



# Financial Results Material for FY22/12 Q2

ACSL Ltd  
August 15, 2022

---

# Summary

---

**Strong business growth with record high revenue and backlogs**, however, **challenges remain at gross profit** line due to market conditions.

Upfront execution of R&D expenditure, hence **accrual basis profit will be skewed to the second half** of the year.

- The business environment surrounding the drone market is favorable, with Japanese government announcing the market size of drone use cases and mandating registration of drones and remote ID functions.
- In January 2022, ACSL released its mid-term plan ACSL Accelerate FY22. In Q2, small aerial photography drone "SOTEN" required operational restrictions due to a malfunction, but the restrictions were lifted through a software update. Smokestack inspection drones started taking orders as "Smokestack TAKEOFF" has been started to be in practical application in collaboration with Kansai Electric Power Co. In addition, PF2-AE, a more secure version of the current PF2, has been released and orders are now being accepted.
- As a result, cumulative sales of FY22/12 Q2 totaled 1,031 mn JPY, and the total with the order backlog at the end of June totaled 1,500 mn JPY, both record highs for the same period. Gross profit was 103 mn JPY, with a gross profit margin of 10%, heavily impacted by exchange rate and semiconductor market conditions. R&D investment were front loaded, with expenses totaled 526 mn JPY. Operating loss was 874 mn JPY, with accrual basis profit being skewed to the second half of the year, as revenues will be accrued then.

# Significant change to drone macro environment

High attention to drones globally, driven by Russia/Ukraine war, economic security and Digital Rural City progression

## 01

### **Economic security**

Increased international security awareness due to the situation in Ukraine. Need for security has become apparent as awareness of data security and technology leaks has increased. Domestication of drone technologies emerging.

## 02

### **De-carbonization Clean Energy**

Increase in clean energy investing creating more O&M demand. . Trend to see drones as de-carbonization technology

## 03

### **Digital Rural City, Smart city**

Increase in the use of drones for deliveries and inspections to achieve sustainable, regional development

## 04

### **Aviation Law revision (Level 4)**

Aviation Law revised to allow flight over manned areas and establish official drone pilot license in FY22. New regulations being placed to realize Level 4.

# Mass production and social implementation of application-specific drones

Strengthening sales of SOTEN and Fi4 for public tenders. Accelerating mass production of AirTruck.



**Aerial photography**  
(SOTEN)

- Began shipments in March 2022 and delivered 481 units by June end
- While operational restrictions was issued due to in-flight malfunction, they were resolved with a software update (Over the Air).



**Pipe inspection**  
(Fi4)

- Launched May 2021
- Introduced on NHK WORLD as a means to significantly reduce inspection time for aging sewer pipes



**Smokestack inspection**

- Started taking orders for "Smokestack TAKEOFF" since it was applied in practice in collaboration with Kansai Electric Power Co.



**Delivery**  
(AirTruck)

- Started taking AirTruck orders in March 2022
- Specialized drones for delivery capable of carrying a 5 kg payload
- Utilization has already begun in demonstration projects in various regions

# Orders increased with 1.5 bn JPY orders received versus target of 2.5 bn



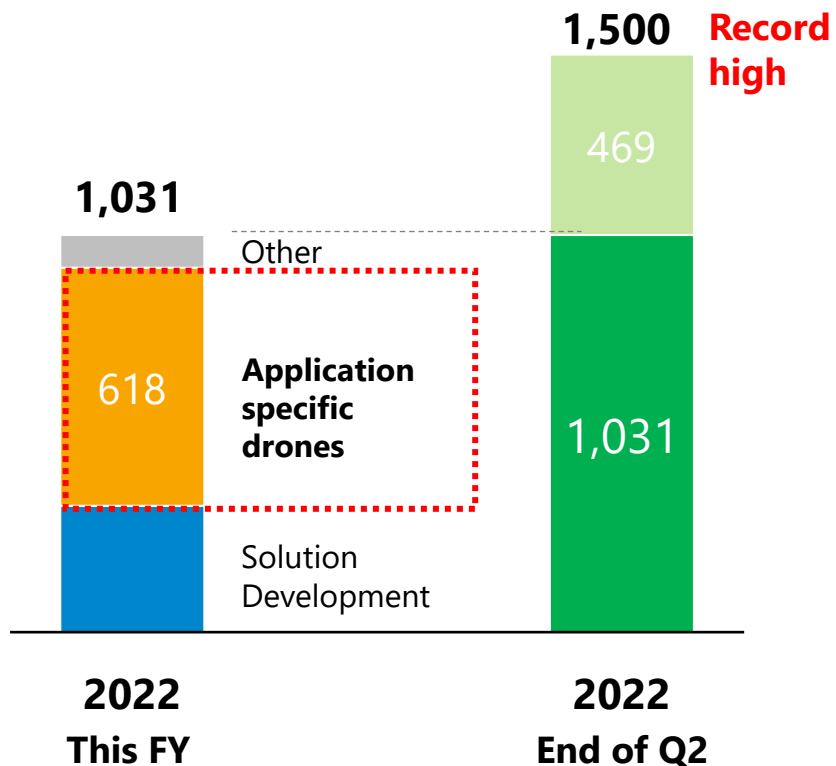
SOTEN achieved the target for marginal profit margin with steady volume and value compared to the plan.

## Jan-Jun cumulative sales

Mn JPY

## Sales and backlogs<sup>1</sup> at end of June

Mn JPY



## Small aerial photography (SOTEN)

## Solution development (Demonstration tests, sales of evaluation drone)

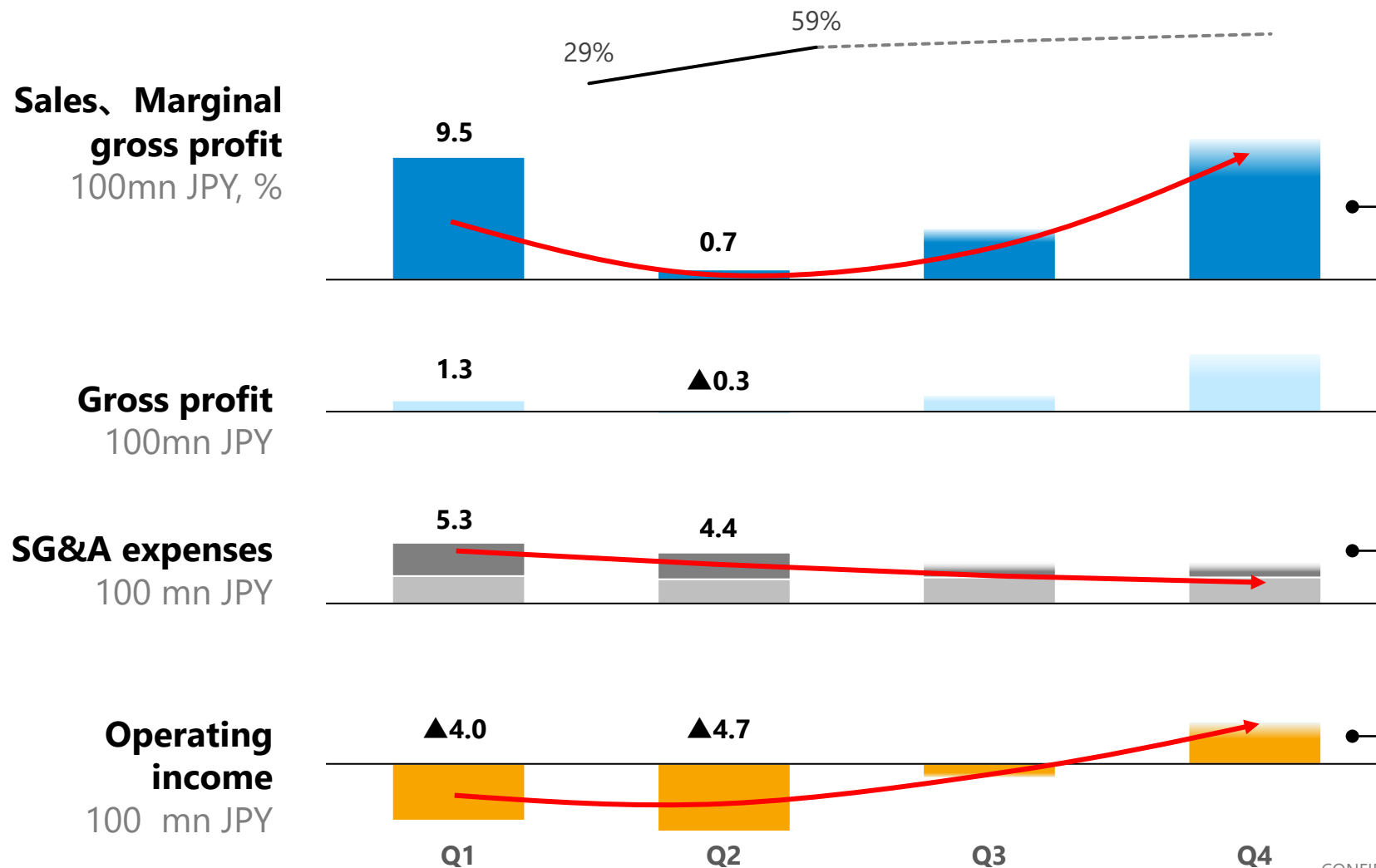
|                                    | Q1 actual | Q2 actual | FY22/12 plan |
|------------------------------------|-----------|-----------|--------------|
| Sales                              | 590 mn    | 21 mn     | 1 bn         |
| Units                              | 475 units | 6 units   | 1,000+ units |
| Marginal gross profit <sup>2</sup> | 18 %      | 39 %      | 15 % or more |
| Sales                              | 294 mn    | 33 mn     | 1.2 bn       |
| Marginal gross profit              | 44 %      | 74 %      | 60 % or more |

1: Backlog is the total value of orders received as of June 30, 2022.

2: Marginal gross profit by product is defined as net sales minus variable costs; for SOTEN and airframe sales, it is defined as net sales minus material costs; for demonstration, it is defined as net sales minus direct subcontracting costs.

# Difference due to quarterly execution and booking

Sales are expected to expand toward Q4. Execution of SG&A expenses is expected to slow down and profits are expected to be recorded in later half of the year.



Orders received is 1.5 bn/2.5bn annual target (60%) at the end of 2Q. Sales booking will be biased toward the second half of the fiscal year.

R&D execution was accelerated in the first half of the fiscal year

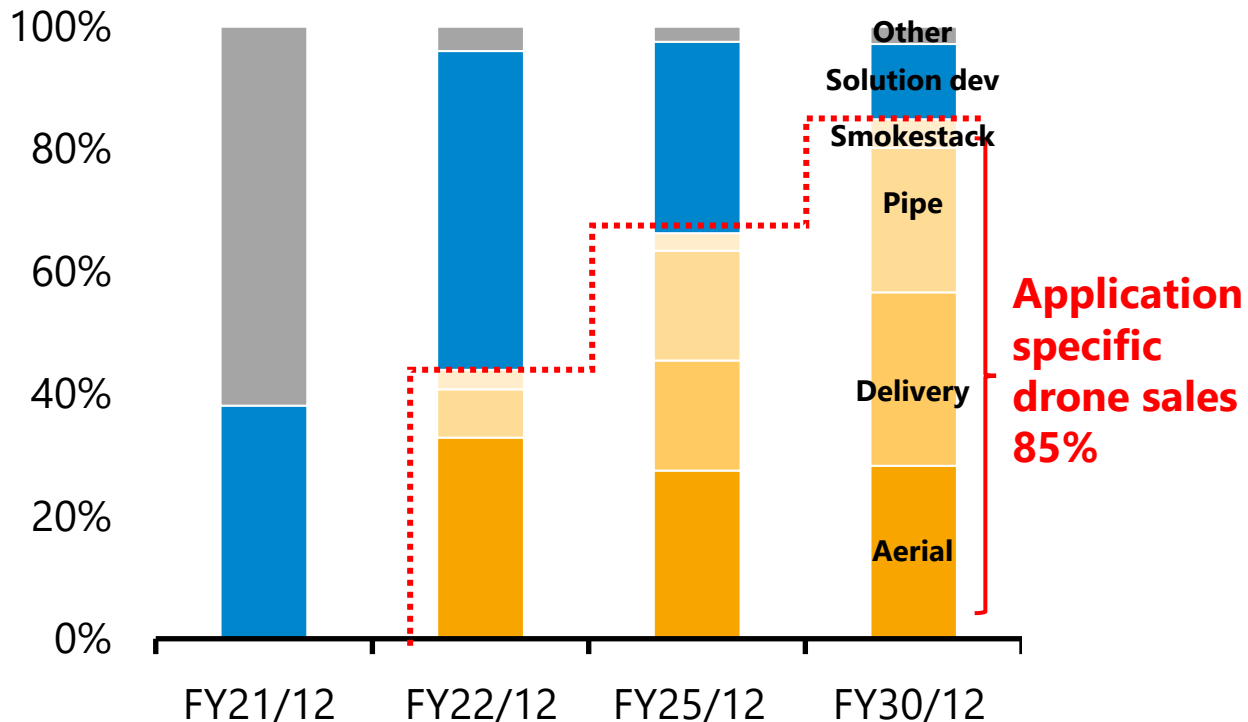
Profits are concentrated in the second half of the year due to the timing difference between sales bookings and cost execution.

# Transitioning to mass-produced drone sales for rapid growth

Application-specific sales will significantly increase from FY22/12 and account for 85% of total sales in FY30/12

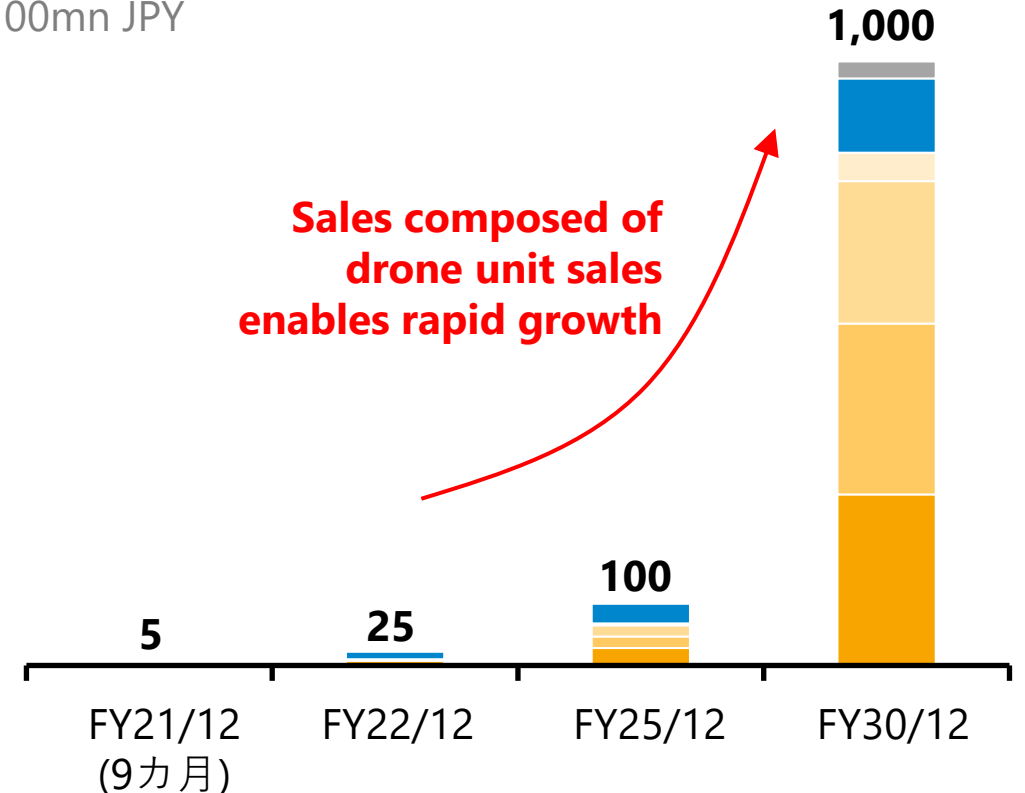
**Shift from effort-based PoC sales to unit-based drone sales this year**

## Sales composition ratio



## Sales

100mn JPY



**Sales composed of drone unit sales enables rapid growth**



---

# Main

---

---

# Agenda

- 1** Overview of the Drone market
- 2** Business Highlights
- 3** FY22/12 Q2 Results and Mid-term Plan  
"ACSL Accelerate FY22"
- 4** Appendix

# Significant change to drone macro environment

High attention to drones globally, driven by Russia/Ukraine war, economic security and Digital Rural City progression

## 01

### **Economic security**

Increased international security awareness due to the situation in Ukraine. Need for security has become apparent as awareness of data security and technology leaks has increased. Domestication of drone technologies emerging.

## 02

### **De-carbonization Clean Energy**

Increase in clean energy investing creating more O&M demand. . Trend to see drones as de-carbonization technology

## 03

### **Digital Rural City, Smart city**

Increase in the use of drones for deliveries and inspections to achieve sustainable, regional development

## 04

### **Aviation Law revision (Level 4)**

Aviation Law revised to allow flight over manned areas and establish official drone pilot license in FY22. New regulations being placed to realize Level 4.

# Digital Rural City State Concept

In June 2022, the Cabinet approved the basic policy of the Digital Rural City State Concept, and the use of drones is exemplified as a useful case.

## Digital Rural City Basic Policy

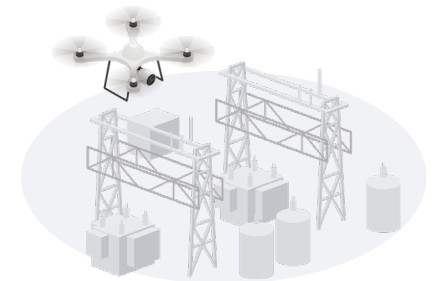
- Basic policy approved by Cabinet in June 2010.
- Using digital technology to solve social problems in rural areas
  - Declining population, declining birthrate and aging population
  - Depopulation and concentration in the Tokyo area
  - Hollowing out of local industry
- Transform local social issues into engines of through the latent need to utilize digital technology in rural areas
- Aiming to realize "a society where everyone can live conveniently and comfortably anywhere in Japan"

### Logistics

### Inspection

### Disaster prevention

- Social implementation of drone logistics in remote islands and mountainous areas
- Social implementation of drones and flying vehicles
- Automation of patrols and inspections of rivers and other waterways using drones and AI
- Introduction of drones for industrial security in petroleum and chemical complexes, electric power, gas, etc.
- Sophisticated collection of disaster-related information using drones, etc.
- Utilization of disaster response drones in the event of a disaster



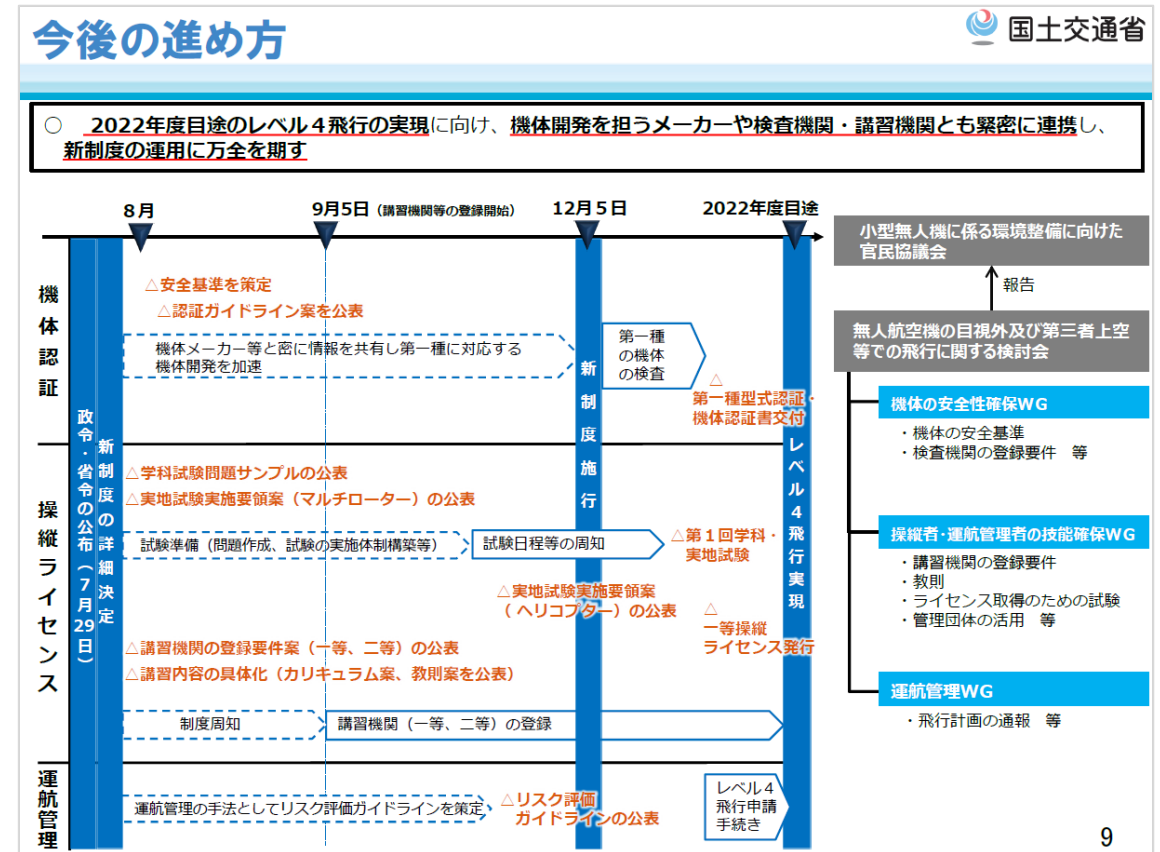
Source: "Basic Policy for the Digital Rural City State Concept", Cabinet Office, Government of Japan

# Laws and regulations regarding drones

Environmental improvements are underway to achieve Level 4 flight (unassisted, unobserved flight over a third party in a manned zone) by FY2022.

|               |   |
|---------------|---|
| June 2021     | <p><b>Passage of revised Civil Aeronautics Law</b><br/>The Diet passed an amendment to the Civil Aeronautics Law to allow for Level 4 flights, which are not currently allowed.</p>   |
| June 2022     | <p><b>Mandatory aircraft registration and remote ID<sup>1</sup> functionality</b><br/>Mandatory registration of unmanned aircraft and display of registration symbols and remote ID capabilities</p>  |
| July 2022     | <p><b>Cabinet approves December, as the enforcement date for the revision of the Civil Aeronautics Law.</b><br/>Cabinet approved a cabinet order setting December 2022, as the enforcement date for certain provisions of the Civil Aeronautics Law revision.</p> |
| Within FY2022 | <p><b>Realization of out-of-sight flights (Level 4) in manned zones</b></p>   |

## Progress of studies on new institutional arrangements for the realization of Level 4 flight



1: A device that remotely transmits drone identification information via radio waves

Source: Public-Private Consultative Meeting for Environmental Improvement Related to Small Unmanned Aircraft (18th meeting) "New Institutional Improvements, etc. Toward the Realization of Level 4 Flights".

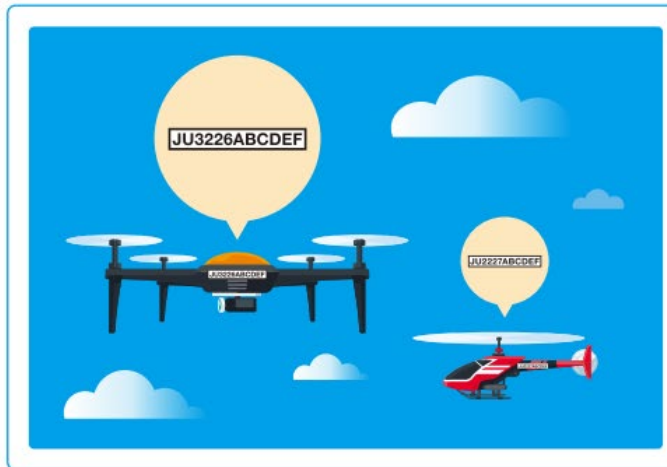


国土交通省

Chapter 1

## 02 登録制度の概要

2020年の改正航空法に基づき、  
登録していない無人航空機の飛行は禁止されます。  
2022年6月20日以降、無人航空機を識別するための  
登録記号を表示し、リモートID機能を備えなければなりません。



詳細はこちら

令和2年の改正航空法により、無人航空機は無人航空機登録原簿に登録を受けたものでなければ、これを航空の用に供してはならず、無人航空機の所有者は登録記号の通知を受けたときは、国土交通省令で定めるところにより、遅滞なく当該無人航空機の当該登録記号の表示その他の当該無人航空機の登録記号を識別するための措置を講じなければなりません。

05

Chapter 1

## 03 登録制度の適用範囲

無人航空機に当てはまらないものを、従来の  
「重量が200g未満のもの」から「重量が100g未満のもの」へ  
改めます。これによって、100g以上のすべての  
無人航空機が登録の対象となります。



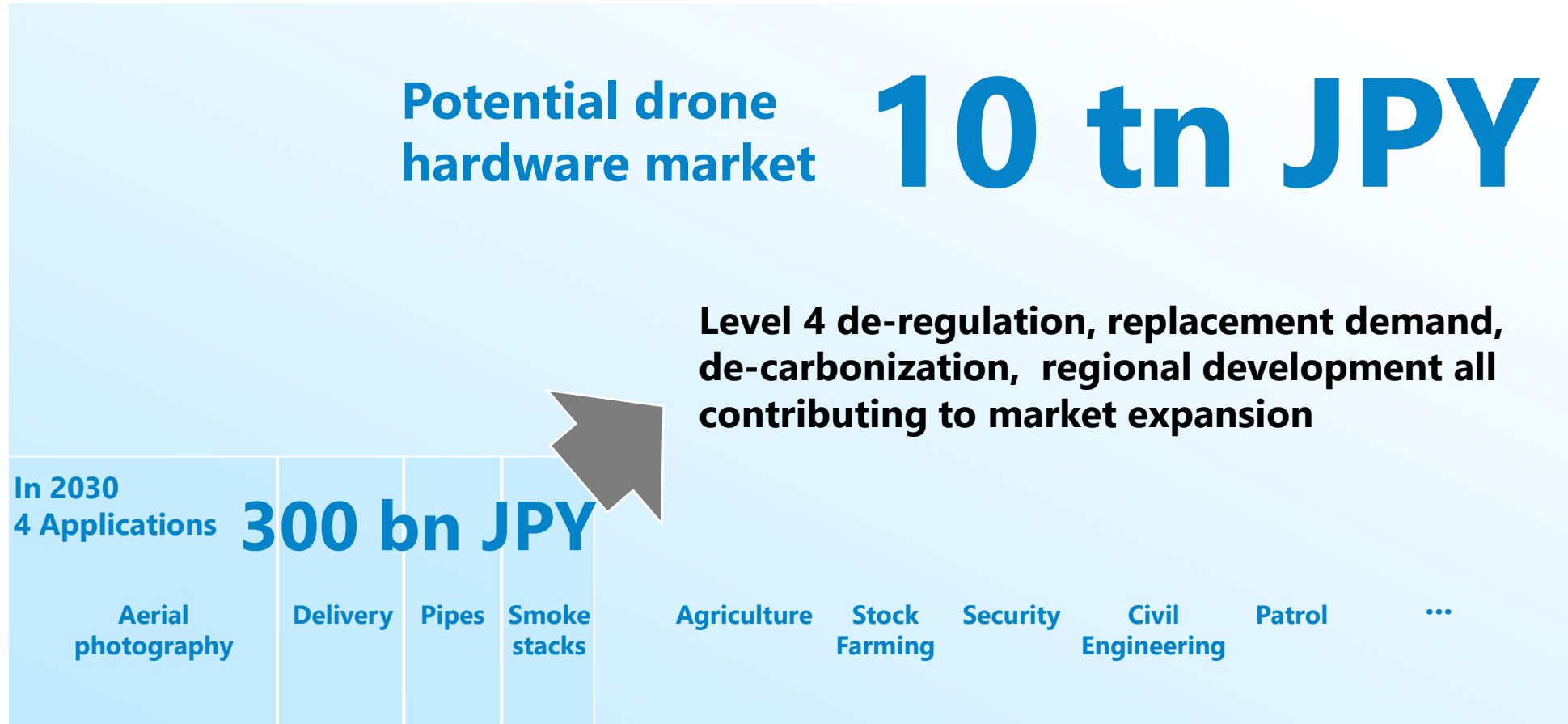
詳細はこちら

航空法において規制対象としていない200g未満の無人航空機であっても、性能向上により、屋外を安定的に飛行できるものが出てきており、今後もさらに増加していくものと考えられることから、登録制度の施行に並び、航空法施行規則(昭和27年運輸省令第56号)第5条の2で定める無人航空機に当てはまらないものを「重量が200g未満のもの」から「重量が100g未満のもの」に改めます。

無人航空機に当てはまらないものを除き、マルチコプター、回転翼、固定翼などすべての無人航空機が登録の対象となり、その所有者と使用者の情報は登録します。

06

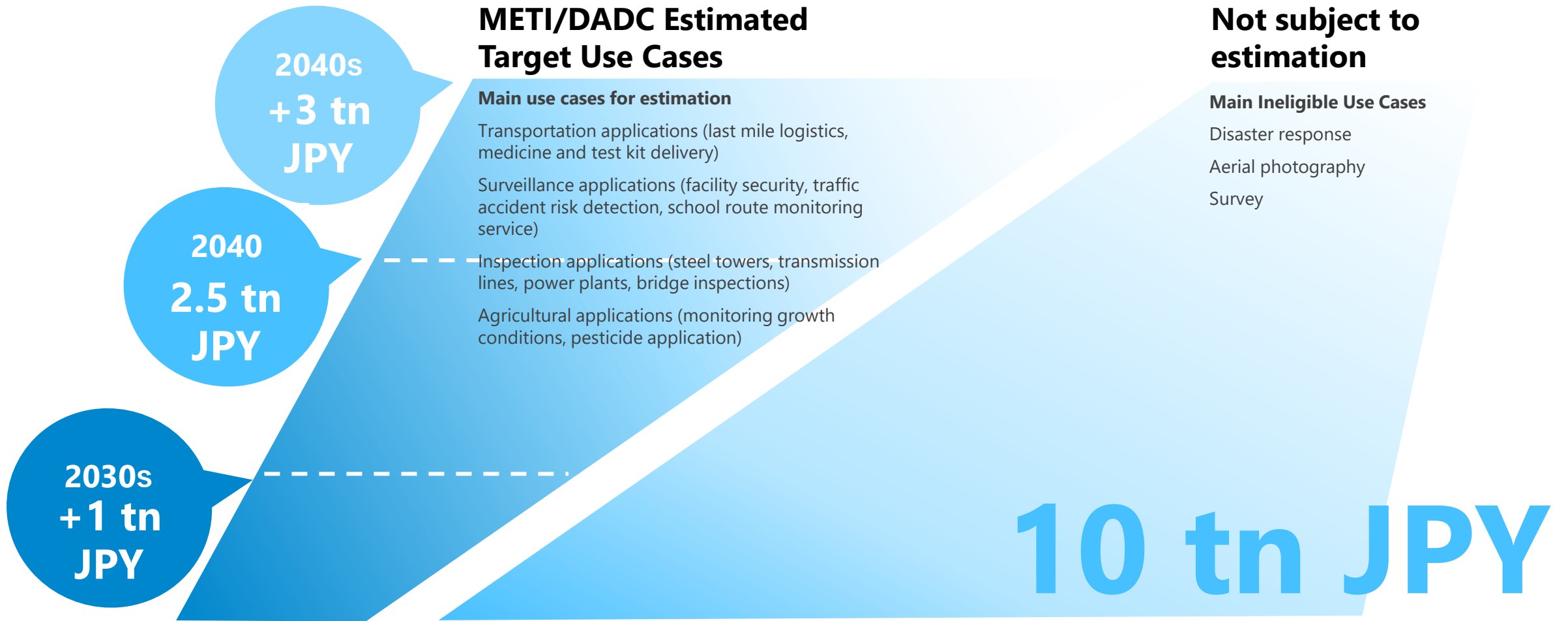
Macro environment will accelerate the growth of drone hardware market in Japan, unlocking a huge potential.



Note: Company estimates based on the following information  
Ministry of Land, Infrastructure, Transport and Tourism, "Trends Surrounding Logistics"  
Ministry of Land, Infrastructure, Transport and Tourism, "Conditions Surrounding Infrastructure Maintenance"  
Cabinet Secretariat, "Estimation of the size of the private sector market for national land fortification"

# Use case market of drone

METI /DADC report shows drone use cases to reach 3 trillion yen by 2040s





# Drone market value-chain and where ACSL stands

ACSL, the only listed drone manufacturer, has the capability to provide both agile prototyping and mass production.



## Solution development

Sales of platform drones for testing, trials and customized developments



## Application-specific drone sales

Development, production and sales of mass-produced drones for specific-applications

The only listed drone manufacturer out of 700 drone related companies

Using Japanese mass production capability

ISO 9001 (Quality)  
ISO 27001 (Security)

Proprietary autonomous control system

# Agenda

1

**Overview of the Drone market**

2

**Business Highlights**

3

**FY22/12 Q2 Results and Mid-term Plan  
"ACSL Accelerate FY22"**

4

**Appendix**

A scenic view of a city skyline at dusk, featuring a large suspension bridge and a body of water in the foreground. The sky is a mix of deep blue and orange, with scattered clouds. The city lights are visible, and the bridge is illuminated. The water is dark and calm, with some rocks in the foreground.

**Eliminate “severe labor shortage” to  
realize a free, open and sustainable world**

A large photograph occupies the left side of the slide. It shows a blue rectangular sign with the ACSL logo in white, mounted on a wall. The background is a blurred office interior with glass partitions and ceiling lights.

ACSL

---

## MISSION

**Liberate humanity through  
technology**

## VISION

**Revolutionizing social  
infrastructure by pursuing  
cutting-edge robotics technology**

# "To-Be" state in 10 years

In August 2020, ACSL announced its master plan that sets out its goals over the next decade.

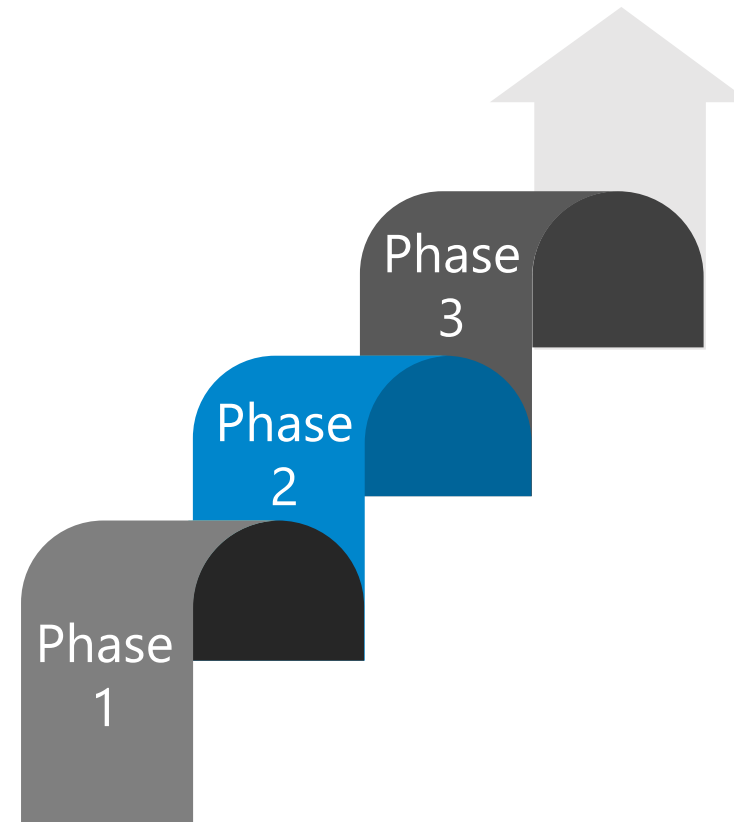
- 1 Global Pioneer in solving social infrastructure issues
- 2 More than 100 bn JPY sales, 10 bn JPY sales profit
- 3 Mass production manufacturer that produces 30,000 units/year
- 4 Supporting the country with de facto standards
- 5 Developing cutting-edge technologies for autonomous control
- 6 Nurturing the industry's most advanced and talented human resources
- 7 Constantly working to improve its corporate value and financial KPIs


# Mid-term plan “ACSL Accelerate”

Rolling update mid-term plan “ACSL Accelerate” will lead to achieving the “To-be” state in 10 years.

- 3 ACSL Accelerate FY24 (planned; 2024-26)
- 2 **ACSL Accelerate FY22 (2022-25)**  
*Shift to a sustainable global manufacturer*
- 1 ACSL Accelerate FY20 (2020-22)  
*From Prototype Factory to Mass Production Manufacturer*

## “To-be” state in 10 years





# Shift to a sustainable global manufacturer

5 pillars for growth identified in this mid-term plan to realize a sustainable business with global presence.

ACSL Accelerate FY22

## Shift to a sustainable global manufacturer

**Development and commercialization of four application-specific drones**

**Development of new application drones and compliance with security**

**Full-scale launch into the Indian market**

**Reinforce ESG initiatives**

**Exploring potential adaptation of autonomous control systems to other fields**



# Mass production and social implementation of application-specific drones

Strengthening sales of SOTEN and Fi4 for public tenders. Accelerating mass production of AirTruck.



**Aerial photography**  
(SOTEN)

- Began shipments in March 2022 and delivered 481 units by June end
- While operational restrictions was issued due to in-flight malfunction, they were resolved with a software update (Over the Air).



**Pipe inspection**  
(Fi4)

- Launched May 2021
- Introduced on NHK WORLD as a means to significantly reduce inspection time for aging sewer pipes



**Smokestack inspection**

- Started taking orders for "Smokestack TAKEOFF" since it was applied in practice in collaboration with Kansai Electric Power Co.



**Delivery**  
(AirTruck)

- Started taking AirTruck orders in March 2022
- Specialized drones for delivery capable of carrying a 5 kg payload
- Utilization has already begun in demonstration projects in various regions

# SOTEN operational restrictions and updates to remove them

SOTEN implemented operational restrictions due to potential malfunction during flight. Operational restrictions have now been lifted and no performance impact is expected.

## Request for operational restrictions

- SOTEN found a problem during a flight and asked the customer to restrict the operation in June 2022
- Details of defects
  - Failure in drone control if load is applied in flight with rotor guards or other equipment attached.
  - Specifically, operations with high loads that combine ascending and horizontal movement, strong winds from the direction of travel, etc.
- Announcement of plans to resolve defects through software updates

## Removal of operational restrictions

- Software update implemented in July 2022 to remove operational restrictions
- Update Details
  - Control monitors motor speed, etc., and automatically decelerates, hovering, and warns in high load situations.
  - Automatic landing if necessary
- Updates can be made via Over The Air (OTA)

## Impact of this event

- The response to this case is mainly software modification, with limited additional costs incurred.
- No return of delivered equipment or loss of orders received due to this incident
- No significant impact on business performance is expected at this time.

# Application-specific drone: closed environment inspection

Closed environment inspection drone Fi4 was introduced on NHK World. Briefing sessions by sales agents are also actively conducted.

## Introduction of pipe inspection drone

- Fi4, a pipe inspection drone jointly developed by NJS and ACSL, was introduced on NHK WORLD
- As the number of aging and damaged sewer pipes increases in Japan and the importance of inspection and maintenance grows, Fi4 is introduced as a means to significantly reduce inspection time.
- Distributors regularly hold Fi4 information sessions and receive positive feedback.



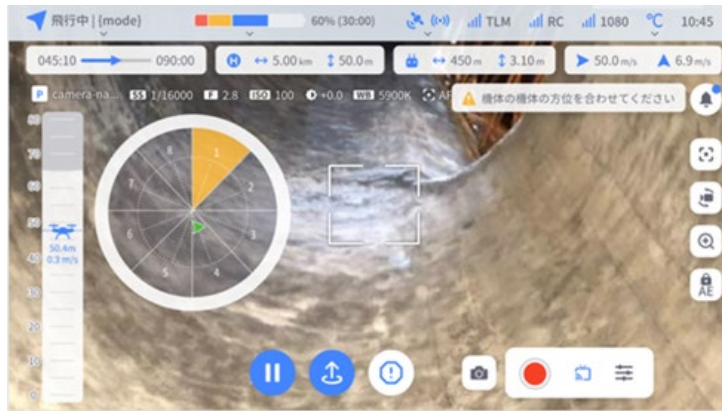
The explanation of Fi4



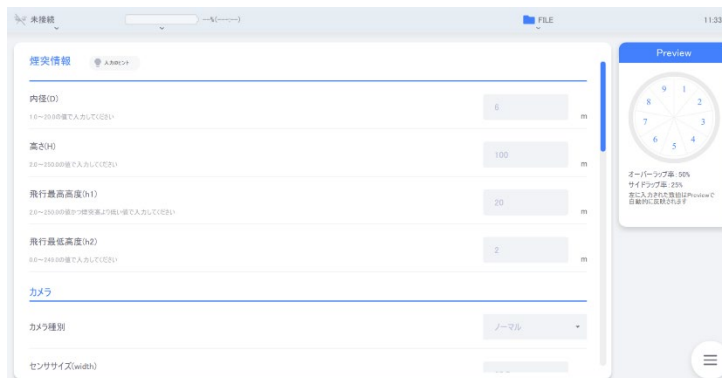
Description of the actual Fi4 flight

# Application-specific drone: chimney inspection

GCS<sup>1</sup> "Smokestack TAKEOFF", dedicated for drones to inspect the inside smokestack, is now available for order.



GCS screen showing camera images, etc.



Screen for entering required information



Chimney inspection drone

## Smokestack TAKE OFF Overview

- Smokestack inspections generally take two to three weeks and present challenges in terms of cost, manpower, safety, etc.
- Began accepting orders for "Smokestack TAKEOFF" as a dedicated base station application for smokestack inspection drones, since it was applied in practice through collaboration with Kansai Electric Power Co.
- Safe flight and inspection data acquisition at the push of a single button, even for first-time operators
  - Optimal flight settings are calculated and routes are created by inputting chimney information and shooting conditions.
  - Automatic flight photography is possible at the touch of a button, enabling real-time confirmation of inspection camera images, etc.

1: Abbreviation for Ground Control Station, an application for piloting drones.

# New application development and secure support

Started accepting orders for "PF2-AE (Advanced Edition)", a more user-friendly and secure customized version of ACSL-PF2

## PF2-AE Overview

- Orders for PF2-AE (Advanced Edition), a customized version of our platform drone PF2 for specific applications, will be accepted from August.
- Three use case airframes that we have had a lot of experience with: logistics, infrastructure inspection, and disaster/security.
- TAKEOFF, a dedicated ground station application similar to SOTEN, allows for more intuitive operation
- Drones equipped with ACSL's proprietary flight controller, which encrypts communications to reduce the possibility of information leakage, making the drone secure and safe



Three types of drone lineup (Delivery, Inspection, Disaster Relief/Patrol)

# Exhibit at the International Drone Expo

Exhibited application-specific drones at the International Drone Show and received positive feedback from visitors.

## International Drone Exhibition Overview

- The booth will feature the SOTEN small aerial photography drone, as well as the new PF2-AE lineup, the Fi4 pipe inspection drone, and the AirTruck, a dedicated delivery drone with 5 kg payload.
- At the SOTEN piloting experience event, some of the participants said, "It was my first time to fly a drone, but it was easy to operate. The drone is stable and flies well."
- It was also featured in the media as one of the largest exhibits at the show.



Piloting experience



Visitors



SOTEN Exhibit



PF2-AE Exhibit



Fi4 exhibit



AirTruck Exhibit

# Full-scale launch of the Indian market

Exhibited at an exhibition in India; Prime Minister Modi visited the ACSL booth and made comments.

## Drone Festival of India 2022 Exhibition Overview

- ACSL India exhibited our Japanese drone for the first time at the Drone Festival of India 2022 in New Delhi
- Prime Minister Modi of India visited our booth and said, "I am proud of Arjun (Managing Director of ACSL India) for building ACSL India with Japanese companies and I look forward to your further success." commented Prime Minister Modi.
- Arjun, Managing Director of ACSL India, participated in the panel discussion, highlighting the challenges of social implementation of drones, infrastructure development, and the importance of human resource development.



Prime Minister Modi and ACSL India Managing Director Arjun (rightmost photo)



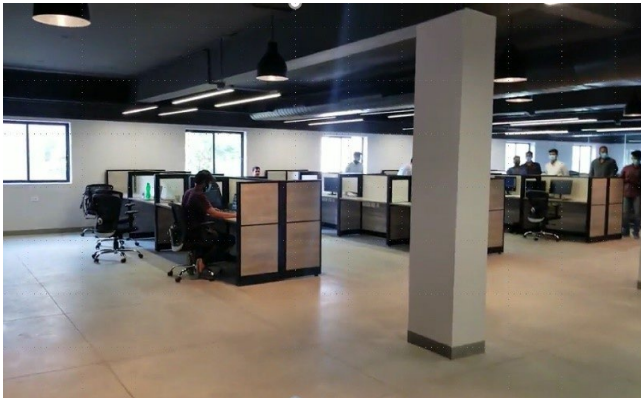
Participate in a panel discussion Arjun, Managing Director of ACSL India (leftmost photo)



View of ACSL India booth

# Full-scale launch of the Indian market

Selected as Indirect Subsidizer for the Indo-Pacific Region Supply Chain Resilience Project



Space for the local plant (top left), offices in the plant (bottom left), and exterior view of the Coimbatore manufacturing plant (right)

## Outline of Supply Chain Resilience Project

- In response to the risk of supply chain disruptions, the Japanese government is promoting the Supply Chain Resilience Initiative (SCRI) to strengthen supply chains in the Indo-Pacific region.
- ACSL has been selected as an indirect subrecipient for the Indo-Pacific Supply Chain Resilience Project to promote the "Digitalization of Drone Manufacturing Processes in India and Japan" project.
- This project aims to build a more resilient and robust supply chain by creating a master database of drone components to visualize the entire manufacturing process in Japan and India.



Conducted company-wide discussion on dual use of drones. Diversity and governance has been strengthened.



## Shared awareness of dual use of drone technology

- Company-wide meetings to discuss dual use<sup>1</sup> of drone technology
- Shared company policy to not allow offensive use of our drone technology



## New board structure to strengthen governance

- New board structure established in March 2022 (3 internal, 2 external)
- Strengthened governance by increasing the ratio of external board members from the previous structure (4 internal and 1 external)



## Further promoting diversity

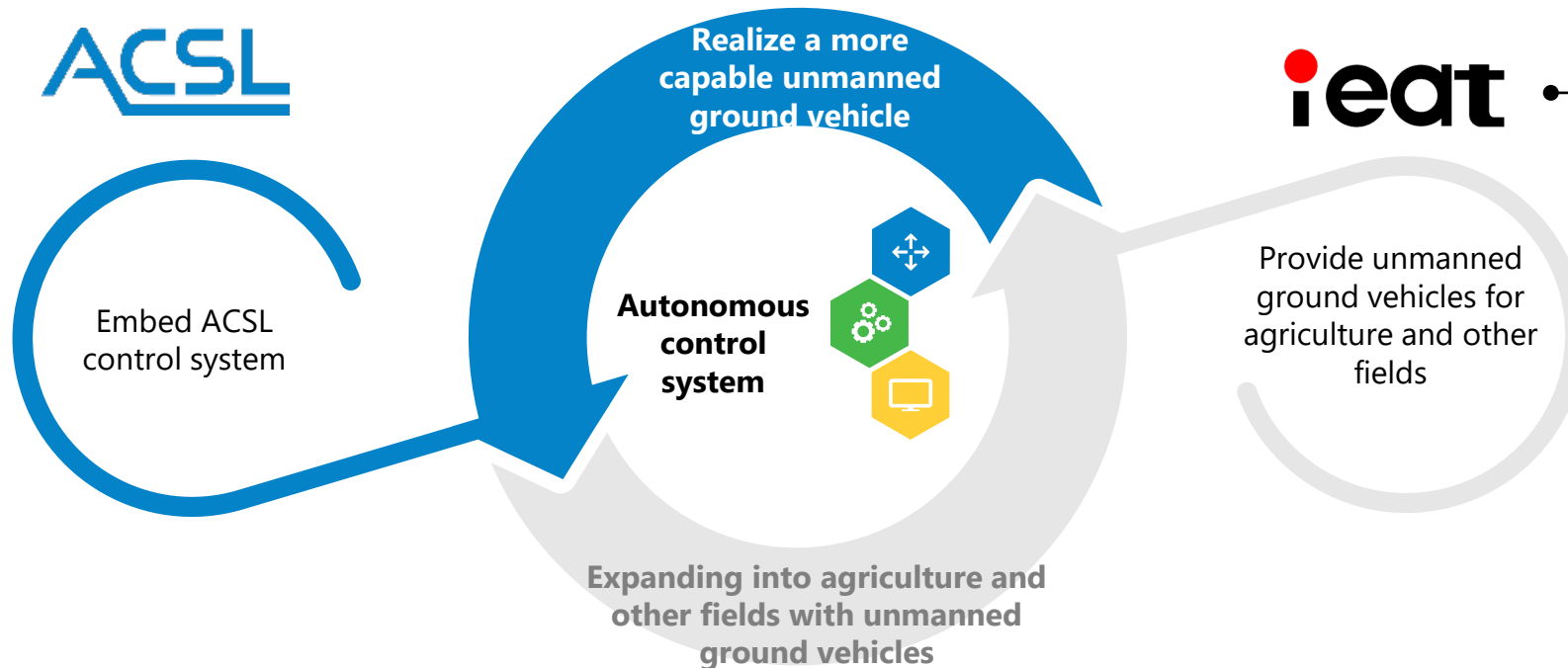
- Actively recruit and promote members with diverse backgrounds
- As of June, 2022, the number of nationalities is around 20 countries

1: Technology that can be used for both peaceful and military purposes in politics, diplomacy, and export control

# Expansion of autonomous control systems to other fields

Closed capital and business alliance contract with i-EAT, a company in UGV field

## Overview of capital and strategic alliance



## Outline of i-EAT

- Started robot-related business in 2016 as a venture from Utsunomiya University
- Technology that won the 1st Minister's Prize of the Ministry of Education, Culture, Sports, Science and Technology at the 7th Robot Awards
- Production, development and sales of agricultural support robots
- Possesses technology for autonomous mobility and human tracking



Agricultural Support Robot by i-EAT

---

# Agenda

1

**Overview of the Drone market**

2

**Business Highlights**

3

**FY22/12 Q2 Results and Mid-term Plan  
"ACSL Accelerate FY22"**

4

**Appendix**

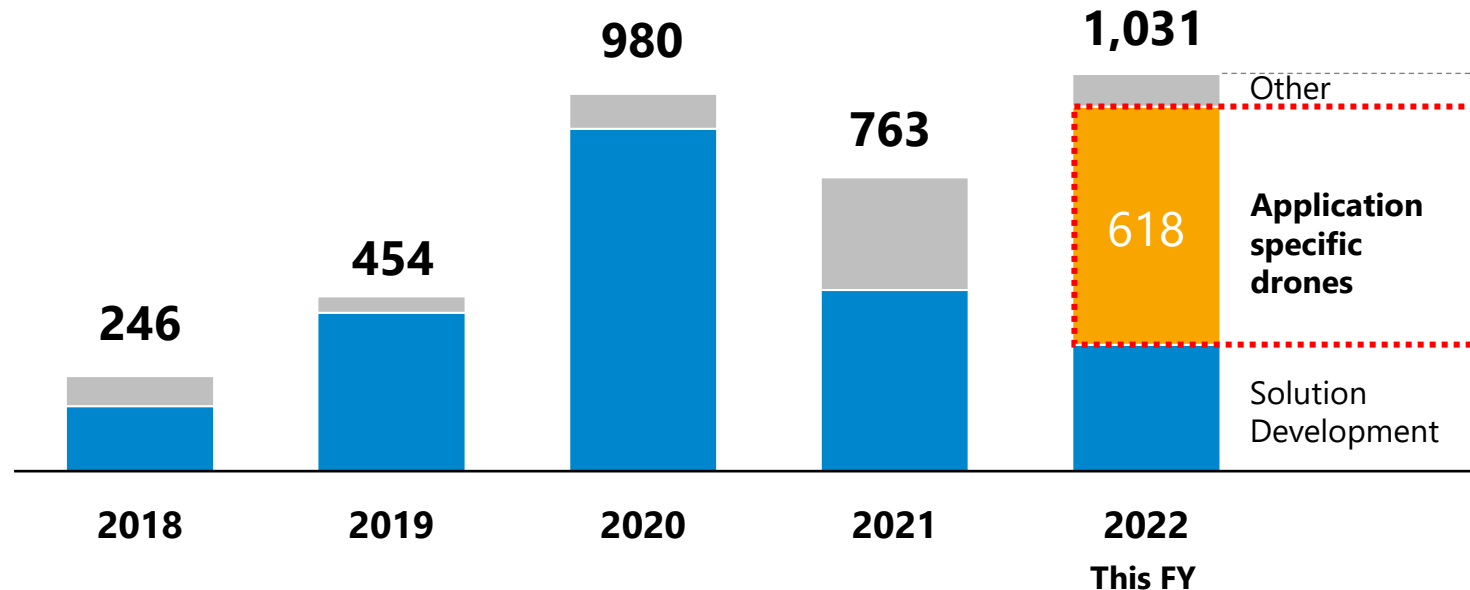
# Orders increased with 1.5 bn JPY orders received versus target of 2.5 bn



FY22/12 Q2 application specific drone sales overs 60% of total sales. With backlogs, currently at 1,500 mn JPY

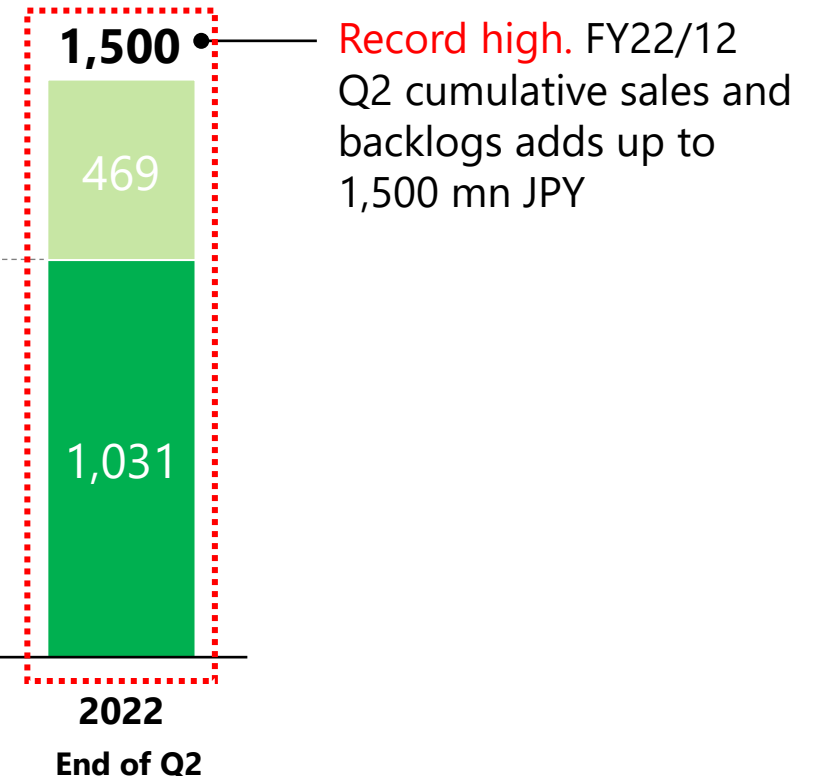
## Jan-Jun cumulative sales

Mn JPY



## Sales and backlogs<sup>1</sup> at end of June

Mn JPY



1: Fiscal year ending March until 2021 March. FY21/12 is 9 months between 21/04~21/12. All timing above is sum of Jan to June.

1: Backlog is the total value of orders received as of June 30, 2022.

# Marginal gross profit improved for both SOTEN and Solution dev



SOTEN achieved the target for marginal profit margin with steady volume and value compared to the plan.

|   |                                    | Q1 actual | Q2 actual | Q2 cumulative | FY22/12 plan |
|---|------------------------------------|-----------|-----------|---------------|--------------|
| <b>Small aerial photography</b><br>(SOTEN)                                      | Sales                              | 590 mn    | 21 mn     | 611 mn        | 1 bn         |
|   | Units                              | 475 units | 6 units   | 481 units     | 1,000+ units |
|   | Marginal gross profit <sup>1</sup> | 18 %      | 39 %      | 19%           | 15 % or more |
| <b>Solution development</b><br>(Demonstration tests, sales of evaluation drone) | Sales                              | 294 mn    | 33 mn     | 328 mn        | 1.2 bn       |
|   | Marginal gross profit              | 44 %      | 74 %      | 48%           | 60 % or more |

1: Marginal gross profit by product is defined as net sales minus variable costs; for SOTEN and airframe sales, it is defined as net sales minus material costs; for demonstration, it is defined as net sales minus direct subcontracting costs.

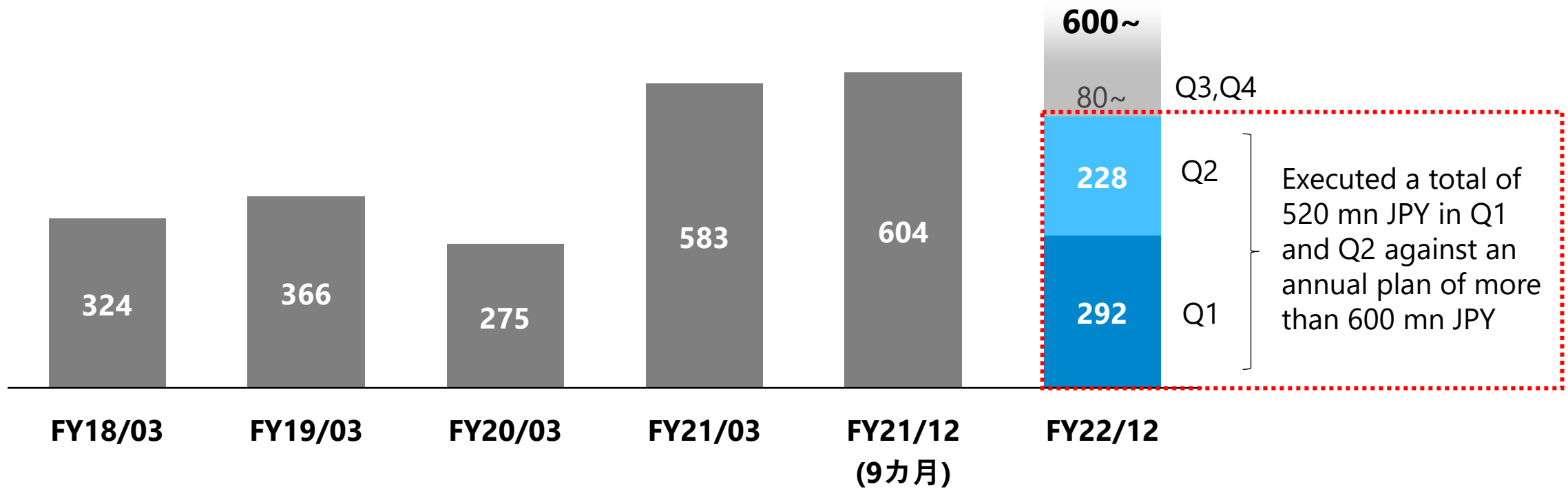
# R&D expenses totaled 520 mn JPY executed by Q2



Continue our core R&D activities regardless of sales conditions as an upfront investment for market expansion

## R&D Expenses (Full Year)

Mn JPY



# FY22/12 Targets and Q1 Results

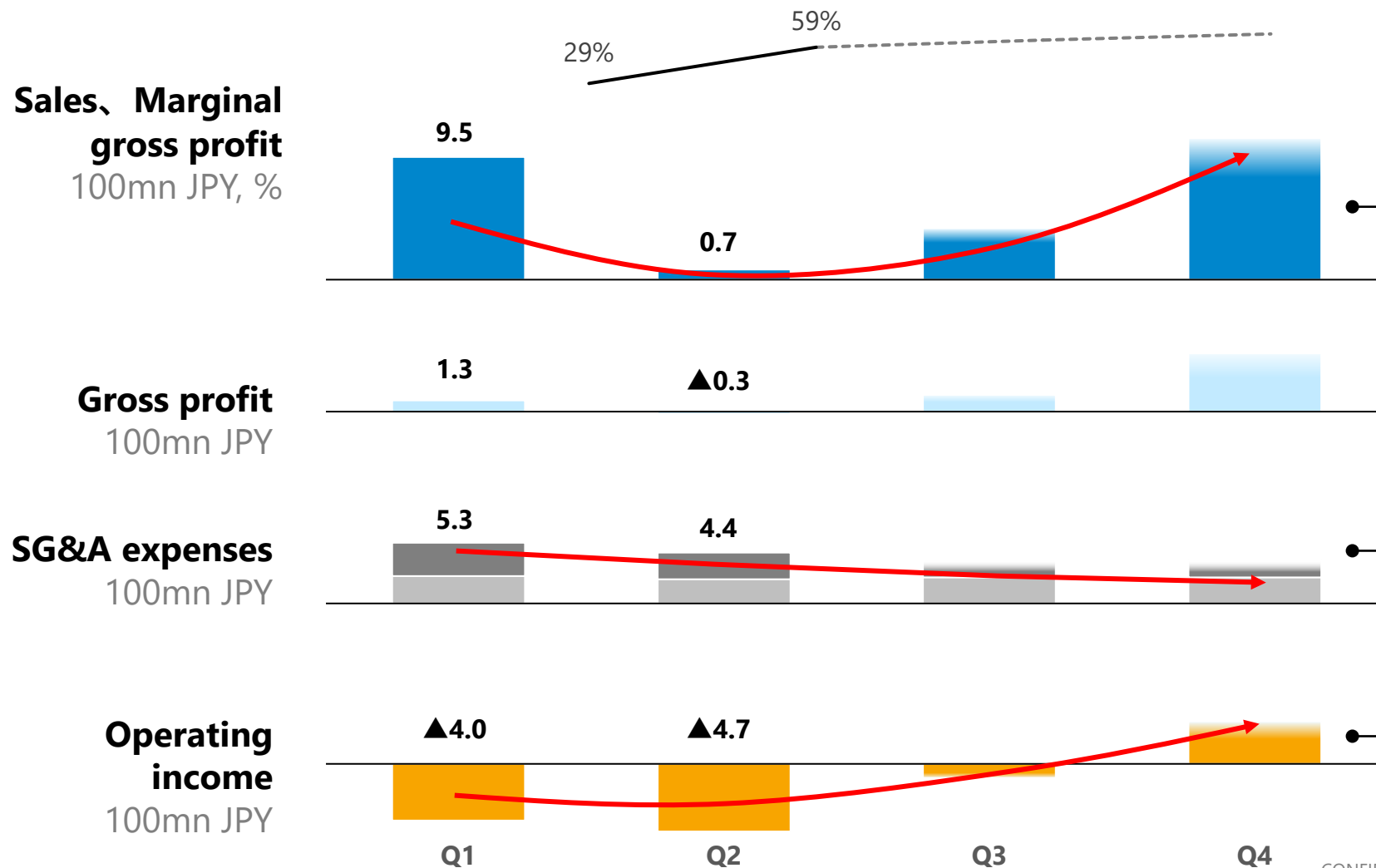


Booked 1.03 bn JPY revenue versus annual target of 2.5 bn. Operating income ▲874 mn with upfront R&D.

|                           | FY22/12 Q2 Actual | FY22/12 Target  | Remark  |
|---------------------------|-------------------|-----------------|---|
| Net sales                 | 1.03 bn JPY       | 2.5 bn JPY      | Booking has seasonality but received backlogs of 1.5bn JPY. Proceed with shipments against orders in the remaining period |
| Gross profit margin ratio | 10%               | -40%.           | Fixed cost high in relation to net sales. Marginal gross profit improved versus Q1,                                       |
| R & D                     | 520 mn JPY        | 600- mn JPY     | Aggressive R&D investment until Q2.   |
| Operating income          | ▲874 mn JPY       | ▲350-650 mn JPY | Difference in sales booking and cost execution results in momentarily loss.   |
| Ordinary income           | ▲812 mn JPY       | ▲350-650 mn JPY | Booking of national project subsidy   |

# Difference due to quarterly execution and booking

Sales are expected to expand toward Q4. Execution of SG&A expenses is expected to slow down and profits are expected to be recorded in later half of the year.



Orders received is 1.5 bn/2.5bn annual target (60%) at the end of 2Q. Sales booking will be biased toward the second half of the fiscal year.

R&D execution was accelerated in the first half of the fiscal year

Profits are concentrated in the second half of the year due to the timing difference between sales bookings and cost execution.



# Target values in ACSL Accelerate



Aiming to achieve 10 bn JPY sales and 1 bn JPY profit by 2025 to realize the "Master Plan," goal for the next 10 years.

This year

ACSL Accelerate FY22

Master plan

2022

2025

2030

**Net sales**

**2.5** bn JPY

**10** bn JPY

**100** bn JPY

**Operating profit**

**▲350-650** mn JPY

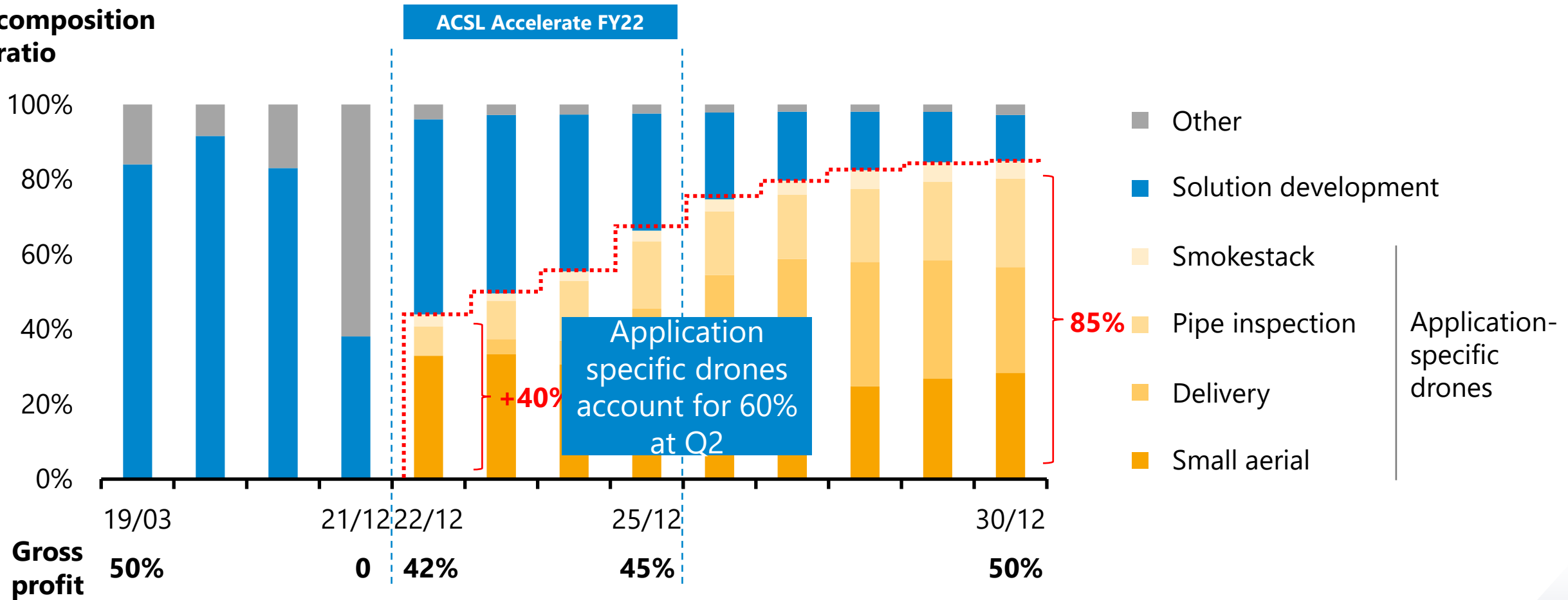
**1** bn JPY

**10** bn JPY

# Transitioning to mass-produced drone sales from this year

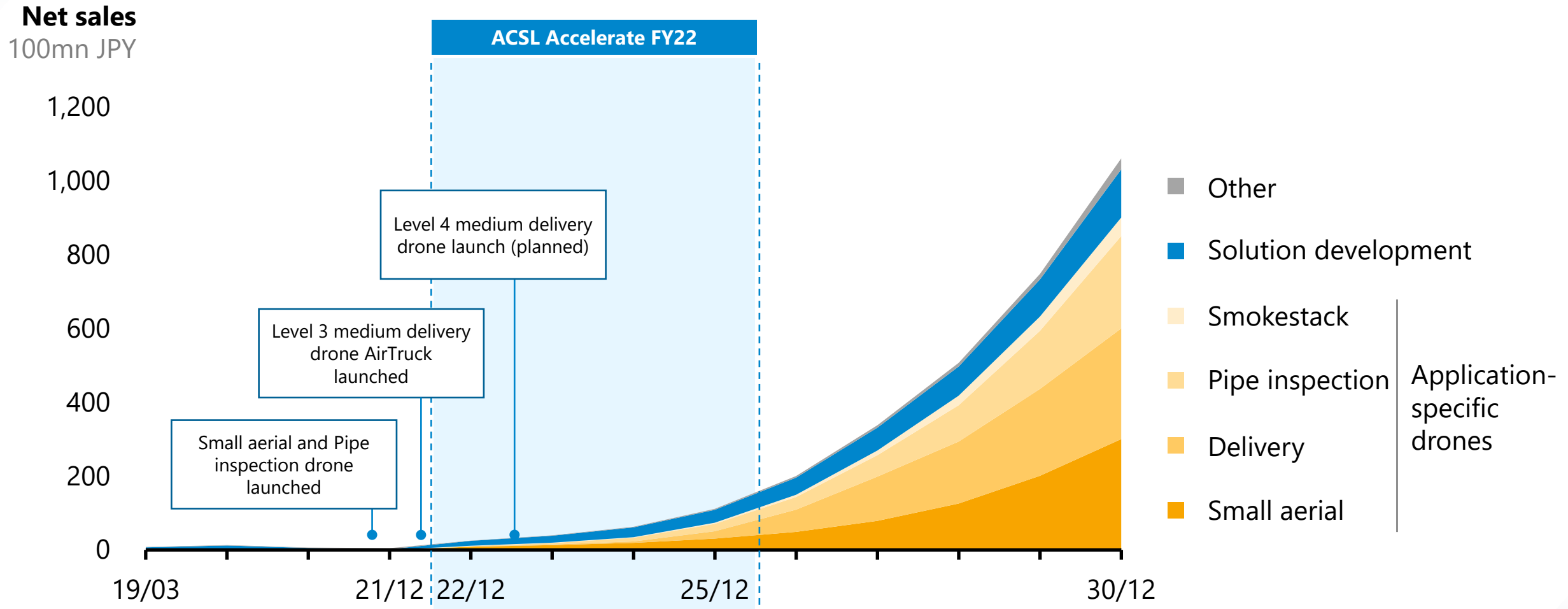
Application-specific sales will significantly increase from FY22/12 and account for 85% of total sales in FY30/12

## Sales composition ratio



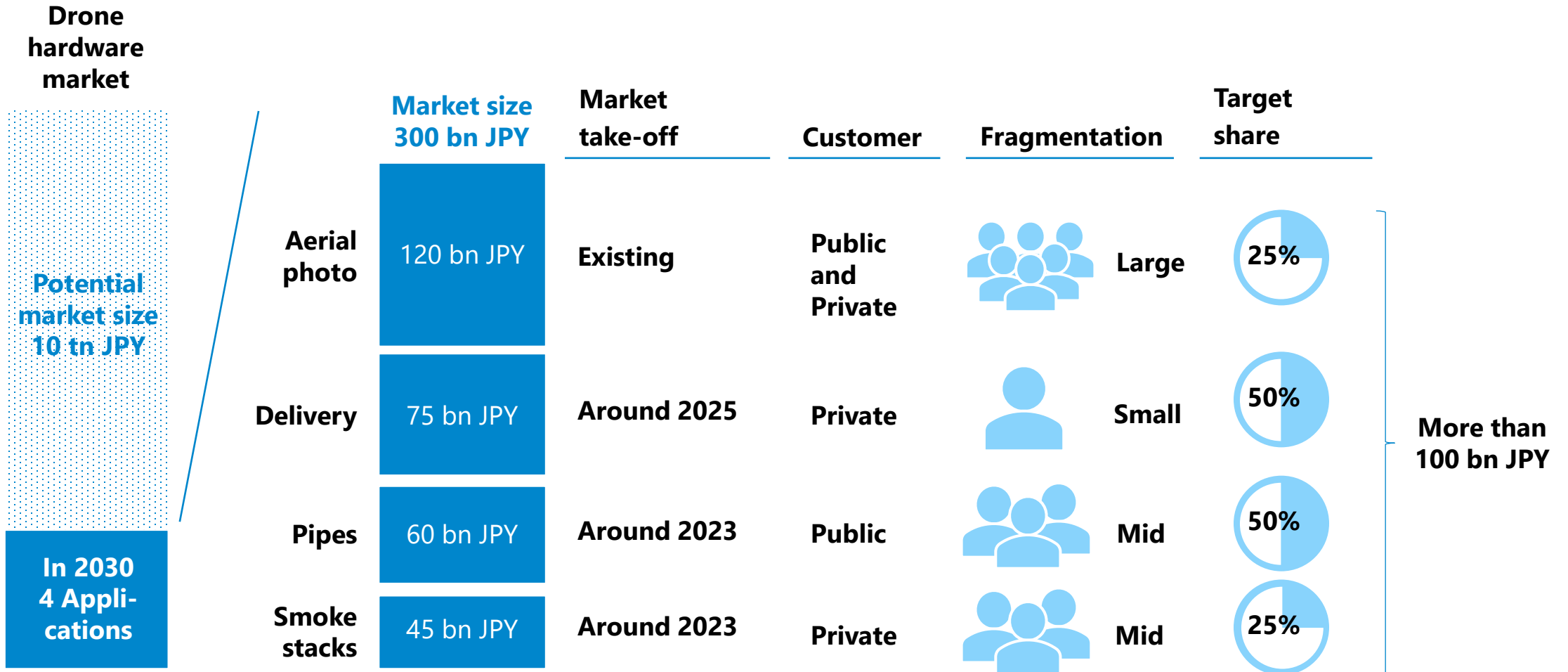
# Rapid revenue growth achieved by shifting to drone sales

Early growth will be led by small aerial SOTEN and pipe inspection Fi4. Deliver will start growing from 2025



# Targeting to achieve 25~50% market share in 2030

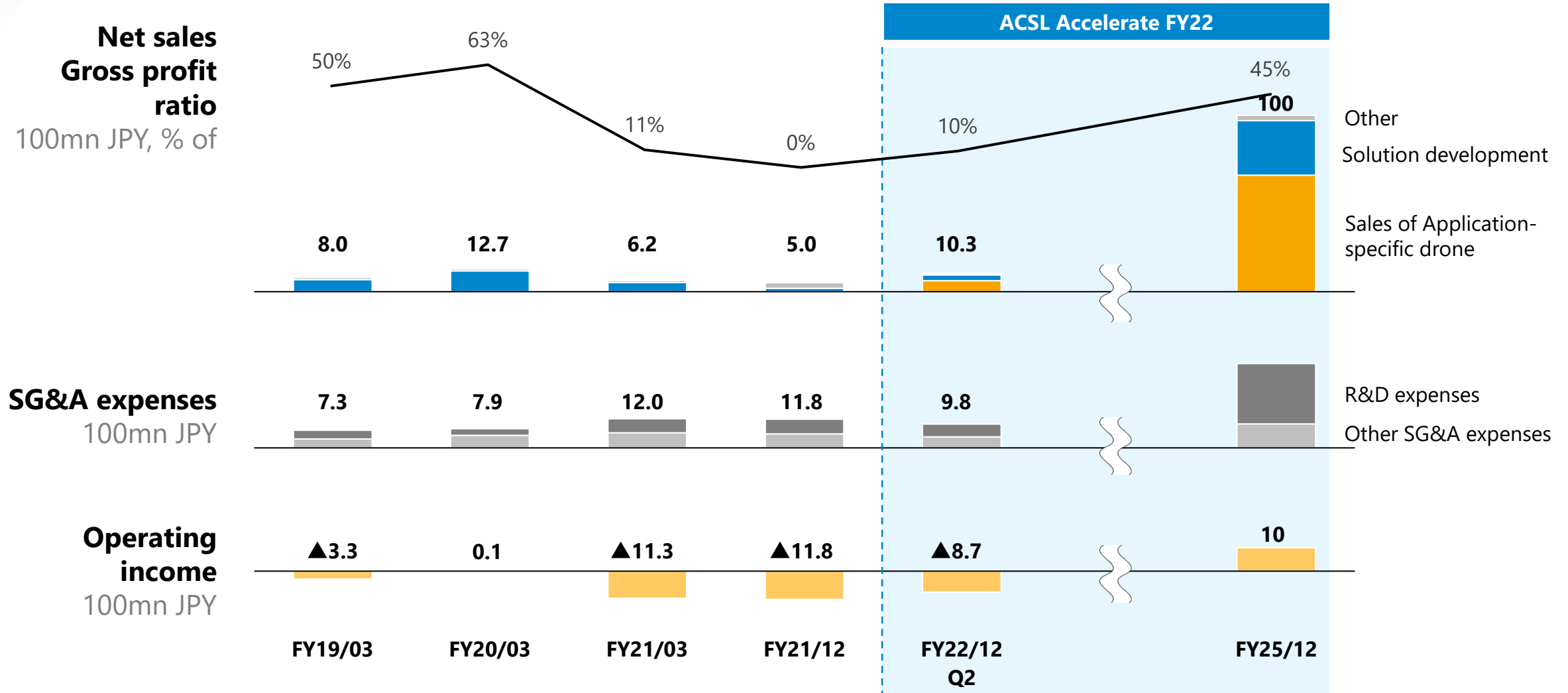
In 2030, ACSL will mass-produce four application-specific drones to achieve a sales of more than 100 bn JPY



1: ACSL estimate

# Sales Composition and Gross Profit

Sales of application-specific drones are expected to grow significantly for FY25. Gross profit is also aiming for 45%.



# Potential Risks and Responses



| Category                                   | Major Risks  | Our Recognition and Risk Management Measures   |
|--|--|--|
| Macro                                      | <ul style="list-style-type: none"> <li>▪ Insufficient procurement of materials relative to production plans due to semiconductor shortages and price hikes, material cost-to-sales ratio, and increased development costs</li> <li>▪ Increase in prices of goods procured from overseas due to yen's depreciation against dollar's appreciation</li> </ul> | <ul style="list-style-type: none"> <li>▪ We recognize that the situation of semiconductor supply shortages and price hikes has worsened since the plan was formulated (February 2010), and although we are making arrangements to secure parts and materials, there is a possibility that costs will increase due to inventory shortages and price hikes in the future.</li> <li>▪ Overseas parts procured from domestic suppliers may be subject to cost increase due to foreign exchange impact on prices in the future. Considering the possibility of procurement from multiple suppliers, etc.</li> </ul> |
| Macro                                      | <ul style="list-style-type: none"> <li>▪ Limitations on customer efforts to utilize drones due to the spread of the new coronas</li> <li>▪ Stagnation of supply chain due to suspension of business activities of suppliers and other companies, including those overseas</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Currently, we do not anticipate significant activity restrictions in Japan, but if the infection spreads, there could be an impact on demonstrations and other activities. Existing client initiatives themselves are expected to continue.</li> <li>▪ Develop a procurement policy to hold a certain level of inventory for critical parts and parts with long lead times</li> </ul>   |
| Performance                                | <ul style="list-style-type: none"> <li>▪ Need for aggressive investment in R&amp;D</li> <li>▪ Quarterly seasonality of revenue recognition and cost execution</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Flexible investment policy in R&amp;D when necessary for future business expansion</li> <li>▪ Since sales are recorded on an acceptance inspection basis, the remaining period is expected to be dominated by the fourth quarter (October~December). Costs will be executed in advance, but may fluctuate throughout the year.</li> </ul>   |
| Regulation                                 | <ul style="list-style-type: none"> <li>▪ Delay in the implementation of Level 4 regulations due to delays in the development of the Civil Aeronautics Act, etc.</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Aviation Law passed; Level4 system expected to be in place in late FY2022.</li> </ul>   |
| Overseas deployment (e.g. military forces) | <ul style="list-style-type: none"> <li>▪ Risk of being inferior to foreign competitors in terms of competitiveness</li> <li>▪ Potential impact of laws and regulations and local business practices</li> <li>▪ Necessity of upfront investment for overseas expansion</li> </ul>   | <ul style="list-style-type: none"> <li>▪ We expect a large demand for secure drones made in Japan and recognize that we have sufficient competitiveness.</li> <li>▪ Possibility that local operations will be required to comply with local laws, regulations, and business practices. In such cases, there is a possibility that upfront investment will be made aggressively as an initial response.</li> </ul>  |

---

# Agenda

1

**Overview of the Drone market**

2

**Business Highlights**

3

**FY22/12 Q2 Results and Mid-term Plan  
"ACSL Accelerate FY22"**

4

**Appendix**

# FAQs (This fiscal year)



| Category          | Question   | Answer   |
|-------------------|--|--|
| Macro             | Will the situation in Ukraine and other issues have an impact on the Company as military demand is expected to grow worldwide? | There is no direct impact of the situation in Ukraine on our performance. In addition, the market for military-use attack drones is recognized as being different from that of industrial-use drones, and there will be no direct impact on the Company. It is MHI's policy not to develop or provide drone technology for military purposes such as attacks. On the other hand, it is expected that drones used for reconnaissance, patrols, etc. will be domestically produced or procured from allied countries.  |
| Macro             | Has the semiconductor shortage had an impact on FY22/12 Q2 results and what is the outlook for the future?                     | Even through Q2, the company has been affected by the rising procurement prices of parts due to the shortage of semiconductors. Specifically, SOTEN's parts prices have been higher than before, and the impact was absorbed to some extent by the revision of selling prices through FY22/12 Q2. As for the future outlook, as described in Risks on page 38, the situation has worsened from the time the plan was formulated (February 2010), and the company recognizes the possibility of cost increases.   |
| Macro             | Will the depreciation of the yen against the U.S. dollar have an impact on business performance?                               | There are no dollar transactions on the sales side and limited direct dollar transactions on the procurement side. On the other hand, if a company buys a product that incorporates foreign-made semiconductors and other components through a domestic supplier, there is a possibility that the cost will be passed on to the price side and increase in the future.   |
| Performance       | How do you expect to achieve your earnings forecast for the current fiscal year?   | Sales are currently forecast at 2.5 billion yen, of which 1.5 billion yen has been confirmed. The remaining 1 billion yen is planned for sales expansion centered on SOTEN sales, with SOTEN sales expected to be the main focus in 4Q. In solution development, the company aims to win orders through sales of PF2-AE and other products. SOTEN has achieved its gross profit target, and solution building will need to improve in the future. In terms of costs, SOTEN is aware of the above-mentioned semiconductors and risks due to the impact of foreign exchange rates.   |
| Performance       | Do you have any forecasts for 3Q and 4Q for this fiscal year?  | As stated on p. 39, sales are expected to expand toward Q4 (Oct~Dec). The pace of SG&A execution is planned to be smaller than the current pace, and profit is expected to be recorded in Q4.  |
| SOTEN             | The background for the increase in marginal profit margins is  | In 2Q, in addition to sales of six units, sales of optional equipment such as cameras led to increased sales and improved gross profit margins.  |
| Overseas          | What is your overseas sales plan?  | In India, we are in the process of acquiring certification with the goal of starting sales in the current fiscal year. In the U.S., the company is in the process of discussing with potential local partner companies, etc., in anticipation of its great potential for expansion. None of the above has been factored into the company's forecast for the current fiscal year.   |
| Investment        | The investment scheme for iEat, Inc.   | Investment from ACSL itself. The investment ratio is 40% and the amount is 50 million yen. The company is expected to become an equity method affiliate, but this is not expected to have a significant impact on business performance.  |
| Financial affairs | What is your financial policy?   | As of the end of June, we had 1.8 billion yen in cash and an overdraft agreement with a bank for 1.1 billion yen, so there are no problems with our business operations for the time being. Our market and business have three major funding needs: the first is working capital, such as procurement of parts; the second is investment in development, including drones and peripheral technologies; and the third is investment expenses when accelerating overseas expansion. Based on these cash needs, we will continue to consider our financial policy, including fund raising, which will be appropriate timing and methods for each stakeholder. |



| Category                       | Question   | Answer  |
|--------------------------------|--|---|
| Competitive environment        | Chinese drone manufacturers have a high market share, but how to compete   | We recognize that although Chinese manufacturers have a large share of the consumer market, there is no clear dominant player in the industrial drone market. We also recognize that we have three competitive advantages over Chinese manufacturers: 1) development of application-specific drone tailored to each industrial use case, rather than mass production of a single drone; 2) understanding of customer operations and establishment of support systems to meet local customer needs; and 3) provision of secure and safe drone to eliminate security concerns. The provision of secure and reliable airframes is mentioned. |
| Competitive environment        | The emergence of competitors as drone manufacturers and the possibility of new companies entering the market are | Companies that possess drone autonomous control system technology at the source code level are rare worldwide, and there is currently little competition, including from overseas companies, when security measures are taken into account.<br>In the development of autonomous control systems for industrial drones, verification in the field is of utmost importance. MHI has a solid customer base and can enhance its competitiveness by promoting development tailored to actual demand for each application through dialogue with customers and verification in actual environments.  |
| Risk                           | What are the biggest perceived risks?  | We recognize that major accidents by drones, including those of drone manufacturers other than our company, are a major risk. The Company's business development is expected to slow down due to delays in commercialization of the drone and delays in the introduction of drones by customers as a result of a loss of public trust due to serious accidents, etc.  |
| Manufacturing Capacity         | Is there a potential shortage of manufacturing capacity?   | As a fabless manufacturer, we outsource production to an external partner in Japan and can handle increased manufacturing capacity.   |
| Acquisition of human resources | Is there a risk of loss of core personnel such as research personnel?  | By requiring only English as a requirement for engineers' job description, the company is attracting mainly non-Japanese with cutting-edge technology. The personnel evaluation system is also designed to provide incentives by preparing career tracks not only for management roles but also for expert roles for engineers.   |
| Performance                    | How seasonality in sales occurs  | For delivery of drone, sales are recorded when all the drone have been delivered and inspected by the client; for demonstration projects, sales are recorded when the entire project is completed. For large projects, sales are often recorded from January to March, depending on the budget cycle of the client company. On the other hand, sales are usually small from April to June.  |

# Numerical Targets and Results for the Year Ending December 31, 2022



Sales of 1.03 billion yen were recorded in Q2 against the target of 2.5 billion yen. R&D expenses of 520 million yen were recorded against a forecast of 600 million yen or more.

| FY22/12                 |              |                      |
|-------------------------|--------------|----------------------|
|                         | Q2 YTD       | Target Value         |
| Net sales               | 1,031 mn JPY | 2.5 bn JPY           |
| R&D expenses            | 520 mn JPY   | 600- mn JPY          |
| Net income <sup>1</sup> | ▲829 mn JPY  | ▲650-<br>▲350 mn JPY |

| Sales Composition                                    |        |                     |        |                     |
|--|--------|---------------------|--------|---------------------|
|  | Q2 YTD |                     | 目標数値   |                     |
|  | Unit   | Amount (100 mn JPY) | Unit   | Amount (100 mn JPY) |
| Sales of application-specific drone                  | 484    | 6.1                 | 1,100~ | 12                  |
| Small aerial photography drone                       | 481    | 6.1                 | 1,000~ | 10                  |
| Other application-specific drone                     | 3      | 0.06                | 100~   | 2                   |
| Creating Solutions                                   | 12     | 3.2                 | ~150   | 12                  |
| Demonstration experiments and contracted development | -      | 2.6                 | -      | 7                   |
| General-purpose and evaluation drone                 | 12     | 0.5                 | ~150   | 5                   |
| Other  | -      | 0.8                 | -      | 1                   |

1: The upper limit of net income assumes that the effects of shortages and price hikes in semiconductors and electronic components will be resolved by the end of the year, and the lower limit assumes that these effects will continue to a certain extent throughout the year and that R&D expenses will be invested flexibly upfront.

| 指標   |                       | FY18/03 | FY19/03 | FY20/03 | FY21/03 | FY21/12<br>(9 months) | FY22/12 |                    |
|--|-----------------------|---------|---------|---------|---------|-----------------------|---------|--------------------|
|  |                       | Actual  | Actual  | Actual  | Actual  | Actual                | Q2 YTD  | Full Year forecast |
| <b>Sales of application-specific drone</b>                   |                       |         |         |         |         |                       |         |                    |
| Small aerial photography drone<br>(Low ASP)                  | Unit                  | -       | -       | -       | -       | -                     | 481     | 1,000~             |
|  | Amount<br>(100mn JPY) |         |         |         |         |                       | 6.1     | 10                 |
| Other application-specific drone<br>(High ASP)               | Unit                  |         |         |         |         |                       | 3       | 100~               |
|  | Amount<br>(100mn JPY) |         |         |         |         |                       | 0.06    | 2                  |
| <b>Development of application-specific drone<sup>1</sup></b> |                       |         |         |         |         |                       |         |                    |
| PoC and Development  | Project               | 60      | 81      | 112     | 82      | 41                    | 36      | -                  |
|  | Amount<br>(100mn JPY) | 2.1     | 2.9     | 8.6     | 3.7     | 1.2                   | 2.6     | 7                  |
| Sales of Platform/ Evaluation<br>drone <sup>1</sup>          | Unit                  | 40      | 106     | 101     | 46      | 18                    | 12      | -                  |
|  | Amount<br>(100mn JPY) | 0.9     | 3.8     | 3.0     | 1.4     | 0.6                   | 0.5     | 5                  |
| Number of shipments <sup>1</sup>                             | Unit                  | -       | 136     | 128     | 71      | 25                    | 24      | ~150               |

1: The number of Sales of Platform/Evaluation drones represents drone sold in the platform sales (former STEP 3 and 4), and the number of shipments represents the total number of drones shipped including the demonstration experiments (former STEP 1 and 2)

# Quarterly Sales Trends



| Fiscal Year   |   | FY19/03    |    |    |     | FY20/03 |            |     |     | FY21/03    |    |    |     | FY21/12      |            |    | FY22/12    |    |
|---|---|------------|----|----|-----|---------|------------|-----|-----|------------|----|----|-----|--------------|------------|----|------------|----|
| Quarterly Results   |   | Q1         | Q2 | Q3 | Q4  | Q1      | Q2         | Q3  | Q4  | Q1         | Q2 | Q3 | Q4  | Q1           | Q2         | Q3 | Q1         | Q2 |
| <b>Demonstration experiment<sup>1</sup></b><br>• Proof of Concept<br>• Custom development   | Sales mn JPY                              | 25         | 59 | 75 | 133 | 27      | 65         | 102 | 671 | 1          | 22 | 22 | 323 | 14           | 42         | 67 | 252        | 16 |
|   | Num. of projects                          | 6          | 16 | 22 | 37  | 14      | 22         | 21  | 55  | 2          | 11 | 15 | 54  | 6            | 14         | 21 | 34         | 2  |
| <b>Sales of platform drone<sup>2</sup></b><br>• Sales of standard and general-purpose drone<br>• Drone modified for customers based on the standard drone | Sales mn JPY                              | 10         | 67 | 80 | 225 | 24      | 48         | 19  | 212 | 4          | 10 | 13 | 116 | 15           | 34         | 17 | 42         | 17 |
|   | Num. of units                             | 8          | 20 | 31 | 47  | 6       | 12         | 9   | 74  | 1          | 3  | 5  | 37  | 6            | 6          | 6  | 8          | 4  |
| <b>Sales of application-specific drone<sup>3</sup></b><br>• Sales of mass-produced drone  | Sales mn JPY                              | -          | -  | -  | -   | -       | -          | -   | -   | -          | -  | -  | -   | -            | -          | -  | 593        | 24 |
|   | Num. of units                             | -          | -  | -  | -   | -       | -          | -   | -   | -          | -  | -  | -   | -            | -          | -  | 476        | 8  |
| <b>Other<sup>4</sup></b><br>• Sales of parts<br>• Fuselage repair service<br>• Some national projects   | Sales (of which national projects) mn JPY | 68<br>(65) | 14 | 12 | 33  | 9       | 29<br>(18) | 9   | 59  | 30<br>(21) | 8  | 10 | 55  | 237<br>(219) | 55<br>(50) | 15 | 64<br>(21) | 20 |

1: Solution development (STEP 1 and 2) was renamed to "Demonstration experiment" from FY21/03 Q1.

2: Drone sales (STEP3,4) was renamed to "Sales of platform drone" from FY21/03 Q1.

3: Sales of mass-produced drone are recorded for drone that are expected to be mass-produced in specific areas.

4: National projects are generally recorded as non-operating income with respect to grants received. On the other hand, some projects whose main purpose is to conduct commissioned experiments are recorded as revenues.

# Major financial items by quarter



| Fiscal Year <sup>1</sup>                   | FY19/03 |     |     |     | FY20/03 |     |     |     | FY21/03 |      |      |     | FY21/12 |      |      | FY22/12 |      |
|--|---------|-----|-----|-----|---------|-----|-----|-----|---------|------|------|-----|---------|------|------|---------|------|
| Quarterly Results                          | Q1      | Q2  | Q3  | Q4  | Q1      | Q2  | Q3  | Q4  | Q1      | Q2   | Q3   | Q4  | Q1      | Q2   | Q3   | Q1      | Q2   |
| <b>Sales</b><br>mn JPY                     | 104     | 141 | 168 | 392 | 60      | 143 | 130 | 943 | 36      | 42   | 46   | 495 | 267     | 133  | 100  | 952     | 78   |
| <b>Gross profit</b><br>mn JPY              | 13      | 83  | 101 | 204 | 8       | 69  | 75  | 655 | ▲ 6     | ▲ 6  | ▲ 13 | 94  | 17      | 5    | ▲22  | 133     | ▲30  |
| <b>Gross profit margin</b>                 | 13%     | 59% | 60% | 52% | 14%     | 48% | 58% | 70% | ▲19%    | ▲16% | ▲28% | 19% | 7%      | 4%   | ▲23% | 14%     | ▲39% |
| <b>SG&amp;A</b><br>mn JPY                  | 157     | 172 | 244 | 159 | 205     | 171 | 201 | 213 | 230     | 173  | 314  | 488 | 325     | 348  | 515  | 535     | 442  |
| <b>of which R&amp;D expenses</b><br>mn JPY | 85      | 95  | 128 | 58  | 66      | 54  | 77  | 78  | 60      | 47   | 160  | 316 | 153     | 165  | 286  | 292     | 228  |
| <b>R&amp;D expenses ratio to Sales</b>     | 82%     | 67% | 76% | 15% | 110%    | 38% | 59% | 8%  | 167%    | 112% | 340% | 64% | 57%     | 124% | 285% | 31%     | 290% |

1: Figures for the FY21/03 Q3 and thereafter are based on consolidated financial statements, while figures for earlier quarters are based on non-consolidated financial statements.

# Balance Sheet



| mn JPY              | FY22/12<br>Q2 (22/06) |                                       | FY21/12<br>Q1 (21/06) | FY21/12<br>Q3(21/12) |
|---------------------|-----------------------|---------------------------------------|-----------------------|----------------------|
|                     | Actual                | YoY<br>Increase/Dicrease <sup>1</sup> | 実績                    | 実績                   |
| Current assets      | 3,202                 | + 32%                                 | 2,428                 | 4,177                |
| Cash                | 1,823                 | + 38%                                 | 1,320                 | 2,759                |
| Fixed assets        | 1,819                 | + 90%                                 | 958                   | 1,537                |
| Current liabilities | 282                   | + 179%                                | 100                   | 287                  |
| Fixed liabilities   | 52                    | + 1,411%                              | 3                     | 8                    |
| Total liabilities   | 334                   | + 220%                                | 104                   | 295                  |
| Net assets          | 4,689                 | + 43%                                 | 3,282                 | 5,419                |
| Total assets        | 5,022                 | + 48%                                 | 3,386                 | 5,715                |

1: FY21/12 Q1 (21 Jun) vs. FY22/12 Q2 (22 Jun)

## Company Outline

Industrial drone manufacturer



|                                |  |
|--------------------------------|--|
| <b>Corporate Name</b>          | ACSL Ltd.  |
| <b>Representative</b>          | Satoshi Washiya (President)  |
| <b>Established</b>             | November 2013  |
| <b>Location</b>                | Hulic Kasai Rinkai Building 2F, 3-6-4 Rinkaicho, Edogawa-ku, Tokyo 134-0086, Japan                                 |
| <b>Capital</b>                 | 16 Mm JPY (as of June 2022)  |
| <b>No. of employees</b>        | 79 (as of June 2022)   |
| <b>Description of Business</b> | Manufacturing and providing industrial drones. Providing automation solution services using autonomous technology. |

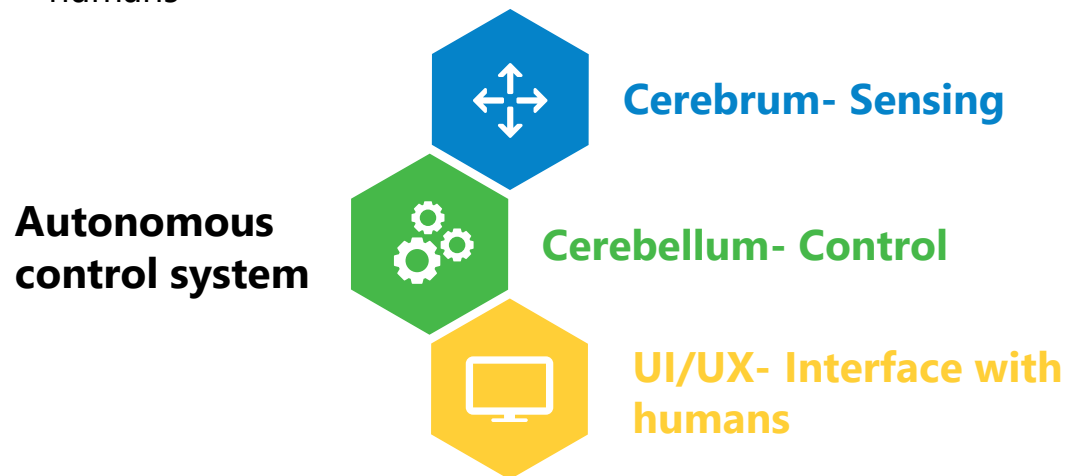
# ACSL - a pioneer in drone manufacturing in Japan



ACSL manufactures application-specific drones using proprietary autonomous control technology, and upgrades operations at client site.

## Core technology: Autonomous Control System

Our proprietary control technology consists of the "cerebrum", which actively grasps the surrounding environment, the "cerebellum", which controls movement of robotics and "UI/UX" that serves as the interface with humans



## Competitive advantage: Knowing our Client

ACSL works closely with clients to understand their operations and the difficulties they face. We develop drones tailored to individual applications through trials and testing





Our business constitutes demonstration and sales of platform drones and promoting development, mass production, and sales of application-specific drones.



## Solution development

Sales of evaluation and platform drones for technology verification, as well as proof-of-concept trials and custom development based on customer requests



## Sales of application-specific drones









Development, mass production, and sales of application-specific drones using the knowledge gained from demonstration tests

# Competitive landscape

Drones for industrial purposes are different from that of consumer use. Industrial drones tend to be application specific, as one-fits-all does not work for all use cases.

ACSL product

## Key market segments

|   | Consumer (B to C)   | Industrial (B to B)  |   |  |
|---|---|--|---|--|
|   | Aerial  | Inspection   | Logistics   | Disaster Prevention  |
| <p><b>General purpose</b><br/>Can be applied to multiple purpose</p>                                | <p>Mainly inexpensive foreign-made general-purpose drones</p> | <p> <b>Platform PF2</b><br/>Other companies: Mostly foreign-made general-purpose drones with GPS support</p>  | <p> <b>Platform PF2</b><br/>Other companies: Mainly large logistics drones such as foreign-made VTOL drone</p>                 | <p> <b>Platform PF2</b><br/>Other companies: Mainly foreign-made general-purpose drones</p>   |
| <p><b>Application-specific</b><br/>Optimized performance and specification for each application</p> | <p>No application-specific drone for consumer use</p>         | <p> <b>Small aerial</b></p> <p> <b>Smokestack</b></p> <p> <b>Enclosed environ.</b><br/>Other companies: A limited number of drones for each inspection application</p> | <p> <b>Delivery (Level 4)</b><br/>Other companies: A very limited number of drones with Level 3 or higher safety features</p> | <p> <b>Small aerial</b><br/>Other companies: A limited number of drones with flight performance and safety features for disaster prevention applications</p> |

# Management Team (as of June 30, 2022)

**President**

**Satoshi Washiya**



M.S. in Architecture from Waseda University. Served both domestic and multinational companies in corporate wide transformation projects at the Tokyo and Stockholm office of McKinsey & Company. Joined ACSL in July 2016.

**CFO**

**Kensuke Hayakawa**



M.S. in Management of Technology from Tokyo institute of technology. Implemented operational improvement/transformation of portfolio companies at KKR Capstone. Joined ACSL as CFO in March 2017.

**CTO**

**Dr. Chris Raabe**



Ph.D. from University of Tokyo. Embedded software engineer at Boeing. Assistant professor at Department of Aeronautics and Astronautics, University of Tokyo. Joined ACSL as CTO in April 2017.

**External Director**

**Masanori Sugiyama**

**External Director**

**Tadaharu Shimazu**

**Audit & Supervisory**

**Akira Ninomiya**

**Audit & Supervisory**

**Hideki Shimada**

**Audit & Supervisory**

**Takeshi Ohnogi**

Copyright © 2022 ACSL Ltd.

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.

Information in this material is subject to change without notice, its accuracy is not guaranteed and it may not contain all material information concerning ACSL Ltd. (the "Company"). The Company makes no representation regarding, and assumes no responsibility or liability for, the accuracy or completeness of, or any errors or omissions in, any information contained herein.

In addition, the information contains projections and forward-looking statements that may reflect the Company's current views with respect to future events and financial performance. These views are based on current assumptions which are subject to various risks and which may change over time. No assurance can be given that future events will occur, that projections will be achieved, or that the Company's assumptions are correct. It is not the intention to provide, and you may not rely on this presentation as providing, a complete or comprehensive analysis of the Company's financial or trading position or prospects.

This presentation does not constitute an offer or invitation to purchase or subscribe for any securities or financial instruments or to provide any investment service or investment advice, and no part of it shall form the basis of or be relied upon in connection with any contract, commitment or investment decision in relation thereto.

ACSL