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01



Company Overview

- 01 ISU PCB Group Introduction
- 02 Global PCB Suppliers Ranking
- 03 Global Leading customers
- 04 PCB Technology and Capacity Expansion

01 ISU PCB Group Introduction

Founded / Product Applications

ISU
Petasys
(Korea)



- 1989
- Korea(Daegu)
- **Ultra-High layer (20L ↑)**
- App.
 - AI Accelerator
 - Network/Server

ISU
petasys
Hunan
(China)



- 2013
- China
- **MLB (~18L)**
- App.
 - Network/Server
 - Automotive

ISU
petasys
Corp
(USA)



- 2001
- USA
- **Sales Corporation**
(Suspension of Production Division, 2Q.'24)

Sales / Operating Profit

* Consolidated Sales CAGR('20~'23) 10% (Petasys CAGR 20%)

(Unit: KRW B)

		'20	'21	'22	'23	'24.1H
ISU Petasys	Sales	335.1	363.5	497.2	579.0	342.6
	OP	22.2	43.7	96.4	50.2	39.7
ISU Petasys Hunan	Sales	50.9	92.1	142.7	121.9	74.0
	OP	(10.7)	2.4	20.3	15.2	10.9
ISU Petasys US	Sales	29.2	32.2	37.1	35.6	18.5
	OP	(3.6)	0.8	(0.6)	(3.8)	(0.4)
Consoli dated	Sales	514.2	469.6	642.9	675.3	404.3
	OP	2.0	46.9	116.6	62.2	50.5

02 Global PCB Suppliers Ranking

> Specialized in the manufacture of multi layer PCB (18 Layers ↑)

Global MLB PCB(18L ↑) Suppliers in '22
(Prsimark VHMLB PCB Market Share)

Rank	Company	18L ↑ Sales(M\$)
1	ISU Petasys (Korea)	374
2	WUS (Taiwan)	252
3	TTM (US)	239
4	Shennan (China)	175
5	Gold Circuits (Taiwan)	117
6	Tripod (Taiwan)	64
7	Sanmina (US)	59
8	Shengyi (China/HK)	57
9	Yamamoto (Japan)	55
10	Yamamoto	60
11	Others	235
Top 10 Total		1,687

World Top PCB makers in 2022

Rank	Company	Sales (M\$)
1	Zhen Ding	4,835
2	Unimicron	3,342
3	Dongshan	3,270
4	Nippon Mektron	2,479
5	TTM	2,233
6	Compeq	2,146
7	Tripod	1,919
8	Shennan	1,820
9	AT&S	1,631
10	Kinwong	1,498
39	ISU Petasys	516
Top 10 Total		53,469

*Source : Prismark Report(2023.07)

*VHMLB : Very High Multi Layer Boards

03 Global Leading customers

> The number of new customers is increasing.

Increased number of new major customers in growth industries such as AI accelerators

Clinet Portfolio diversification

Sales

(Unit: KRW B,%)

301.7

82%

18%

Customers with
annual Sales
exceeding 10 KRW B

C	40%
N	22%
A	4%
E	12%
4	

579.0

63%

37%

Customers with
annual Sales
exceeding 10 KRW B

C	10%
M	9%
N	7%
J	7%
E	7%
A	6%
I	2%
E	31%
B	4%
S	2%
9	

Market Player

Network/AI Accelerator/Server

04 PCB Technology and Capacity Expansion

Strengthening production competitiveness through capacity expansion



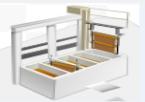






Expected Increase in new sample products and orders due to shortened lead times

Technology and Quality

- Having high manufacturing skills for core processes

Main manufacturing process

Technical skills

Layering / Circuit			Layering and high Precision matching technology
Plating			High Precision Plating
Hole processing			High Precision Hole processing
Raw material Development			High-Level Hole processing
			Measurement of signal speed

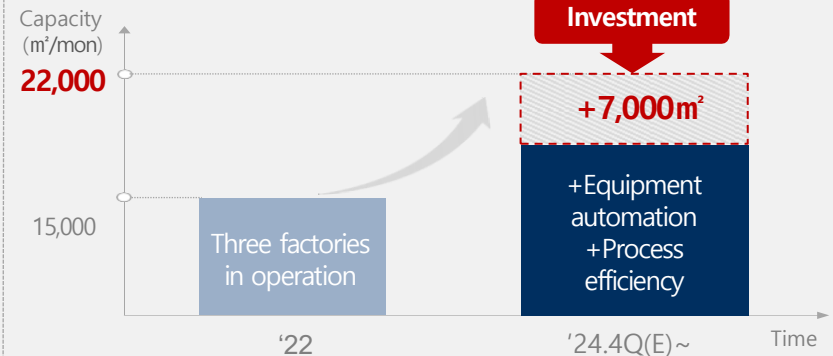
Technical Level

ISUPetasys	Other companies
44L (IC Tester 100L)	28L Lower
25 : 1	15 : 1
± 3mil	± 8mil
25 : 1	20 : 1
Ultra low Loss material (Df<0.002)	Mid loss material (Df < 0.01)

Capa investment completed (end of Q3.24)

① Capa increase

(Sales 41.2 KRW B/month in '22 → 65 KRW B/month (E) by Q4.24)



② Reduction in Production Lead Time

- Lead Time: 16~20 weeks → 8~10 weeks (Q4.24)
- Minimize Sample and Production Time for New Products (800G Switch/OAM)

ex) 800G PCBs: Lead time reduced from 7 weeks to 4.5 weeks

※ Recent PCB Technology Trends: Increased Product Thickness and Higher Plating Capability Demands High-Precision Plating Products Up: Sales of products with a ratio of 16:1 or higher increased ('21: 39,000m² → '23: 51,000m²)

02



Investment Highlights

- 01 Sales and Operating profit (Consolidated)
- 02 Sales and Operating profit (ISUPetasys)
- 03 Expansion of the AI accelerator market and increase in orders
- 04 Production of PCBs related to 800G switches
- 05 Overseas subsidiaries (Hunan/US) status

01 Sales and Operating profit(Consolidated)

Sales **+24%**

OP **+77%**

- Increase in Petasys AI accelerator orders

- Growth in subsidiary profitability

(Outlook for '24 Consolidated performance (E),YoY)

Continued large-scale AI accelerator sales from Customer E

Increased profitability from restructuring ISUPetasys Corp(US)

Sales / Operating Profit

(Unit: KRW B, %)

구분		'22	'23			'24(E)			YoY
			1H	2H	계	1H	2H(E)	계	
Consolidated	Sales	642.9	335.8	339.5	675.3	404.3	434.5	838.8	24%
	OP	116.6	38.4	23.8	62.2	50.5	59.5	110.0	77%
ISUPetasys	Sales	497.2	285.4	293.6	579.0	342.6	361.1	703.7	22%
	OP	96.4	30.9	19.3	50.2	39.7	49.4	89.1	77%
ISUPetasys Hunan	Sales	142.7	56.1	65.8	121.9	74.0	66.0	140.0	15%
	OP	20.3	7.4	7.8	15.2	10.9	7.1	18.0	18%
ISUPetasys US	Sales	37.1	18.9	16.7	35.6	18.5	7.4	25.9	-27%
	OP	(0.6)	(0.2)	(3.6)	(3.8)	(0.4)	3.0	2.6	-168%

Performance trend

✓ Sales 24% ↑ , OP 77% ↑ (YoY)

* ISUPetasys

- Increasing AI accelerator sales (customers: E, B)
- Network customer order recovery (customers: A, N, C)

* ISUPetasys Hunan

- Stabilized MLB production (~18L)

* ISUPetasys US

- Profitability improvement through the suspension of production division (NPI division)

02 Sales and Operating profit(ISUPetasyS)

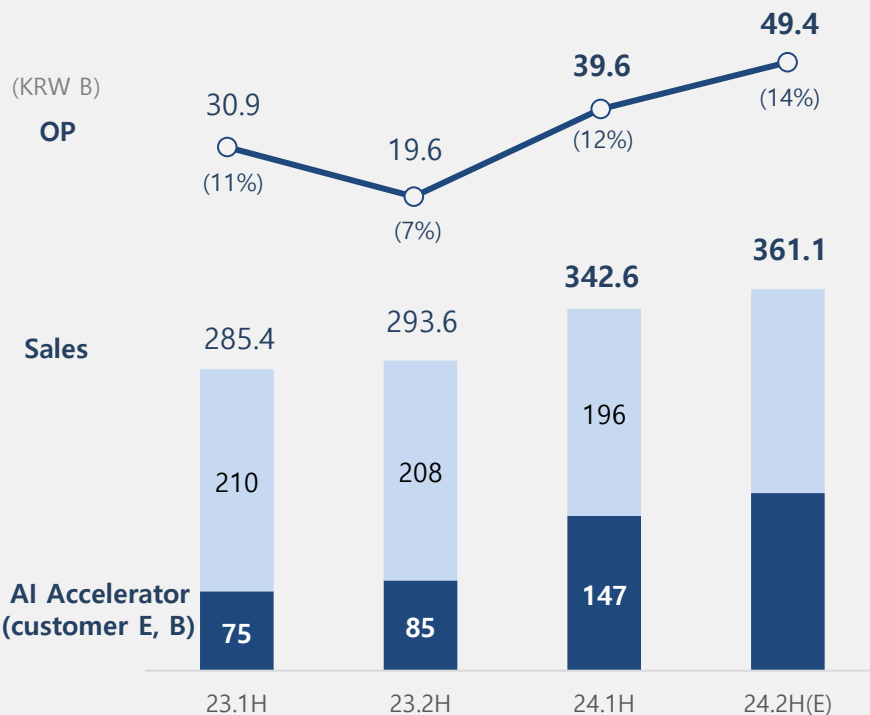
Sales **703.7** (KRW B)

OP **89.0** (KRW B)

(Outlook for '24 Petasys performance (E))

AI accelerator sales growth and an increase in network orders are expected in '24.2H

Steady demand for high-profit AI accelerators from Customer E
Increased orders for new network products (800G) expected in '24.2H



Outlook

① AI Accelerator : Sales growth and increasing profitability from customer E

(Increase in sales for TPU5 and TPU6 from Customer E in '24.2H)
- '23.1H 75.1KRW B → '23.2H 85.4KRW B → '24.1H 146.5 KRW B

② Network : Start of production for 800G switches

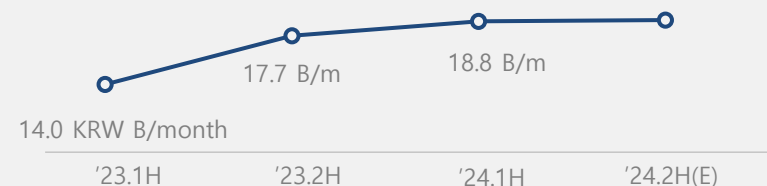
(Production in progress focused on Customer A)

③ Increase in capacity and stabilization of fixed costs

- Capacity investment Completed (Sep. '24)

(Capacity : 15Km²/m → 22Km²/m)

- The stabilization of fixed costs in '24 is expected to lead to an operating leverage effect with an increase in Sales



03 Expansion of the AI accelerator market and increase in orders

+15.9%

('24 AI accelerator order growth rate (E), YoY)

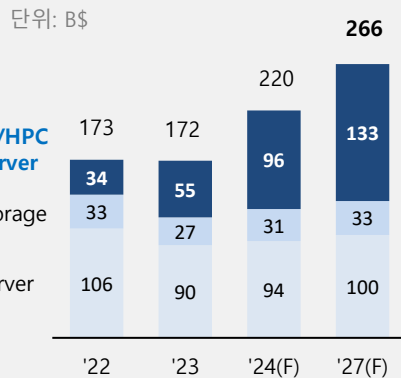
Continued increase in demand for AI accelerators and ongoing participation in new product development

AI Accelerator Orders: 60 KRW B in '22→ 239 KRW B in '23 → 280 KRW B in '24(E)

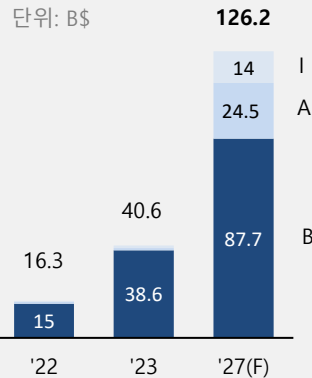
Global AI accelerator market size

- The accelerator market is expected to grow annually by 32% until '27.
- The GPU market is expected to grow rapidly with a CAGR of 51%. (AMD expected to expand its market share after '25)

[AI Accelerators market size]



[GPU market size]

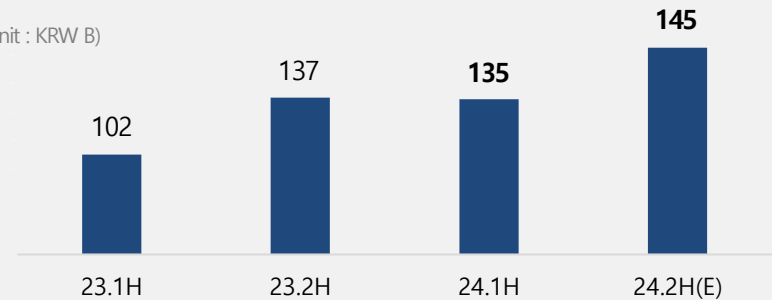


※ Source : Prismark

Trends in AI Accelerator Orders

- (Customer E,B) Maintain strong demand for AI Accelerators

(Unit : KRW B)



customer	Progress Status
E	<ul style="list-style-type: none"> - Expectations for increased demand for large-scale investments in AI - Production of AI Accelerator follow-up Model (TPU v6) Scheduled for May '24
B	<ul style="list-style-type: none"> - Factory Audit scheduled for end of January '24 an Multiple samples in progress
New Company	<ul style="list-style-type: none"> - Am & Aw : Preparing new business estimates - M : Responding to AI Accelerator product sample requests (Factory Audit in January)

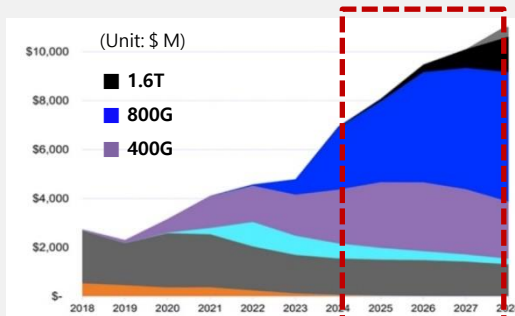
04 Production of PCBs related to 800G switches

800G switches

- Start of production for network (800G) products in Q4.24.
- Expectation of increased demand from network customers

High-speed network market

- Increased network load due to the expansion of AI utilization

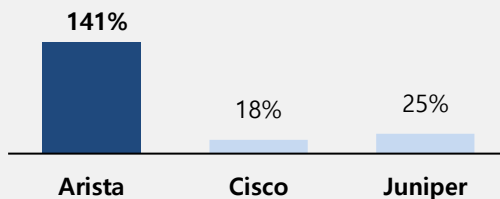


“Increased demand for 800G replacements”

Demand for data transmission speeds greater than 800G is expected to account for over 50% of the total available market by '27

* source : LightCounting, Internal Estimates

[Sales growth rate from network customers] ('20 to '23)

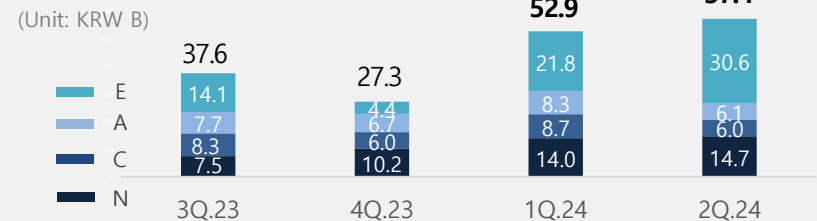


“Switch products are strong (customer A)”

- Use of Broadcom's general purpose chipsets
→ Maximizing compatibility with other companies' products
- Utilization of open source
→ Ease of maintenance

Network order trends

- Increase in Sales related to customer E's switches
- Orders from customer A expected to be around 14 billion in Q4.24 (including two types of 800G products)



customer	customer trends and progress on 800G switches
A	- Production in progress(2 types)/Samples in progress (2 types)
C	- Samples for 6 types of 800G are in progress, with a production target set for the 1H.25
N	- Increased orders due to inventory depletion - Samples for 800G (5 types) are in progress.
J	- Production in progress (1 type)
M	- Strong demand for 5 models (Minipack2, Wedge400) - Samples for 800G (2 types) are in progress

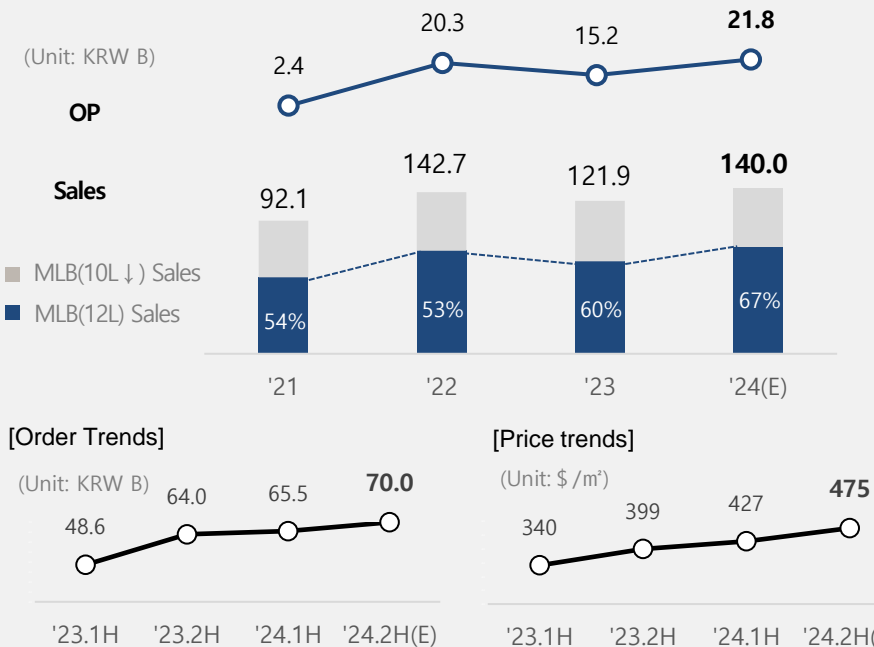
05 Overseas subsidiaries (Hunan/US) status

Increase in profitability

- Stabilization of production at the Hunan subsidiary
- Restructuring of the business division in the Petasys US

ISUPetasys Hunan: Stabilization of multi-layer product production

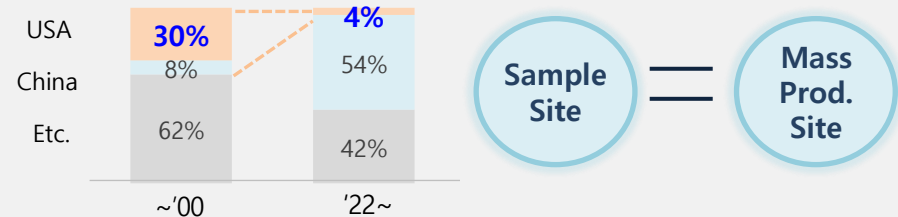
- Increase Sales and profitability through production stabilization



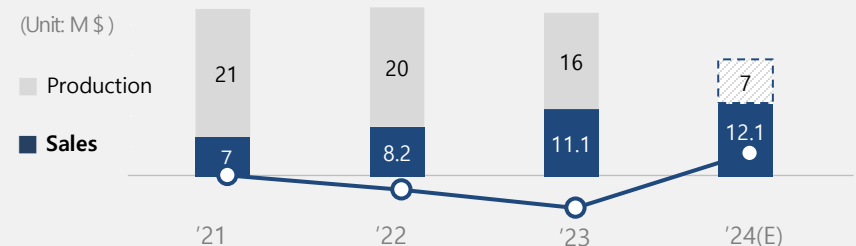
ISUPetasys Corp: Completion of suspension of production division(NPI) by 2Q.24

- Continued contraction of the NPI market in the North American region (NPI market shift: From North America to Asia)

2,000 PCB company ↑ 140 company ↓



- Change in handling of samples (NPI): From Petasys corp to Petasys
- Cf. Petasys Corp's production division sales source: quick-turn sample manufacturing



E.O.D