

Gudeng Precision Industrial Co. Ltd

家登精密工業股份有限公司



2025.03

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

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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.

Gudeng
Korea

Gudeng
Chongqing
Factory

Shanghai

Gudeng
Kunshan
Factory

Gudeng
Shanghai Trade

Zhongli
Hsinchu
Taipei

Gudeng
Equipment

WeSolutions

Gudeng Tree Valley Factory

Tainan

Kaohsiang

JYR Aviation Component

► Established : Mar. 20th , 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** Group Revenue : US\$ **218** million (29% growth)

Semiconductor

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

Aerospace

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



Semiconductor Industry Outlook

Due to the continuous increase in global demand for AI and HPC in 2025, major application markets from cloud data centers and terminal devices to specific industry categories are facing a trend of upgrading specifications. It is expected that the overall semiconductor market will **grow by more than 15% in 2025**. On top of that, the global semiconductor market will reach a scale of 700-800 billion US dollars by 2027, and there is a consensus in the industry that the market is expected to **exceed 1 trillion US dollars by 2030**.

AI Applications will accelerate the development of logic chips, memory, and packaging technologies, in order to improve the overall performance and power efficiency of chips, CoWoS Advanced packaging technology also 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. In the future, with **generative AI**, the sustained demand for semiconductor technology from other high-speed computing applications will bring significant market growth in **advanced processes and 3D packaging** technology.



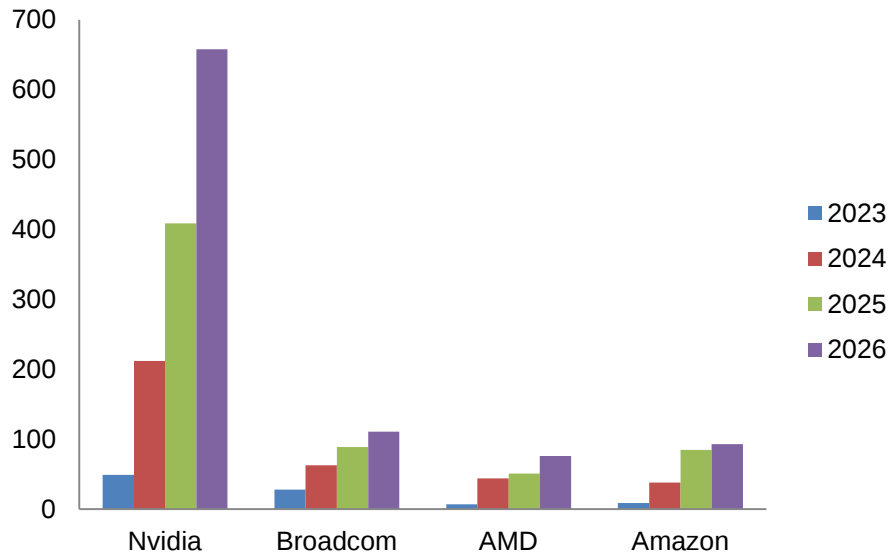
Source: MIC、IDC Research



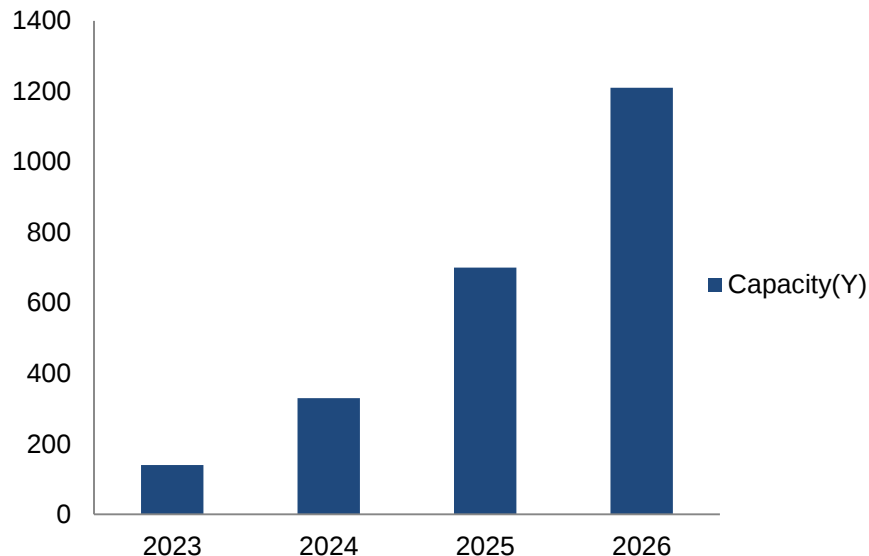
Development Plan of Advance Packing



Demand of CoWoS & AI Chips



Forecast Capacity of CoWoS



With increase demand of high-performance chips, it is estimated that the **monthly production capacity** of key customers in CoWoS will reach **70K by the end of 2025** and **exceed 100K by the end of 2026**



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 2027

Taoyuan

AP3

Fab20(P1~P4)

2 Nano

Start production by 2025

AP1(RD)

Invest **100 B** US dollars

3 Fabs

2 AP Facilities

1 RD Center

Germany Fab

12/16/22/26 Nano

Start production by 2027

Miaoli

AP6

Chiayi Fab

Expand Advance Packaging

Start production by 2026

AP7

WA

Fab 11

Fab18(P1~P8)

5/4/3 Nano

Expanding 3 Nano

AP2/ AP8 (Start in end of 2025)

Fab22(P1~P3)

2 Nano

Start in second half of 2025

Taichung Fab

2 Nano

Finished by 2027

AP5

Start in first half of 2025

CA

RD Center

TX

RD Center

Fab21(P1~P3)

N4/N3 HVM

P1: 2025, P2: 2028, P3:2030

Source: Summary based on CNA/ Digital Times

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Local Supply Chain Alliance



Alliance	Company								Office in US
	Facility	Material	Chemical	Air	Equipment	Testing	Filter	IT	
TSS	-	Gudeng Group (Gudeng Equipment) Yeedex	-	-	CHD Santa Phoenix Asia Neo Symtex	-	Green -Filtec	Micro- program	Glendale AZ
TSS II	Concord	PVI Nytex Aplex Fusion Tech	AEMC	-	SynPower AblePrint EISO UVAT	-	-	-	
Acter Union	Nova Acter Rayzher	-	-	-	-	-	-	-	Preparing
G2C+	-	-	-	-	C Sun GPM GMM	-	-	-	Preparing



Local Supply Chain Alliance_TSS



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

Gudeng

Gudeng Group
Gudeng Equipment
3680/ 6953

Global Semiconductor
Carrier solution

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

Gudeng Holding
7.99%

Ecosystem Total Solution

Create a flexible and efficient
service platform

Ultra-high cleanliness
and clean room
filter material

GreenFiltex
6823

Key component of
EUV yield improvement

Yeedex
7556

Precision process
environmental control

ChyiDing
6849

Gudeng Holding
1.72%

Micro pollution
prevention and control

**Santa
Phoenix**



Local Supply Chain Alliance_TSS II



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

SynPower
6658

Precision process &
testing machine

Aplex
6570

Industrial intelligence
applications and factory

PVI
7768

Key Consumables
In Semiconductor

AEMC
4749

Electronic Specialty
Chemist material

Fusion Tech

Precision manufacturing,
testing and R&D

Ecosystem Total Solution

Create a flexible and efficient
service platform

High-tech electronic
pure water system

Concord

Key material for
advanced process and
packaging

Nytex

High-speed and low-loss
PCB applications

EISO
5291

Key component of
AP yield improvement

AblePrint
7734

Application and
hemical coating expert

UVAT
3580

Gudeng Holding
5%



Development of AP in Greater China

With geopolitical uncertainty between China and US, The US government has imposed multiple AI import and export restrictions toward chips. This encouraged manufacturers in Greater China to develop advanced processes to increase local production capacity.

Company	Location	Tech	Capacity (M)	Company	Location	Tech	Capacity (M)
SMIC	Shanghai	7 nm and below	50K	CXMT	Hefei/Beijing	DRAM	300K
SMIC	Beijing	7 nm / 14 nm	50K	CXMT	Shanghai	DRAM	>100K
HLMC	Shanghai	7 nm	20K	YMTC	Wuhan	NAND	300K
HUAWEI	Shanghai	7 nm	20K	YMTC	Wuhan	DRAM	50K
HUAWEI	Shenzhen	7 nm / 14 nm	30-50K	Swaysure	Shenzhen	DRAM	100K

Source:
GFHK
2025/3/19

The capacity goal of key customers in Greater China

The capacity of advanced processes is expected to exceed **150K per month.**



2025 Greater China Semiconductor Fab



Shandong

- SiEn(Qing Dao)(8" /12")
- Qingdao Matter (12")
- Jinan BYD(8")
- Qingfang Technology (Blank)
- Jinan Quanyi(Mask)

• Huawei Group

Zhejiang

- Hangzhou HFC(12")
- FullSemi(12")
- Zhejiang Chuangxin(12")
- Hangzhou Silan(8")
- JCET(Shaoxing) (Back End)

Chengdu

- Chengdu Luwei(Mask)
- Chengdu BYD(12")

Guangdong

- SwaySure(12")
- Shenzhen Pensun(12")
- Shenzhen Pengxin Micro(12")
- Plextron(12")
- Guangzhou Cansemi(12")
- Shenzhen SMIC(12")
- Dgrayxin(Back End)
- Guangzhou NewRay (Mask)
- Shenzhen Newway(Mask)
- Shenzhen Qingyi(Mask)
- Zhuhai Longtu(Mask)

Chongqing

- Chongqing Alpha and Omega(12")
- Resources West Microelectronics(12")

Jiangsu

- Nanjing TSMC(12")
- Maxscend(12")
- SK hynix(8" /12")
- JCET(Back End)
- Shenzhen Zhicheng (Back End)
- Silicon Integrity(Back End)
- Wuxi ZhongWei(Mask)
- Wuxi Dis(Mask)

Beijing/Tianjin

- Beijing SMIC(12")
- Changxin Jidian(12")
- Beijing YanDong (8" /12")
- Beijing Selex(8")
- Tianjin SMIC(8")

Fujian

- Xiamen United Semi(12")
- JHICC(Jinhua) (12")
- Xiamen Silan(12")
- Quliang Electronics (Back End)
- PDMCX(mask)

Liaoning

- Intel Dalian(12")

Shaanxi

- Xian ESWIN(Wafer)

Hubei

- Wuhan Chuxing(12")
- ChangXin Memory(12")
- Wuhan Global Sensor(8")
- Yangtze Memory(12")

Shanghai

- SMIC(12")
- Shanghai GTX(12")
- ICRD(12")
- GTA(8" /12")
- TSMC Fab10(8")
- Advanced Semi(8")
- Shanghai Toppan(Mask)
- Shanghai Zing(Wafer)
- Shanghai AST(Wafer)

Anhui

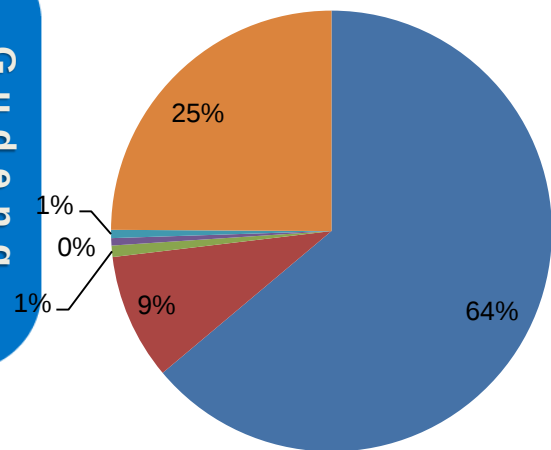
- Changxin Xinqiao(12")
- ChangXin Memory(12")
- Nexchip(12")
- Hefei Shiya(12")
- Heifei Payton(Back End)
- Hefei Qingyi(mask)
- Heifei Nexchip(mask)



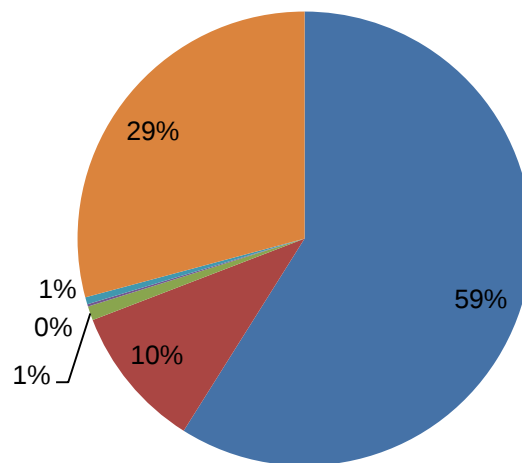
Gudeng Revenue Regional Distribution



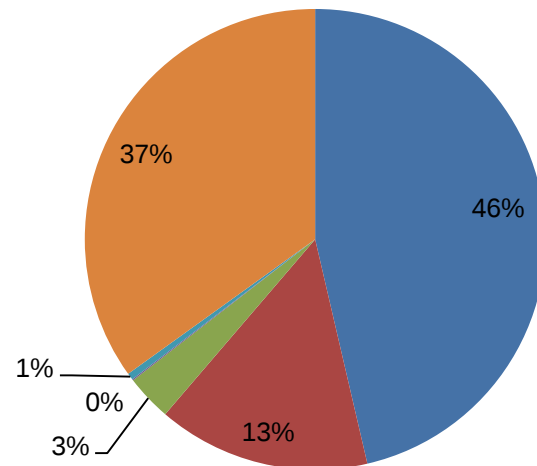
2022



2023



2024



■ 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





Gudeng Expansion Plan



- Gudeng
- Major Client

Kurume Factory
Semiconductor & Aerospace
Finish by Q2 2027



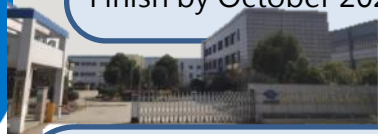
Fuxing Factory
Semiconductor
WeSolutions Headquarter
RD/ Production for Cooling
Finish by Q2 2025
Longfu Factory I & II
Semiconductor & Aerospace
Start by Q4 2025



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 Q1 2029



Huatan Factory
New business
Finish by Q2 2028

ESMC

TSMC
Fab20(P1~P4)

TSMC
Fab21(P1~P2)

TSMC
Fab18(P1~P8)

TSMC
Fab23(P1~P2)

TSMC
Fab22(P1~P3)



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

Semiconductor Production Process

Product Design

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

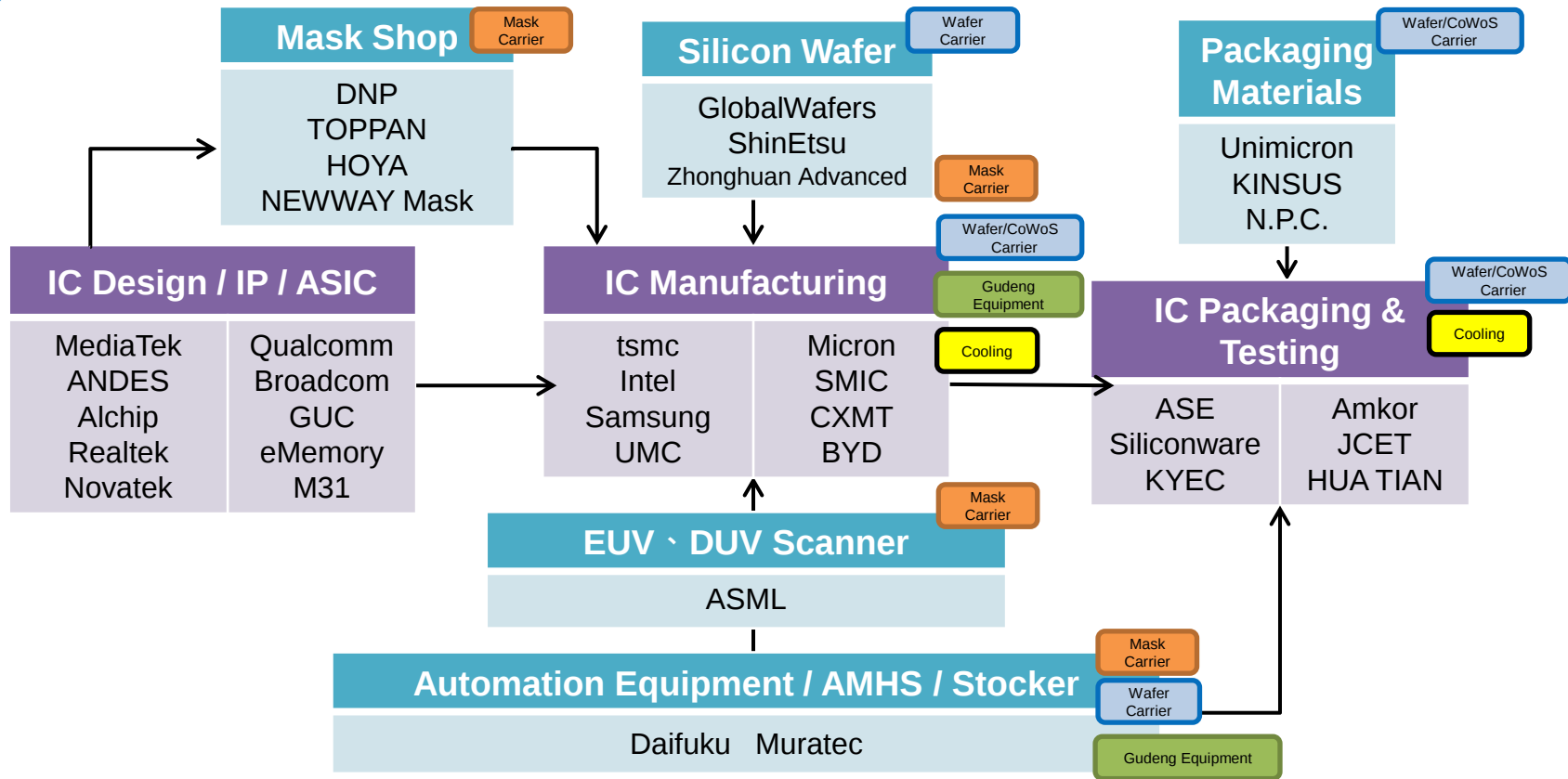
Board Testing

- Module, Board Assembly & Test





Semiconductor Supply Chain





Advance Packaging Product Line

300 FOUP/FOSB

Film Frame FOUP

Film Frame
FOUP

2023

8"/12"

wafer processing
transport

Tape frame
FOUP

2025

SEMI
E185

300*300

wafer processing
transport



Full Panel
Shipper

2024

510*515

Horizontal Panel
shipping box

Quarter Panel FOUP

2021

2025

SEMI E62
(door)
E47.1 (shell)
E57 (KC)

243*241

300*300

¼ Panel product transport

Panel FOUP

410/450 Glass
Shipping Box

2025

Raw material
shipping box

Full Panel FOUP

SEMI E181

2025

2023

2022

600*600

510*515

510*510

Panel processing transport

IC Tray FOUP

SEMI E185

SEMI E47
SEMI E62

2017

2025

Tape Frame FOUP

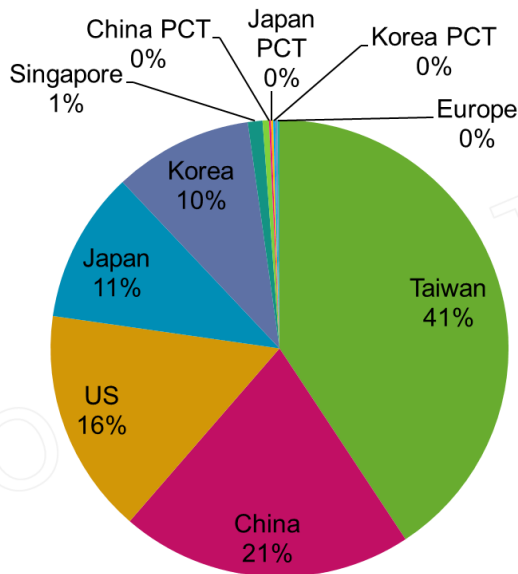
Tray FOUP

Tray & Magazine

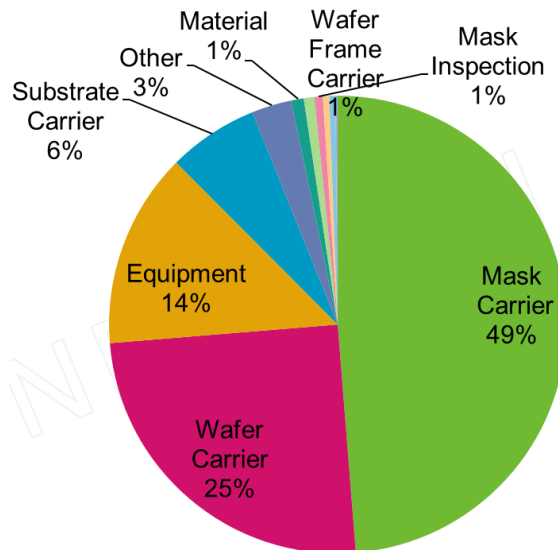
IC product transport



Location



Product



*As of March 2025, obtain **702** patent and continue to build a high-tech patent layout*



Gudeng Growth Blueprint-Highlights



Gudeng



Co-Creation



EUV Pod

2025 ~

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



Wafer Carrier Solutions

2025 ~

The market share of our series of wafer carrier is rising worldwide. Became the baseline in the Greater China Market



2025 Q3 ~

Advance Packaging Carrier

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



2026 ~

New Technique

Continue to develop new technologies and expand new markets.

2026 ~

Aerospace Pioneer

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





Major Customers & Products



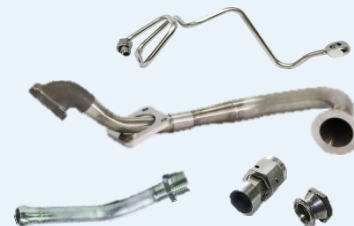
GE Aviation



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

Honeywell

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**

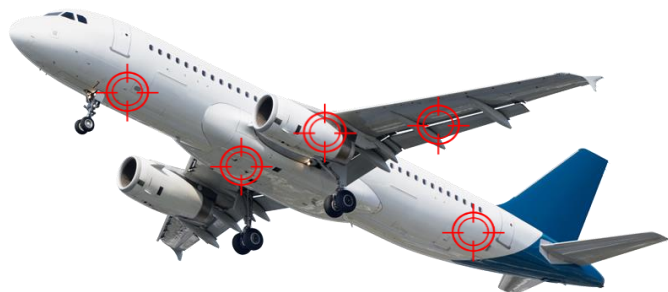


Expert in 3 ~ 5axis of milling and turning · manufacturing hydraulic components, such as **Cylinders, Differentials, Shafts, Piston and Rods**





Gudeng Aerospace Products



GE Aerospace

Honeywell

AEROSPACE



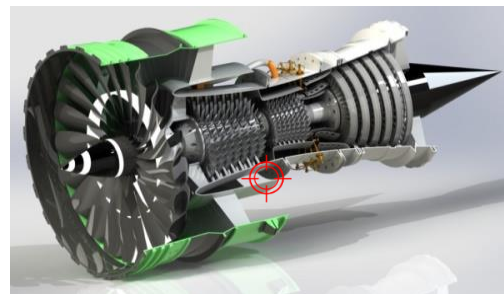
Pratt & Whitney

A United Technologies Company

Fuel & Coolant Line
72% market share



Hydraulic Control System
48% market share





2025 Aerospace Outlook



Cooling & Electrical system(Plastic)
37% market share



Cabin (Plastic)
36% market share



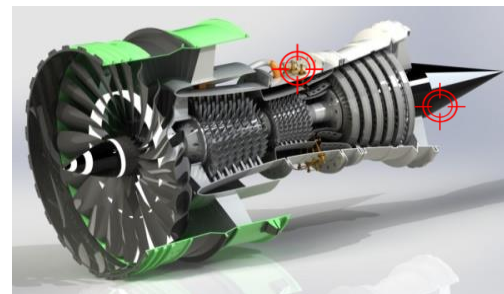
Engine Fuel Injector
91% market share



GE Aerospace



Braking System
63% market share



Liquid & Gas Discharge Pipeline
42% market share



Honeywell
AEROSPACE



GE Aerospace

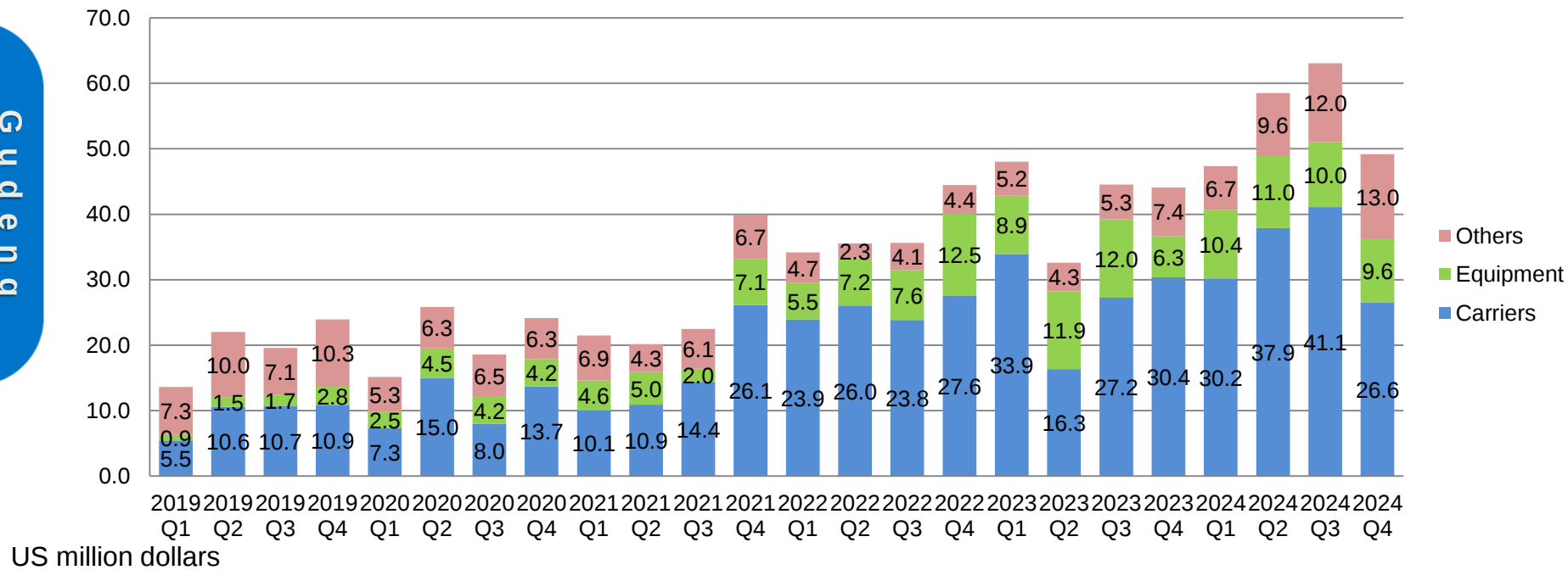




Gudeng Group Revenue (Quarterly)



Consolidated Revenue

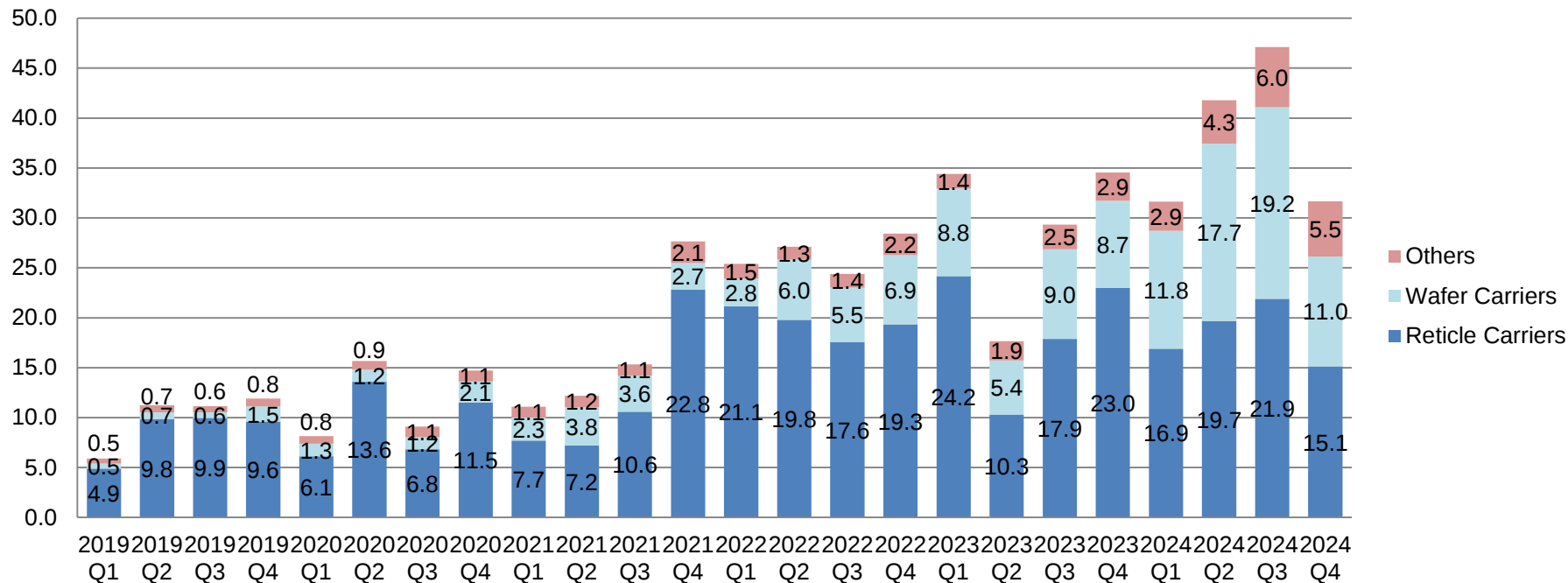




Gudeng Revenue (Quarterly)



Core Business Revenue

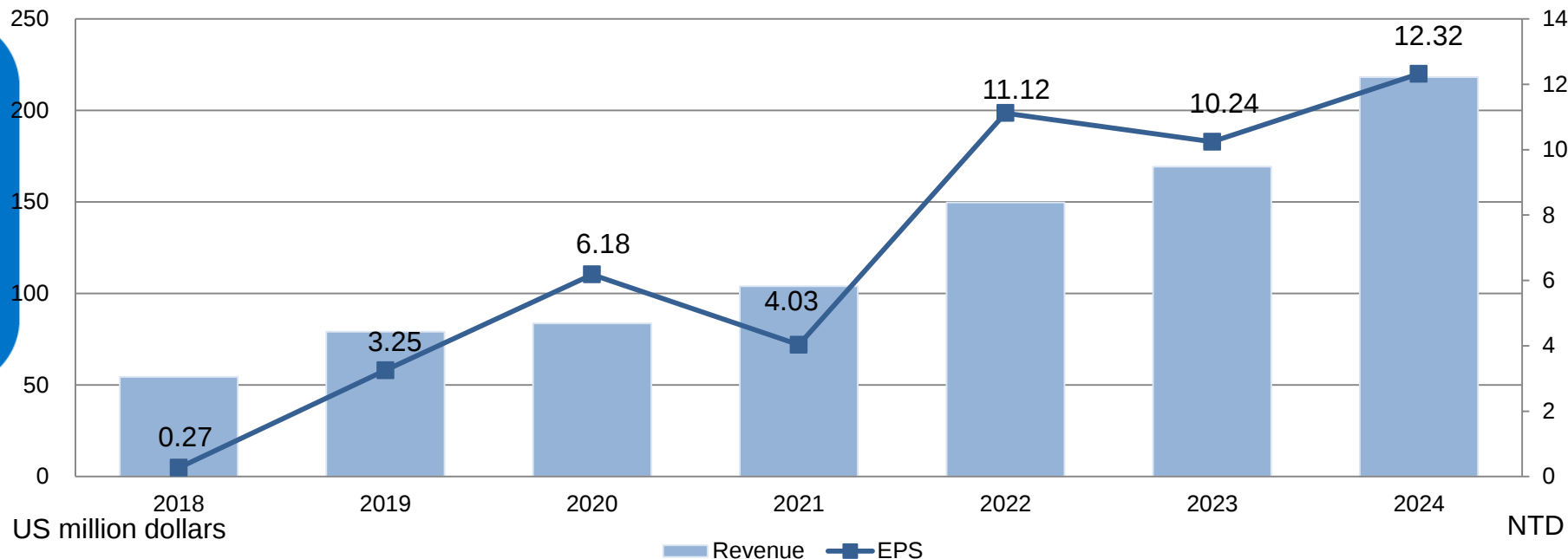




Gudeng Annual Revenue Performance



Gudeng Revenue/ EPS

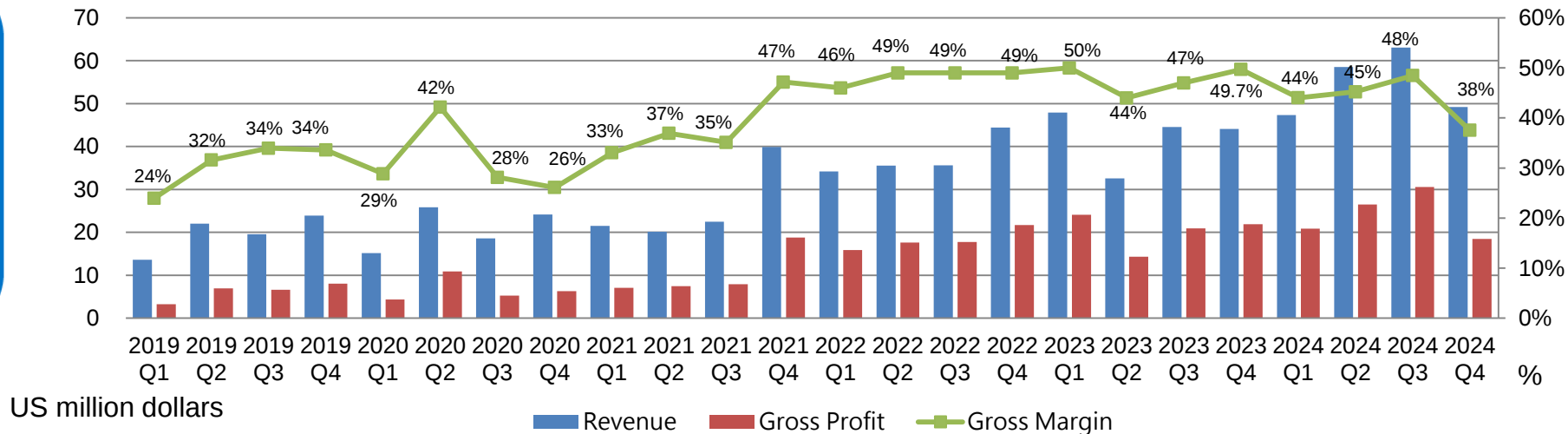




Gudeng Gross Margin (Quarterly)



Gudeng Quarterly Gross Margin





Gudeng Group Revenue/ Gross Margin/ CapEx/ Asset

Year	Revenue	Gross Profit	Gross Margin	EPS	CapEx	Asset
2019	79.00	25.00	32%	3.24	3.67	160.67
2020	83.67	26.67	32%	6.18	37.67	207.67
2021	104.00	41.33	40%	4.03	68.70	316.67
2022	149.67	73.00	49%	11.12	24.37	406.67
2023	169.33	81.33	48%	10.24	43.47	543.00
2024	218.33	96.00	44%	12.32	58.07	712.33

US million dollars



Gudeng Group CapEx



Year	Land	Building	Building (Under construction)	Equipment	Other	Total
2019	0.87	1.27	-	0.47	0.57	3.18
2020	20.93	2.93	-	3.40	10.4	37.66
2021	48.43	1.27	9.43	5.63	3.93	68.69
2022	7.70	0.03	5.53	4.23	6.87	24.36
2023	6.83	0.73	18.70	9.23	7.97	43.46
2024	9.70	8.91	25.31	5.22	8.93	58.07

USD Million Dollar



Gudeng Expense and Margin Ratio



US Million Dollar	2024										2023				
	Q1	YoY%	Q2	YoY%	Q3	YoY%	Q4	YoY%	Total	YoY%	Q1	Q2	Q3	Q4	Total
Revenue	47.35	-1%	58.54	80%	63.13	42%	49.13	10%	169.02	35%	48.04	32.60	44.57	44.07	169.27
Cost	26.50	11%	32.06	74%	32.57	39%	30.63	28%	91.13	38%	23.91	18.45	23.47	22.13	87.97
Gross Margin	20.84	-14%	26.48	87%	30.57	45%	18.5	-19%	77.89	31%	24.13	14.15	21.1	21.93	81.3
OER	28%		23%		23%		30%		26%		20%	33%	30%	25%	27%
EPS	2.24		3.00		4.39		2.69		12.32		3.94	1.68	1.94	2.68	10.24

2024 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 Overall Performance

Revenue Growth :

US\$ 32 million in 2019, US\$ 145 million in 2022, US\$ 162 million in 2023. As of 2024, revenue is about US\$ 218 million , YOY 29%

Steadily Gross Profit Margin :

Over 20% in 2018, 49% in 2022, 48% in 2023, 44% in 2024

Growth in EPS :

0.27 in 2018, 3.25 in 2019, 11.12 in 2022, 10.24 in 2023, 12.32 in 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



Gudeng Sustainability Performance



ESG Rating		2023 Reduce		
Listed/ OTC company		33% of Carbon Emissions	54% of Water Usage	21% of Industrial Waste
A				
Economy	Environment	  		
11-30%	31-50%			
Society	Expose			
11-30%	11-30%	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 TH National Quality Awards		Listed/ OTC company ESG Rating A-Class
 		Verification TIPS A-Class 、ISO22301 、ISO20400

ESG Report



Prospect and Strategy

2025

- ◆ **Increasing market share in Wafer Carrier**, which bring growth in revenue
- ◆ Focus on advance process and become the main supplier for key customers
- ◆ With development of CoWoS, **shipment of Panel FOUP** have steadily **increased**
- ◆ Gudeng Total solution lead the market, group challenge higher revenue

2026

- ◆ **Aerospace key components completed verification, get long-term order** from customers,
- ◆ Strong revenue growth from CoWoS Carrier
- ◆ Revenue contribution from **Hi-NA EUV Pod and Immersion Cooling Tank**
- ◆ Continuing expanding factories, quickly responds to demands and supply locally

2027

- ◆ Leading **Advanced Packaging** market share continues to expand
- ◆ Expanding in **Semiconductor Consumables** market and provide a complete series of products for key customers.
- ◆ **Expanding special process** to complete Aerospace Roadmap
- ◆ Continuing focus on high-revenue markets and M&A





Thank You

www.gudeng.com