

# Autonomous Control Systems Laboratory Ltd.

Financial Results Material for the 3rd Quarter of Fiscal Year Ending March 31st, 2021

Feb 15<sup>th</sup>, 2021

#### Presentation

My name is Washiya and I am the President and COO of Autonomous Control Systems Laboratory Ltd.

Thank you very much for joining us today for our financial results briefing for the third quarter of the fiscal year ending March 31, 2021.

As for today's procedure, I will explain the progress of the business in about 45 minutes along with the financial

results presentation materials. If you have any questions, please feel free to ask via chat or ask in the Q&A session.

#### FY21/03 Q3 Highlights

- Under ACSL Accelerate, announced in August 2020, ACSL is aiming to achieve 100 billion JPY sales after 10 years and over 5 billion JPY sales in FY22, and proceeding business to achieve these goals
- Due to the prolongation of COVID-19 and emergency declaration, ACSL decided to postpon projects, suspend demonstrations and shift to the next fiscal year, with prioritization of customer safety. Sales are expected to shift by about half a year and expected to be 600 million JPY sales in this fiscal year, while the forecast was 1.4~1.7 bn JPY sales. Already pipelines for next fiscal year of 259 million JPY including shift projects are acquired.
- The environment for the industrial drone market is being developed, and demand is steadily growing
- The Japanese government announced to establish a licensing system and drone safety certification system in order to regulate Level 4 flight
- U.S. Government imposed embargo on DJI, Chinese drone manufacturer
- The business strategies in the mid-term management direction are being implemented as planned, and the results of activities are being achieved
- Developing small aerial drone, smokestack inspection and enclosed environment inspection drones to launch in FY2021. Successful on-site demonstration with a 5 kg payload drone for delivery
- Expected to establish a track record for trials of a wide range sales models such as subscription by the end of the current fiscal year
- Preparing to expand into India, Singapore, and other countries for ASEAN expansion
- Established CVC in December 2020 for technology collaboration and is actively engaging in sourcing activities
- Sales was 125 MM JPY in Q3 YTD. ACSL Accelerated R&D activities as an upfront investment, resulting in a net
- loss of 812 MM JPY. It revised this fiscal year forecast to 600 MM JPY sales and operating loss of 1.2 bn JPY. © 2

As for the situation in the third quarter, our company have firmly committed to pioneering the drone market as a manufacturer of industrial drones.

On the other hand, we have been strongly affected by the prolongation of COVID-19, and some activities have been restricted due to the declaration of a state of emergency that started at the beginning of the year.

In response to this, we have revised our forecast from 1.4~1.7 billion yen to 600 million yen, and I am extremely sorry for the anxiety this has caused in the market.

On the other hand, there is a strong need for drones, and we are working towards to acquire projects, including the next fiscal year.

The Japanese government has also announced its policy for the deregulation in 2022. Also, the demand for drone security and secure drones is steadily growing worldwide.

Although there are some parts where the activities are shifted due to restriction of project acquisition, we intend to achieve our master plan of 100 billion yen in sales in 10 years and sales of 5 billion yen in FY2022 through solid investments in R&D, which we set in our mid-term management direction.

#### What ACSL will accomplish

# **MISSION**

Liberate Humanity Through Technology

#### VISION

Revolutionizing social infrastructure by pursuing cutting-edge robotics technology

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I will now explain the details to you.

First of all, I would like to talk about our mid-term management direction, ACSL Accelerate, and highlights of our business progress.

Our goal is to "LIBERATE HUMANITY THROUGH TECHNOLOGY ".

We are a technology company and a hardware company, and we are working to liberate humans from tough and dirty, dangerous jobs (what is called "3K job") throughout our technology. This is what we are working on.

We also believe that we are a robotics company. By firmly implementing this technology in society, we will revolutionize the social infrastructure itself. This is the vision we have for our company.

# ACSL is an industrial drone manufacturer pioneering drone market



ACSL is a manufacturer of industrial drones that develops application-specific drones through discussion and demonstration with customers, using proprietary autonomous control as its core technology.

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As for our company, we are using our self-developed control technology as the core technology to interact with various customers or to understand their pain points.

Then, validate the technology in the field and validate if the pain points are well resolved.

And we develop drones that enable that. We are the company that does this kind of thing.

We are the company that can solve the pain points that customers need by combining various hardware and sensor technologies because of our own proprietary control system.

In addition, the control technology we are developing includes VISUAL SLAM technology which can automatically fly in an environment where GPS cannot be connected.

This control technology includes a unique control theory that enables flight even when a gust of wind blows outdoors.

With this and through a consulting approach we will try to find solutions and mitigation methods for pain points through hearings and dialogues with our customers, and to develop drone that meet the specific needs. This is our strength.

# Announced "ACSL Accelerate" in August 2020 to achieve market dev

In the "ACSL Accelerate" announced in August 2020, a masterplan that defines what ACSL should be aiming for after 10 years and a mid-term management direction (FY20-22) to realize it and promoting projects to achieve

#### A masterplan defining what ACSL aim for after 10 years

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





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We established a master plan for the next 10 years, and disclosed our mid-term management policy called ACSL Accelerate as a milestone which to be achieved over the next 3 years.

Our master plan is to become a drone manufacturer capable of generating sales of 100 billion yen in 10 years and shipping 30,000 units per year. The technology will be a de facto standard that will support the nation.

Under the mid-term management policy, which consists of four pillars of strategies to be achieved over the next 3 years, we will achieve sales of 5 billion yen in FY 22.

We are aiming to generate decent sales from some application-specific drones.

#### ACSL results for this fiscal year will be affected by COVID-19

Due to the prolongation of COVID-19 effect and state of emergency declaration, ACSL postponed projects, suspended demonstrations and decided to shifted to the next fiscal year. As a result, sales shifted about six months



As I mentioned at the beginning, our business results for the current fiscal year are strongly affected by the prolonged period of the coronavirus beyond our expectations and the declaration of a state of emergency, which was declared at the beginning of the year.

In order to acquire projects, we not only conduct simple sales, but also engage in dialogue with customers, actually visit industrial complexes, ships, and smokestack, and collect initial data such as operations, pain points and environment.

Due to the impact of the emergency declaration and dense avoidance, it has become difficult to carry out some of these projects and they have been shifted to the next fiscal year. As a result, there is a delay of about six months in terms of project acquisition.

In addition, we have already taken the decision to suspend or transfer to the next fiscal year because the implementation of the demonstration tests that we have already received under the emergency declaration will expose the safety of our customers and, in some cases, the safety of our employees.

As a result, we have revised our sales target from 1.4~1.7billion yen to 600 million yen.

On the other hand, with regard to R&D expenses, we do not believe that postponing R&D itself due to a delay in acquiring projects is in line with the achievement of our medium-term management policy. Therefore, we have decided to carry out research and development thoroughly and accelerate it, even though some of our own development.

# Already acting in acquiring projects after the next fiscal year

Already acting for the next fiscal year, the current acquisition after the next fiscal year is 259 million JPY, including delays Acquiring more projects than in the same period last year



On the other hand, we have reported that the business results for this fiscal year will be approximately 600 million yen, but there are some projects we have not yet acquired, and some others we have already been launched but will not be booked until the next fiscal year.

At present, we have completed the acquisition of about 260 million yen in projects, in addition to the 600 million yen to be booked in the current fiscal year.

This is because, even though actual activities carried out during the current fiscal year, completion of projects, implementation of demonstration tests, and completion of development are scheduled for the next fiscal year. In addition, our company is already working toward the end of fiscal year, to acquire new projects, for the next fiscal year and beyond, so we expect this figure to steadily build up toward the 4Q.

# Steady growing demand for industrial drones

Regulations for BVLOS<sup>1</sup> flight in populated areas is scheduled and it is going to allow drones to fly in many environments where thy have not been able to fly, and is going to unlock the large potential space and market



I will now explain how drone industry currently look like.

First, for the vertical axis, there are the unpopulated area and the populated area. In other words, whether the environment with or without people.

Then, for the horizontal axis, there are the visual and beyond-visual-line-of-sight (BVLOS). Which means fly drone within in sight or not. If you fly in the invisible range, it will inevitably be remote control or automatic flight.

Level 1, 2, and 3, where drones are flown over almost uninhabited areas, are being deregulated.

In terms of an unassisted visual flight in unmanned zones, namely, level3, we claim that we have a leading track record in Japan.

In 2022, regulations are expected to be relaxed for Level 4, an off-sight flight in manned areas. We believe that level 4 will be the most important driver of market expansion. This is because, in urban areas, it is almost impossible to create an environment where no one is present when inspecting a building.

We cannot rule out the possibility that the drone flies over people's heads when we try to carry something in logistics. In this sense, the deregulation of Level 4 will enable drones to handle almost everything in the world for the first time. I think this is the biggest implication of the deregulation of Level 4.

# Government announced direction of system to achieve Level 4

The Japanese government announced to establish a licensing system and drone safety certification system in order to deregulate Level 4 (BVLOS flight in populated areas) in December 2020.



And, the Japanese government has already been moving toward the relaxation of Level 4 regulations in 2022. Two months ago, in December 2020, the government announced the direction of a new system to realize Level 4.

This is the release of what the Japanese government is currently thinking about as the foundation for 2022.

There were two major ones.

The first is to establish a licensing system for those who operate drones.

The second one is the establishment of a system to certify the safety of the drone's airframe.

This system is indispensable for new robotics technologies and various social infrastructure technologies.

For example, there is a vehicle inspection on the car side and a driver's license on the driver side.

In the case of aircraft, in fact, each pilot holds a license for each aircraft.

Airplanes themselves have safety certification and type approval.

Drones are also treated in the same category.

This policy requires a pilot with nationally authorized knowledge to fly an authorized safe drone.

We believe this is a very significant move, and we also expect that deregulation will progress as scheduled for 2022.

### **Revealed of global demand for security**

In addition to the Japanese government announced policy for procuring "secure" drones in September, U.S. Government imposed embargo on DJI, Chinese drone manufacturer

U.S. Embargoes China's DJI, Largest Drone Company, for Involvement in Human Rights Violations
On December 18, the U.S. Department of Commerce imposed embargo on China's DJI, the world's largest drone
manufacturer. It was determined that the company was involved in human rights violations using high-tech surveillance
technology. Drones made by DJI are also used by Japanese companies and may be affected by the sanctions.

The company was added to the Entity List("EL"), a list of companies with security problems. Exporting U.S. products to the company requires a license from the Department of Commerce, and license applications are generally rejected. (ellipsis)

DJI's drones are used in many countries around the world, including Japan and the United States, and are said to hold 70% of the global market share. DJI's drones incorporate U.S. semiconductors and other components, which will become more difficult to procure. This is likely to have an impact on Japanese companies that use the DJI's products to inspect infrastructure and factories.

The Trump administration has been pushing for a ban on DJI because of fears that its drones, which can take aerial photos, could be used by the Chinese government for espionage. U.S. President-elect Joe Biden is determined to take a hard line on China's human rights violations, and it is highly likely that sanctions will continue. (ellipsis)

SOURCE : "U.S. Embargues China's DII, Largest Drone Company, for Involvement in Human Rights Violations" December 19, 2020, The Nikkei: Translated by ACSL © 2021 ACSL Ltd. All Rights Reserved.

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The Nikkei

Another major market trend is the growing awareness of security issues extremely.

In September 2020, which is about three or four months ago, the government released its policy on government procurement. Drones used for government procurement must be secured. In addition, the Government of Japan has announced that the replacement of drones, which have already been introduced, will take place promptly and firmly.

The same trend is spreading worldwide. As you know, the U.S. has also raised the need for security-equipped drones, and as mentioned in the case study here, some Chinese drones are reportedly embargoed in the U.S. That's exactly how drones were added to the Entity List.

As a drone manufacturer, we feel that this is extremely severe. In an environment where it is extremely difficult to procure American semiconductors from the United States, it is not possible to conduct business as easily as before. We believe that we need to keep a close watch on this security trend worldwide.

So far, the coronavirus has caused short-term and temporary performance delays. On the other hand, I mentioned that the market environment is progressing well.

# Promoted business strategies as planned

Implemented the four new business strategies announced in the mid-term management direction. While some restrictions on the movement of people, ACSL has been able to achieve the results as planned.

New business strategy	y	Progress		
Development of application-specific drones	Commercialization of small aerial drones (for government procurement and the private sector), medium logistics drones (Level 4 compliant), smokestack inspection drones, and enclosed environment inspection drones	Developing small aerial drone, smokestack inspection and enclosed environment inspection drones for launch in FY2021. Successful on-site demonstration with a 5 kg payload drone		
Introduction of subscription model	Subscription-based fixed income/recurring sales model to be introduced to meet various customer needs, in addition to one-off drone sales	Expected to establish a track record for trials of a wide range sales promotion models by the end of the current fiscal year, including subscription, rental, and leasing		
Full scale entry into ASEAN region	Establish an office in Singapore, the core city in the ASEAN region, and hire local talents to conduct development and sales activities, and begin full-scale overseas expansion	While restrictions on the movement of people, preparations are being made to expand into India, Singapore, and other countries for ASEAN expansion.		
Technology procurement through CVC	Establish CVC (or equivalent function) and actively procure technologies with potential for technology synergies, such as AI, blockchain, security, image processing and sensors	Established CVC in December 2020 for technology collaboration and is actively engaged in sourcing activities		

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Next, let's look at our company's activities.

We are making steady progress on the four main strategies which are stated in our mid-term management direction.

One of the four strategies is an application-specific drone. The strategy is to create sophisticated airplanes by focusing on four areas: small aerial drones, 5kg payload delivery drone (Level 4 support), smokestack inspection, and enclosed environment inspection. One of our strategies is to focus on these four areas and create sophisticated drones for specific cases.

The second component is to explore a wide range of sales models such as a subscription model in addition to the existing sell-out model.

The third point is to expand into the ASEAN market as well as the domestic market in order to increase sales volume.

The fourth pillar is technology. We will establish CVC to invest in the technologies that we develop ourselves, that we work on in collaboration with third parties, and that have synergies. This is what we are doing. As for the progress in this area, we are expecting to launch the development of application-specific drones in FY21 and the next fiscal year for the three major types, which I will explain in detail later. We believe that these products will be our growth driver in the next fiscal year and beyond.

Regarding drones for logistics, it is necessary to revise the law in 2022, but we are steadily promoting the demonstration of the prototype.

Subscriptions, including rentals, leases, and a wide range of models, are expected to be fully tested during the current fiscal year.

As for the ASEAN expansion, as you know, an international movement has been limited, so we are making good use of remote conferences and other means to prepare for advancing into the Singapore and Indian market, which has recently emerged in the security field.

As for the fourth CVC, it was established in December 2020, and we have already in the process of sourcing where technological synergies can be achieved.

### Steps towards the launch of an ACSL application-specific drones

After identifying and prioritizing use case, ACSL is developing application specific drones with major customers and developing Go-to-Market strategy



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Firstly, I would like to explain drone development. This is the flow of how we develop our application-specific drone.

There is a list of various usage requests from customers.

In this process, we determine the actual use and the first use that should be tackled based on the dialogue with customers and the initial verification. These four cases are what we have prioritized.

After that, we will listen to the customer's pain points and make the first prototype. This is going to be the first drone ever.

Then, we fly it into the industrial complex, smokestack, and sewers and receive various feedback such as their requests or level of satisfaction.

There are many cases where hidden requests and essential pain points are difficult to come up with unless you try to fly in a real environment. This feedback will be used to develop drones.

The product created based on these feedbacks will become the prototype for pre-production, and we will proceed with the actual certification and regulatory compliance.

Then we will move on to design the operation process such as how to handle the production and procurement, or how to improve our sales system and after-sales support, how to support the actual operations at the customer side.

After the completion of these processes, we will launch it.

# Three application-specific drones are expected to launch in FY21

ACSL is proceeding each steps toward the launch of the four application-specific drones announced in "ACSL Accelerate FY20" in next fiscal year and progress is on track



I would like to briefly explain the progress in these four areas.

This small aerial airframe is intended for use by the government and the private sector. The development of a prototype has been completed and various evaluation tests have been conducted.

Our company is working to establish a sales and mass production system with the aim of launching the product in the 3rd quarter of 2021.

In terms of the status of smokestack inspections, although most of the previous demonstration tests have already entered the final stage of demonstration, we are still continuing verification tests for the various smokestack, and we have obtained generally favorable results. Therefore, it is expected that the product will be launched in FY 21, 2Q.

Regarding drones that can be inspected in an enclosed environment, the design of mass production prototypes has already been completed and we are moving to build a production system. We have also designed a nationwide support system for maintenance, and plan to launch it in 2Q 2021.

Therefore, the models of these three drones will be improved as next year's growth drivers.

### Delivery: Successful site demonstration with a 5 kg payload drone

Conducted on-site demonstration of a 5 kg payload delivery drone as actual environment with ANAHD Successful flight a total of 65 times, more than 160 km in four days

#### Project background

- ACSL has conducted Level 3 demonstrations in the delivery area with a number of clients
- Payload of current ACSL drone is about 3kg
- For social implementation, capability of 20 km flight distance with 5 kg payload is essential
- Developed prototype of 5 kg payload delivery drone based on the on-site verification results
- Will continue to conduct further on-site demonstration with prototype delivery drone, aiming for social implementation

#### **Project overview**

- Conducted on-site demonstration of a 5 kg payload delivery drone prototype in actual environment with ANAHD
- Demonstrated an immediate delivery service of daily necessities and prescription drugs
- Succeeded 65 times flights, in total more than 160 km, in four days





Cargo transportation

5 kg payload delivery drone prototype

demonstration Confidential

in on-site

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A 5kg payload delivery drone will not be completed as a Level 4 compliant drone without the Level 4 legal amendments in 2022. However, we are flying the prototype at the Level 3 stage as various demonstrations.

As already disclosed, together with ANA Holdings, Ain Holdings, Seven-Eleven, and NTT Docomo, we are trying to get good results by continuously testing a drone that can carry a weight of 5kg payload.

I would like to briefly explain the demonstration of that.

This was verified in Fukuoka City, where the port is the logistics base and we transported the goods to an island that is in 2 kilometers away, so it is marine transportation.

Near the port, there is a 7-Eleven and an Ain Holdings pharmacy. When people living on the island place an order online, the information is sent to Seven-Eleven and Ain Holdings on the main island, and then it is carried to one logistics hub at the port. Then, the drone flies securely to the other side of the island.

Since we don't know whether there is someone at the destination, we delivery it either directly or put it in a coin locker temporarily.

Through this operation, our company is providing a drone capable of carrying a weight of 5 kilograms payload. We have flown a total of 65 times in 4 days and 160 kilometers in total without any crashes. We were able to obtain good data.

As a result of this continuous operation, we will be able to understand various issues and pain points, and this will be reflected in future drone development.

# Corporate venture capital for technology synergies

Established a corporate venture capital (CVC) to realize technological synergies and accelerate development through investment in domestic and overseas companies

ACSL's focus areas and investmen	t themes	Purpose and overview of CVC			
)rone Developer	Complemental technologies to core technologies	Purpose	Accelerated development through technology synergies     Agile investment decision making through CVC		
Control technology	Image		<ul> <li>Working with RTH to and improve management of portfolio companies</li> </ul>		
(Drone brain) Design and development	Al / Block chain	Investment Target	<ul> <li>Technologies that accelerate ACSL development through technical synergies (e.g., image processing AI, blockchain, and security)</li> </ul>		
Component Supplier	Sensors		Domestic and overseas companies with unique technologies		
	Count doubles		to early phase		
Solution Developer ACSL Solution partners	Certification	CVC investors <sup>1</sup>	ACSL REAL TECH		
End User Customer	Security	Fund size and duration	<ul><li>Up to 1 billion JPY</li><li>About 10 years with extension</li></ul>		

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Secondly, corporate venture capital aiming at technological synergies was established in December 2020. The size of the fund is 1 billion yen, and the management period is about 10 years.

Of course, since we are not a venture capitalist, we have asked REAL TECH Holdings who is a professional venture capitalist to join us and carefully supervise the management of our business.

We will promote the implementation of drones in society through capital collaboration with companies that can create technological synergies.

With the establishment of this corporate venture capital, we have begun preparing consolidated financial statement from this fiscal year.

### **Other Business Highlights**

Collaborating with existing and new customers in demonstration and developing of application specific drones Development and production systems for mass production is also in progress



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As for the other project highlights, we are involved in so many activities this time.

There is a lot of activity behind this release, as this is really what we have been able to release. Due to time constraints, I would like to highlight just a few of them.

The first thing I would like to highlight is that we are making hybrid engine technology for our drones.

At present, drones are powered by batteries, and depending on the model but the range of time that can fly is about 30 to 60 minutes.

In order to extend the power of the drone in the future, it is surely that improvements in the drone itself are required, but the key will be how to make innovations in energy sources and energy density. This will only be possible with the innovative development of batteries. This is no longer a matter of waiting for the revolutionary evolution of batteries.

# Development of hybrid drone with AeroGLab

Started hybrid technology drone development with AeroGLab

Aiming social implementation of the drone capable of long time and long-distance flight

#### Project background

- Batteries used in most drones have a flight time of about 30 minutes at most
- Difficult to fly for long time and long-distances due to the needs for battery exchange for flights longer than 30 minutes
- Development of long time and long-distance flight drones is also an important factor for Level 4 flight
- AeroGLab(AGL) has developed "AeroRange PRO", a hybrid drone with maximum flight time of 180 minutes, flight range 120 km, and payload of 10 kg

#### Joint development with AGL

- In the development of "AeroRange PRO", ACSL developed and provided ACSL flight controller for AGL
- Strengthening collaboration through contract for the development and manufacture of AGL's hybrid technology drone
- Aiming social implementation of drones capable of long flight time and long-distance



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In order to find a method to extend flight times, we have focused on what is called hybrid technology.

There is a company called AERO G Lab. This is a company that develops large hybrid engine drones and hybrid technology. We are working closely with this company to incorporate this technology into our drones.

This will lead to the development of a power source for carrying heavy objects over 5kg payload and a hybrid engine for flying over a long distance of 20~30 kilometers. I think this will be a truly innovative step up in our basic technology.

In the field of automobiles, we have seen a shift from gasoline engines to hybrid engines.

Drones that use batteries are like at the stage of electric vehicles, which are even more advanced, but in one part of the process, there is still a demand for hybrids, so I think the development of this technology is quite important.

### **Development of drone emulator**

Development of drone emulator<sup>1</sup> using VR technology with RIKEI and VFR.

Aims to Improve development efficiency with emulator compatible with inspection drone camera

#### Project background

- For the development of industrial drones, on-site verification at actual environments is important
- Traditional emulators, which are time-consuming to demonstrate and not supporting Visual SLAM<sup>2</sup> cameras
- Started development of drone emulator based on Rikei's VR technology and drone technology and demonstration knowledge of ACSL and VFR
- Aim to develop an emulator compatible with inspection drone cameras to improve drone development efficiency

1: Emulator : A system that uses software instead of actua 2: Visual SLAM : Simultaneous Localization and Mapping © 2021 ACSL Ltd. All Rights Reserved. Realize buildings, weather, and drone control models, etc. in VR field
 Place virtual cameras based on camera characteristics in VR
 Quickly generate enormous visual data required for Visual SLAM development
 Confidential ACL

Project overview

Another example I would like to mention is the development of an emulator for drone development that uses VR.

This is going to be developed in collaboration with Rikei Corporation (a company in the second section of the Tokyo Stock Exchange), and VAIO's subsidiary, VFR Inc.

For example, if the activity restrictions increase due to the coronavirus, it may become difficult to provide a demonstration environment for on-site demonstration.

In the case of a large plant or facility, the number of situations will increase, such as not being able to enter a chimney when you want to, and not being able to enter an industrial complex when you want to.

In order to avoid delays in development due to this, we create a truly precise virtual space, and represent the environment in which the drone is flying. In this way, the majority of the development of features and verification can be completed in virtual space without going to the actual real environment. Final tests are then carried out in the actual real environment.

We are developing an emulator to create an environment where this kind of thing can be done.

This is already being used in the development of automobiles, etc., so by reflecting this into drone development, we will be able to accelerate development.

# Launch of drones equipped with ultra-high resolution camera

Launch of infrastructure inspection drones equipped with Phase One's cameras, which enable ultra-high resolution aerial photography and capture large areas in a short time

#### Project background

- Low-quality images taken from a distance with current drone cameras were unable to be used in inspection (e.g., structures that cannot be approached)
- 100-million-pixel ultra-high-resolution cameras of Phase One (Denmark) enables drones to capture wide-area, high-resolution images while in flight



Features of ultra-high-resolution camera drone

- Ultra-high resolution camera enables precise imaging
- Shutter can be controlled at any waypoint or interval and adjusted from the ground control station, even autonomous flight of drone
- Acquiring high-resolution images with a wide dynamic range, ideal for three-dimensionalization, AI judgment, etc.
- Integrated molding of the arm and body improves not only strength but also dustproof and waterproof performance

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And finally, I would like to share with you the news that we have started to provide infrastructure inspection drones equipped with ultra-high resolution cameras.

Most of the cameras used in drones were like single-lens reflex cameras that general customers use.

On the other hand, Phase One has developed a camera with 100 million pixels. Of course, it is going to be more expensive than a standard single-lens reflex camera, but it can take more precise images with a single image.

The advantage of this is that when you are trying to take a picture of a bridge or a car as an example, you will be able to take a precise picture even when the distance is far. For example, you will be able to take pictures with high resolution at a distance of 30 meters, which can be taken only at a distance of 10 meters at present. This has the advantage of improving safety in order to avoid collisions with objects.

On the other hand, by being able to take a wider range of images, you can take more images in one shot. Or it has the effect of shortening the shooting time.

For example, if you had to take pictures of an object multiple times, you can take pictures from 30 meters away in 1 shot. This is a camera that makes these things possible.

We are aiming to accelerate the spread of this system in various infrastructure inspection fields by making it ready for installation, and improving efficiency.

This concludes our explanation of the progress of our company's business.

# Impact of Infection Expansion of COVID-19

In this fiscal year, decided to postpone projects, suspend demonstrations and shift to the next fiscal year due to COVID-19. The demand for unmanned solutions and efficiency improvement in operation is expected to grow as a macr trend

	Short-term infection	Mid-term infection		
Customer	<ul> <li>Some sales activity restrictions due to prolonged of COVID-19 and the state of emergency declaration</li> </ul>	<ul> <li>The demand for unmanned and efficiency improvement in operation is growing as a macro trend</li> </ul>		
	<ul> <li>Postponed some of projects planned this year to the next fiscal year. Some of scheduled demonstration tests were suspended or shifted to the next fiscal year, prioritizing customer safety</li> </ul>	<ul> <li>Accelerated social implementation of remote work, non-contact etc. as a new lifestyle</li> <li>Drone utilization continues to be considered positively in all customers</li> <li>Demand for secure drones grows</li> </ul>		
Operation	<u>Activity restrictions such as sales</u> , development, and on-site demonstration due to expansion	<ul> <li>Enhance human resources for future business expansion</li> <li>Establishment of mass production system</li> </ul>		
Finance	<ul> <li>Negative impact on financial performance</li> <li>Impairment risk caused by sluggish business activities of overseas portfolio companies</li> </ul>	<ul> <li>Medium-term market expansion and growth story has not changed</li> <li>Sufficient cash holdings for operation</li> </ul>		
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Next, I would like to discuss the business results for the third quarter of 2021.

As I mentioned at the beginning, in the short term, we are strongly affected by the coronavirus.

In terms of demand, although the utilization of drones by customers has not decreased, the number of sales that can be recorded in the current fiscal year after acceptance inspection is expected to be approximately 600 million yen due to the delay in activities to acquire projects.

In terms of operations, it is difficult to enter into on-site demonstrations, so there are some restrictions on our activity.

On the financial front, we have revised our forecast of operating loss from 250~0 million yen to 1.2 billion yen in operating loss, which has a negative impact on earnings.

Also, due to the change in disclosure, the impact of impairment of fixed assets has become apparent.

On the other hand, from a medium to long-term perspective, as I explained, the government is making steady efforts to create the drone market. Since we have already acquired some projects which will be inspected in the next fiscal year or later, so there is a solid demand for it.

Also, I believe that this major trend of non-contact and remote work is still going on.

In terms of operations, the human resources market has become affluent due to the impact of the coronavirus, so we

have an environment in which we can actively employ workers.

In terms of finance, we will continue to work firmly on ACSL Accelerate (the plan for the fiscal year 2022), which we aim to achieve over the medium to long term.

As for the balance of cash and deposits, we have about 2.5 billion yen at the end of 3Q, so I believe we can maintain a sustainable system.

# **Financial Highlights**

Sales decreased from the previous fiscal year due to projects postponed, demonstrations suspended and shifted to the next fiscal year. Sales booked 125 MM JPY and profit posted net loss of 812 MM JPY in Q3

[MM JPY]

	FY2 Q	1/03 3 <sup>1</sup>	FY20/03 Q3	FY20/03 Annual	
	Actual	YoY Increase/Decrease	Actual	Actual	
Sales	125	<b>▲</b> 62.6%	335	1,278	
Gross profit	▲26	-	152	808	
Gross profit margin	▲21.2%	-	45.6%	63.2%	
Operating income	▲745	-	<b>4</b> 26	15	
Ordinary income	▲688	-	▲209	231	
Net income	▲812	-	▲212	239	

1: ACSL has shifted from non-consolidated to consolidated financial results from FY21/03 Q3

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I would like to talk about the actual performance highlights.

As of Q3, net sales were 125 million yen. Operating loss was 745 million yen.

The ordinary loss was 688 million yen. This is because we received money from the government last year and our ordinary income has improved.

The net loss for the current fiscal year was 812 million yen. This figure is lower because it includes the impairment of fixed assets.

# Sales and Operating profit by quarter

As is typical year, sales is small in Q1-Q3 and tend to be skewed toward Q4. In this fiscal year, ACSL postponed projects, suspended demonstrations and shifted to the next fiscal year due to COVID-19



As I have explained, our company has seasonality and a large portion of sales will be recorded in Q4.

In addition to this seasonality, activities themselves are also lagging behind each half of the year, so I think this trend which a large portion of sales is recorded in Q4 will continue.

Net sales for this term will be 600 million yen, so if we subtract the current sales of 120 million yen, we will be able to record about 480 million yen in Q4.

#### **Sales transition**

Demonstrations and platform drone sales decreased due to projects postponed, demonstrations suspended and shifted to the next fiscal year. "Others", including national projects, remained the same



Please see the table below for a description of the trends in net sales.

Sales of products from drone sales and demonstrations have declined due to an overall decrease in sales.

On the other hand, sales from national projects, maintenance, and parts sales are segments that will not be affected by the coronavirus, so sales have been around the same level as the previous fiscal year.

#### Quarterly change in the demonstration experiments

As is typical year, sales were small in Q3. ACSL postponed projects, suspended demonstrations and shifted to the next fiscal year due to COVID-19, resulting in a decline in revenue from the previous fiscal year



This is the change in sales of the demonstration tests.

We had sales of about 22 million yen in Q3 and about 15 projects.

Compared to the ASP of the previous fiscal year, the ASP of the previous fiscal year was approximately 5 million yen, and the ASP of the current fiscal year was approximately 1.5 million yen.

The difference is that there are cases in which projects cannot be commissioned due to the shift of activities, and the ASP is declining due to that.

### **Platform drones sales**

Sales are usually small in Q3 of each year. ACSL postponed projects, suspended demonstrations and shifted to the next fiscal year due to COVID-19 and it leads to the decrease in platform drone sales



Here is the amount of sales for drone sales.

As of Q3, we have 13 million yen, and we have sold 5 drones.

Looking at the cumulative total up to Q3, we had about 3.5 million yen in the previous fiscal year and about 3 million yen in the current fiscal year, so ASPs for drone sales are at about the same level.

#### Others

Sales of the national project by Q3 was 21 MM JPY

Maintenance services remained at the same level as the previous year



1: For national projects, subsidies received are generally posted as non-operating income. On the other hand, some projects whose main purpose is to conduct commissioned experiments are recorded as sales. © 2021 ACSL Ltd. All Rights Reserved. Confidential ACSL 31

Here is the figure for other sales.

A national project of 21 million yen was booked in Q1. And then sales in Q2 and Q3 are due to sales of parts and

after-sales maintenance.

This was maintained at the same level as the previous fiscal year.



This is the trend of the gross profit.

As the fixed cost has not been fully covered the decrease in sales, the gross profit has been negative.

### **R&D Expenditure**

Even under the influence of COVID-19, core R&D activities continued and increased R&D expenses compared to FY20/03 Q3 as an upfront investment for the next fiscal year and beyond



This is about research and development expenses.

As you can see in Q3, we are making a lot of investment in development. Even if the acquisition of the project is delayed or the implementation of the demonstration experiment itself is delayed, we will not stop the R&D. By investing our own funds, we will invest in development to achieve our mid-term management policy and FY 22 sales targets.

### FY21/03 Forecast

Sales fell short of the target due to the expansion of COVID-19

R&D activities continued as upfront investment to realize the mid-term management direction.

	Revised forecast	Previous forecast	Difference	Difference factors
Sales	600	1,400~1,700	▲800~1,100	Postponed projects, suspended demonstrations and shifted to the next fiscal year due to COVID-19
Gross profit	70	800	▲730	Decrease in absolute value due to sales decrease
Gross profit Margin	12%	57%	▲45ppt	Increase in fixed cost ratio to sales due to sales decrease
R&D	650	410	+240	Continued as upfront investment to realize the mid term management direction (Switch to in-house development of development from client projects)
Operating Income	▲1,200	▲250~0	▲950~▲1,200	
Net Income	▲1,300	▲230~50	▲1,070~▲1,350	Impaired 86MM fixed assets due to revised forecast Portfolio companies are at risk of impairment but not impaired at Q3

Lastly, I would like to explain our plan for the fiscal year ending March 31, 2021.

Due to the impact of the coronavirus on sales, there are some sales that have not been achieved. We are firmly investing in research and development as planned.

In accordance with this, we have revised our forecast for net sales of 600 million yen from the previous forecast of 1.4~1.7 billion yen for this fiscal year. As for R&D expenses, we have increased our investment in development from 410 million yen to 650 million yen.

As a result, we have revised our forecast for operating loss from a range of 250~0.0 million yen to 1.2 billion yen. Net loss will be 1.3 billion yen.

As I have already explained to you, in order to launch a product that will be a growth factor in FY 22, we are proceeding with our decision to invest in development at our own expense even if we fail to conduct some demonstrations and acquiring projects.

To this end, we are steadily increasing our development costs. In terms of net income, there are about 86 million yen in impairment of fixed assets. Due to changes in the plan for tangible and intangible assets that were placed on fixed assets, the amount has been reduced to the recoverable amount based on accounting standards.

The breakdown is that we originally had tangible assets worth 38 million yen, but now it is 0.

This includes demonstration drones for use in offices and sales promotions that were originally included in fixed assets.

About intangible assets. Intangible assets were originally valued at about 67 million yen, but we have lowered the valuation to about 14 million yen.

This is for demonstration applications and software, which have been written off to the recoverable amount.

As our company believes that this asset can be used effectively, we have recorded an impairment loss in accordance with accounting standards.

### **Numerical targets**

While sales decrease significantly in FY20, ACSL will continue to develop application-specific drones. In FY22, sales of application-specific drone are expected to drive sales growth

[JPY]	FY17 FY18 FY19		FY19	FY20 (Forecast)	FY22 (Mid-term Management Direction)
Sales	0.37 bn	0.8 bn	1.2 bn	0.6 bn	5.5 bn
Small aerial photo (Iow ASP)	-	-	-	-	1.0 bn
Other application-specific drones (high ASP)	-	-	-	-	1.0 bn
PoC and Development Sales of Platform drones	0.37 bn	0.67 bn	1.2 bn	0.48 bn	3.0 bn
Other		0.13 bn	0.1 bn	0.12 bn	0.5 bn
Gross profit Margin	48%	53%	63%	12%	50%
R&D	0.32 bn	0.36 bn	0.27 bn	0.65 bn	0.8 bn
Operating Income	<b>▲</b> 0.54 bn	<b>▲</b> 0.3 bn	0.01 bn	<b>▲</b> 1.2 bn	0.75 bn
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Next, I would like to talk about KPI and numerical targets.

We believe that the mid-term management policy and the plan for FY 2022 have not changed, so there is no change in the numerical targets for this.

We aim to generate sales of 5.5 billion yen partly from small aerial drones and government procurement. If anything, ASP, and for low-end drones with low gross profit margins, is aiming for 1 billion yen.

In addition, the other three types of airframes are application-specific drone which is used for specialized purposes, such as smokestack inspection, logistics, and enclosed environment inspection. As we believe this is a high-valueadded drone, we have set a target of 1 billion yen each.

# Sales breakdown

	指標	FY17 (18/03)	FY18	FY19	FY20 (Forecast)	FY22 (Mid-term Management Direction)
Sales of application-specific dr	ones					
Small aerial photo (Iow ASP)	Unit	-	-	-	-	1,000~
	Value (100mn JPY)					10
Other application-specific drones (high ASP)	Unit					300~
	Value (100mn JPY)					10
Development of application-specific drones						
PoC and Development	# of project	60	81	112	-	-
	Value (100mn JPY)	2.1	2.9	8.6	~3	20
Sales of Platform/ Evaluation drones	Unit	40	106	101	~40	~300
	Value (100mn JPY)	9.0	3.8	3.0	~2	10

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Finally, we have the target for the number of units.

In FY 2022, our target is to sell 1,000 small aerial drones and record 1 billion yen sales. And we have set a target of 1 billion yen for 300 units of application-specific drones.

With regard to the application-specific drones, we expect sales of ASP around 3 million yen if we calculated it, and I think it will be similar to the current ASP.

On the other hand, we have benchmarks for small aerial drones, so we expect the price to be around 1 million yen per drone.

In addition to the mass production, we will also develop application-specific drones. We are expecting to develop about 300 units of this type of drone, which will be used for demonstration tests before mass production.

Thank you for your time. Thank you very much.

#### Q&A session

Mr.Washiya : Thank you for your patience. As for the questions and answers, I would like to read out the questions and answer them.

The first question is from Tetsuya Harada-sama.

Is the postponement largely due to your company's judgment or customer's demand? And if the impact of the coronavirus continues in the next fiscal year, will performance be significantly worse?

Thank you for your question.

As for the impact of the postponement due to the delay in project acquisition, we have to go into the field and have face-to-face meetings with the client during the acquisition stage. This is often the case. As for this kind of thing, it was the up to customer's after all.

On the other hand, some of the orders we have already received, have been decided to postpone or suspend some demonstration tests, etc. In consideration of the safety of our customers and employees, we decided to exercise self-restraint during a state of emergency.

We have made our decision based on these factors. So I think we had a big influence on this part.

In the event of a new coronavirus or other infectious diseases, the impact on the next fiscal year will depend partly on how our customers decide to conduct their business and economic activities.

Regarding this, we cannot make a decision by ourselves, so we will try to find out whether to stop completely or continue in a small group environment depending on the situation.

As for the impact of the new coronavirus on our business performance for the next fiscal year, we cannot comment on the forecast for the next fiscal year as it has not been disclosed at this time. However, the current outlook for the new coronavirus is based on the assumption that the current situation will continue until the end of March.

I would like to move on to the second question from Miyahara-sama

The first question is to ask a little more about the breakdown of the downward revision, since it is so big.

Am I right in understanding that the impact of the second emergency declaration on January is huge? Is it correct to assume that if the inspection shifts by about half a year, there is a possibility that sales for the next fiscal year will exceed the previous forecast? Or is it correct to understand that everything is going to deviate?

Thank you for your question on this as well.

At this time, we have not disclosed any forecast for the next fiscal year beyond what we have set forth in our midterm management policy.

As I explained, as of the end of the 3Q, we have sales of 260 million yen that will be recorded next fiscal year, and we plan to further increase the number of projects we acquire toward the end of this fiscal year.

In fact, the nature of each case will differ as to whether this will be an addition or a shift to the next fiscal year.

In some projects, we will proceed to the next phase if we are satisfied with one demonstration test. Such demonstration tests do not proceed as planned in most cases, which has an effect on sales. On the other hand, I believe that the demonstration experiment sales, which were originally scheduled to end this fiscal year, will be recorded in the next fiscal year.

However, in general, there are limits to the resources and capacity of employees, so one of the key points is how much they can handle in a year. Therefore, I believe that there will be no major changes in the figures for the next fiscal year and the year after that.

The second question from Miyahara-sama is that he would like to know the outlook for the next fiscal year and the progress toward the achievement of mid-term management.

What is the scale of the small aerial drone, smokestack, enclosed environments that you expect to launch in the next fiscal year?

In addition, he would like to know whether there is a risk of a significant decline in the mid-term outlook, as in the revision of the current fiscal year, and whether we are confident of achieving the mid-term plan.

First of all, the figures for the next fiscal year for drones which is used in small aerial drone, smokestack, and enclosed environments, are not yet been disclosed, so we cannot provide detailed figures.

Also, since this is linked to individual customers, it may affect customers, so I would like to refrain from giving detailed answers at this point.

However, as we describe these three as growth drivers, this is an area where there is little or no competition. And, as we develop products in close co-operation with our customers, we believe we can contribute to a certain level of sales.

In particular, the small aerial drone is expected to have a certain sales volume because it is a low-priced drone or we could say it is a low-value-added.

As for the risk of delaying such things in the future, as you mentioned in your first question, we believe that the risk is of course not zero, depending on how the new virus affects it.

We are a hardware company, so we need to procure things. This is done with a firm forecast. Due to the spread of novel diseases such as coronavirus, it will be difficult to provide our products if we are unable to procure goods, such as semiconductors, and lead times for procurement are twice or three times longer than before. I think there is a possibility that such a thing will have an impact.

However, companies have experienced the coronavirus for over a year, and looking at the current outlook, I think they are starting to have a workaround and resistance to the coronavirus. Therefore, at this point in time, we believe that a significant factor may not be found in the next fiscal year.

That is all.

I have received another question from Tetsuya Harada, so I will answer it.

He would like to know when the emulators will be available for practical use. Thank you very much.

Our company originally developed the controlling section for drones and had an internal emulator to verify how to stabilize it when the wind blows.

This time, what we are developing is not only a simple control unit, but also a simulated real-world environment, so that we can continue verification even in environments that are difficult or impossible to enter.

Of course, just because one environment was created does not mean that it can be used in everything. For example, even if the ship model is designed in detail, it cannot be used in chemical plants. As for the first use,

The projects that are currently under development are expected to be completed by the beginning of the next fiscal year at the earliest, and I believe that we will be able to create a solid development environment for those areas.

We will continue to expand our business to various environments, and I believe that we will be able to show the effects of these efforts in the next fiscal year.

This will be the end of the Q&A session. Thank you very much for your kind attention.