

The Sustainable Growth of CWTC

CWTC (6548 TT)

Investor Presentation – IR

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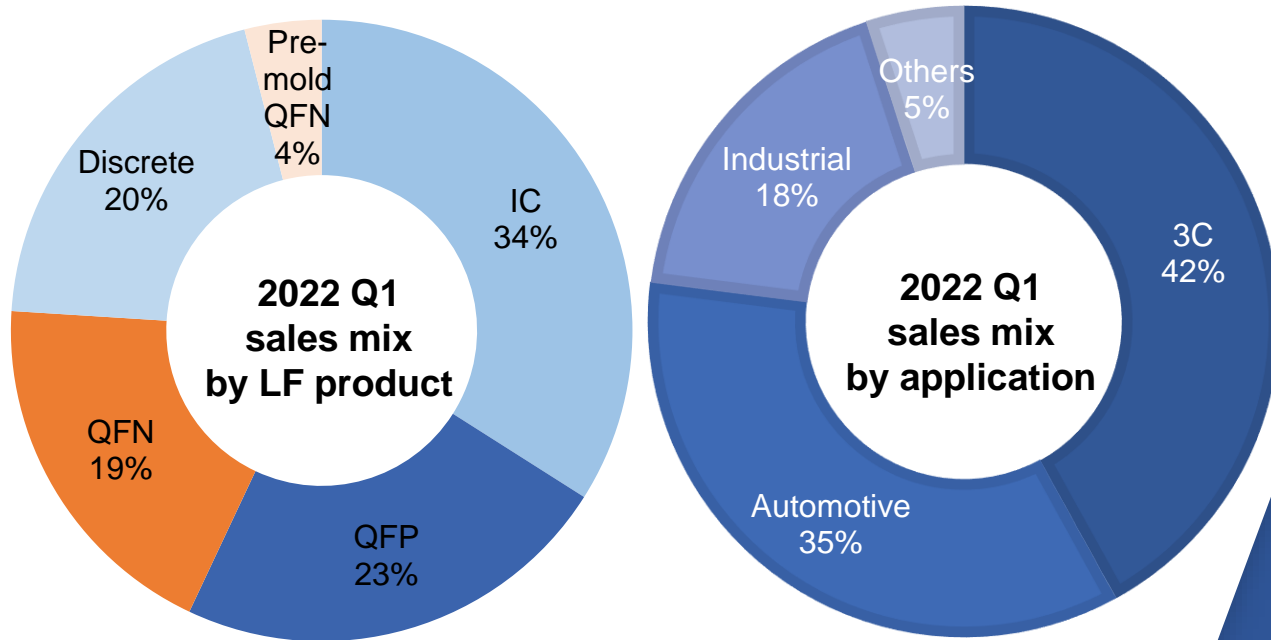
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Forward-looking Statement

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 cyclicity, 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. 31st, 2022): US\$1.35bn
- Client Scope: Outsourcing Semiconductor Assembly & Testing (OSAT), Integrated Device Manufacturers (IDM) and IC Design



30+ years LF experience

US\$447mn 2021 Total sales

90+ No. of global LF patents

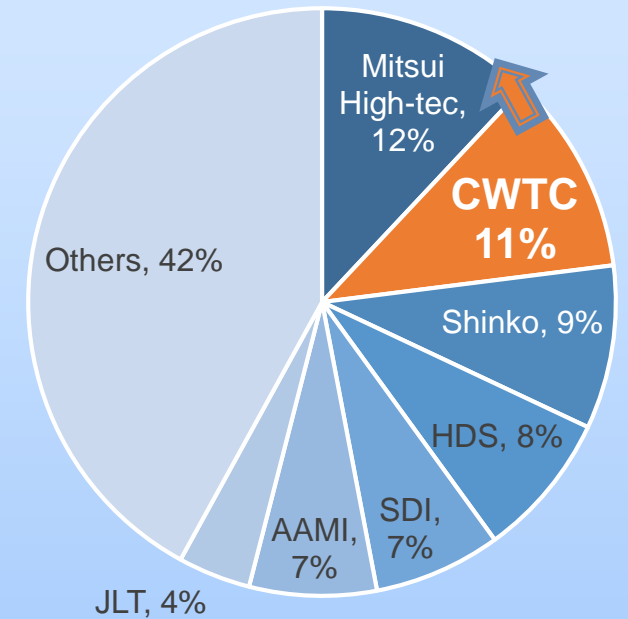
2,000+ No. of global employees

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

Target to Increase Market Share

- Through **diversity in LF products and manufacturing process, early and disciplined LF investment**, CWTC will efficiently expand its capacity to pursue sustainable growth. CWTC targets to increase market share.
- CWTC targeted to be the IC LF **Spec. Definer**.
- 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 of stamping, etching and plating.

2020E Global LF market shares*



*Source: Company data. Stock tickers: Mitsui High-tec: 6966 JP, Shinko: 6967 JP, HDS: 195870 KS, SDI: 2351 TT, ASMPT: 522HK, JLT: 5285 TT

Our Execution Plan

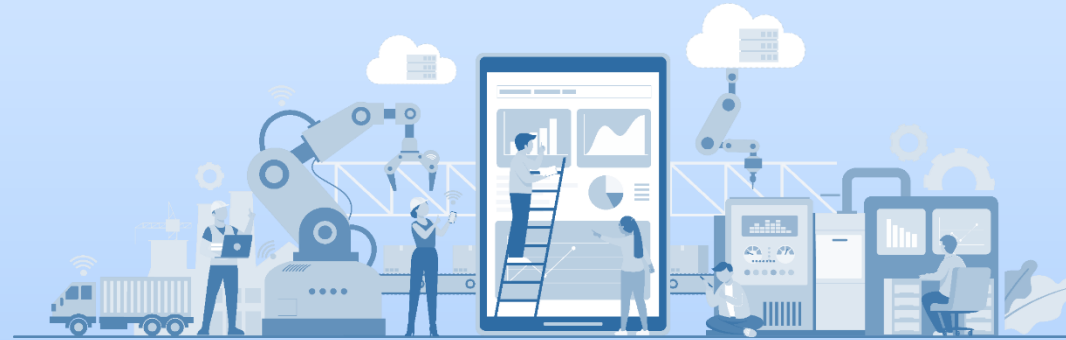
QFP

QFN

aQFN

Pre-mold

SOT



Stamping

Etching

Plating

Molding

LF
Diversity

Disciplined Investment

Agenda

Lead Frame Diversity

Disciplined Investment

Our Commitments to Shareholders

Financial Performance

Lead Frame Diversity

Our LF Diversity to Drive Future Growth

I. Application Diversity

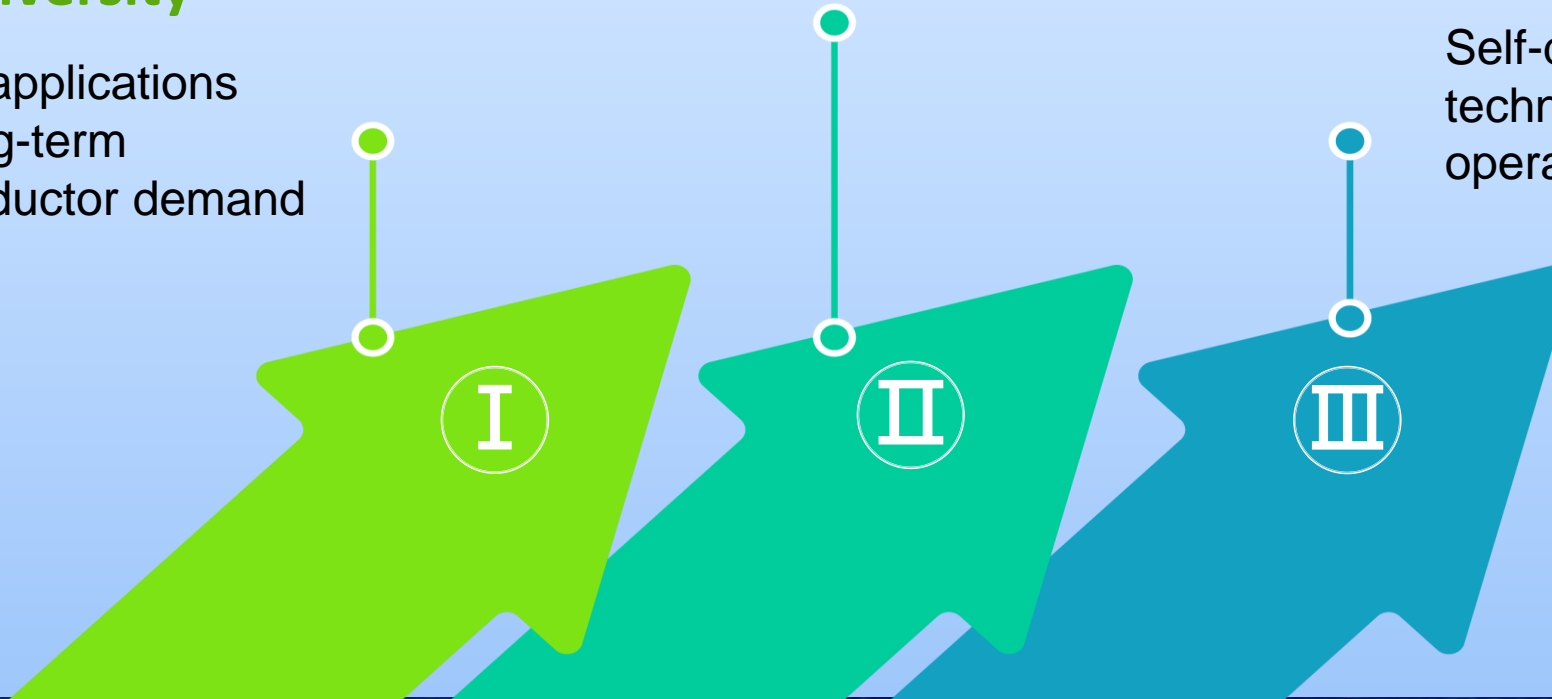
Multiple applications drive long-term semiconductor demand

II. Packaging Type Diversity

QFN, QFP & SOP are major IC packaging type in terms of no. of IC

III. Manufacturing Process Strength

Self-developed technologies leads to our operation efficiency





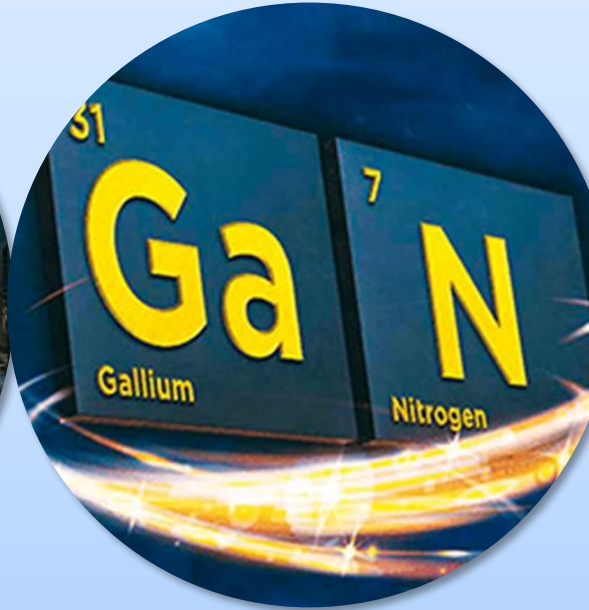
Application Diversity



Electrified Mobility



**5G & WiFi
Connectivity**



**III-V
Semiconductor**



Mini LED

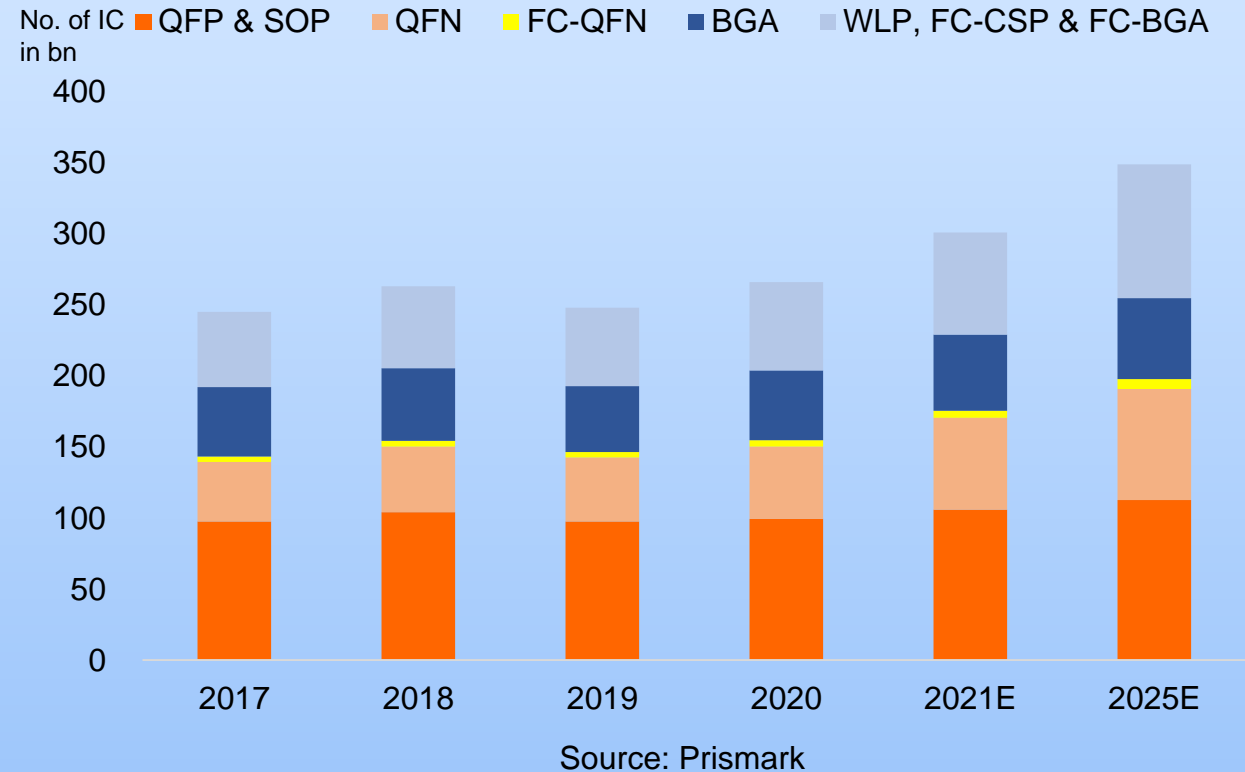
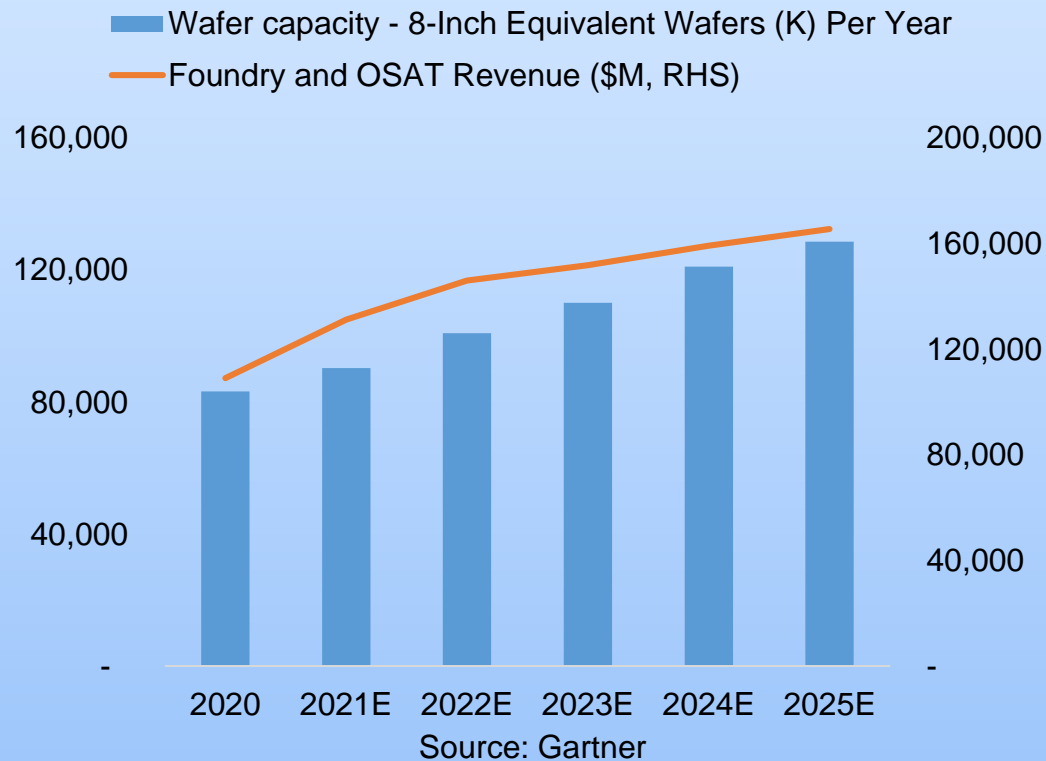
Various LF Spec. Requirement: No. of I/O, Form factor, Reliability, Thermal conductivity and Electrical performance



Packaging Type Diversity

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.

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





Products Manufacturing Process

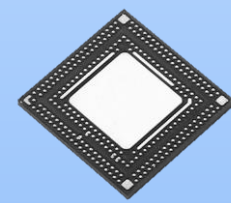
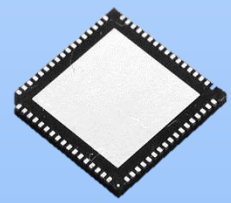
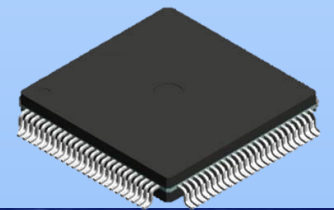
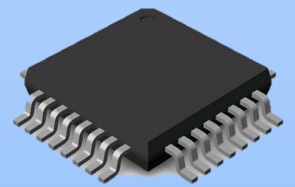
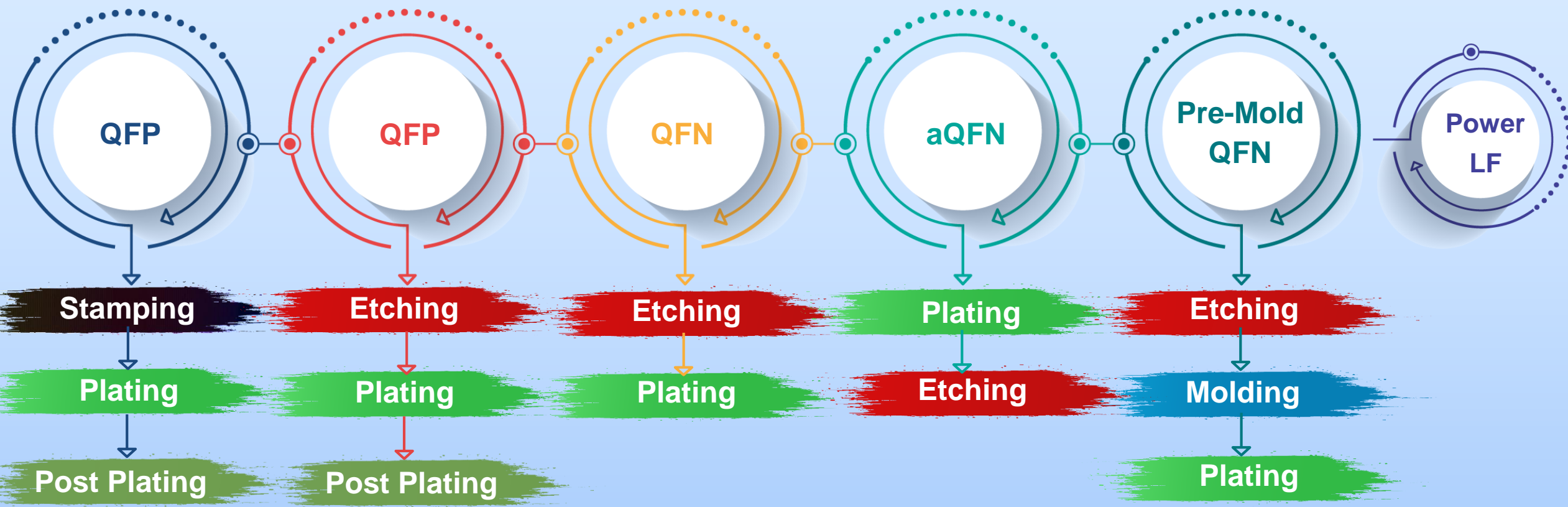


Photo: CWTC and ASE & Infineon

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**

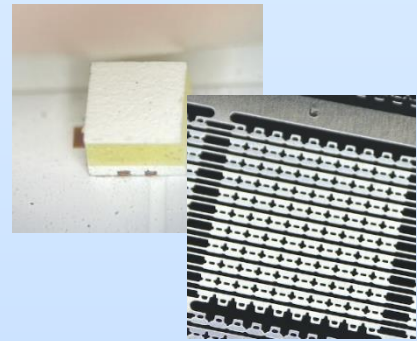
Plating

- 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

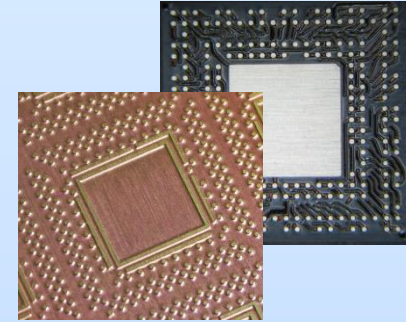
- Self-developed **molding process** to provide value-add to QFN LF
- **Increasing pricing power** for niche applications: Mini LED

Our Technology Leadership



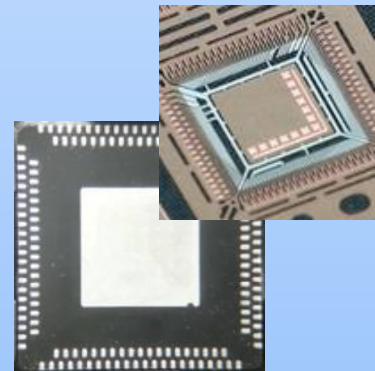
Pre-mold QFN

- 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



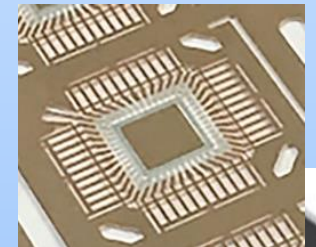
aQFN

- No. of I/O: **100-500**
- World's leading exclusive QFN LF
- Replacing BGA
- TW Fab started production since 4Q21



QFN

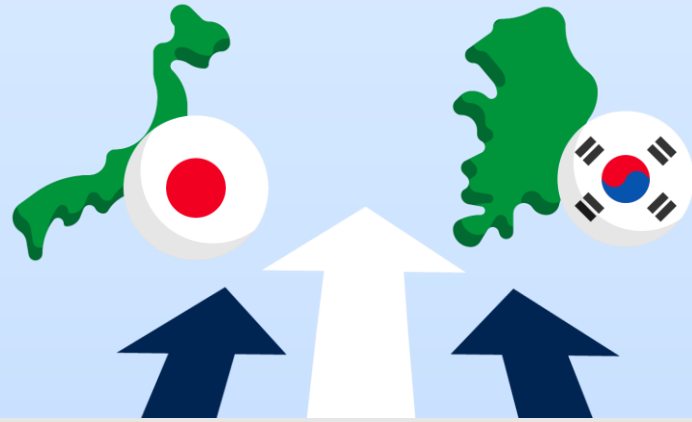
- No. of I/O: **32-180**
- Replacing SOP, co-exist with QFP and low-end BGA



QFP

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





Japan & Korea Peers

Operation Efficiency

CWTC

Gaining LF Shares

LF Technology



China Peers

Disciplined Investment

Capacity Expansion Milestone

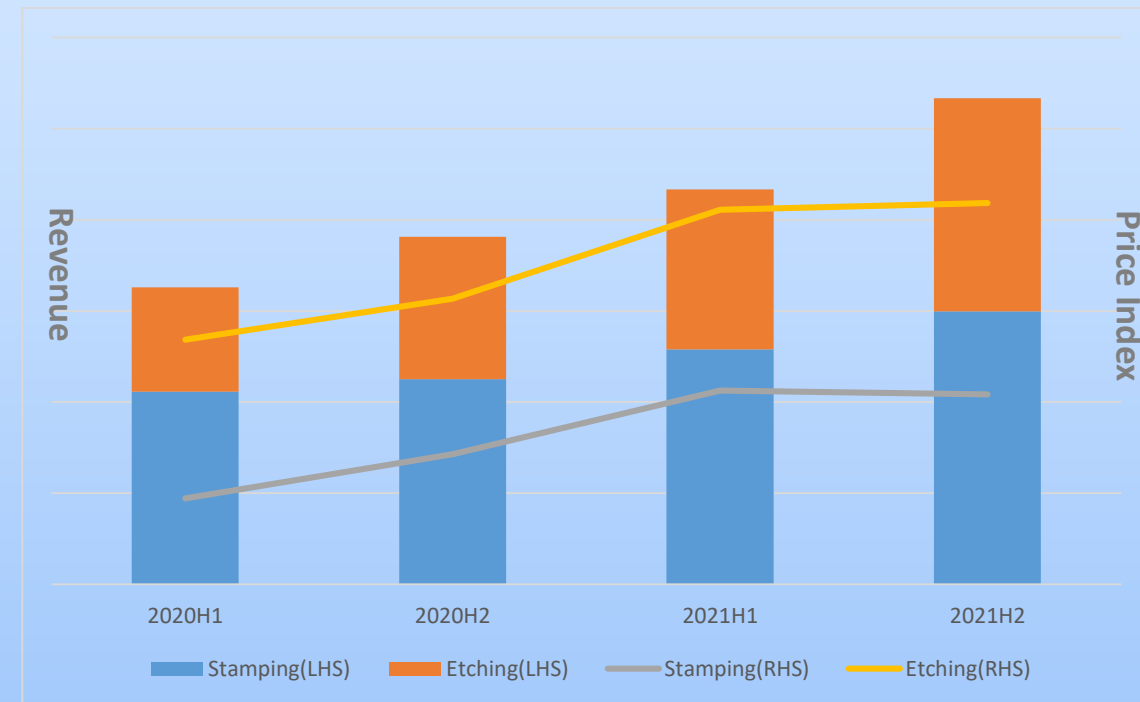
- To meet robust demand from Vehicle Electrification, 5G/WIFI, MiniLED, and III-V Semiconductor...etc., we are ramping up etching capacity from 48mn/year by 2020, to 70mn/year by 2022. By 2025, we target to expand our etching capacity toward to 130mn/year.
- To answer rising QFP/SOP demand, we plan to expand stamping capacity by 4Q22.
- Our manufacturing process diversity enables our flexibility of switching etching capacity between QFN and QFP.



*Annual capacity in strips.

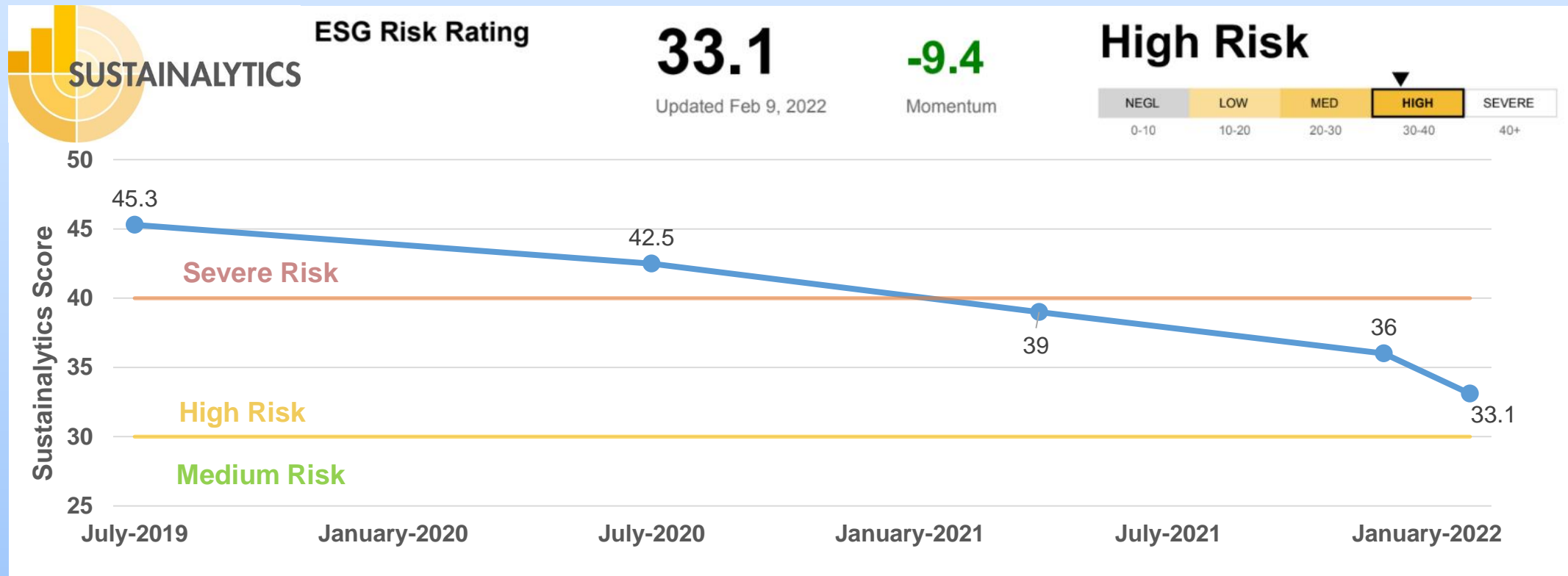
Disciplined LF Pricing for Sustainable Growth

- Mainly driven by strong demand from Automotive and Industrial applications, we've increased LF price since 2021 while QFP LF pricing surged more than QFN LF.
- As IDM orders have long life cycle, we expect existing IDM orders to maintain a stable and healthy growth. Order visibility from our IDM clients has extended to 2023.
- Our discipline pricing strategy strengthened our long-term collaborations with clients, achieving our sustainable growth and enable us to define LF industry specification in the long-term.



Our Ever-Improving ESG Performance

- Year over year improvement in our Sustainalytics ESG Score
- We expect further improvement into the medium risk category by 2022



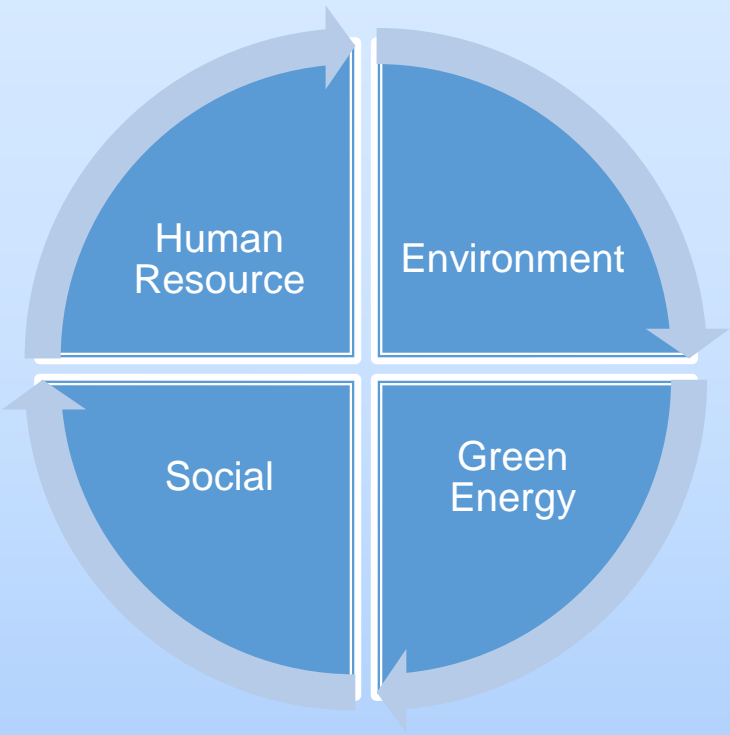
We Pursuit Our Sustainable Growth in an Eco-friendly Approach

Environment:

- Reclaimed water usage reached **20.6%** in 2021E vs 13.6% 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 expect to create more than **150** new job opportunity.
- Stringent Environmental, Health, & Safety Policy across all of our Asia factories.




CWTC
2020ESG
Reports

Our Commitments to Shareholders

We Aim to Produce the Highest Return in the IC Manufacturing Industry

Through efficient investment in capex and LF diversity, we expect to outgrow the semiconductor manufacturing industry and deliver an ROE in excess of 20% from 2021E to 2025E.

2021E-2025E	Capex-to-Sales ratio	Capex Efficiency*		Sales CAGR	GP CAGR	FCF CAGR
CWTC	Mid-to-High single digit%	2~3x		<i>Above Industry Average</i>		
Foundry	36%	0.4x		14%	14%	12%
OSAT	11%	1.0x		7%	8%	24%

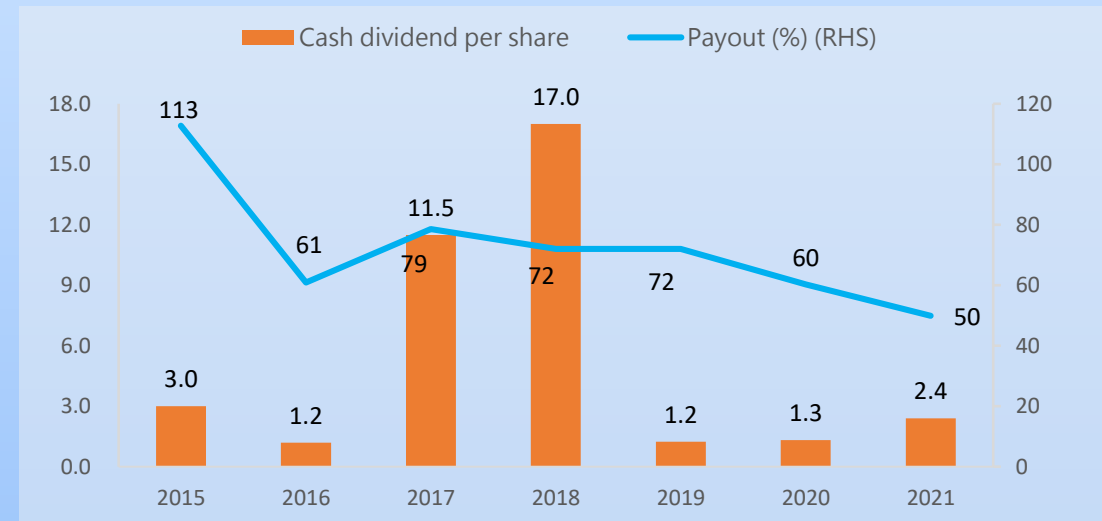
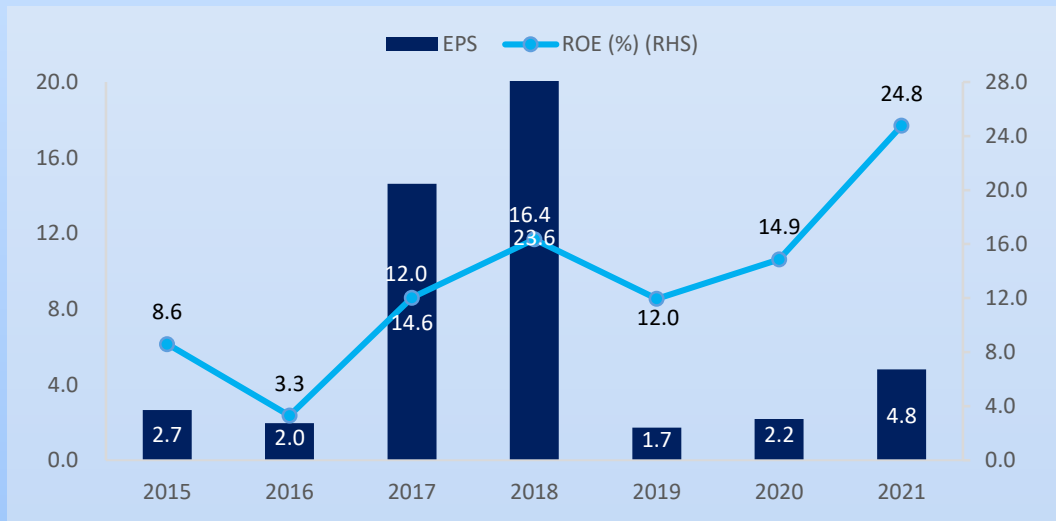
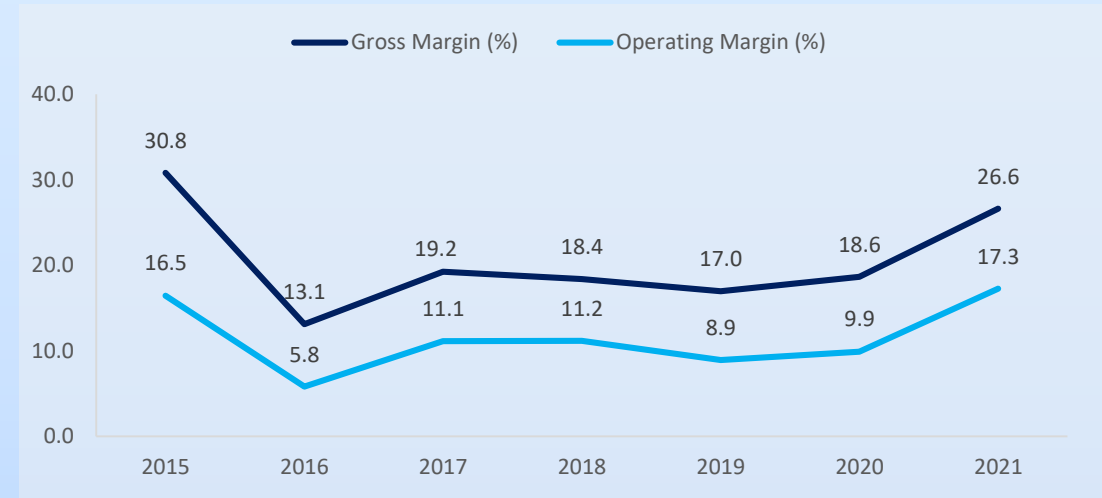
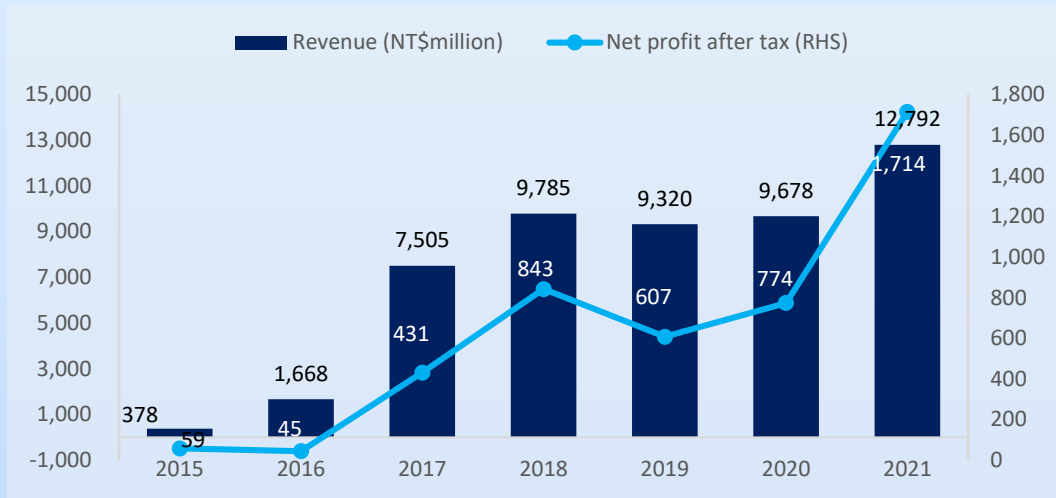
* Capex efficiency: Additional sales in year N+1 / capex in year N

Source: Bloomberg and Gartner. Foundry including TSMC, UMC, VIS while OSAT includes ASE, Powertech, KYEC, Chipbond, ChipMOS and Greatek



Financial Performance

Robust Financial Performance



2016-1Q22 Income Statement

NT\$m	2016	2017	2018	2019	2020	2021	1Q22	YoY (%)					
								2017	2018	2019	2020	2021	1Q22
Revenue	1,668	7,505	9,785	9,320	9,678	12,792	3,631	350.0	30.4	-4.7	3.8	32.2	33.5
Gross Profit	219	1,444	1,802	1,581	1,805	3,406	1,122	559.6	24.8	-12.3	14.2	88.7	114.5
Operating Expenses	- 122	- 607	- 708	- 748	- 845	- 1,196	-306	397.9	16.5	5.7	12.9	41.6	32.8
Operating Profit	97	837	1,094	833	960	2,210	816	763.1	30.7	-23.9	15.3	130.1	179.3
Pretax Income	232	1,071	1,206	899	966	2,249	901	362.6	12.6	-25.4	7.5	132.7	184.5
Tax Expenses	- 24	- 251	- 354	- 280	- 176	- 511	-194	955.8	40.9	-20.8	-37.3	190.8	163.8
Net Income to Parent	45	431	843	607	774	1,714	702	858.0	95.5	-27.9	27.4	121.5	195.7
Basic EPS (NT\$)	1.97	14.62	23.60	1.72	2.19	4.81	1.87	642.1	61.4	-92.7	27.3	119.6	179.1
Key Financial Ratios (%)													
Gross Margin	13.1	19.2	18.4	17.0	18.6	26.6	30.9						
Operating Expense Ratio	7.3	8.1	7.2	8.0	8.7	9.3	8.4						
Operating Margin	5.8	11.1	11.2	8.9	9.9	17.3	22.5						
Effect Tax Rate	10.3	23.4	29.3	31.2	18.2	22.7	21.5						
Net Margin	2.7	5.7	8.6	6.5	8.0	13.6	19.5						

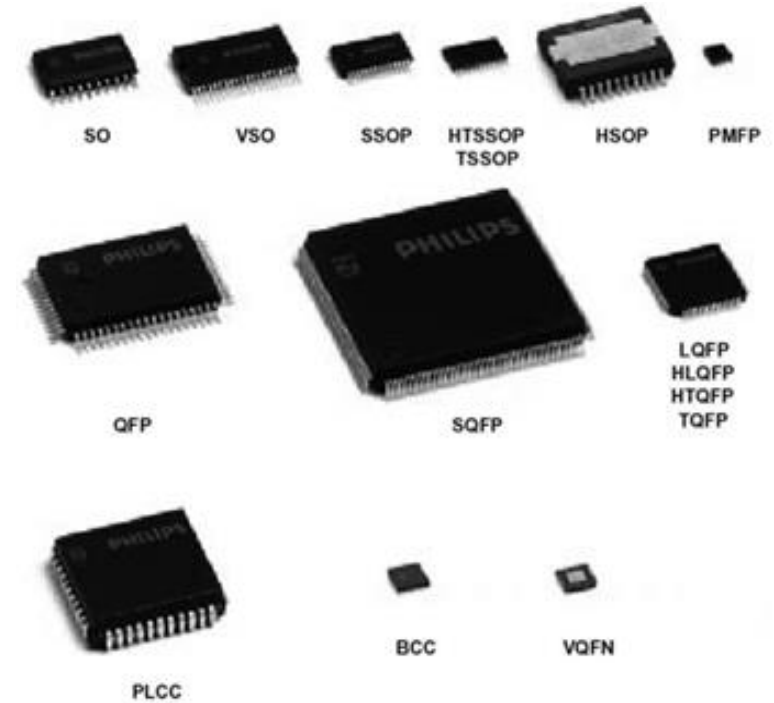
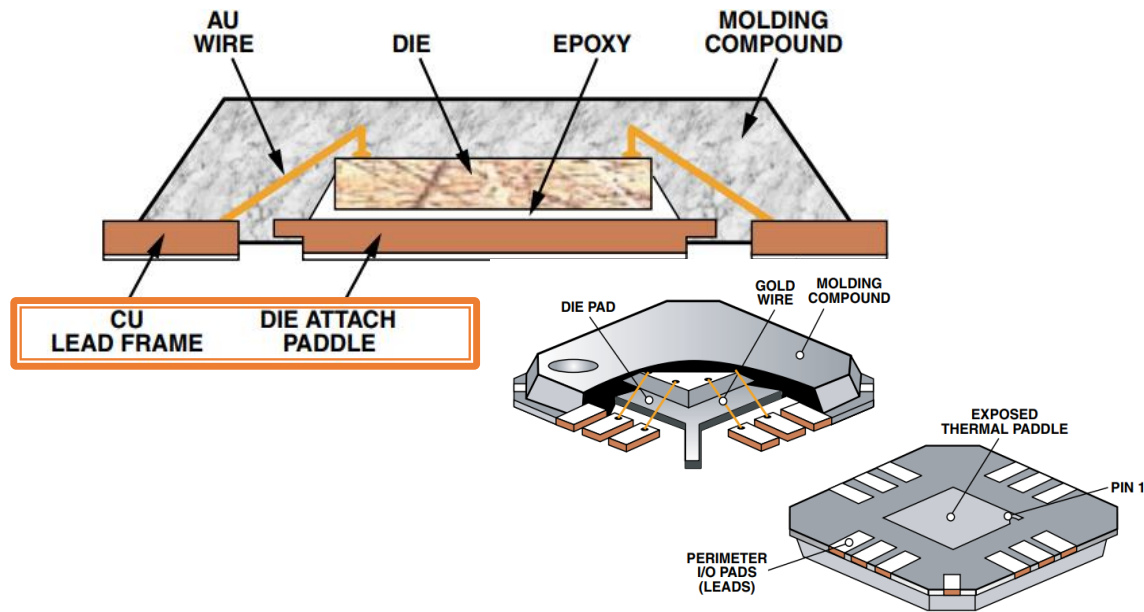
2016-1Q22 Balance Sheet

NT\$m	2016	2017	2018	2019	2020	2021	1Q22	YoY (%)					
								2017	2018	2019	2020	2021	1Q22
Total Assets	2,333	9,100	9,788	10,544	12,164	14,842	16,047	290.1	7.6	7.7	15.4	22.0	26.5
Cash	618	2,131	2,304	3,076	2,502	3,796	4,466	244.7	8.1	33.5	-18.7	51.7	73.8
AR & NR	523	1,825	1,927	2,003	2,114	2,858	2,955	248.6	5.6	4.0	5.5	35.2	34.3
Inventories	81	1,267	1,437	1,296	1,437	2,196	2,425	1456.6	13.4	-9.8	10.9	52.9	50.9
Fixed Assets	324	2,318	2,441	2,210	2,252	2,475	2,685	615.4	5.3	-9.5	1.9	9.9	18.4
Total Liabilities	299	3,970	4,617	5,558	6,738	6,430	6,820	1229.0	16.3	20.4	21.2	-4.6	-5.5
AP & NP	180	957	1,019	1,148	1,105	1,337	1,399	430.7	6.5	12.6	-3.8	-	12.4
Total Equity	2,034	5,130	5,171	4,986	5,426	8,412	9,227	152.2	0.8	-3.6	8.8	55.0	68.8
Key Financial Ratios													
A/R Turnover Days	71.0	56.3	69.0	75.9	76.6	70.0	73.1						
Inventory Turnover Days	17.1	40.0	61.0	63.5	62.5	69.7	84.0						
A/P Turnover Days	26.7	33.8	44.6	50.4	51.5	21.2	49.8						
Cash Conversion Days	61.4	62.6	85.4	89.0	87.5	118.4	107.3						
ROE (%)	3.3	12.0	16.4	12.0	14.9	24.8	8.3						
ROA (%)	2.9	7.5	8.9	6.0	6.8	12.7	4.6						

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?

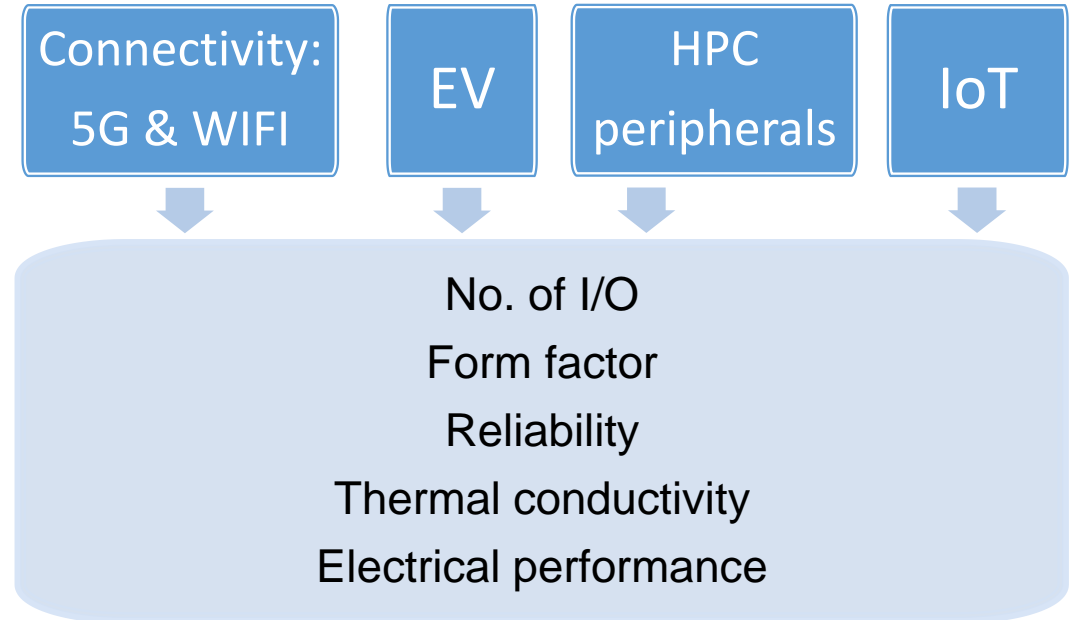
- As one type of LF-based packaging, QFN is a small sized “near chip scale” plastic encapsulated IC package.
- QFN is an ideal package for IC applications where **no. of I/O, size, weight, thermal and electrical performance** are important.



QFN LF



QFN IC package



Source: CWTC and ASE

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