

# Gudeng Precision Industrial Co. Ltd

## 家登精密工業股份有限公司



2024.11

Partner with **H.E.A.R.T.** , Grow with **P.A.S.S.I.ON.**

COO & Spokeswoman Amy Shen  
(02)2268-9141  
[AmyShen@gudeng.com](mailto:AmyShen@gudeng.com)



# Safe Harbor Notice



This presentation includes forward-looking statements. Forward-looking statements refer to statement that address activities, events or developments that Gudeng Precision expects or anticipates will or may occur in the future (including but not limited to projections, targets, estimates, market share, total addressable market (TAM) and business plans).

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# Gudeng Company Overview



Gudeng Aerospace Inc.

Gudeng Inc./ TSS Holdings

**Gudeng Headquarter**  
Gudeng Venture Capital  
Fuxing Factory

Gudeng  
Japan Inc.

Korea Office

Gudeng  
Chongqing  
Factory

Zhongli

Hsinchu

Taipei

Shanghai

Gudeng  
Equipment

WeSolutions

Gudeng  
Kunshan  
Factory

Gudeng Tree Valley Factory

Gudeng  
Shanghai Trade

Tainan

Kaohsiang

JYR Aviation Component

► Established : Mar. 20<sup>th</sup> , 1998

► Employee : 1100 up

► Capital : US\$ **30** million

► **2020** Group Revenue : US\$ **83** million

► **2021** Group Revenue : US\$ **104** million

► **2022** Group Revenue : US\$ **150** million

► **2023** Group Revenue : US\$ **162** million (13% growth)

► **2024 Jan to Oct** Group Revenue : US\$ **182** million  
(28%growth)

## Semiconductor

- Mask Handling Solutions
- Wafer Handling Solutions
- Equipment
- Other Service

## Aerospace

- Hydraulic Cylinders
- Heat Conduction Tubes
- Dynamic Balancing Motor
- Thermal Conductivity  
Bead



# Gudeng Expansion Plan



- Gudeng
- Major Client

**Kurume Factory**  
Semiconductor & Aerospace  
Finish by Q1 2026



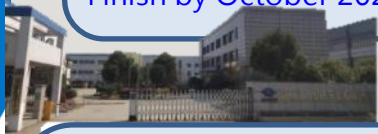
**Fuxing Factory**  
Semiconductor  
**WeSolutions Headquarter**  
RD/ Production for Cooling  
Finish by April 2025  
**Longfu Factory I & II**  
Semiconductor & Aerospace  
Start by Q2 2025



**Gudeng US**  
Storage/ FAE  
Since January 2024



**Kunshan & Chongqing Factory**  
Semiconductor  
**Kunshan Factory II**  
Semiconductor  
Finish by October 2024



**Tree Valley Factory I**  
Semiconductor & Aerospace  
**Tree Valley Factory II**  
Semiconductor & Aerospace  
Clean Room(3F) start in  
December 2024  
1F/ 2F/4F Start production in  
July 2025



**ST Science Park Factory**  
Semiconductor & Aerospace  
Finish by 2028

**Huatan Factory**  
New business  
Finish by End of 2026

ESMC

TSMC  
Fab20(P1~P4)

TSMC  
Fab21(P1~P2)

TSMC  
Fab18(P1~P8)

TSMC  
Fab23(P1~P2)

TSMC  
Fab22(P1~P3)



# Semiconductor Industry Outlook

With the maturity of generative AI and the increasing demand for related services, the development combining semiconductor and AI will drive the transformation and reconstruction of the global technology ecosystem. It is expected that the semiconductor market will be influenced by more AI policy factors after 2026.

MIC stated that AI applications have become the main driver of the global semiconductor market. With the explosive demand for AI chips, it is estimated that the global semiconductor market will reach a scale of 700-800 billion US dollars by 2027, and exceed 1 trillion US dollars by 2030.

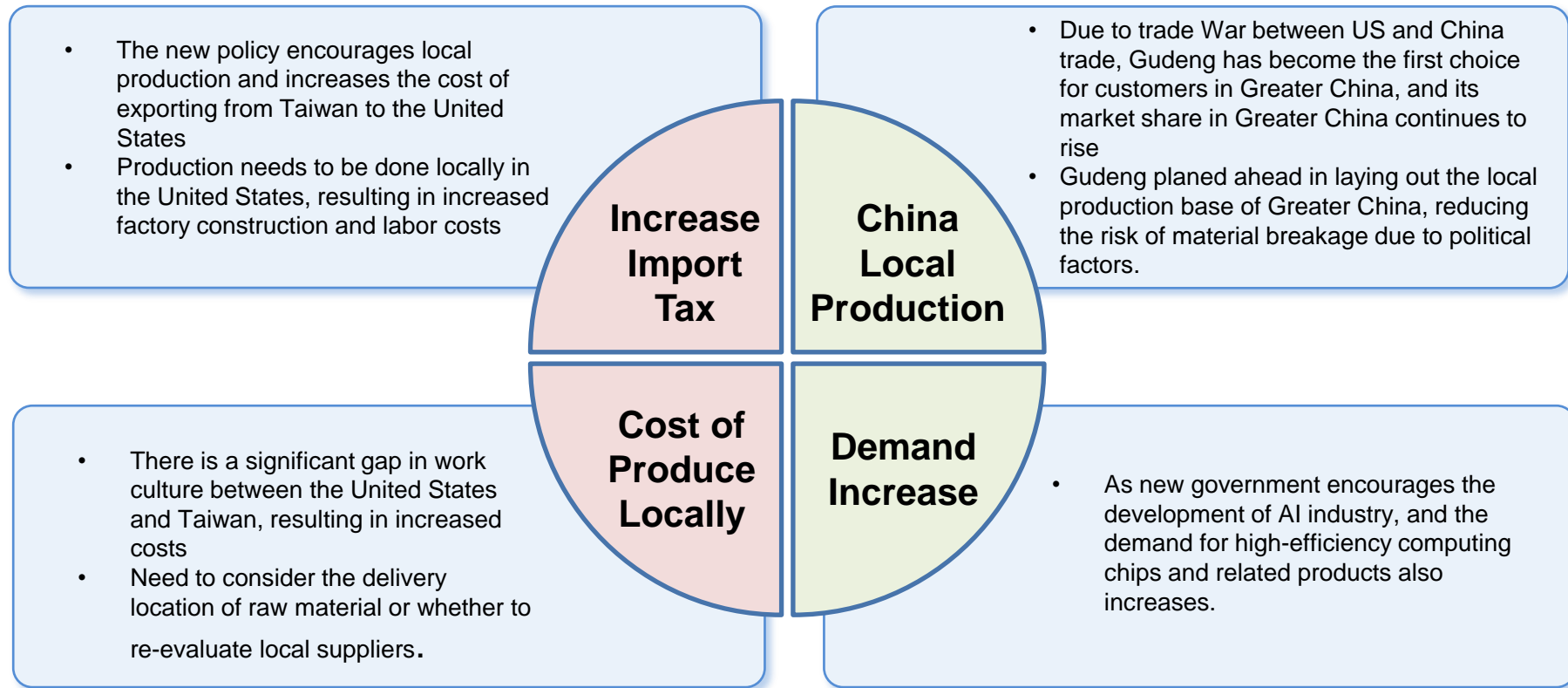
In order to improve the overall performance and power efficiency of chips, advanced packaging technology plays a key role in integrating computing chips and memory. In addition, heat dissipation has become an important part of supporting the stable operation of electronic products under high-efficiency computing systems. Various factories have begun to plan and introduce different heat dissipation solutions to drive the development of related supply chains.



Source: MIC



# The Impact of new US Government





# Key Customer Advance Packaging Plan



## Japan Fab(P1~P2)

6/7/12/16/22/28 Nano

P1: Start production by end of 2024

P2: Start production by end of 2026

## Germany Fab

12/16/22/26 Nano

Start production by 2027

## Chiayi Fab

Expand Advance Packaging  
Start production by 2026

## Fab18(P1~P8)

5/4/3 Nano

Expanding 3 Nano

## Fab22(P1~P3)

2 Nano

## Fab21(P1~P3)

4/3 Nano

P1: Start production by 2025

P2: Start production by 2027

P3: **Start production by**

## Fab20(P1~P4)

2 Nano

Start production by 2025

## Taichung Fab

2 Nano

Finished by 2027

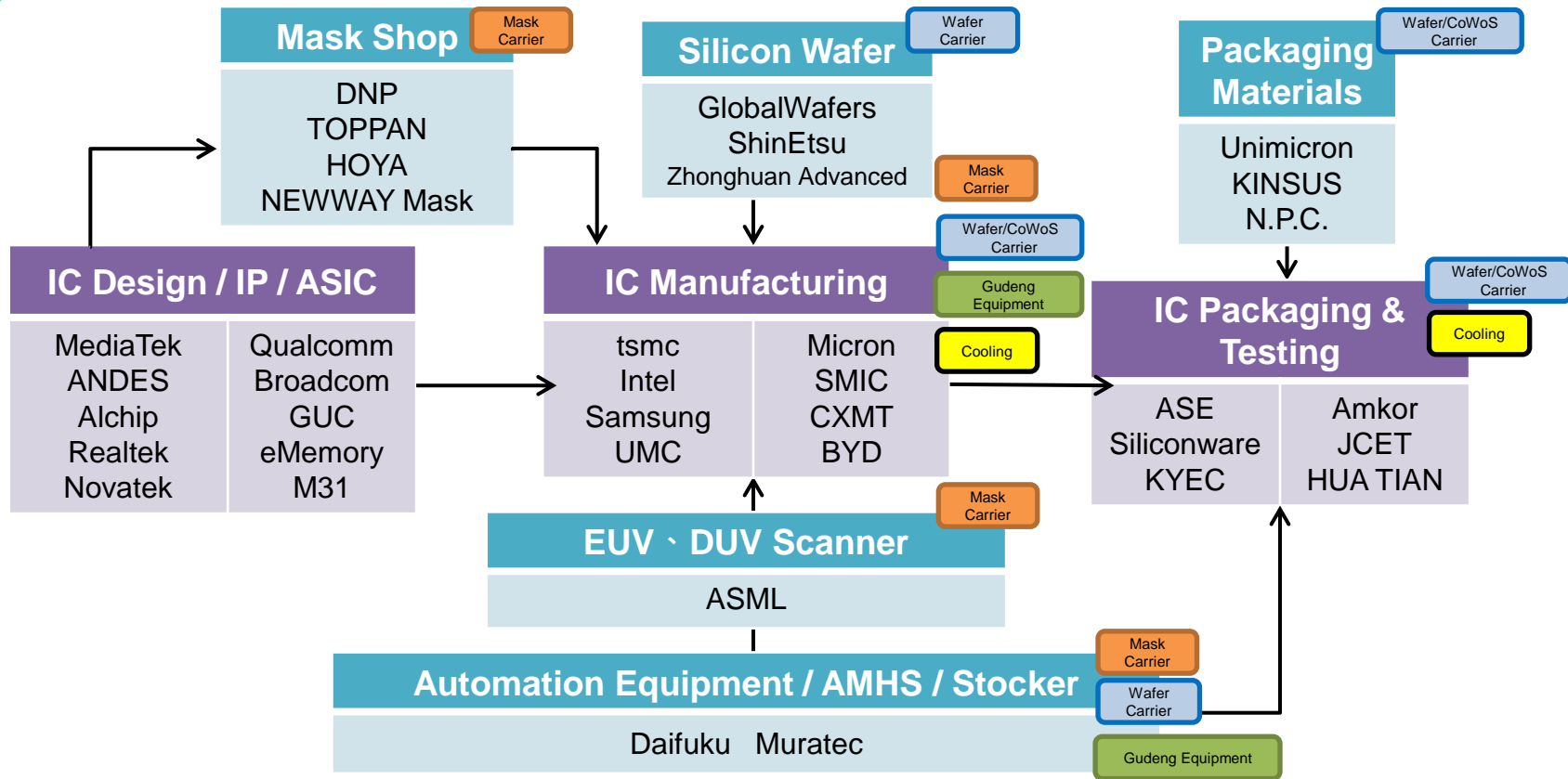
## Miaoli Fab

Expand Advance Packaging

TSMC has advanced process layout in Taiwan and abroad, among which high-level process and packaging technology are rooted in Taiwan.



# Semiconductor Supply Chain







## Semiconductor Production Process

### Product Design

- Communication
- Automotive
- Consumer Electronics
- National Defense
- PC/NB

IC Design

- Circuit Design
- Engineering Test

Mask Maker

### Front End

Foundry

- Materials Fab
- Wafer Bank

### Back End

Packaging

- Wafer Bumping
- Wafer Probing

Final Test

### Board Assembly

Board Assembly

Board Testing

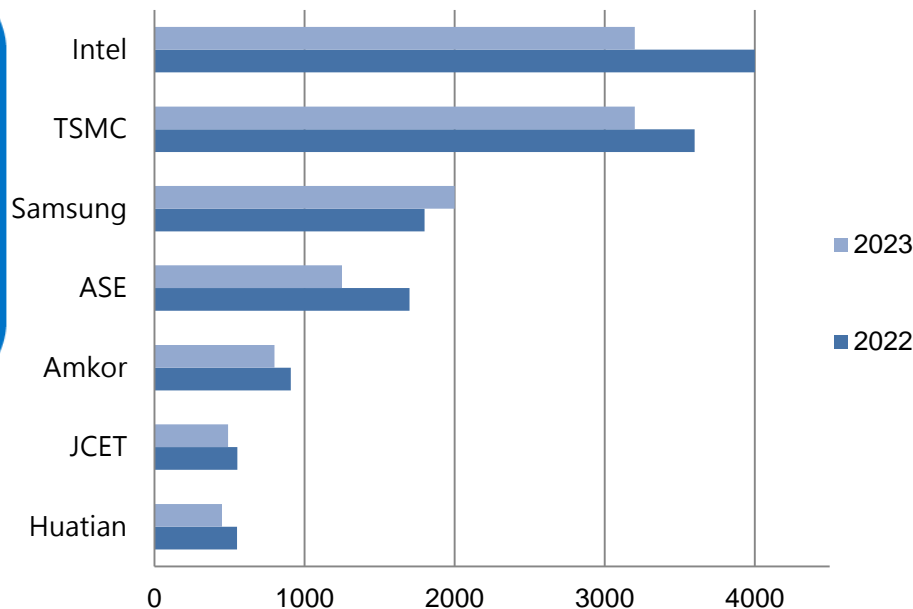
- Module, Board Assembly & Test





# Development Plan of Advance Packing

## CapEx in Advance Packing



To continue improving the manufacturing of chip, Advance Packaging has become the key technic

### Moore's Law:

- The number of transistors that can be accommodated on the chip is doubled **every 18 months**, which the processing **efficiency has doubled**.

### Industry Status:

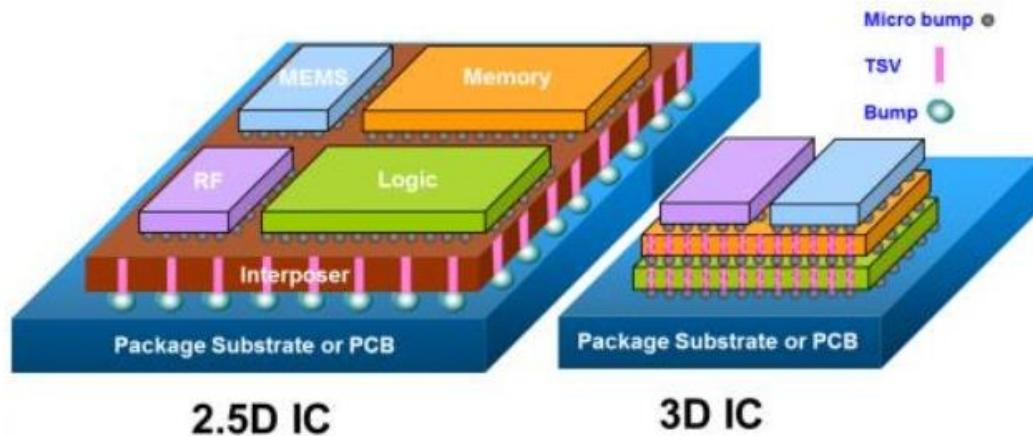
- With the improvement of product performance requirements, the initial micrometer process is gradually approaching 3 nanometers and 2 nanometers, but the chip line width process has reached its limit.
- New Solution from Leading Semiconductor Companies - **>Advanced Packaging**



# Advance Packaging

**CoW** stands for **Chip-on-Wafer**, meaning chip stacking. **WoS** stands for **Wafer-on-Substrate** meaning wafer staking on substrate. **CoWoS** simply means staking up chips then encapsulate on substrate. With CoWoS, it can reduce the space chips needed as well as power consumption and cost.

Advance package is considered as an **important techniques to extend the lifespan of Moore's Law**. It can increase the density of transistor and utilize the powerful and efficient computing power. Currently, the target customers are those with **7 nm process and below**, like **Apple**, **NVIDIA**, and **AMD**. With that being said, the demand of CoWoS will have almost doubled growth.

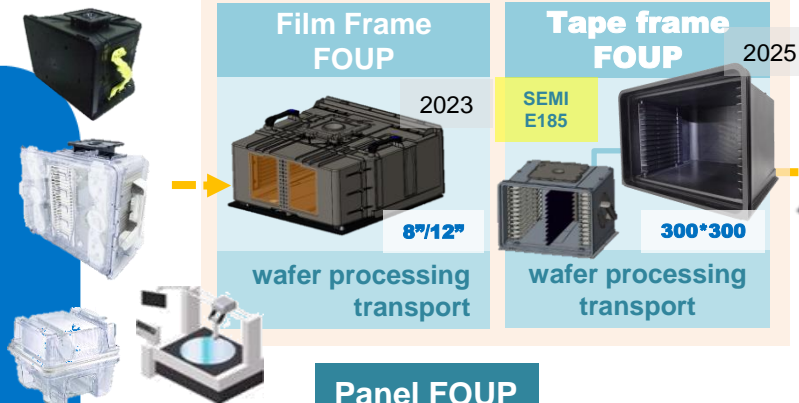




# Advance Packaging Product Line

300 FOUP/FOSB

Film Frame FOUP



Full Panel Shipper



Quarter Panel FOUP

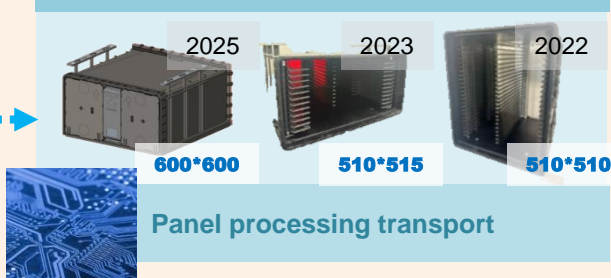


Panel FOUP

410/450 Glass Shipping Box



Full Panel FOUP



SEMI E185

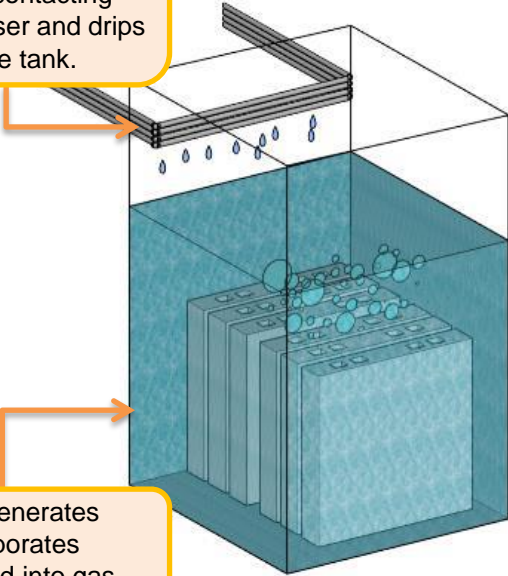
IC Tray FOUP



# Immersion Cooling (ESG Issue)



The vaporized cooling liquid is condensed into liquid after contacting the condenser and drips back into the tank.



As server generates heat, it evaporates cooling liquid into gas.

## PUE 1.09 ~1.03

The closer PUE is to 1, the better power use, that is, all the power is used for computing

## Automated Data Center

Provide safe operating environment, reduce costs, and ensure operating efficiency

## High Technological Threshold

High evaporative liquid requires complete airtight system and high-precision automation equipment.

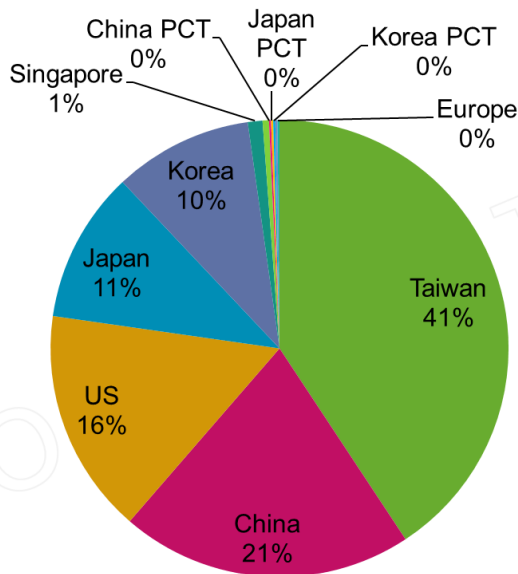
## Real-time monitoring system

Monitor internal temperature, pressure, etc., adjust coolant flow, and provide real-time alarms

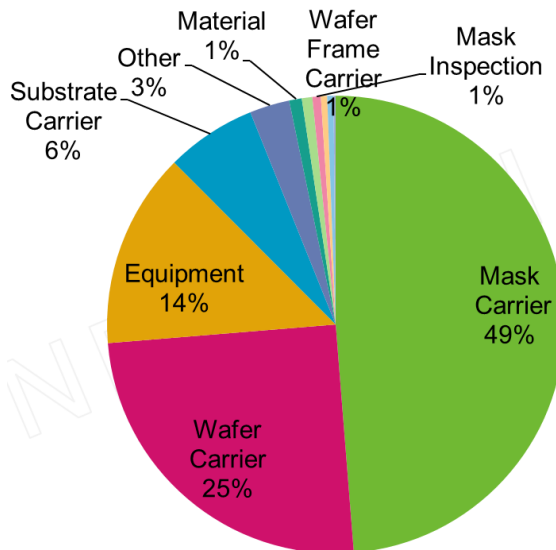
## Two Phase Immersion Cooling Rack Cabinet



## Location



## Product



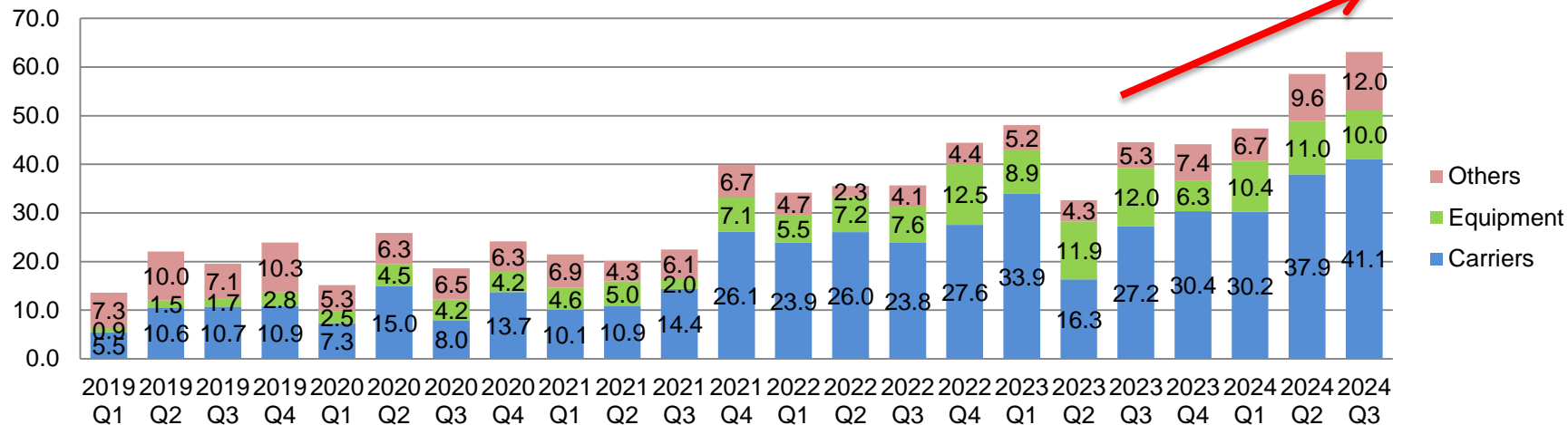
*As of October 2024, obtain **682** patent and continue to build a high-tech patent layout*



# Gudeng Group Revenue (Quarterly)



## Consolidated Revenue



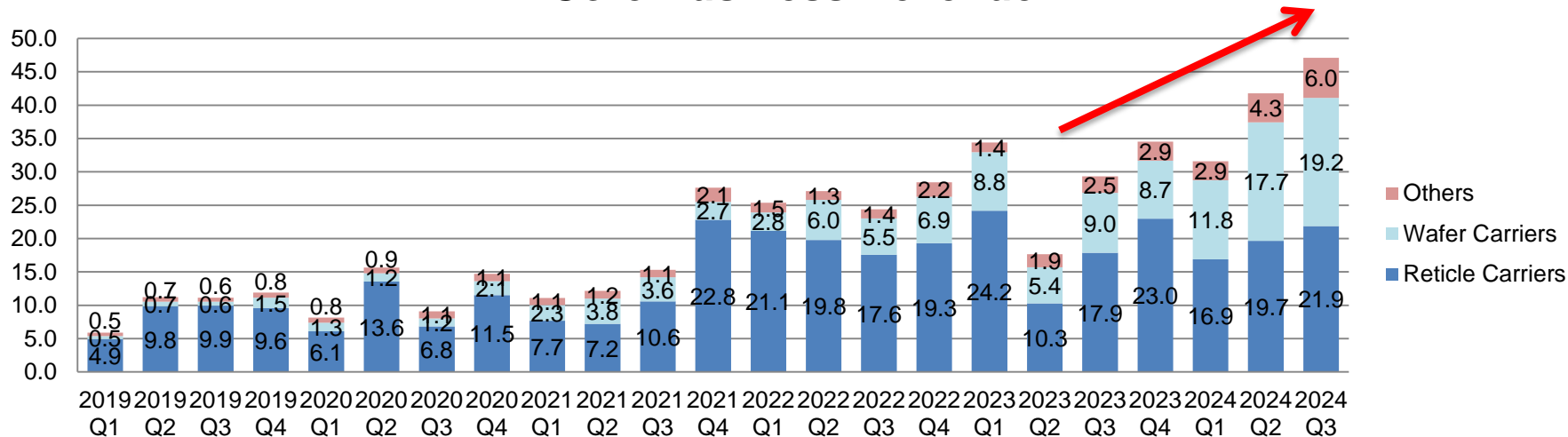
US million dollars



# Gudeng Revenue (Quarterly)



## Core Business Revenue



US million dollars

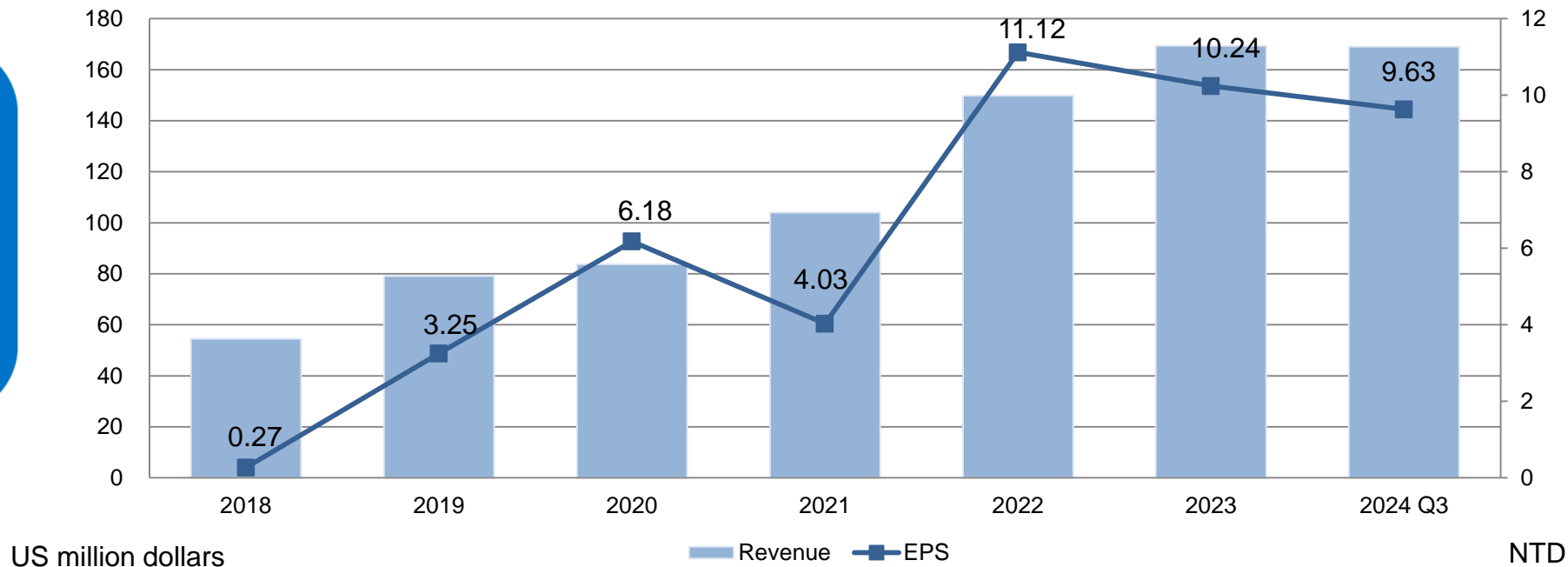




# Gudeng Annual Revenue Performance



## Gudeng Revenue/ EPS

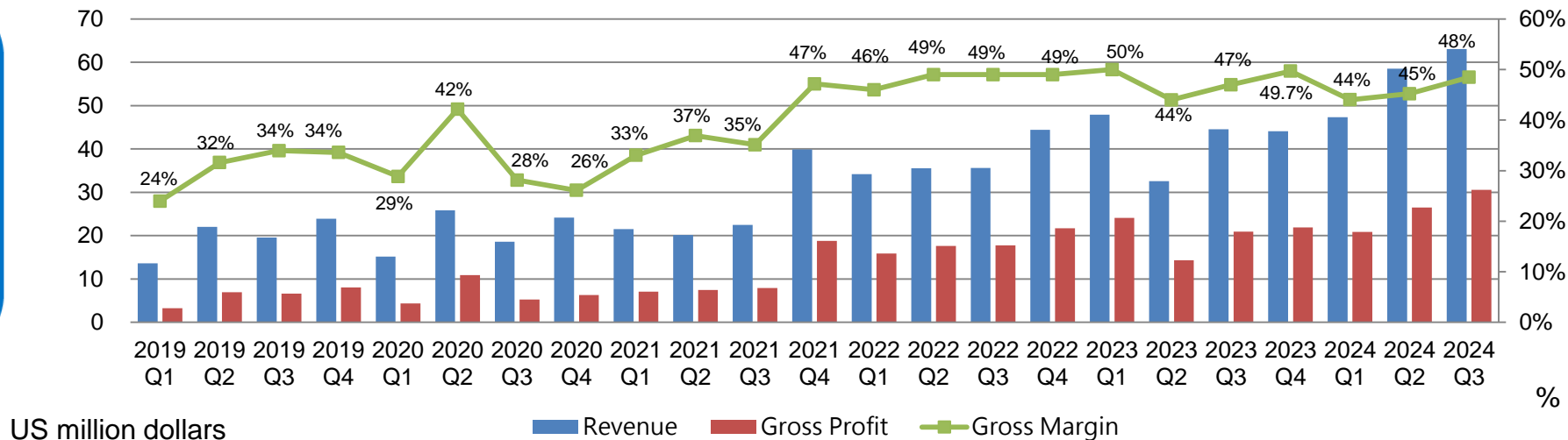




# Gudeng Gross Margin (Quarterly)



## Gudeng Quarterly Gross Margin

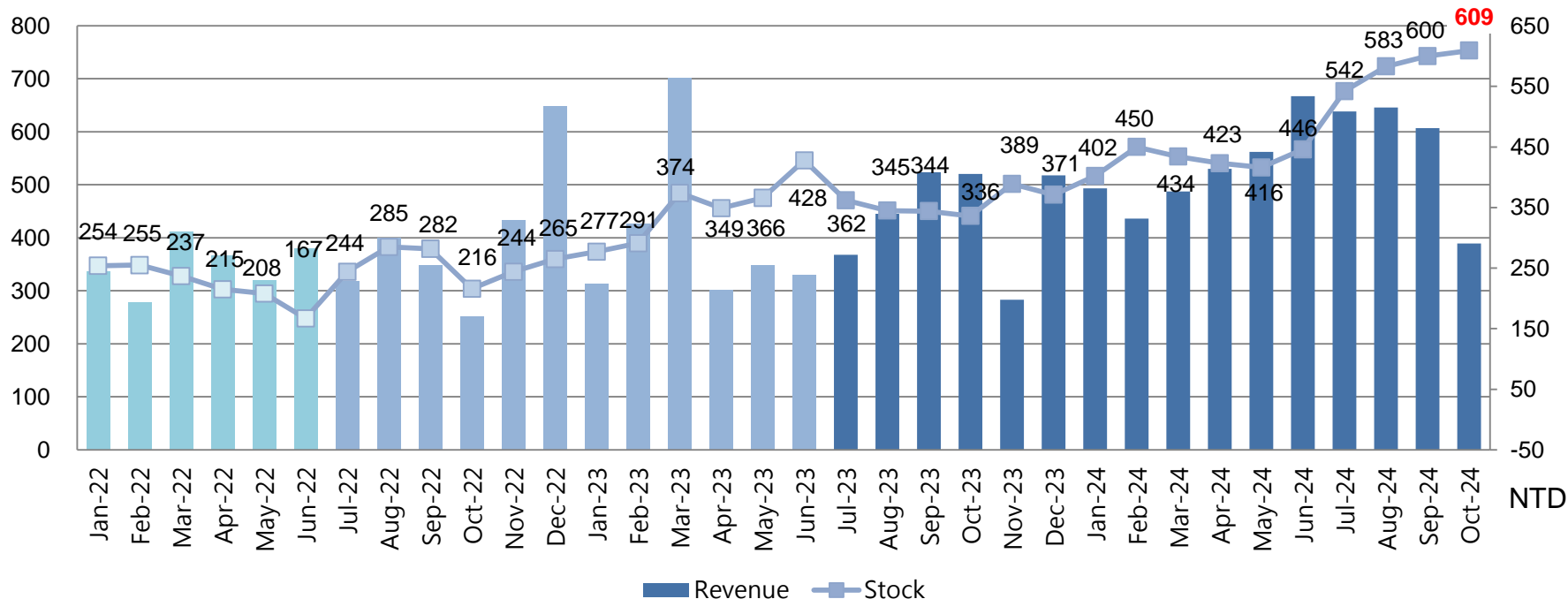




# Gudeng(3680) Stock Price Trend



## Revenue/Stock





# Gudeng Group Revenue/ Gross Margin/ CapEx/ Asset



Year	Revenue	Gross Profit	Gross Margin	EPS	CapEx	Asset
2019	79,000	25,000	32%	3.24	3,167	160,667
2020	83,667	26,667	32%	6.18	37,667	207,667
2021	104,000	41,333	40%	4.03	68,700	316,667
2022	149,667	73,000	49%	11.12	24,367	406,667
2023	169,333	81,333	48%	10.24	43,467	543,000
2024 Q3	169,000	77,867	46%	9.63	42,467	644,300

US million dollars



# Gudeng Expense and Margin Ratio



US Million Dollar	2024								2023			
	Q1	YoY%	Q2	YoY%	Q3	YoY%	Total	YoY%	Q1	Q2	Q3	Total
Revenue	47.35	-1%	58.54	80%	63.13	42%	169.02	31%	48.04	32.60	44.57	125.20
Cost	26.50	11%	32.06	74%	32.57	39%	91.13	38%	23.91	18.45	23.47	65.82
Gross Profit	20.84	-14%	26.48	87%	30.57	45%	77.89	24%	24.13	14.15	21.1	59.38
OER	28%		23%		23%		25%		20%	33%	30%	28%
EPS	2.24		3.00		4.39		9.63		3.94	1.68	1.94	7.56

## 2024 Q3 Expense:

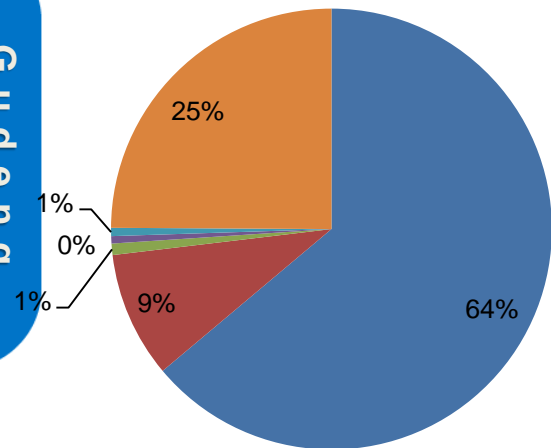
- To meet growth demands, M&A and related expenses have increased
- Due to demand from Greater China, the cost of delivery and related fee had increased.
- To increase production capacity, had purchase molds, machines and equipment, which depreciation had increased.



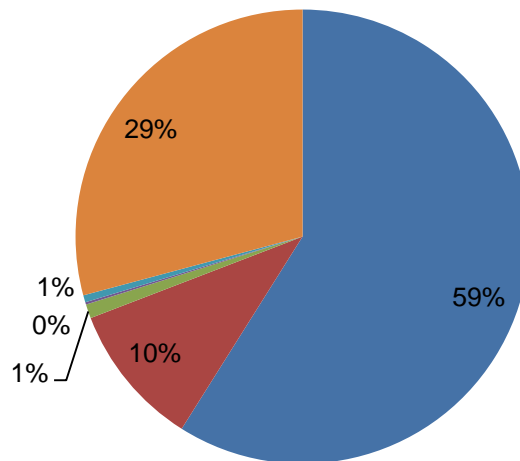
# Gudeng Revenue Regional Distribution



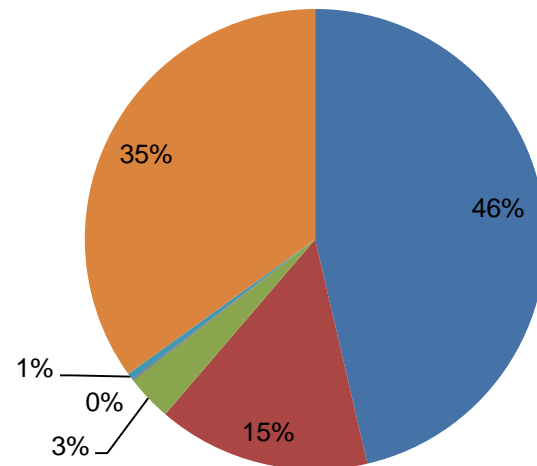
2022



2023



2024 Jan - Oct



■ Taiwan ■ US ■ Asia ■ Other ■ Europe ■ China



# Distribution of Gudeng's Customers



## Logic/Power Foundry&IDM.



## PCB/OSTA (Outsourced Semiconductor Assembly and Test)

## Memory Foundry&IDM.



## Reticle /Mask

## Equipment





# Local Supply Chain Alliance



“Integrated service provider of innovative critical material technology”  
Build Taiwan Semiconductor Team

## Ecosystem Total Solution

Create a flexible and efficient  
service platform

Gudeng  
3680

Global Semiconductor  
Carrier solution

Gudeng  
Equipment  
6953

EUV stoker and  
inspection equipment

Gudeng Holding  
45.44%

Symtek  
6438

Advanced system  
equipment storage and  
positioning system

Gudeng Holding  
8.57%

Asia Neo  
4542

CoWoS Carrier  
Cleaning equipment

Gudeng Holding  
7.61%

Microprogram  
7721

EUV precision  
sensing instrument

Ultra-high cleanliness  
and clean room  
filter material

GreenFilterc  
6823

Key material for  
advanced process and  
packaging

Nytex

Key component of  
EUV yield improvement

Yeedex  
7556

Precision process  
environmental control

ChyiDing

Gudeng Holding  
1.72%

Micro pollution  
prevention and control

Santa  
Phoenix





# Gudeng Growth Blueprint-Highlights



Gudeng



Co-Creation



2024 ~

## Wafer Carrier Solutions

The market share of our series of wafer carrier is rising worldwide.



2026 ~

## Aerospace Pioneer

Constantly expand customer base and challenge doubling revenue growth this year.



2024 ~

## EUV Pod

With the continuous expansion of advanced process, related demand is growing.

2025 Q3 ~

## CoWoS Carrier

Our complete solution of CoWoS and back-end 3D package leads the world.



2025 Q3 ~

## New Technique

Continue to develop new technologies and expand new markets.





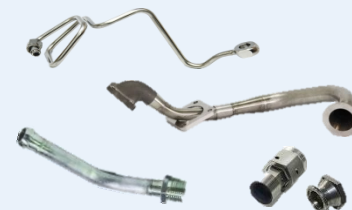
# Major Customers & Products



Manufacturing Conducting Tubes, Check Valves, Fasteners, as well as Machining parts, supporting the assemble of engines for GE



Providing different metal materials of Conducting Tubes, with in-house Chemical Processes, and Special Welding



## Origin

High Barriers to Entry  
High Gross Margin  
Precision Machining



Not only Sheet Metals parts, Machining parts, and Tube Connectors, but also providing Plastic Injection



Expert in 3 ~ 5axis of milling and turning · manufacturing hydraulic components, such as Cylinders, Differentials, Shafts, Piston and Rods





# Aerospace Strategy Roadmap



**Flight Control Hydraulic Parts**

Metal  
Precise Machining



**Sales / Warehouse**



**Gudeng  
Aerospace**

**Gudeng  
Precision**

**Airplane Cabin & MRO  
Components**

Plastic Injection



**Gudeng  
Aerospace  
USA**

**JYR  
Aviation**

**Tubing & Special Process**

Tube Bending & Welding &  
NADCAPs





# Gudeng Sustainability Performance



2023 Reduce  
**33%** of Carbon  
Emissions

2023 Reduce  
**54%** of Water Usage

2023 Reduce  
**21%** of Industrial Waste



Homemade **Eco-Friendly Pallets**  
**Transport Cases**

Salary Increase Rate **7~9%**  
better than industry

Employees charity  
participating **382** times

Stipends reached **651** students



**12** Industry-University Cooperation Items



2023 Revenue  
**US\$162** million

2023 EPS  
**10.24** NTD

RBA  
**Platinum Certification**

27<sup>TH</sup>

**National Quality Awards**



Verification  
**TIPS A-Class 、ISO22301 、ISO20400**

ESG Report



2024/11/18

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# Gudeng Overall Performance



## Revenue Growth :

US\$ 32 million in 2019, US\$ 145 million in 2022, US\$ 162 million in 2023. As of Oct 2024, revenue is about US\$ 182 million , YOY 28%

## Steadily Gross Profit Margin :

Over 20% in 2018, 49% in 2022, 48% in 2023, 45% as of Sep 2024

## Growth in EPS :

0.27 in 2018, 3.25 in 2019, 11.12 in 2022, 10.24 in 2023, 9.63 in Q3 2024

## Increasing Market Share :

Reticle carriers 70% worldwide, EUV Pod 85% worldwide, FOUP qualified by major customers, and 50% up of the customers in Greater China region apply Gudeng as the baseline

# Prospect and Strategy

2024

- ◆ **Increasing market share in Wafer Carrier**, which bring growth in revenue
- ◆ Focus on advance process and become the main supplier for key customers
- ◆ **FOSB** had gradually been **verified** and become the main focus of Gudeng Wafer Carrier
- ◆ Continuing expanding factories, quickly responds to demands and supply locally

2025

- ◆ With development of CoWoS, **shipment of Panel FOUP** have steadily **increased**
- ◆ Strong revenue contribution from FOSB
- ◆ As released of Hi-NA EUV, customer base of EUV Pod have expanded
- ◆ Gudeng Total solution lead the market, group challenge higher revenue

2026

- ◆ **Key components completed verification, get long-term order** from customers, and **expanding special process** to complete Aerospace Roadmap
- ◆ Strong revenue growth from CoWoS
- ◆ Revenue contribution from Hi-NA EUV Pod
- ◆ **Continuing focus on high-revenue markets and M&A**







Thank You

[www.gudeng.com](http://www.gudeng.com)