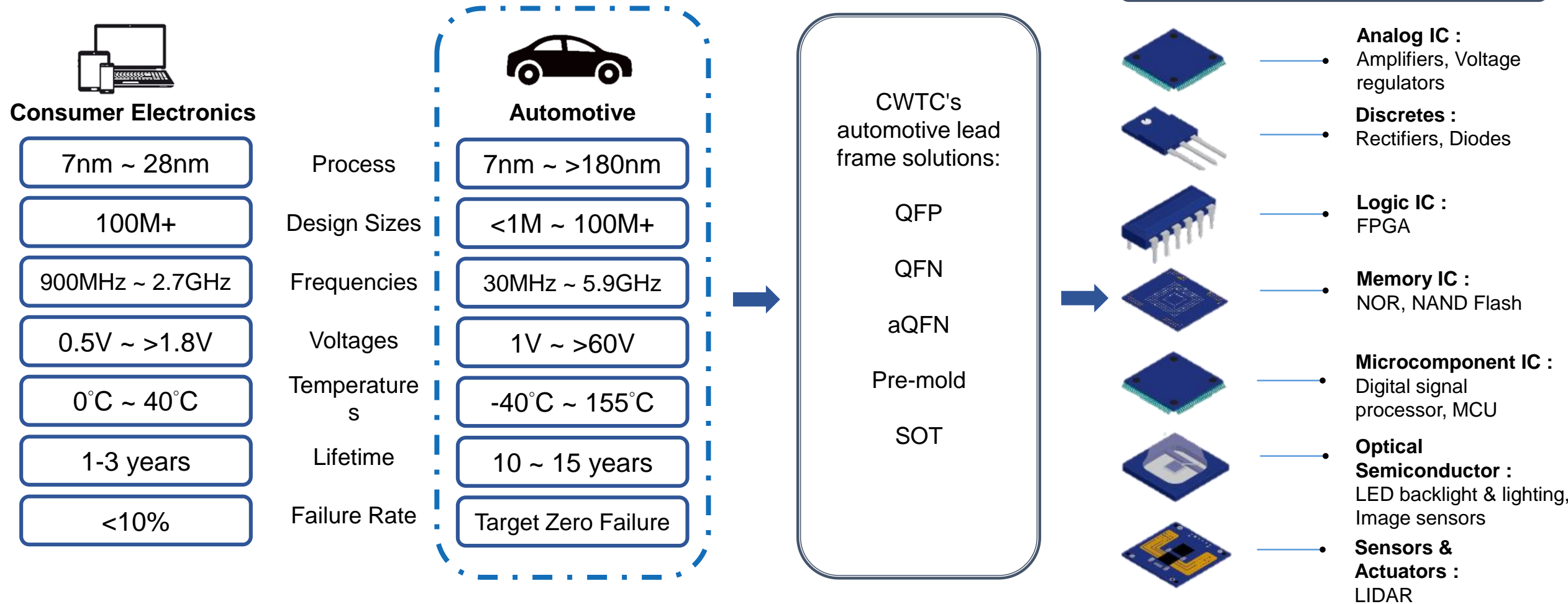
QFN IC package



Source: CWTC and ASE

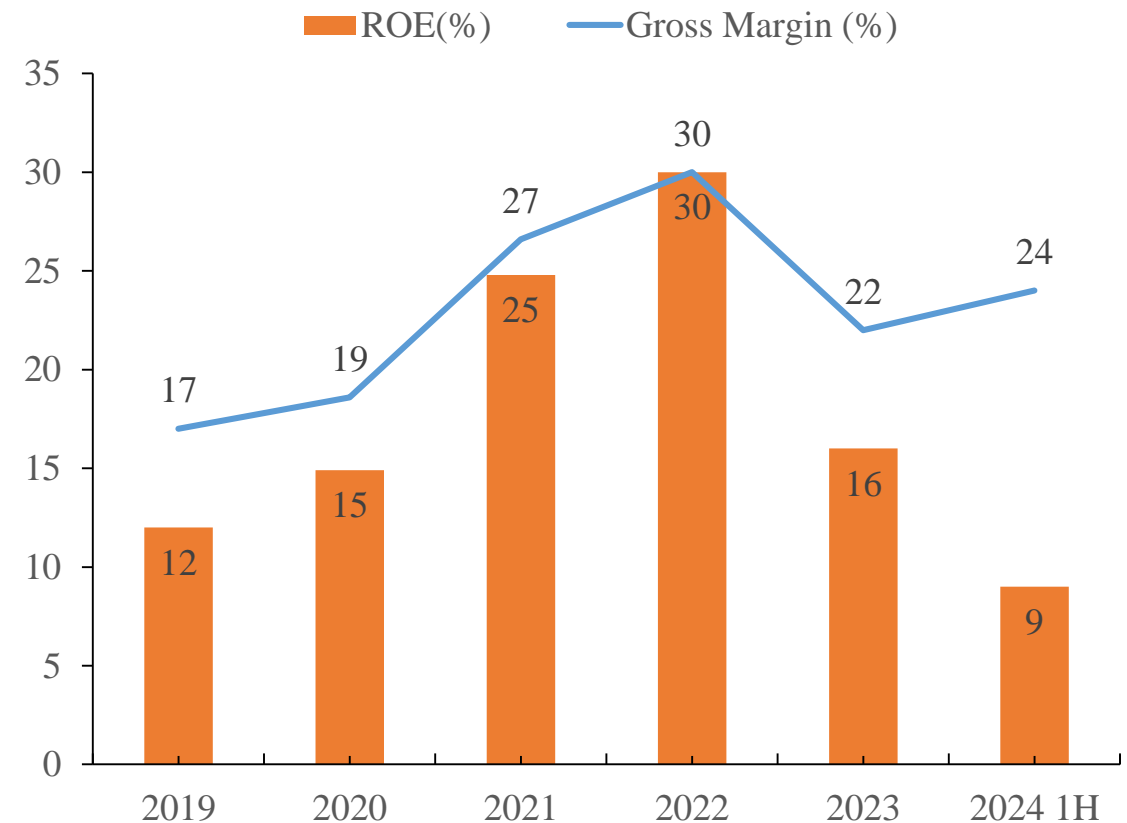
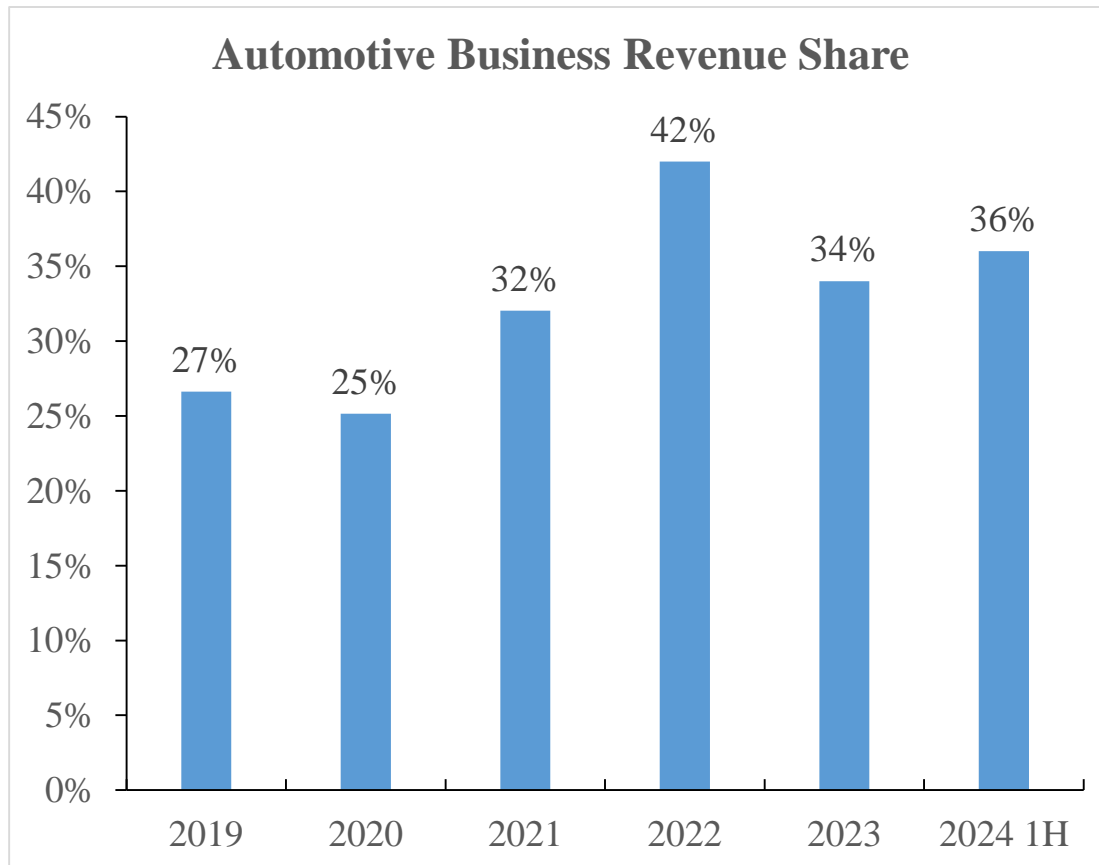
# CWTC Automotive Lead Frame Inside

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



# CWTC's Automotive Business

CWTC's automotive sales contribution has increased from 27% in 2019 to 36% in 2024 1H. 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**



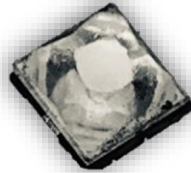
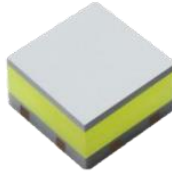
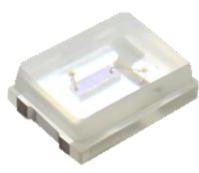

## Plating

- 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

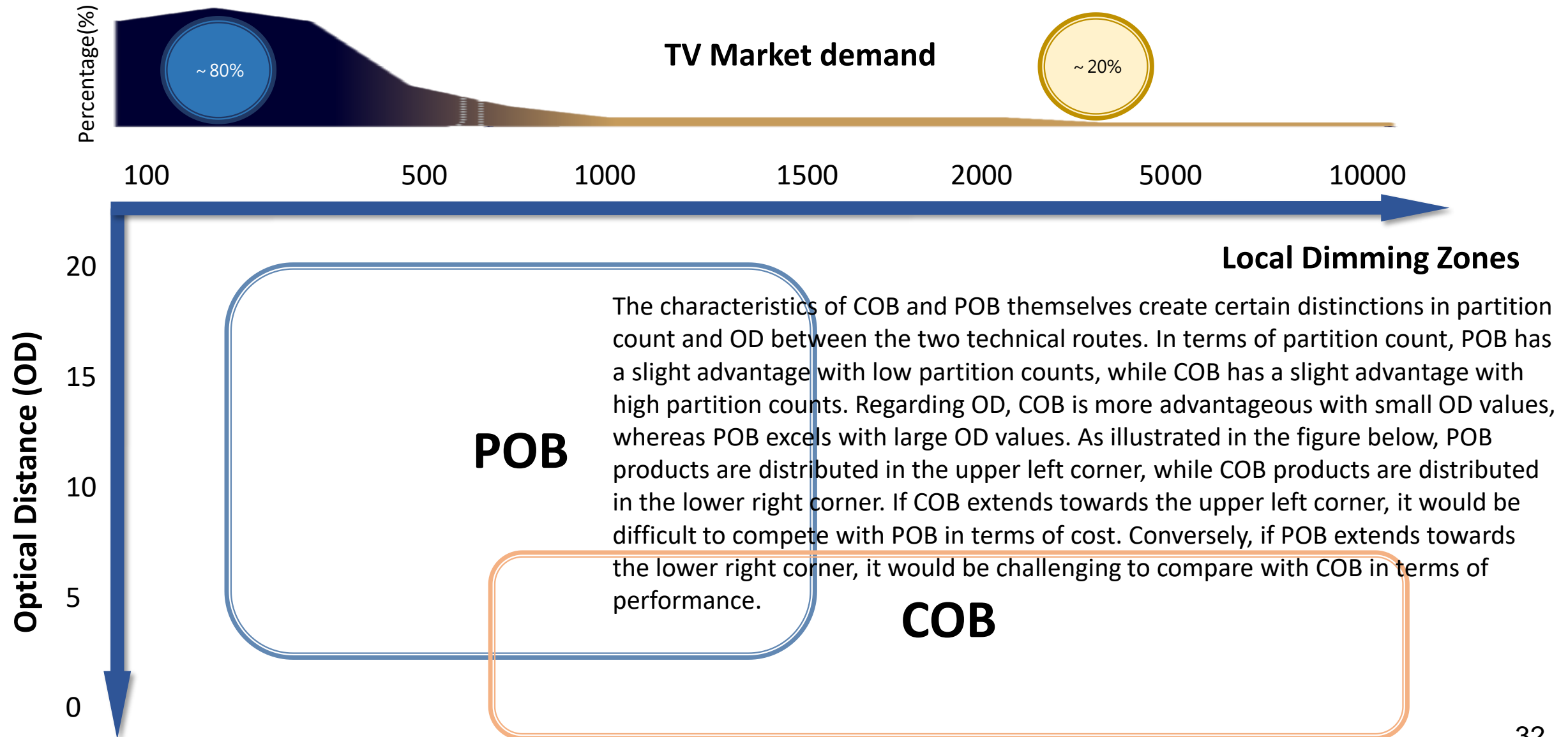
- Self-developed **molding process** to provide value-add to QFN LF
- **Increasing pricing power** for niche applications: Mini LED

# 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