

# Gudeng Precision Industrial Co. Ltd

## 家登精密工業股份有限公司



Dec. 2023

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

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# Safe Harbor Notice

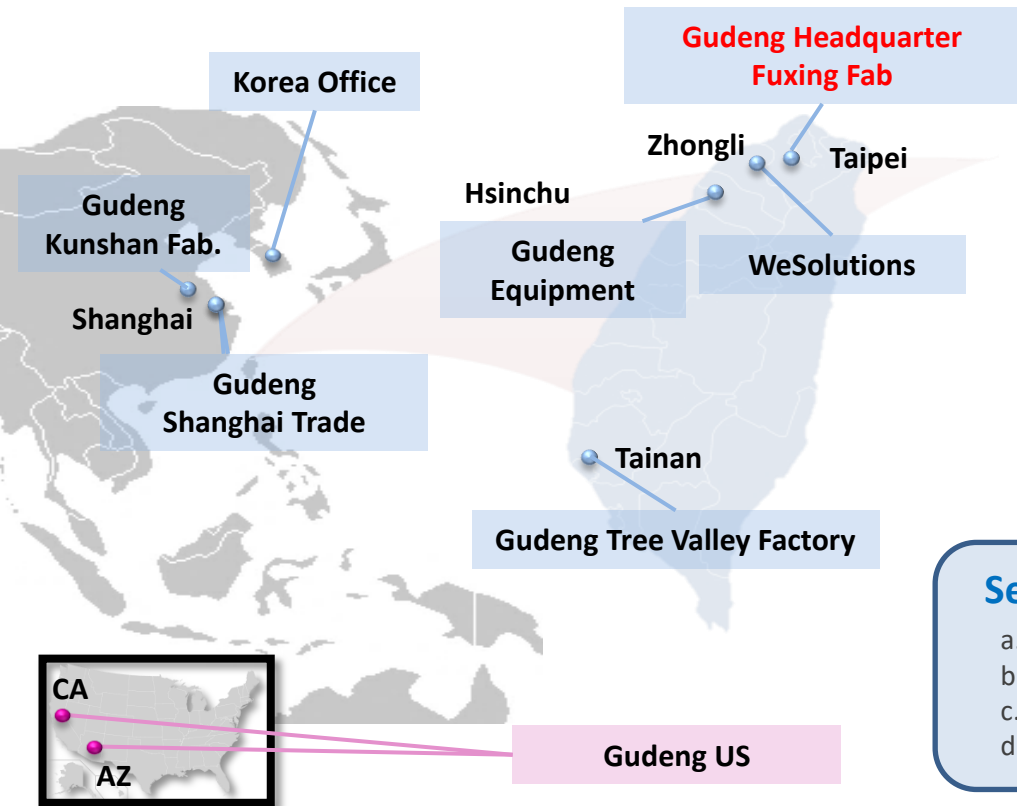


This presentation includes forward-looking statements. Forward-looking statements refer to statement that address activities, events or developments that Gudeng Precision expects or anticipates will or may occur in the future (including but not limited to projections, targets, estimates, market share,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

Gudeng's forward-looking statements are subject to significant risks and uncertainties and actual results may differ materially from those contained in the forward-looking statements. Gudeng does not undertake any obligation to publicly update any forward-looking statement to reflect events or circumstances after the date on which any such statement is made or to reflect the occurrence of unanticipated events.



# Gudeng Company Overview



- ▶ Established : Mar. 20<sup>th</sup> , 1998
- ▶ Employee : **900**
- ▶ Capital : US\$ **28** million
- ▶ **2020** Group Revenue : US\$ **83** million
- ▶ **2021** Group Revenue : US\$ **104** million
- ▶ **2022** Group Revenue : US\$ **150** million
- ▶ **2023** Jan.~Oct. Group Revenue : US\$ **135** million

**( 25% growth compared to the same period last year. )**

## Semiconductor

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

## Aerospace

- Hydraulic Pipes
- Heat Conduction Spacer



# 2024 Global Semiconductor Overview



According to World Semiconductor Trade Statistics (WSTS), the global semiconductor market is expected to grow by 11.8% to reach US\$576 billion in 2024.

- Led by the US market which will grow by **17.7%**, the Asia-Pacific market grow by **10.7%**, the European and Japanese markets grow by **7.7%** and **7.8%** respectively.
- The memory market is expected to surge by **43.2%**, which is the main driving force for the recovery of the overall semiconductor market. The sensor market is expected to rise by **5.7%**.

Spring 2023	Amounts in US\$M			Year on Year Growth in %		
	2022	2023	2024	2022	2023	2024
Americas	141,136	128,236	150,989	16.2	-9.1	17.7
Europe	53,853	57,253	61,637	12.8	6.3	7.7
Japan	48,158	48,724	52,534	10.2	1.2	7.8
Asia Pacific	330,937	280,881	310,838	-3.5	-15.1	10.7
<b>Total World - \$M</b>	<b>574,084</b>	<b>515,095</b>	<b>575,997</b>	<b>3.3</b>	<b>-10.3</b>	<b>11.8</b>
Discrete Semiconductors	33,993	35,904	38,192	12.0	5.6	6.4
Optoelectronics	43,908	45,949	45,881	1.2	4.6	-0.1
Sensors	21,782	20,410	21,575	13.7	-6.3	5.7
Integrated Circuits	474,402	412,832	470,349	2.5	-13.0	13.9
Analog	88,983	83,907	88,902	20.1	-5.7	6.0
Micro	79,073	71,470	75,855	-1.4	-9.6	6.1
Logic	176,578	173,413	185,266	14.0	-1.8	6.8
Memory	129,767	84,041	120,326	-15.6	-35.2	43.2
<b>Total Products - \$M</b>	<b>574,084</b>	<b>515,095</b>	<b>575,997</b>	<b>3.3</b>	<b>-10.3</b>	<b>11.8</b>

( source : WSTS@ tsia.org.tw )



# 2024 World Fab CapEx Outlook



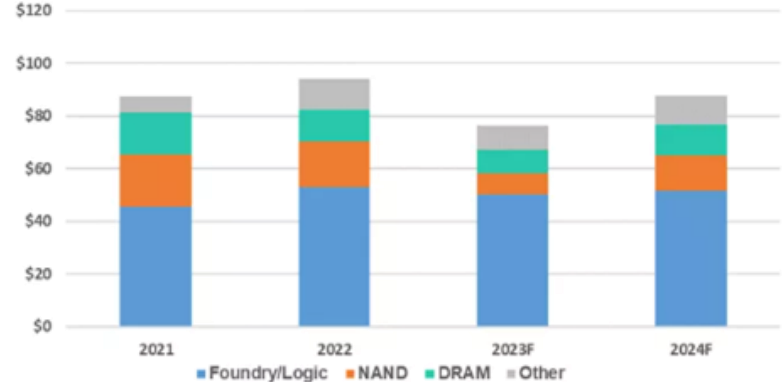
Wafer fab equipment sales will fall by 18.8% to US\$76.4 billion in 2023, but in 2024, it will account for the majority of the recovery, reaching US\$100 billion, with sales reaching US\$87.8 billion, a growth of **14.8%**. Test equipment market sales will shrink by 15% to US\$6.4 billion in 2023, and packaging equipment will drop by 20.5% to US\$4.6 billion in 2023; SEMI predicts that equipment in these two major fields will grow by **7.9%** and **16.4%** respectively in 2024.

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- Reflecting the weak demand in the end market, advanced processes have maintained steady growth, but sales for mature processes will drop by **6%** YOY in 2023 to US\$50 billion. However, foundry and logic investments will grow **3%** in 2024.
- While consumer and enterprise demand for memory and storage continues to be weak, DRAM equipment sales are expected to fall 28% to US\$8.8 billion in 2023, but will rebound **31%** to US\$11.6 billion in 2024. NAND equipment sales are expected to decline 51% to \$8.4 billion before surging **59%** to \$13.3 billion in 2024.

(source : SEMI , Jul. 2023)

SEMI 2023 Mid-Year Wafer Fab Equipment Forecast by Application (US\$ Billion)



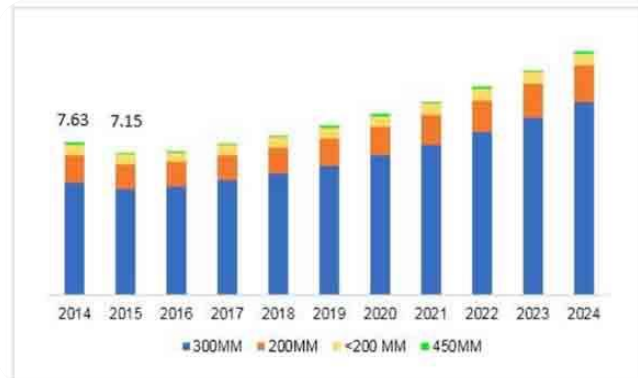


# 2024 Global Wafer Shipment Trends



Looking forward to 2024, the key growth factor for silicon wafer manufacturing is the wider application of 300mm wafers, and the industry is also actively exploring wafer alternative materials such as silicon carbide (SiC) and gallium nitride (GaN) to provide excellent performance of semiconductor applications.

- **Shin-Etsu**'s new GaN on QST wafers, in line with customers' future GaN process for large-size wafers, have developed production technology for 12-inch QST wafers, hoping to increase revenue.
- Last quarter, **SUMCO**'s customers continued to make adjustments, resulting in a decrease in shipments of 12-inch wafers for logic ICs and memories. The demand is expected to bottom out in the second half of 2023, and will continue to increase in 2024 following the recovery from markets such as data centers, vehicles, and 5G smartphones.
- **Global Wafers** expects that customers still have inventory pressure in the second half of 2023, but most customers will slowly begin to de-stock in Q3 and Q4, 2024 is better.



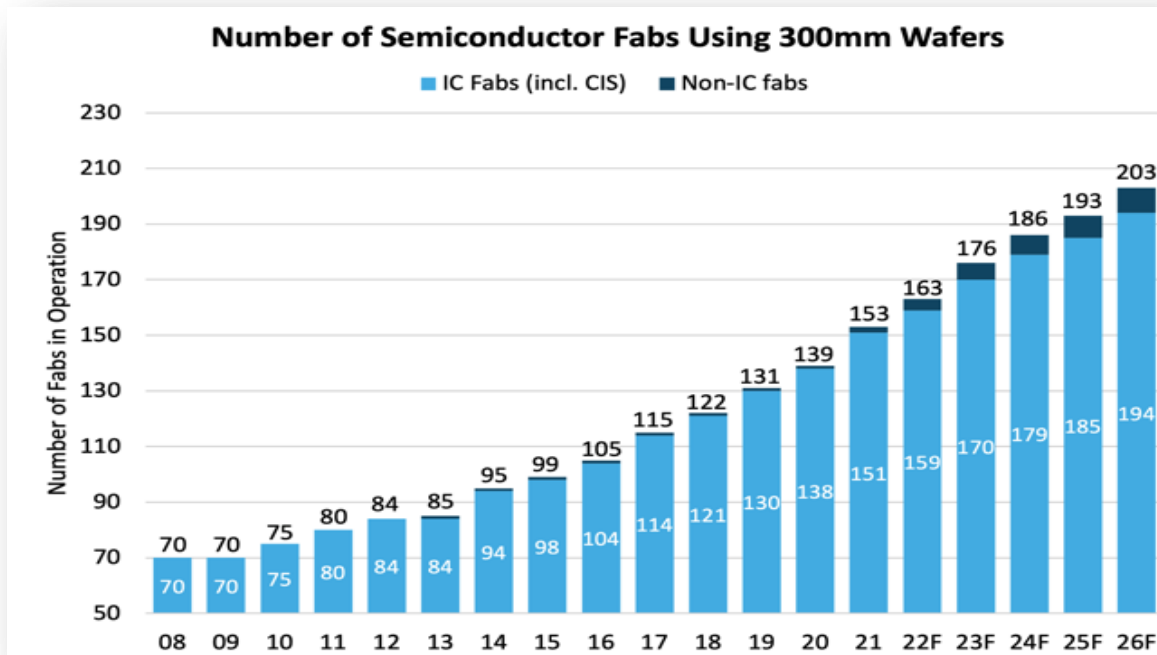
( source : Semiconductor Overview / ctee news / udn news / investor news / technews)



# 2024 New Fab Construction Forecast



Forecast shows that by 2024 there will be 186 300mm fabs, and the monthly wafer capacity will increase by approximately 1.8 million wafers more to totally 7 million wafers.



( source : SEMI)



Mask Carriers



Wafer Carriers



Logistic Automation Solutions



## Product Application

	Product Design	Front End	OSAT/ Back end
	IC Design / Mask maker	Foundry/ IDM	Assembly/ Wafer sorting/ Final Test
Mask Carriers	V	V	V
Wafer Carriers		V	V
Automation	V	V	





## Semiconductor Production Process

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

### Product Design

IC Design

- Circuit Design
- Engineering Test

Mask Maker

### Front End

Foundry

- Materials Fab
- Wafer Bank

### Back And

Packaging

- Wafer Bumping
- Wafer Probing

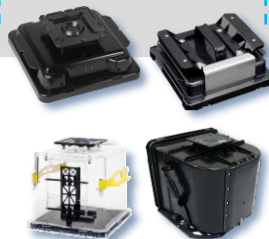
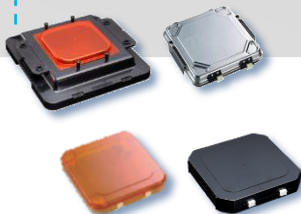
Final Test

### Board Assembly

Board Assembly

Board Testing

- Module, Board Assembly & Test

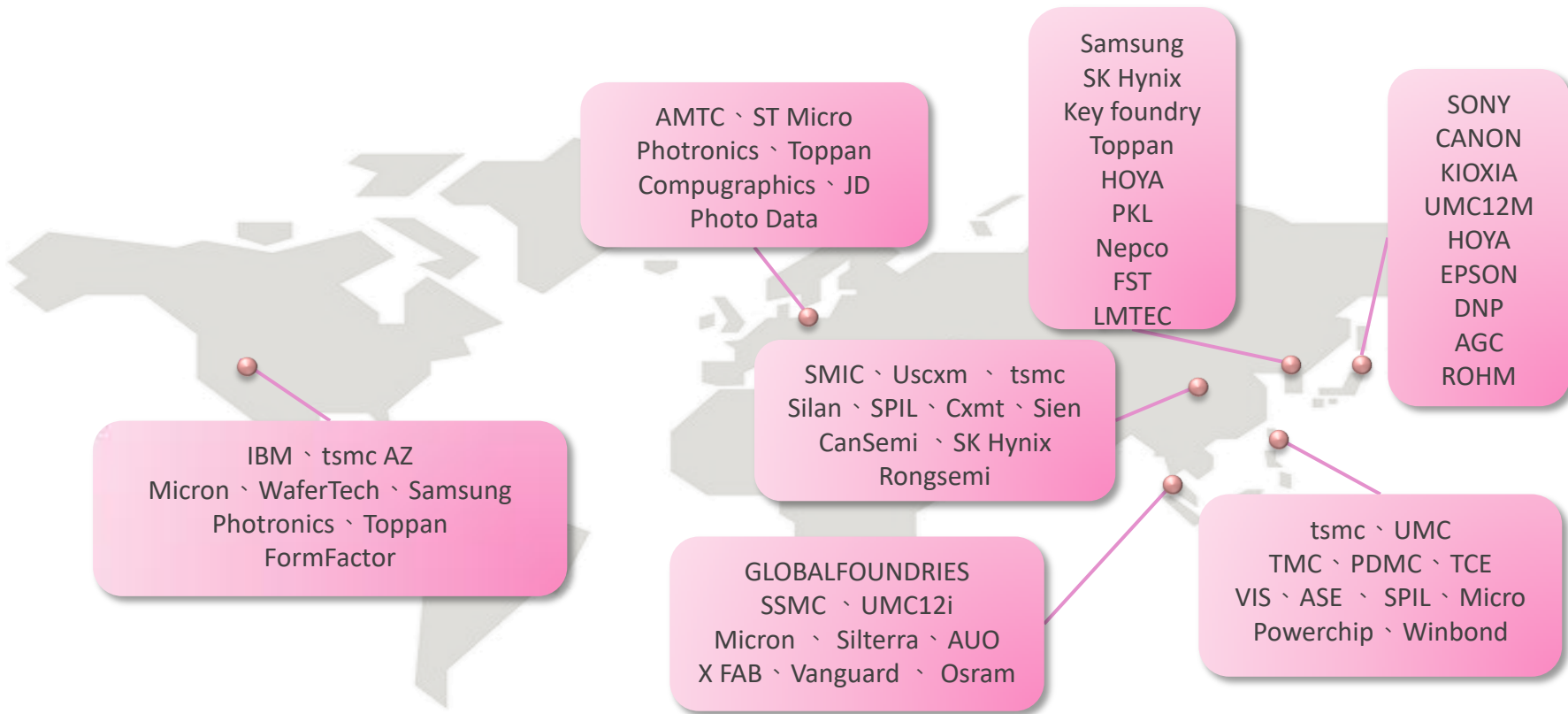




# Distribution Map of Gudeng's Customers



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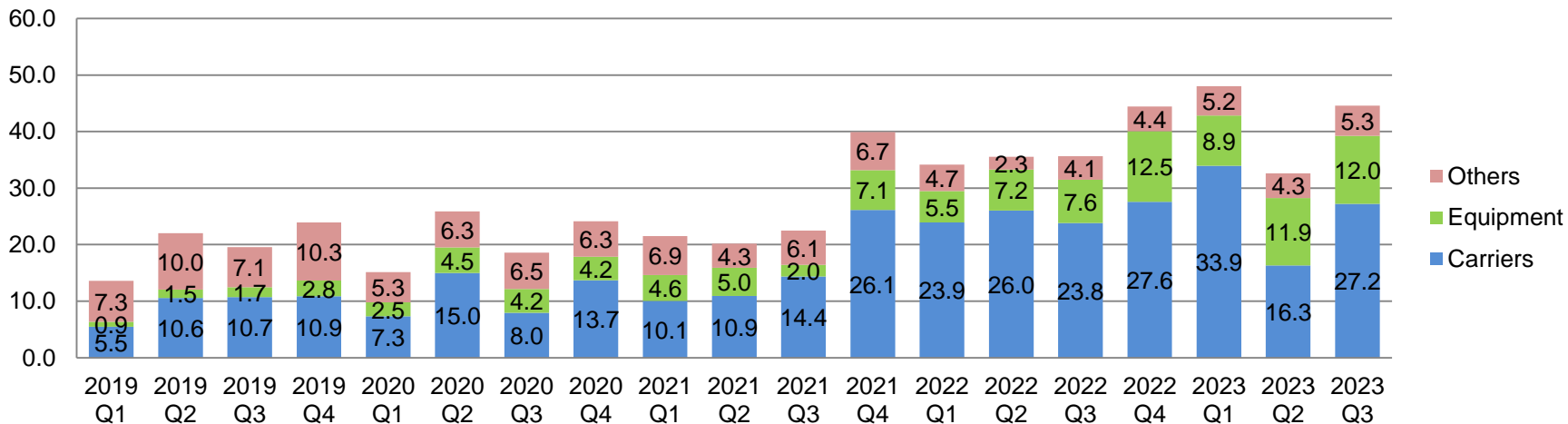


# Gudeng Revenue (Quarterly)



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## Consolidated Revenue



US million dollars

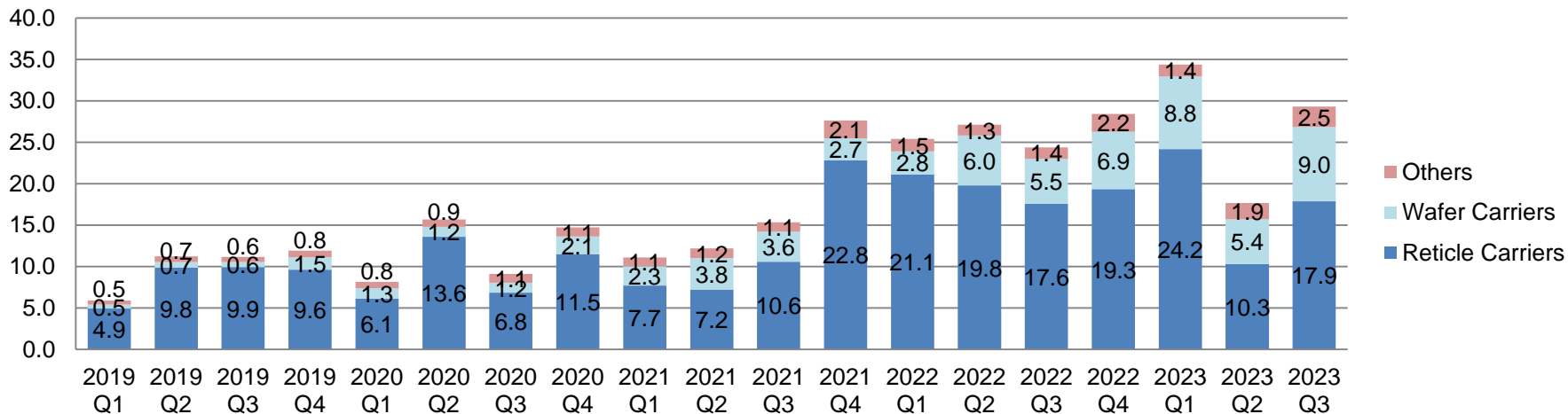


# Gudeng Revenue (Quarterly)



Gudeng

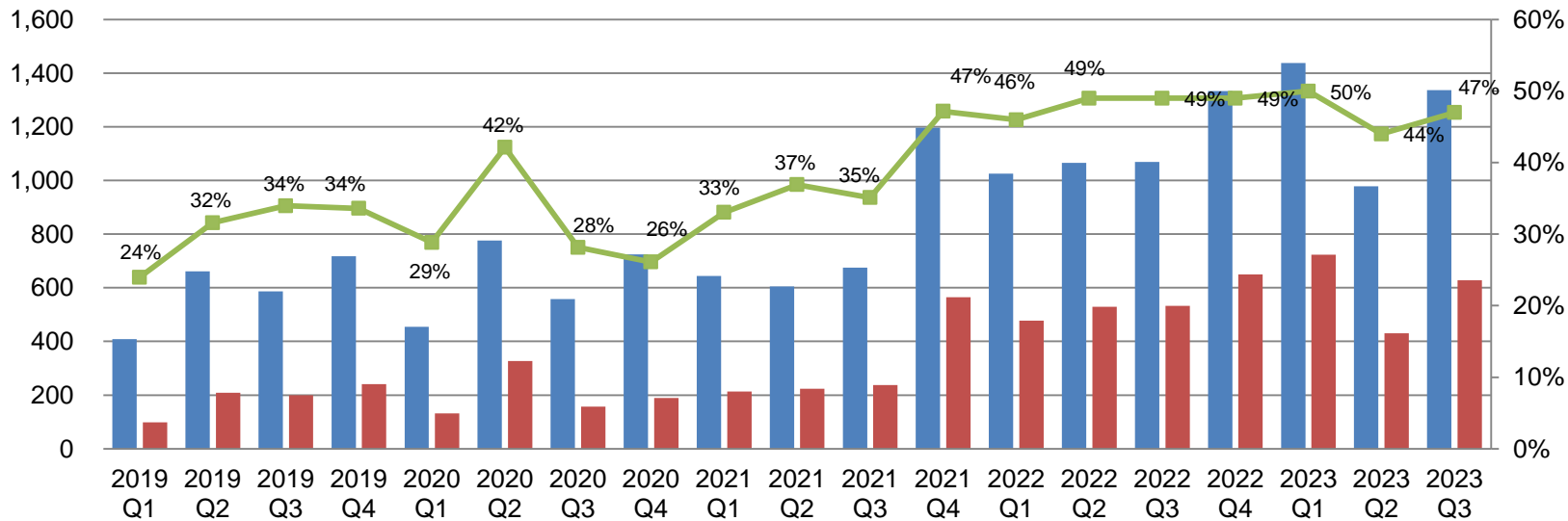
## Core Business Revenue



US million dollars



## Gudeng Profit Margin



家登精密



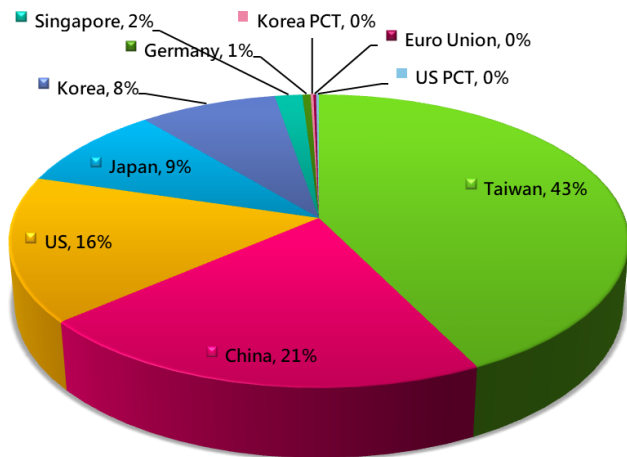
# Gudeng Patents · R&D Expenses · Equipment CapEx



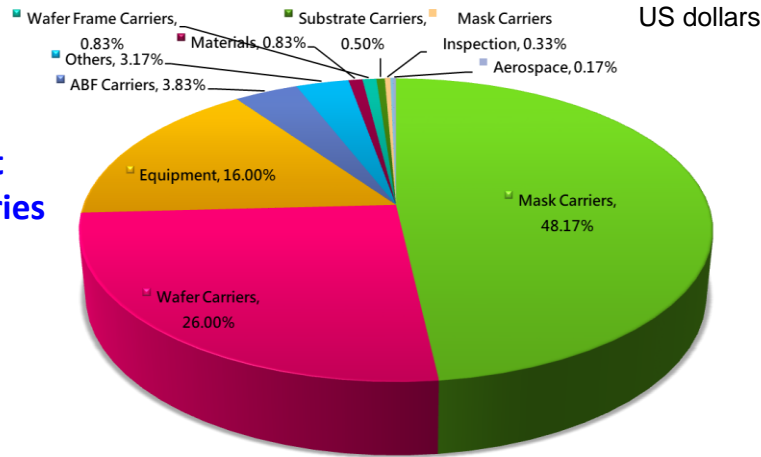
	2018	Revenue %	2019	Revenue %	2020	Revenue %	2021	Revenue %	2022	Revenue %	2023 (to Oct.)	Revenue %
R&D Expenses	2,037,400	8.93%	2,806,333	6.94%	4,018,433	8.43%	4,880,733	7.34%	7,424,100	7.05%	7,434,367	7.98%
Equipment CapEx	2,006,333	8.80%	5,241,733	12.96%	19,820,833	41.58%	14,730,433	22.15%	25,299,966	24.02%	11,067,573	11.88%

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### Regional Patents



### Product Categories Patents



As of Oct. 2023, **610** patents certificated Taiwan or abroad.



# Gudeng Business Strategies



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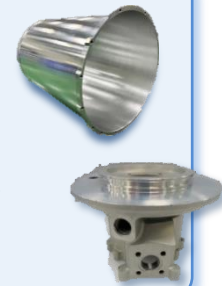


## Semiconductor Carriers



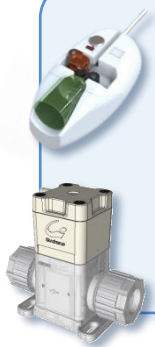
Hi-NA EUV Pods  
 Mature Wafer Carriers  
 Advanced Wafer Carriers  
 3D Packaging FP FOUP

## Aerospace Pioneer



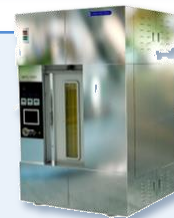
Hydraulic Pipes  
 Heat Conduction Spacer

## Medical Program Adviser



Urology Treatment  
 Vascular Support Solutions  
 Stone Treatment

## New Technology



Carrier Cleaners  
 Carrier Stockers  
 Precision Detection Solutions  
 Precision Machining Solutions



# Gudeng Sustainability Performance



## Governance



2022 Revenue  
**US\$150** million

2022 EPS  
**11.12**

RBA  
**Platinum Certification**

2023  
**National Talent  
Development Awards**



## Social

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



Employees charity  
participating **382** times

Stipends reached **651** students

**12** Industry-University  
Cooperation Items



## Environment

Annual Power Savings  
**786,000** kWh



Annual Water Savings  
**52,436** tons

With 10 suppliers,  
reduced carbon emissions by **1,160** tons.



Homemade **Eco-Friendly Pallets  
Transport Cases**



2023 Excellence in Corporate Social Responsibility  
2023 Talent Sustainability Award  
2023 TCSA ESG Report Platinum Certification







# Gudeng Overall Performance



- **Revenue:** US\$ 32million in 2019, US\$ 145 million in 2022, US\$ 133.6 million in 2023 Jan.~Oct.
- **Gross Profit Margin:** over 20% in 2018, 49% in 2022, 47% from Q1~Q3 of 2023
- **EPS:** 0.27 in 2018, 3.25 in 2019, 11.12 in 2022, 7.96 from Q1~Q3 of 2023
- **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 Strategies Overview



- China Market :
  - ◆ Gudeng has achieved market leadership in many fabs with geopolitical advantages
  - ◆ Gudeng Kunshan Fab. will start production from Jan. 2024., aim to support the entire China market
  - ◆ FOSB for China market begins to ferment, verified by many customers and will share the market next year
- US Market :
  - ◆ Focus on advanced processes and aim to become single source of key customers
  - ◆ EUV, 3D packaging(Panel FOUP) shipments are steadily increasing
  - ◆ Cooperate with major customers' global set up, continue to invest in resources, currently Gudeng has warehousing and RD/FAE teams in AZ, and we are working with Taiwan's local supply chain alliance to develop US new markets.
- Taiwan Market :
  - ◆ Following Taiwan major customer global plan, Gudeng has become its main global supplier
  - ◆ The advanced wafer carriers has been qualified, and the sales are expected next year
  - ◆ The market inventory adjustment has come to an end, Q3 resume shipments, 2024 is positivity expected
- Aerospace :
  - ◆ Key components obtain FAA certification and are permitted for shipments
  - ◆ Qualified by multiple customers and obtained long-term orders
  - ◆ Strategic acquisitions in aerospace industry, set high revenue targets in 2024



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