



DOOSAN ROBOTICS
4Q/2024 Earnings Release

DOOSAN

Disclaimer

The information herein is provided for your information purposes only and contains preliminary figures which may be materially different from the final figures.

Forecasts and projections contained in this material are based on current business environments and management strategies, and they may differ from the actual results upon changes and unaccounted variables. We make no guarantees and assume no responsibility for the use of information provided. We trust your decisions will be based on your own independent judgment.

Financial data in this presentation is on a IFRS consolidated basis.

Chapter 1.

2024 Results

2024 Earnings Results (Consolidated)

- Decrease in sales due to deferred sales(KRW 8.7b) and market sluggishness caused by the delayed global economic recovery
- Higher expenses due to marketing activities such as CES, Automate and developing new line-up, setting Europe branch
- Widened net profit deficit due to advisory fees related to governance restructuring

Units: KRWmn, %

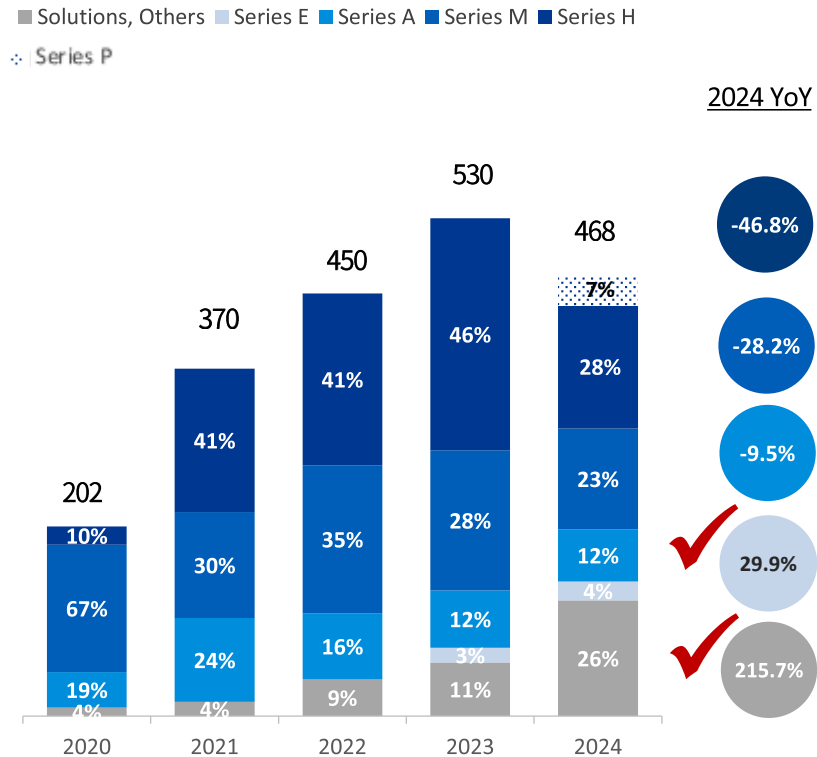
	'23.4Q	'24.3Q	'24.4Q	QoQ	YoY	2023	2024	YoY
Sales	16,876	10,034	11,490	+14.5%	-31.9%	53,038	46,830	-11.7%
Operating Profit	-3,098	-9,588	-16,858	-	-	-19,168	-41,202	-
EBITDA	-2,329	-7,964	-15,179	-	-	-14,812	-35,056	-
Net Income	-84	-6,882	-23,126	-	-	-15,874	-36,561	-
Net Debt	-382,006	-294,213	-275,216	-	-	-382,006	-275,216	-
Liability/Equity Ratio (%)	4.0%	4.5%	4.8%	-	-	4.0%	4.8%	-

Revenue breakdown by series, region

- US revenue up 42% backed by strong demand on automation amid sluggish global market global
- EU revenue down 40% caused by the downturn in machinery/manufacturing industry in Europe

[Revenue breakdown by series]

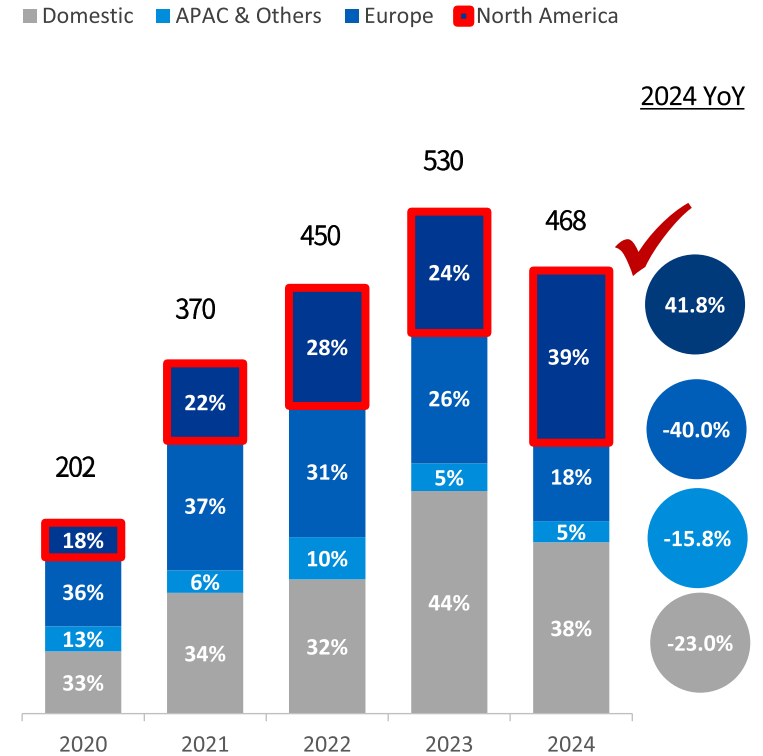
Unit: KRW00m,%



* Source: Company Data

[Revenue breakdown by region]

Unit: %



* Source: Company Data

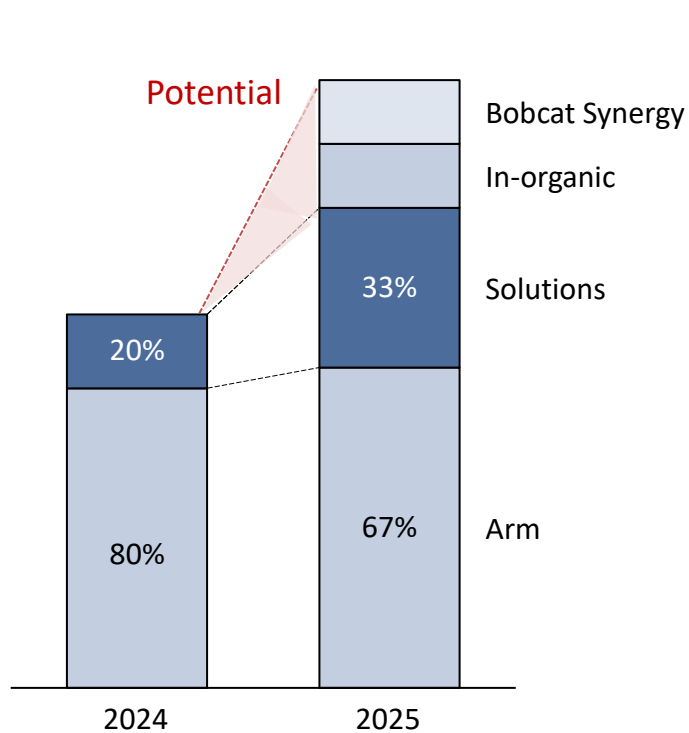
Chapter 2.

2025 business outlook

2025 Business outlook

- Anticipate robot arm unit to increase +22% YoY in 2025
- Expanding solution business is led to increasing ASP and profitability
- To acquiring solutions engineering capabilities by M&A, Global Partnership
- US sales expected to increase through channel cooperation with Bobcat

Proportion of robot sales (%)

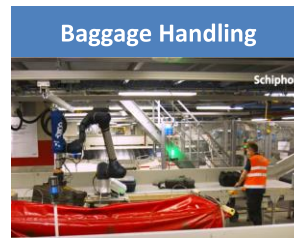
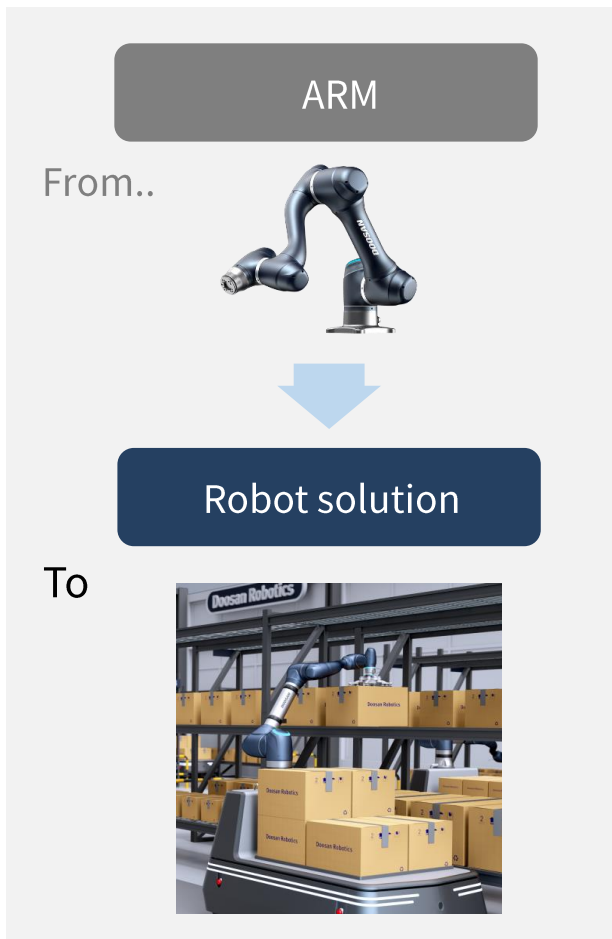


Potential

Synergy In-organic	<ul style="list-style-type: none"> • Expanding palletizing solutions sales in US through channel cooperation with Bobcat
	<ul style="list-style-type: none"> • Promoting M&A, partnership related AI solutions
Solutions	<div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 0 auto;"> YoY 115% </div> <ul style="list-style-type: none"> • Palletizer : YoY +64% • Service : YoY +251%
Arm	<ul style="list-style-type: none"> • No. of unit: 1,222(YoY -2%) - Strengthen Arm core technology competitiveness
Total	<ul style="list-style-type: none"> • No. of unit : 1,501(YoY 22%) - Increase sales volume by higher ASP

Strengthening business model to Robot Solutions

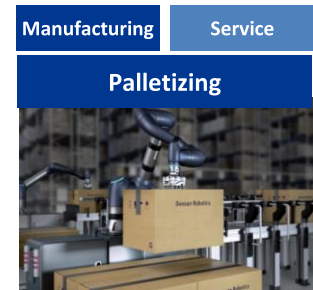
- Revolutionize solutions model which is integrated with a robot form factor, S/W and AI, departing the way from the focusing on sales of arm
- Securing higher ASP and higher profitability and creating new and diverse application area through expanding user-friendliness



- Picks up a baggage from the transport conveyor



- Assist laparoscopic surgery



- Product palletizing



- Automatic charging solution



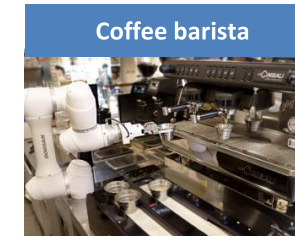
- Loading and unloading



- Filming



- Automated welding



- Automated barista process

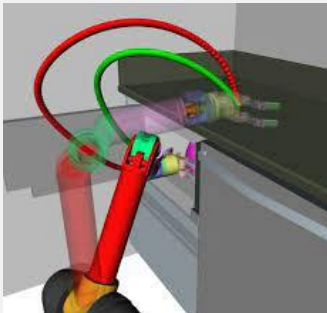


- Post-processing task that requires consistent quality

Enhance productivity and user convenience using AI

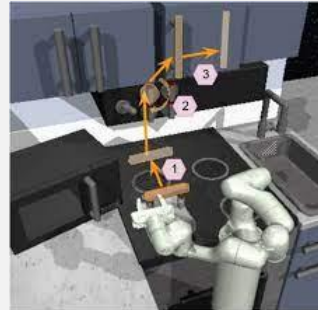
- Developing AI ecosystem based on AI technologies to maximize productivity in the solutions work process
- Providing optimized functionality of the work path planning, complex-motion, and multi-tasking for robot

<Optimization to work path>



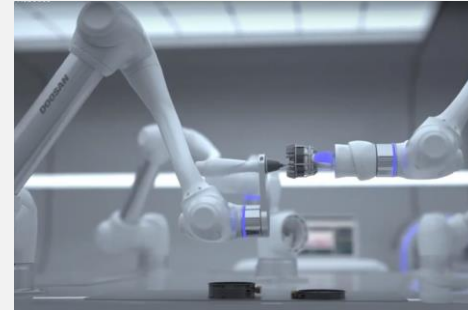
Minimizing of work time

<Optimization to complex-motion>



Improving work efficiency by working sequence optimization

<Optimization to multi-tasking>



Expanding the scope of solutions application by multi-tasking optimization



* Doosan Robotics Framework Library

To-Be Business Model : Artificial Intelligence(AI) Robot Solutions

- Develop plug & Play robot solutions model based on AI combined a form-factor
- Promote M&A, partnership to accelerate securing engineering, AI capabilities related AI solution

Artificial Intelligence (AI) Robot Solution

Core Tech



Single Arm



Multi Arm

Optimization to motion control and specialized Arm

Expertise



Manufacturing



Service

High precision at a single purposed work process

AI



Robotic foundation models



Mobility



Robot data

Innovation-enhancing productivity, user convience based on AI solutions

Form factor which can perform missions at now + AI

Doosan Robot Solutions



- Optimized for a Single purpose
- Maximization of productivity for specialized work process using AI
- Superior energy efficiency
- Mass production and easy maintenance

Growth strategy in US market through synergies with Doosan Bobcat

- Exploring additional opportunities on the current Doosan group governance structure
- Expanding US sales for palletizing solutions through channel cooperation with Bobcat
- Scaling up a business by strengthen sales capabilities in US market

To secure the largest automation market and professional service market

- **North America and Europe are the largest markets in automation**
 - Nort America and Europe, with high labor cost, are expected to remain the two largest market for the next decade
 - Working-age population in high-income countries⁽¹⁾ 65% in 2022 → 60% by 2042
 - Labor Shortage after retirement of baby boomers
 - In US, increasing demand for new factories and automation solutions due to reshoring initiatives
- **Building a great presence in US market**
 - Securing US Top 3 maker status
 - Preoccupy packaging robots market with high-payload series
- **Strengthening business capability to lead US business and synergies with Bobcat**
 - Increase of no.of sales employees by seven time and service employees by 4 times
 - Set up 3 new sale office in US major city

Expected Benefits

- ✓ ① **Expanding presence in advanced markets**
 - Leveraging Doosan Bobcat's sales network in North America and Europe as a base for aftermarket service (Robotics c.#60, Bobcat c.#1,500)
- ✓ ② **Building reference by leveraging Bobcat**
 - Increase of captive sales based on the supply of factory automation solutions to 17 facilities
 - Utilization of Bobcat's production facilities as test beds for the development of new solutions and services
- ③ **Cross-selling of forklifts and palletizers**
 - Feasible to immediately provide palletizers to existing forklift customers
- ④ **Pre-emptive entry into the professional service market**
 - By collaborating with Bobcat, which has a global track record in construction, agriculture and logistics, new solutions like mobile manipulators will be developed to enter and secure a leading position in the professional services market

Chapter 3.

Appendix

Financial Summary

Financial Summary

Units: KRWmn, %

	2020.12	2021.12	2022.12	2023.12	2024.12	YoY
Total Asset	22,332	29,445	62,618	456,422	421,691	-34,731
Current Asset	12,005	19,663	38,837	426,105	342,029	-84,076
- Cash & Cash Equivalent	2,621	4,390	8,119	382,006	275,216	-106,790
Non-current Asset	10,327	9,783	23,782	30,317	79,662	49,345
Total Liability	13,192	13,943	19,853	17,614	19,190	1,576
Current Liabilities	11,206	11,809	14,737	13,353	15,446	2,094
- Debt	3,000	-	-	-	-	-
Non-current Liabilities	1,986	2,134	5,116	4,261	3,743	-518
Total Equity	9,139	15,502	42,765	438,808	402,501	-36,307
Net debt*	379	-4,390	-8,119	-382,006	-275,216	106,790
Liability/Equity Ratio	144.4%	89.9%	46.4%	4.0%	4.8%	+0.8%pt

* Net debt: Debt - Cash & Cash Equivalent