



SUNON®

FIRST CHOICE GLOBALLY
Cooling Solutions

2023 Q1 Operating Results

Sunonwealth Electric Machine Industry Co., Ltd.

2421.TW / 2421 TT

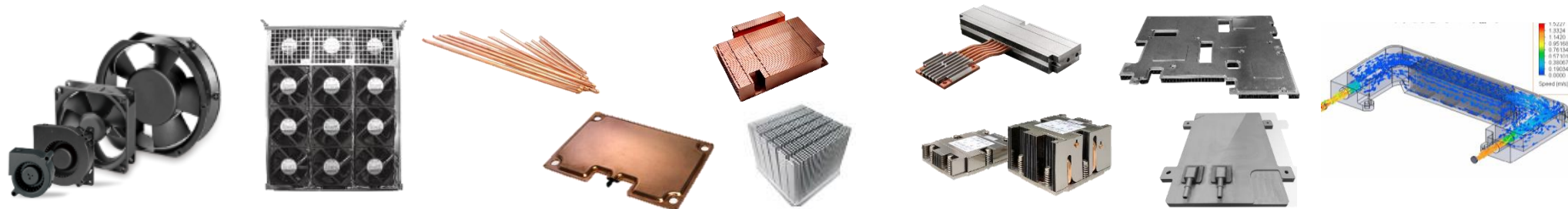
Safe Harbor Notice

This presentation is based on the information obtained from various sources which the Company believes to be reliable. But at some point in the future, there are a variety of factors which could cause actual results to differ materially from those statements. Therefore, please refer to the information on MOPS website as the main basis if any adjustment has been made.

(<http://mops.twse.com.tw/mops/web/index>)

SUNON Thermal Everywhere

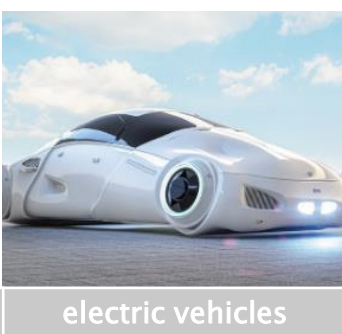
■ Fan ■ Fan tray ■ Heat Pipe ■ Vapor Chamber ■ Heat Sink ■ Cooling Module ■ Cold Plate ■ Liquid Cooling



5G Base Stations



Networking



electric vehicles



Industry Inverter / Drive



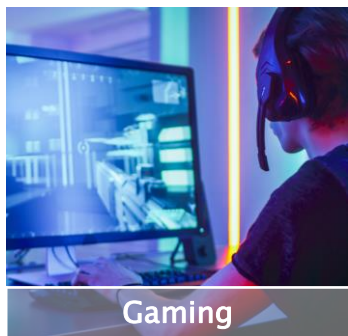
Renewable Energy



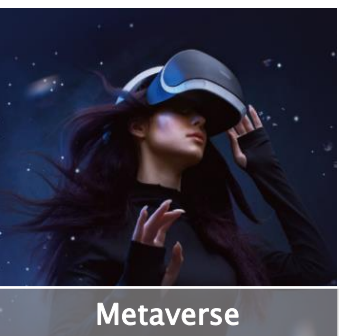
surveillance



medical



Gaming



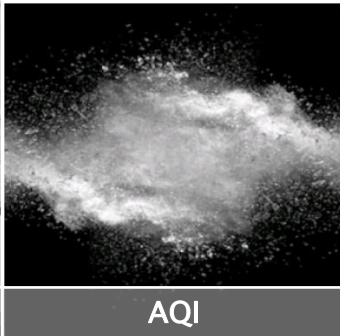
Metaverse



IT



Home Appliance



AQI

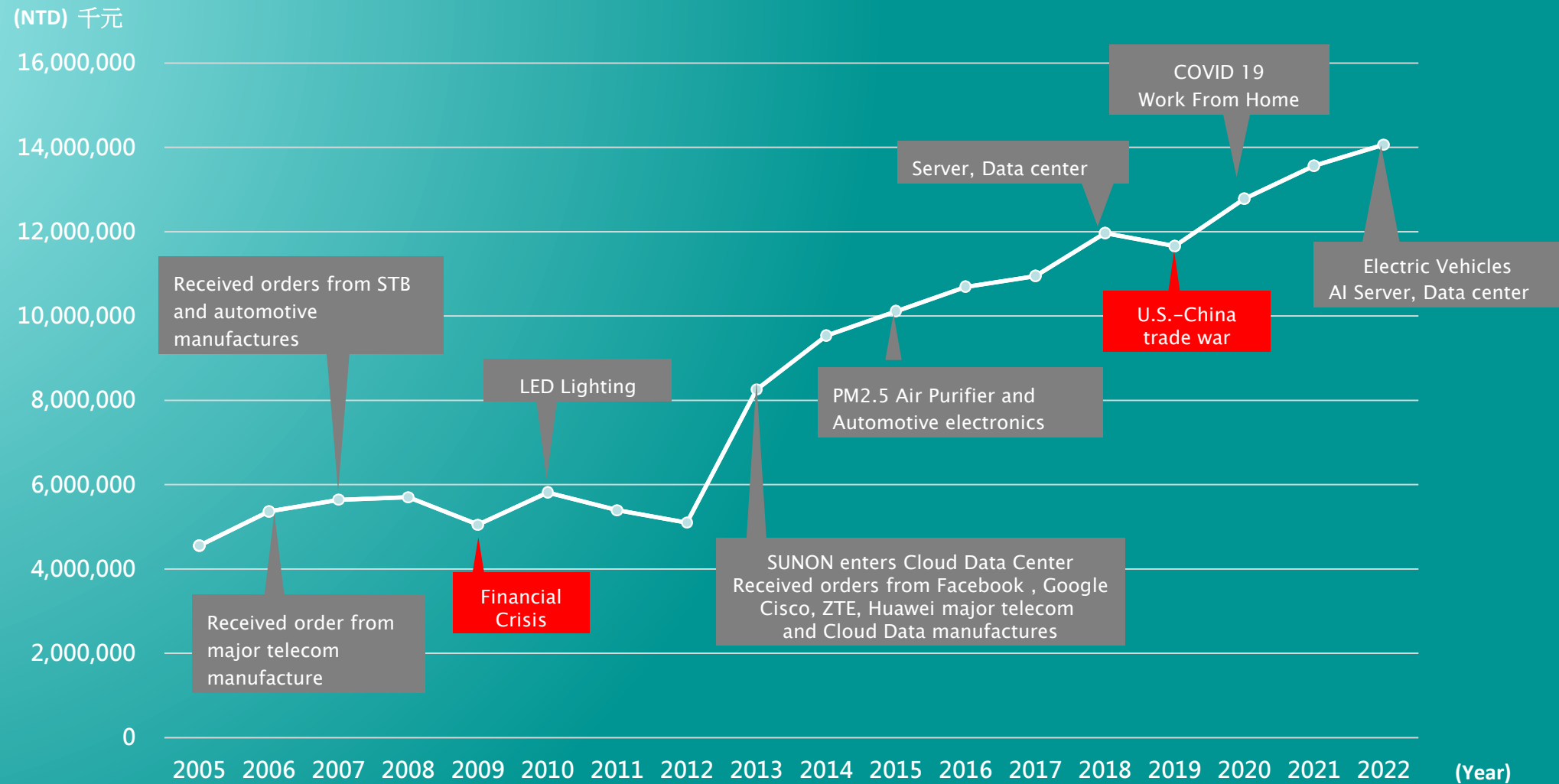


Air Purifier UVC Solution



Industrial Ventilation

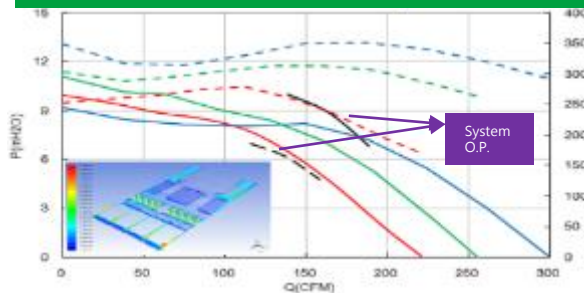
Growth Pattern



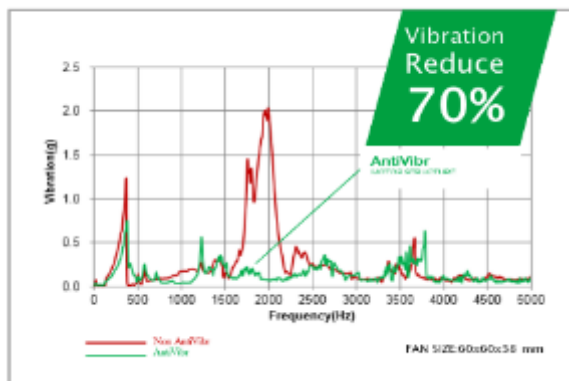
Thermal Technology Keeps Pace With the Times

Future will be supported by powerful computing capacity and the ultra-speed Internet with high reliability, which tests the effectiveness of thermal solutions. The change in the world stimulates thermal technology to update and advance to be suitable for real-time computing systems' needs. Technological advancement in heat dissipation provides the most effective operating temperature management to achieve excellence.

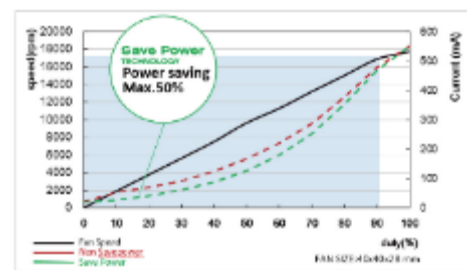
High Fan Efficiency



Low Vibration



Energy Saving

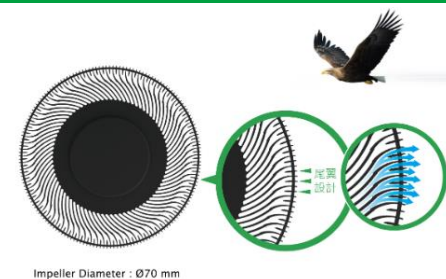


Reliability

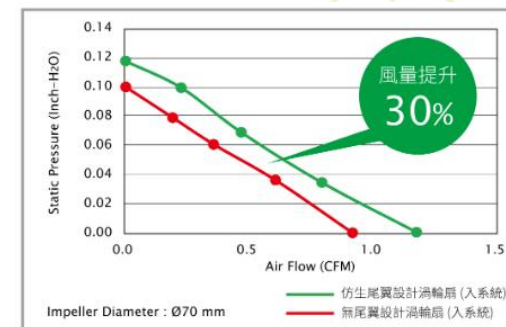
- Salt solution: 0.05 % NaCl + 0.35 % ammonia sulphate (Flow is reduced to 20% of a normal ASTM G85 test)
- Chamber temperature: 35° C
- Test cycles first 35 days: 15 min. spray/fog followed of 45 min. drying, 3 day with Salt solution 2 days demineralized water
- Test cycles after 35 days: 30 min. spray/fog followed of 30 min. drying, 3 day with Salt solution 2 days demineralized water
- Test duration: 40 days
- Fans are running during the entire test
- Fans are checked once a day
- If Fan stops:
 1. Try to start fan with finger
 2. "Exercise" with pressurized air
 3. "Dry out" Fan in 45° C oven for 24 Hours.



Bionic Blade Design



Impeller Diameter : Ø70 mm

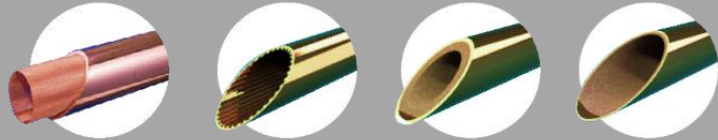


Impeller Diameter : Ø70 mm

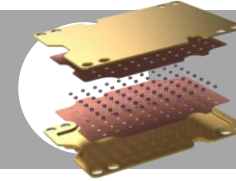
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More cooling options

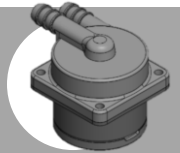
Heat Pipe



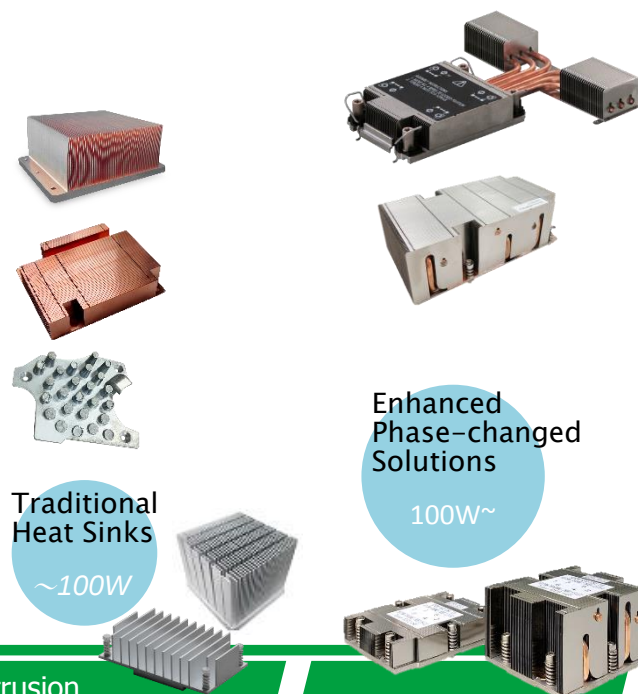
Vapor Chamber



Pump



Cooling Capability



Traditional Heat Sinks
~100W

Enhanced Phase-changed Solutions
100W~

Advanced Cooling Solutions
400W~

Liquid Cooling Solution
1KW~

Liquid Immersion Cooling and Heat Exchanger
30KW~



Technology

Extrusion
Die-cast
Forged
Skived
Stacked

Heat Pipe
Vapor Chamber
EVAC

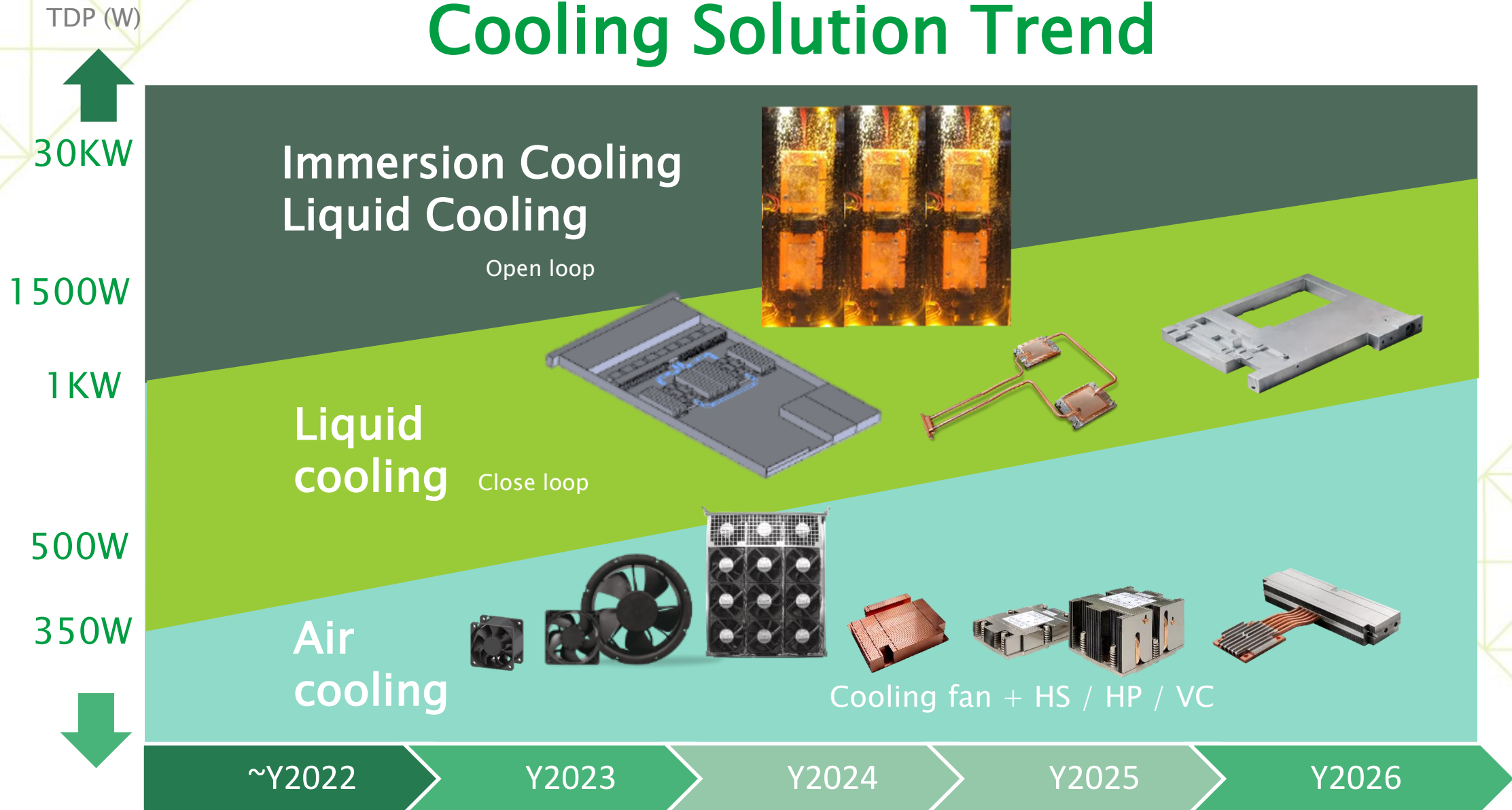
Vapor Chamber (3D)
High Power Heat Pipe

Cold Plate
Immersion Cooling

Immersion Cooling
Rear Door Heat Exchanger

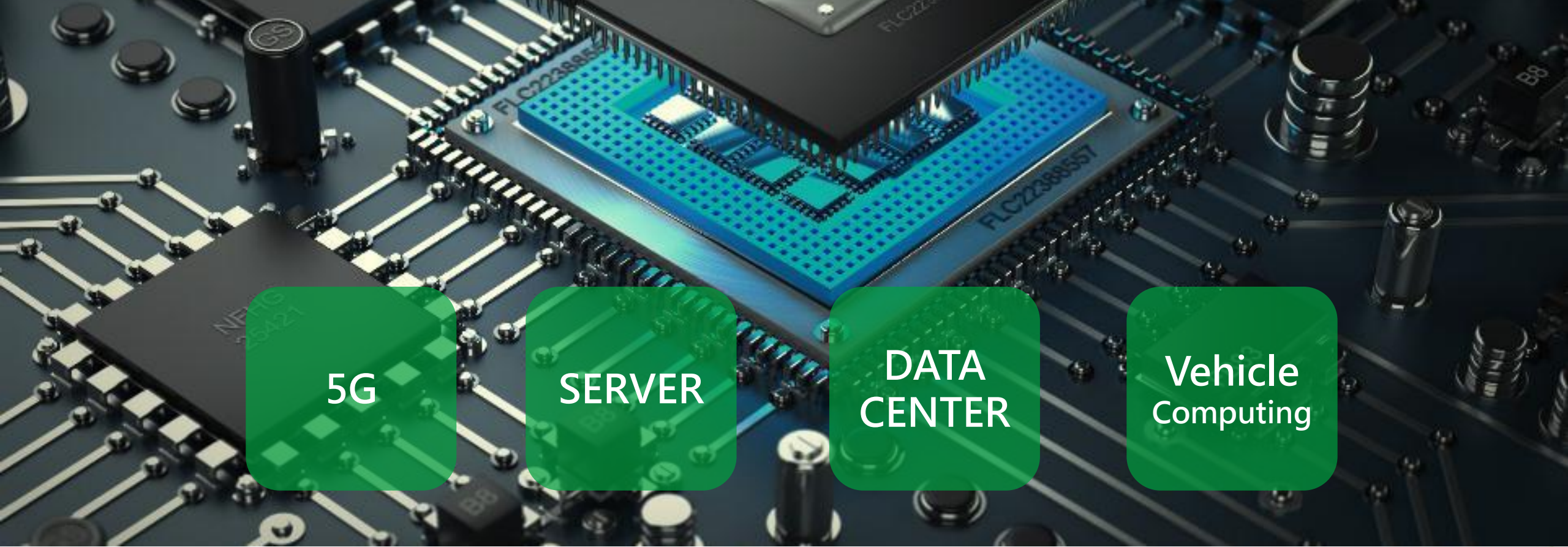
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Cooling Solution Trend



AI+5G → AI X 5G → Generative AI into daily life

The development of AI technology and the 5G network draw up a blueprint for Artificial Intelligence of Things (IoT). Numerous electronics and applications have been applied to build smart connections and rapidly adopted by various industries and into our daily life, and thus thermal needs are increasingly required.



5G

SERVER

DATA
CENTER

Vehicle
Computing

5G Cooling Solution

SUNON is one of the top cooling suppliers for 5G servers/AI servers, and can provide cooling fans, cooling modules and liquid cooling systems

LEOS

Low Earth Orbit Satellite,

Base Stations

ODU / IDU

Customized thermal modules
Axial fan series: 30x10/40x20/92x25mm
Axial Blower series: 45x10mm

AAU / RRU / BBU

Customized thermal modules
Axial fan series: 40x28/80x38mm

BTS

Customized thermal modules
Axial fan series: 120x38mm

5G Small Cell

Customized thermal modules
Axial fan series:
40x10/40x20/40x28/50x20mm
60x14/60x15/60x25mm
70x18/92x25mm

Wi-Fi 6 Router

Customized thermal modules
Axial fan series:
40x10/40x20/50x10/50x15/50x20mm
60x15/70x15/70x18mm

Switch / Router

Customized thermal modules
Axial fan series:
1U - 38x28/40x20/40x28/40x56mm
2U - 60x38/60x56/60x76/80x80/80x86mm
4U - 92x38/120x38/120x76mm
Others - 30x04/30x06/30x10/35x07/35x10mm
40x10/40x20/45x10/50x06/50x10/50x15/50x20/55x08mm
60x12/60x15/70x15/70x18/97x33mm

Server / Edge / Storage

Customized thermal modules
Axial fan series:
1U - 40x28/40x56mm
2U/4U - 60x38/60x56mm
80x38/80x56/80x80/80x86mm

Small Cell

Wi-Fi 6 Router

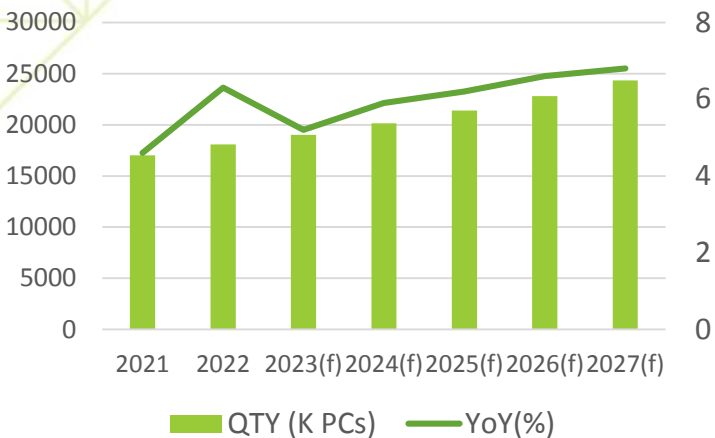
Networking Switch / Router

Data Center

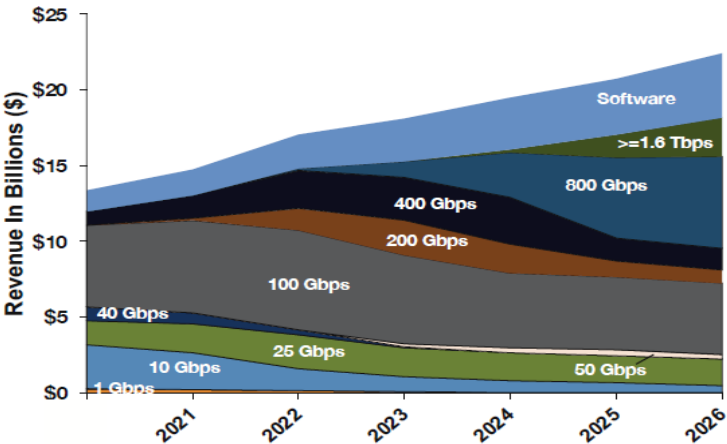
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Server / Data Center cooling product development

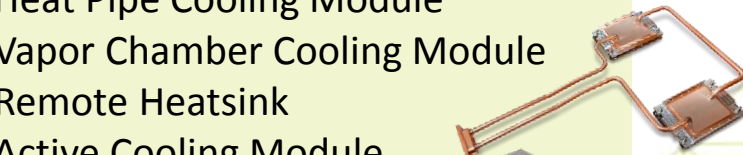
Global server shipment forecast



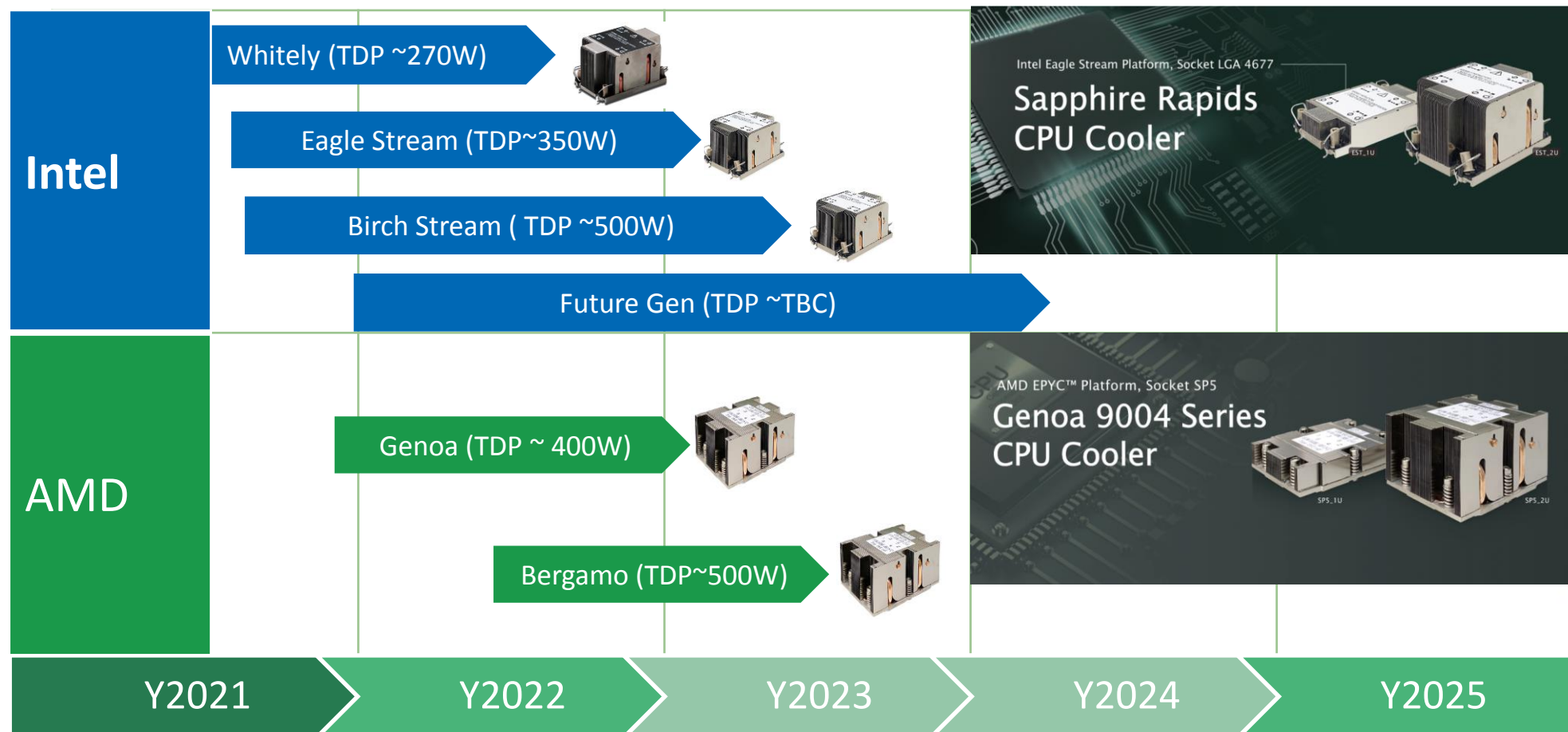
Market Potential by Speed
Data Center Ethernet Switch Revenue (\$B)



Source: Dell'Oro March 2022 - Long Term Ethernet Switch Forecast
Note - Initial 800 Gbps shipments will not be using 800 G Ethernet MAC and will be configured mostly as 2x400 Gbps or as 8x100 Gbps

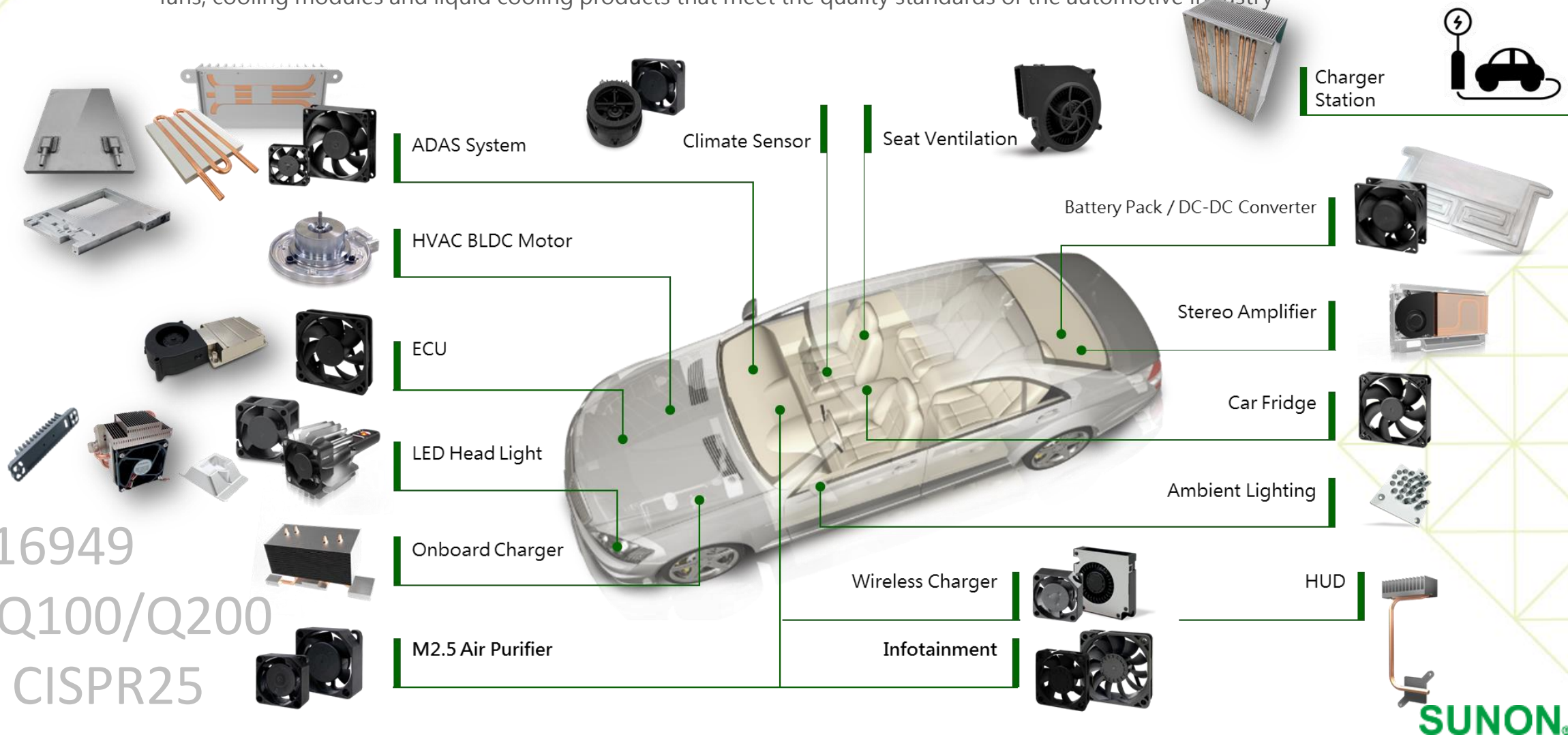
Thermal solution		
	Cooling Fan	Cooling Module
1U	40x40x28mm 40x40x56 mm 	Heat Pipe Cooling Module Vapor Chamber Cooling Module Remote Heatsink Active Cooling Module Heat Exchanger Radiator 
2U	60x60x38 mm 60x60x56 mm 60x60x76 mm 	
4U UP	80x80x56 mm 80x80x86mm 80x80x80mm 120x120x38mm 120x120x76mm 	

Product Roadmap for Server CPU Cooler



Electric Vehicles / Auto Cooling Solution

SUNON has more than 20 years of experience in cooling solutions for the automotive industry, and can provide various cooling fans, cooling modules and liquid cooling products that meet the quality standards of the automotive industry



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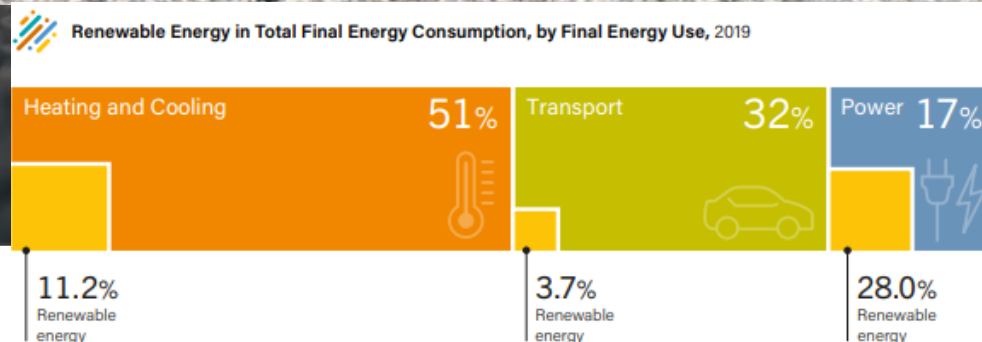
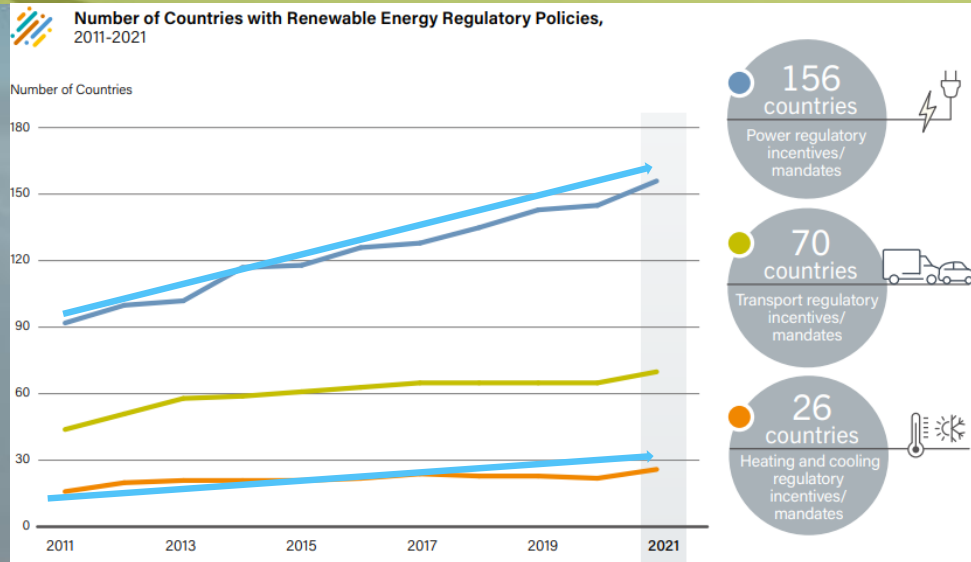
AEC Q100/Q200

EMC CISPR25

Net zero emissions by 2050

Energy Transition Energy Transition Business Opportunities

Having an excellent thermal system is the key to stably maintain the operation of energy storage systems. Selecting an optimal thermal solution ensures the operation stability and high system effectiveness, and it also minimizes unnecessary maintenance costs.



Source: <https://reurl.cc/NR85xk>

PV inverters
Enclosure cabinet equipment
EV charging systems

Energy storage systems
Battery containers,
packs and racks

SUNON®

Renewable Energy Cooling Solution

SUNON is an important partner of global high-quality energy system cooling solutions, providing a full range of cooling solutions.

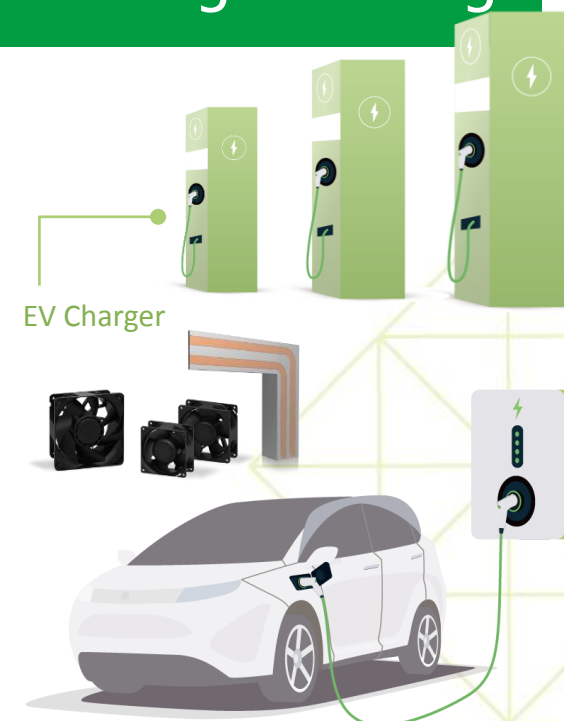
PV Inverter Cooling



ESS Cooling



EV Charger Cooling



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Established
1980



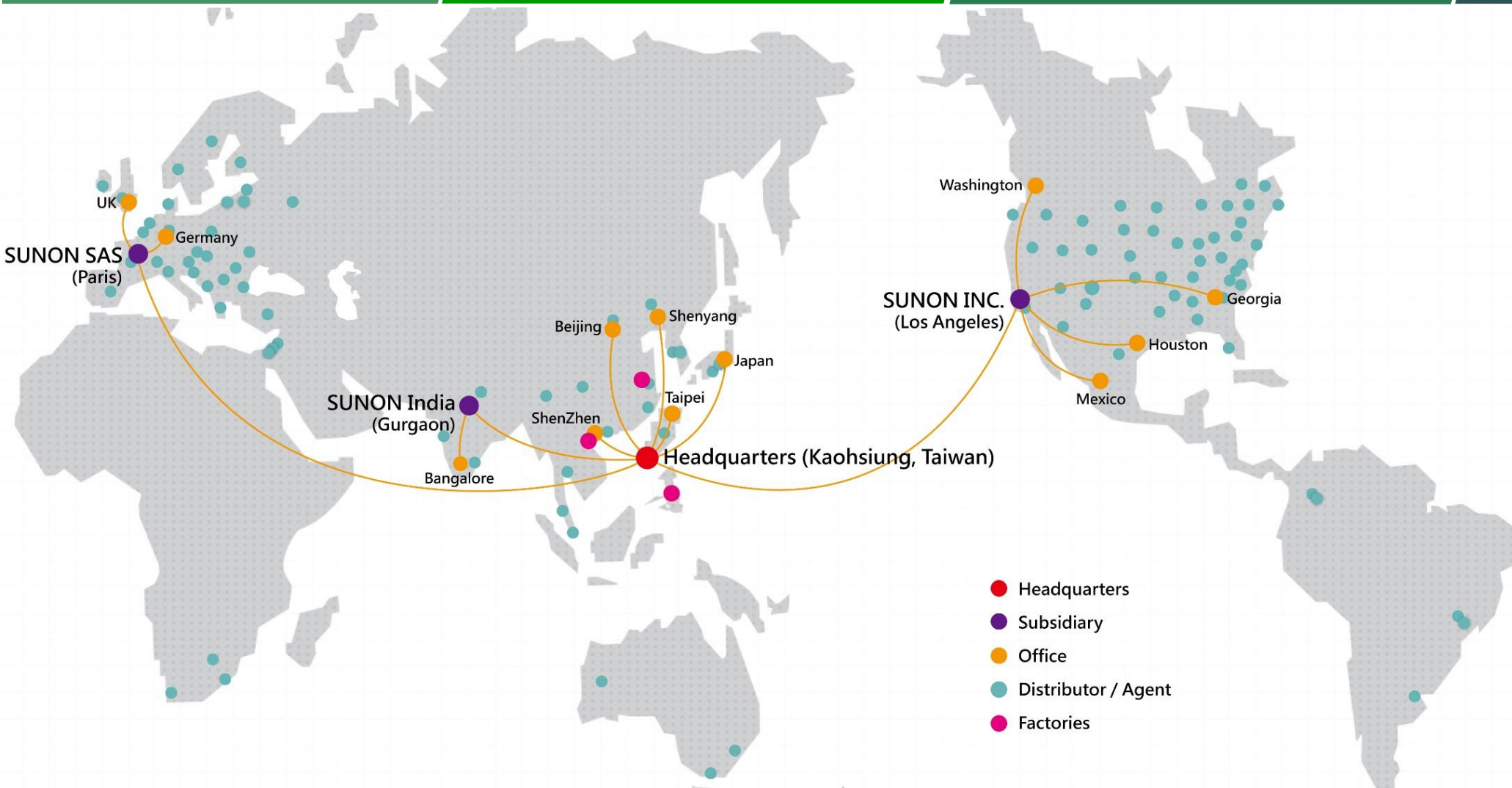
Employees
9000



Turnover (USD)
457.94 M



Factories
5



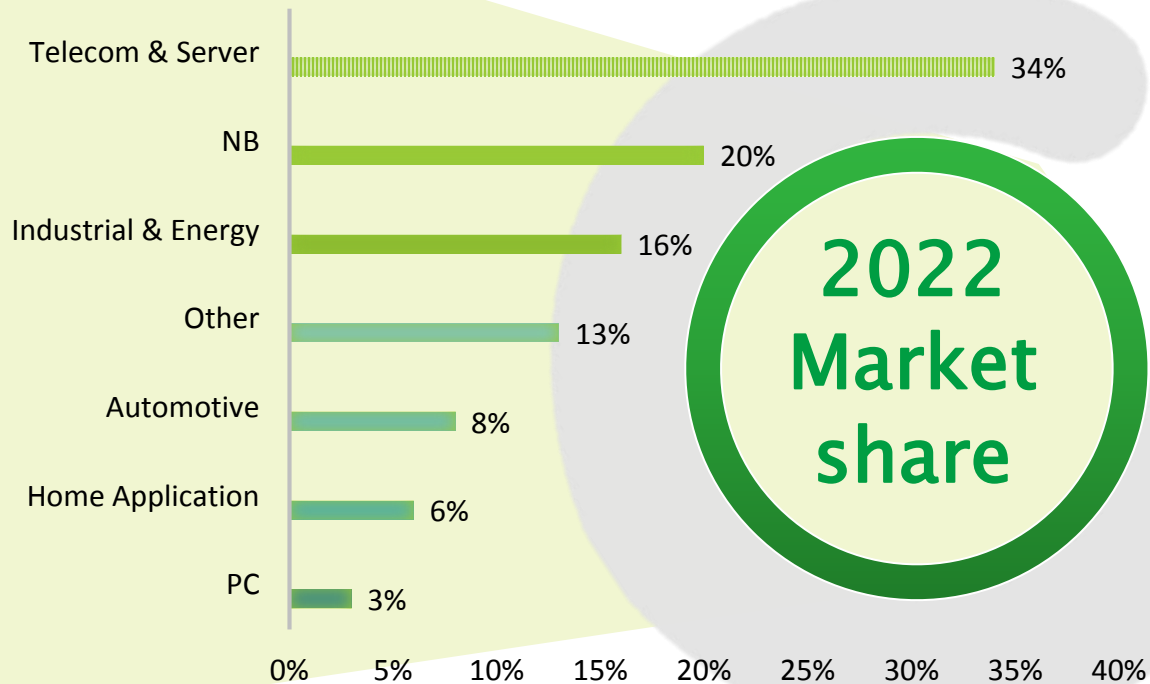
14
Subsidiary & Office

123
Distributor & Agent

1000+
Sales & Service sites

SUNON®

Products and Applications



Fan and Motor

Air Flow Management

SUNON concentrated on its core motor technology and accumulated various inventions and innovations in this field. We now provide various sizes of motor and fan which featuring higher flexibility, energy-efficiency, lower noise, and longer service life.

Air / Liquid Cooling Module

Total Thermal Solution

As a world-renowned cooling leader, we can provide customized and integrated service to our clients easily base on sophisticated experience and innovative technology.

SUNON Products

HVLS Fan

Optimal air Circulation

It features an ultra slim motor and a stylish shape. The patented silent winglet design, energy efficient and high airflow fan creates thermal comfort and healthy environment.

Air Exchanger

Total Air Fresh Solution

It implies a demand for craftsmanship and minimalist beauty in German design and creates an all-new experience in clean air quality for the new generation of healthy homes.

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Sufficient Capability

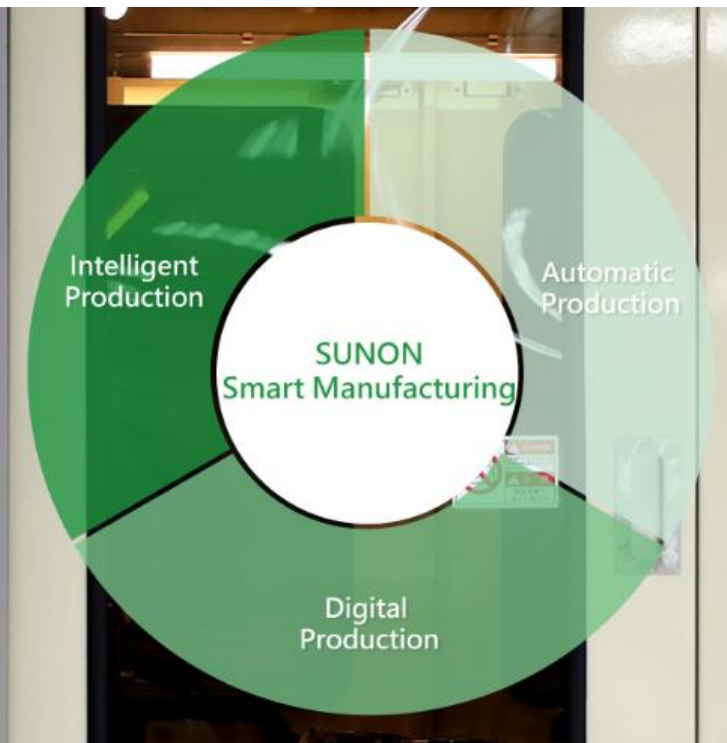
production bases in 2023

Cooling Fans

19.4 M pcs/ month

Cooling Module

1.5M pcs/month



Kaohsiung, Taiwan
1.2M pcs /month



Beihai, Guangxi I
7.2M pcs/month



Beihai, Guangxi II
3M pcs/month



Kunshan, Jiangsu
5M pcs/month(FAN)
1.5 M pcs/month(CM)



Bataan, Philippines
3M pcs/month

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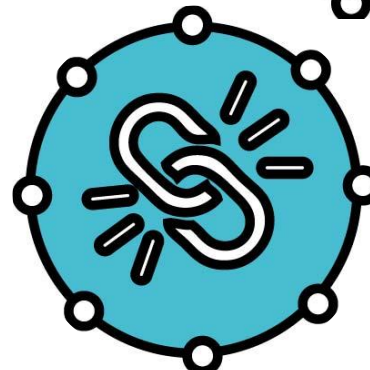
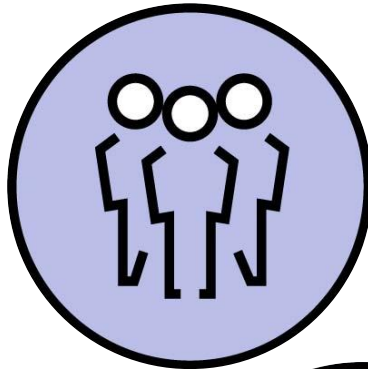
EGS Performance Highlights

Society

- Average employee training hours exceeded **66.8 hours** per year.
- Production bases in Taiwan and China have both passed ISO 45001 certification.
- Provided **care to 8,060 households** in the "Support and Care Campaign" from 2018 to 2022.

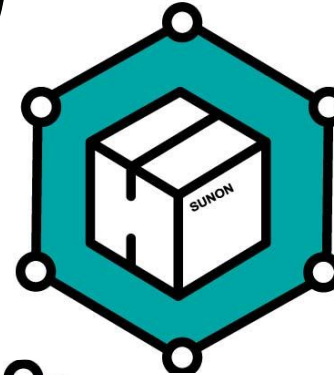
Environment

- Implemented **greenhouse gas inventory across** the entire group, and passed third-party external verification.
- The solar power generation of the Guangxing plant has exceeded **455,000 kWh**.
- Continuously passed IECQ QC 080000 certification each year.



Governance

- Consolidated revenue reached **14.063 billion NTD**, a 3.7% increase from 2021.
- The Company ranks among the **top 3 leading brands** in terms of market share.
- **Female directors account for 1/3** of the seats on the board of directors.
- A sustainability development committee has been established.
- **Zero cases** of corruption.



Products

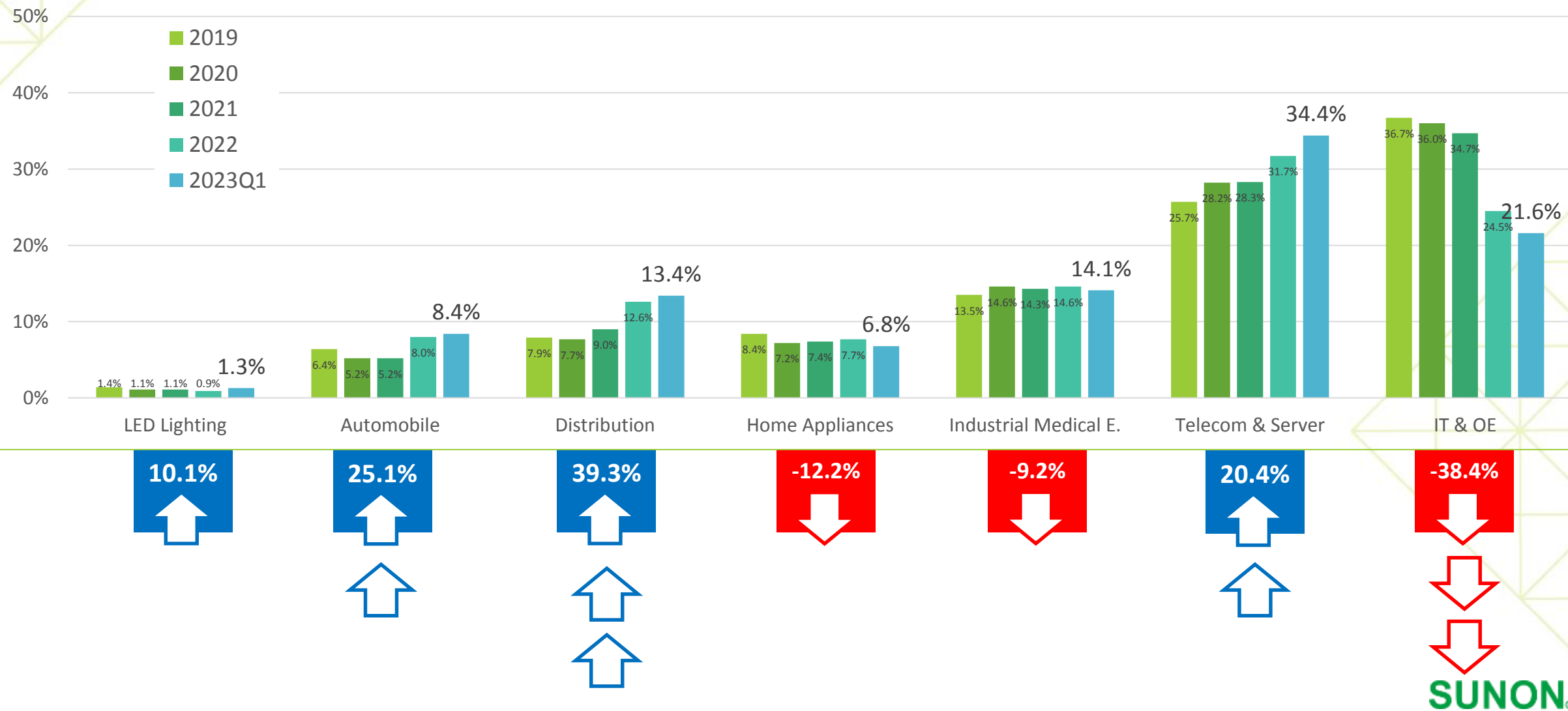
- **Saved 318 million kWh** of electricity with product R&D. Reduced GHG emissions by 160,000 MTCO2e.
- **100.0% pass** rate of hazardous substance inspection for three consecutive years from 2020 to 2022.
- Obtained **3,332 invention patents**.

Supply Chain

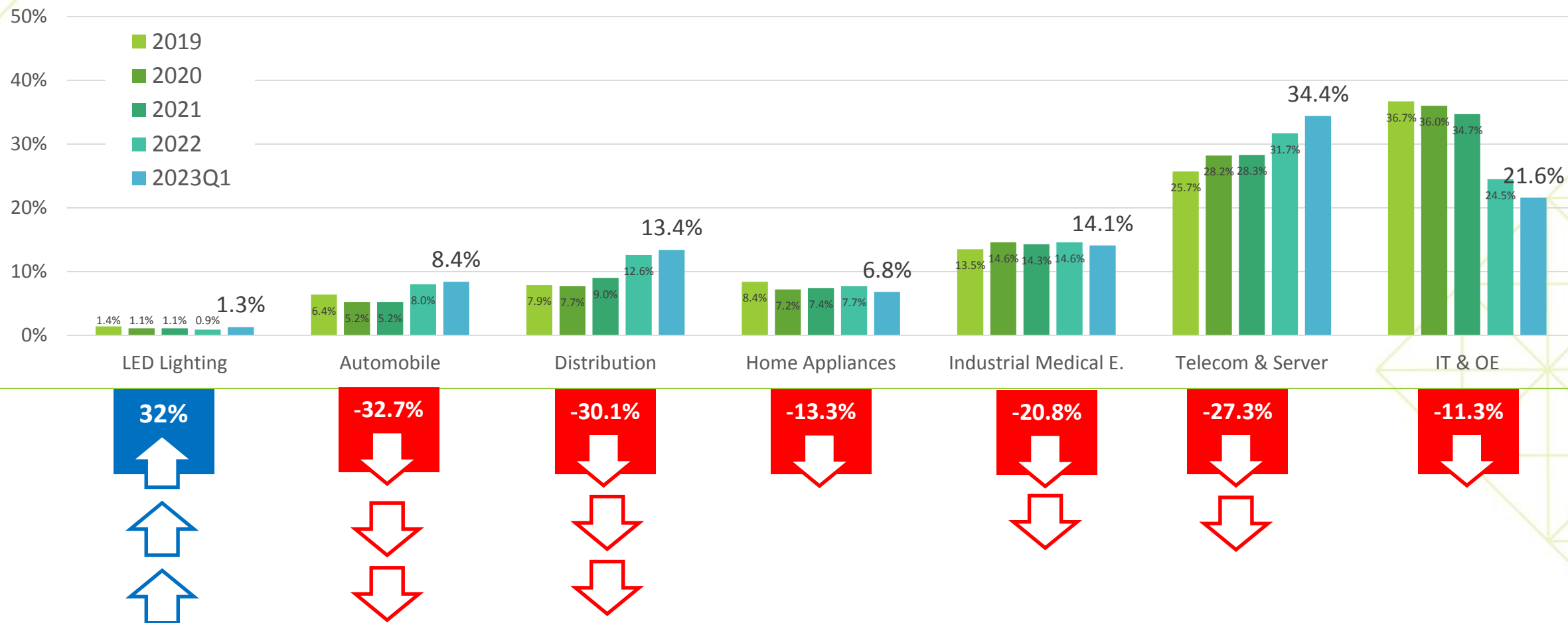
- Implemented audits for new suppliers.
- Conducted annual supplier audits.
- **Local procurement rates exceed 90%**.

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Products Application & YOY Growth



Products Application & QoQ Growth



Revenue Performance

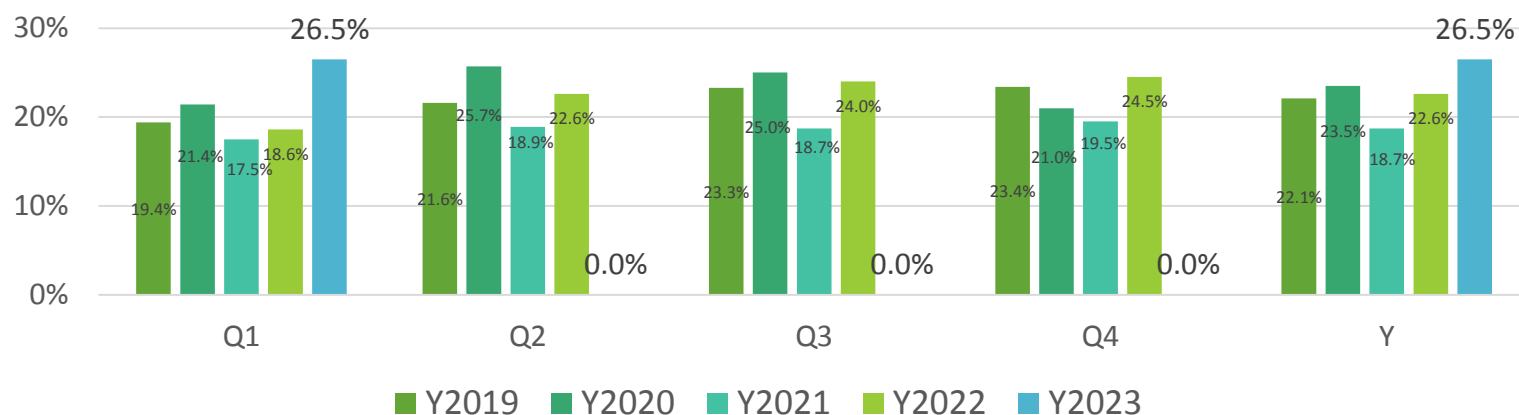
UNIT: NTD (K)



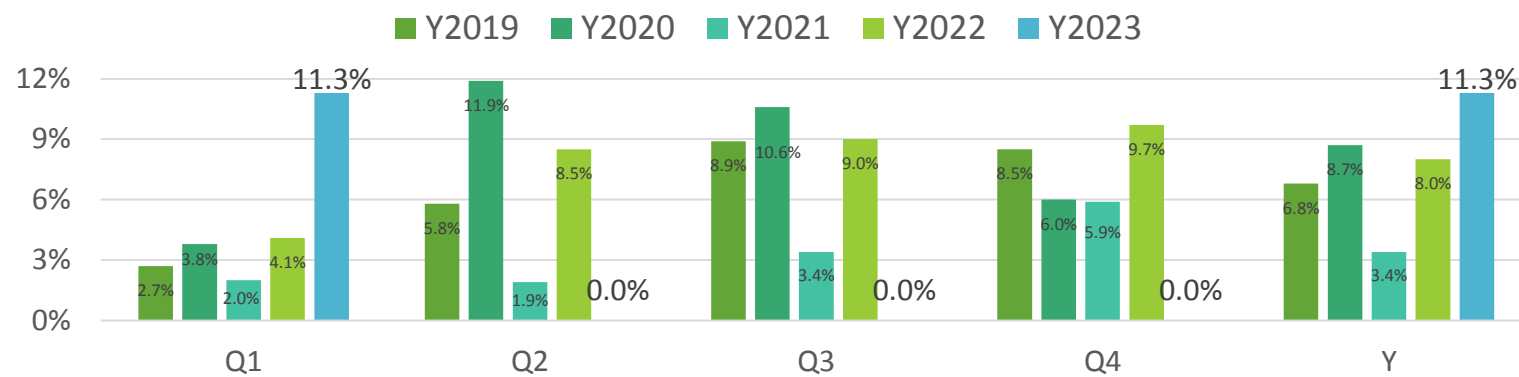
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Profit Margin

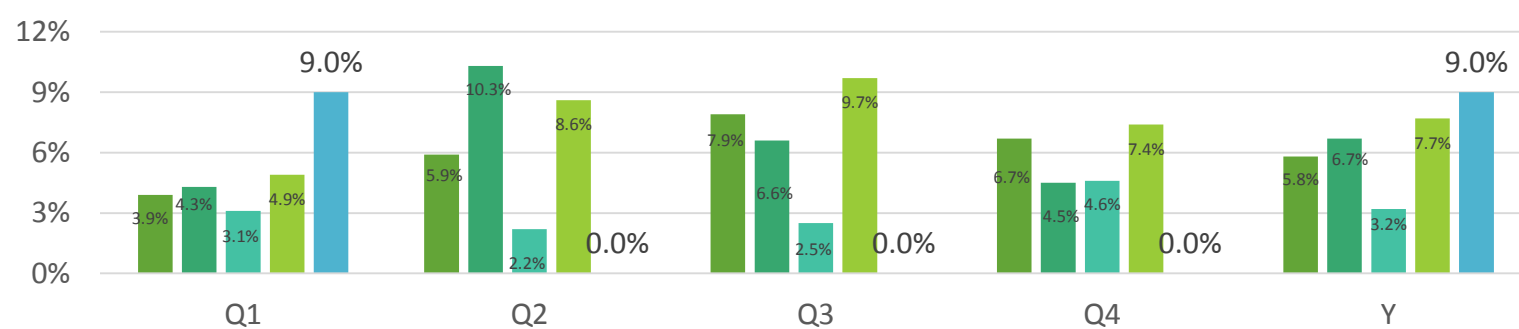
Gross Margin



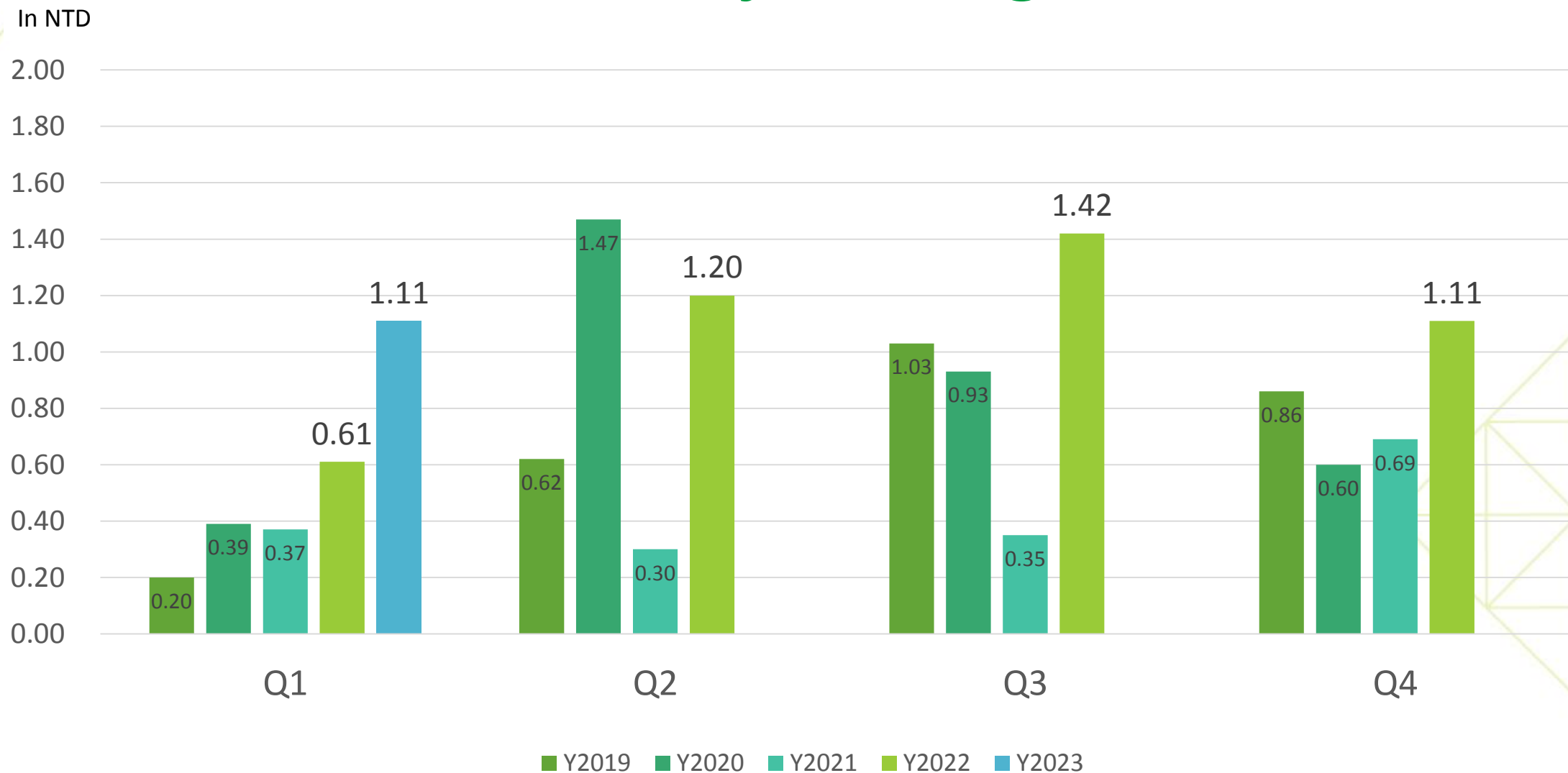
Operating Margin



Net Margin

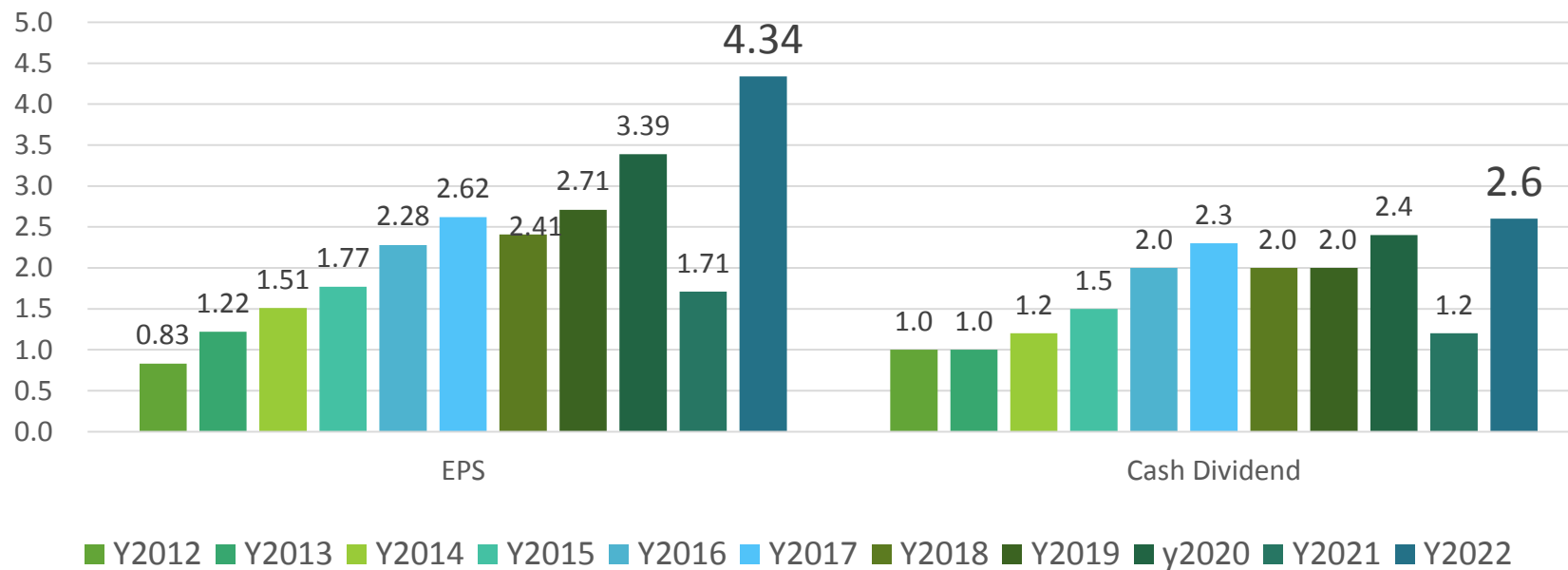


Quarterly Earning



Earning & Cash Dividend

UNIT: NTD



	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Payout R.	81.97%	79.47%	84.75%	87.72%	87.79%	82.99%	73.80%	70.80%	70.18%	60.00%

Appendix I

CONSOLIDATED BALANCE SHEETS								
NT\$ M	2020	2021	2022	2022 Q1	2023 Q1	成長率 YOY(%)		
						2021	2022	2023Q1
TOTAL ASSETS	10,419	11,517	12,192	11,193	11,413	10.54%	5.86%	1.97%
Cash	1,575	1,912	2,457	1,679	2,370	21.40%	28.50%	41.16%
A/R, N/R	3,226	3,459	3,414	3,213	2,881	7.22%	-1.30%	-10.33%
Inventories	1,752	2,508	2,651	2,623	2,428	43.15%	5.70%	-7.43%
PP&E	2,106	2,059	2,273	2,159	2,220	-2.23%	10.39%	2.83%
TOTAL LIABILITIES	5,825	7,150	6,989	6,596	5,915	22.75%	-2.25%	-10.32%
Short-term loans	671	1,950	1,288	1,712	1,378	190.61%	-33.95%	-19.51%
A/P	2,823	2,926	3,179	2,629	2,369	3.65%	8.65%	-9.89%
Long-term loans	520	524	287	536	328	0.77%	-45.23%	-38.81%
TOTAL EQUITY	4,594	4,367	5,203	4,597	5,498	-4.94%	19.14%	19.60%
Days sales outstanding	94	90	89	97	93			
Days sales of inventory	61	70	86	92	102			
Current Ratio	1.4984	1.3448	1.4275	1.4104	1.602			

Appendix II

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME								
NT\$ M	2020	2021	2022	2022 Q1	2023 Q1	Growth YOY(%)		
						2021	2022	2023Q1
OPERATING REVENUES	12,781	13,562	14,063	3,123	3,075	6.11%	3.69%	-1.54%
GROSS PROFIT	2,998	2,536	3,171	581	814	-15.41%	25.04%	40.10%
INCOME FROM OPERATIONS	1,114	464	1,122	129	348	-58.35%	141.81%	169.77%
INCOME BEFORE INCOME TAX	1,088	585	1,426	194	364	-46.23%	143.76%	87.63%
NET INCOME attribute to owners	852	429	1,089	153	278	-49.65%	153.85%	81.70%
EPS (NT\$)	3.39	1.71	4.34	0.61	1.11			
Gross Margin	23.46%	18.70%	22.55%	18.60%	26.47%			
Operating Margin	8.72%	3.42%	7.98%	4.13%	11.32%			
Net Margin(*)	6.67%	3.16%	7.74%	4.90%	9.04%			

(*)Net Margin=Net Income attribute to owners / Revenue



Thanks

for Your Attention !



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