Reliable Solutions

Mining Business Explanatory Meeting

September 23, 2024

@Hitachi Construction Machinery Co., Ltd.

Corporate Brand & Communications Group

LANDCROS Japanese Excellence—Reliable Solutions

Today's Speakers

HITACHI

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Sonosuke Ishii

Senior Vice President and Executive Officer, General Manager of America Business Division, and Chairman of Hitachi Construction Machinery Americas Inc. 2

Today's Q&A responders

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There are four points in today's agenda.

First, I, Senzaki, will explain our medium-term management plan and mining business.

Next, Fukunishi, vice president and executive officer, president of the Mining Business Unit, will explain the business overview and the business outlook.

Lastly, Ishii, senior vice president and executive officer, general manager of the America Business Division, will explain the business strategy in the Americas market.

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1. Our Medium-term Management Plan and Mining Business

- 2. Business Overview
- 3. Business Outlook
- 4. Business Strategy in the Americas Market

Let me start with our medium-term management plan and mining business.



In July, we established the new "LANDCROS" concept to reflect Hitachi Construction Machinery Group's desire to deliver innovative solutions for every stakeholder including customers, dealers, suppliers, and partners.



The Group Identity was established in April 2023. During discussions to that end, opinions were widely sought through surveys for a unified symbolic keyword that represents the direction we should take. We also worked to formulate a new concept in which our various "thoughts" are consolidated.

We listened carefully to voices of our customers, and held extensive discussions about what is needed to become a true solutions provider that can resolve the various issues they face. Through the discussions and employee surveys, our new concept "LANDCROS" was coined and established as a symbolic keyword that embodies our future direction.

The single word LANDCROS combines five components of our thoughts:

"LAND," which represents our vision: "We want to contribute toward realizing a prosperous land and society."

"We want to cross with our customers on their journey."

"We want to be a reliable presence for our customers."

"We want to openly co-create new businesses and value with our customers and partners, and develop together."

"We want to propose innovative solutions to our customers and various stakeholders."



Going forward, we will strive to broadly disseminate and promote "LANDCROS."

We will widely communicate the Hitachi Construction Machinery Group's thoughts in various ways. For example, as you can see, stickers will be placed around the operator's cab on our products.



Mining equipment, which we will talk about today, also carries the sticker --- like the machines displayed at the MINExpo exhibition venue.



Our current medium-term management plan reflects our desire to deliver innovative solutions for every stakeholder in the form of specific strategies.

There are four pillars, as shown here. In particular, we are focusing on "innovative solutions" with the aim of making the Hitachi Construction Machinery Group a true solutions provider.

In the mining business, the keys are to provide innovative solutions and expand our business in the Americas.



This diagram illustrates how our mining business will embody the two keywords.

We focus on open-pit mining. One of our strengths is our various touch points, which were realized by bringing Wenco, Bradken, and H-E Parts into the Group through M&A. These touch points cover not only the mining process where mining machinery is used, but also the entire mining operation.

As part of our ESG effort, we invested in Envirosuite in September 2024, which remotely monitors and predicts environmental indicators such as air quality, dust, noise, and vibration at mining sites in real time.

The orange area is our current business domain. Going forward, we will leverage our various touch points to improve safety and productivity at the entire mine, reduce lifecycle costs, and provide innovative solutions that contribute to ESG.

By region, we will strengthen our sales and service structures in the Americas, where we began our own operations in March 2022.

Now, Fukunishi-san will give you an overview of the mining business.

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I am Fukunishi, president of the Mining Business Unit.

First, I will explain the business overview of the Group's mining business.

2-1. Our Mining Business





This slide shows the lineup of machines and service solutions our mining business offers.

We have a wide range of hydraulic excavators, which are our specialty, with operating weights of until 800 tons. Together with our large construction models, we can meet the needs of mines of all sizes.

Regarding dump trucks, we are specialized to transport the minerals excavated by the excavators, we are specialized in AC motor driven, ultra-large class products. They have certain advantages over mechanical types, such as stability.

Each of these three models is optimized to have just the right capacity for the three ultra-large excavators.

In terms of service solutions, we go beyond the sphere of excavators and dump trucks. To provide higher value to the whole of customer mining sites, we offer mine-wide management systems including equipment made by other manufacturers, as well as consumable parts and after-sales services.



Let me explain about our mining excavators a little more.

Our hydraulic excavator history began in 1965, with the development of the UH03, Hitachi's first hydraulic excavator made purely with domestic technologies.

We made our full-scale entry into the mining industry with the UH801, which had an operating mass of 157 tons, in 1979. Since then, we have expanded our lineup with larger models, and in 2004, we launched the EX8000, one of the largest in the world, with an operating weight of 811 tons.

Currently, the latest series of mining excavators is the EX-7 series.

In addition to improved fuel efficiency and operability, these excavators are compatible with digital solutions such as the remote monitoring solution ConSite Mine. They also meet the needs of mining sites for higher efficiency and safety, and reduced environmental impact.

Also, ever since the UH801, wired electric models have been offered for each models. They are under the spotlight as key products for zero emissions in mines, together with the full battery dump trucks. We will explain this part later.



Now, our mining trucks.

We entered the truck business in partnership with Euclid and continued in-house development. The launch of a large AC motor-driven model in 2008 became a major landmark.

We are currently concentrating our resources on large size machines, strengthening production systems and further improving our products.

We have also been delivering trolley-type dump trucks from an early stage, helping to improve productivity in mines with large height differences.

In 2021, we began developing a trolley-powered full electric machine in collaboration with ABB. Since June this year, we have been conducting a demonstration test at a customer's site, the first in the world.

We are working on further expansion of our line-up, by developing latest models and innovative technologies.



In addition to machines, we also offer a variety of solutions.

Wenco's fleet management system contributes to maximizing production efficiency in mines around the world. It also plays an important role as the basis for the Autonomous Haulage System (AHS). I will explain our AHS in more details later.

Additionally, we have strengthened our after-sales services through M&A with H-E Parts, Bradkens and other companies. We have also expanded our business scope by entering the field of mineral processing.

ConSite Mine, a service solution for mining machinery, uses remote monitoring and AI analysis to inform users of operating status, maintenance timing, and other information. The remote monitoring solution has a proven track record of over 20 years. By utilizing these solutions, we aim for further advancement through autonomous and remote operation.

2-5. Our Global Network HITACHI Developing bases for sales, services and recycling in areas with high mining demand, and starting local production with a focus on production in Japan Areas to <u>conduct dev't</u> and production Areas to conduct sales Japan and services Aggregating parts remanufacturing for global markets CIS Parts remanufacturing to eain Dump truck production in Canada Planned production of mill liners for Bradken Asia/India Expanding mining parts production in Establishing a sales and services Indonesia Africa Planning to produce EX1200 in Indone company in Brazil Fully electric dump truck L in progr 0⁰ R&D Production plant Oceania - m -Remanufacturing Remote support center for mines plant opened Sales & services 17 © Hitachi Construction Machinery Co., Ltd. 2024, All rights reserved.

This slide shows our global network specializing in mining, along with the latest trends in each region.

While Japan is the base for research, development, and production, we also produce excavators in India and Indonesia, and dump trucks in Canada, based on the idea of local production for local consumption.

We have also expanded our main bases for sales and services to match the areas of demand for mining, so that we can provide support that is close to our customers' work sites.

Particularly in recent years, we have been expanding our service and solution bases. Wenco, a developer and provider of fleet management systems, is headquartered in Canada. We have also opened a remote support center in Australia, putting in place a system to support AHS operations in mines around the world.



This slide shows our global market share. We have a particularly high market share, about 30%, in excavators. We launched a product at the early stage when hydraulic excavators first began to be used in mining, which has helped us to establish a solid position that continues to this day. We have also increased our share to 13% in the dump truck market since our entry.

The pie chart shows the size of demand in each region, with the outside showing excavators and the inside showing dump trucks, and our company's market shares within that.

Looking at the Americas, the size of the market in Latin America stands out. The region has many hard rock mines, such as copper and iron ore. However, our market share, particularly for dump trucks, is still small, because we are at an initial stage of full-scale launch, after we began developing our own business in the Americas market in 2022. Excavators have captured a certain level of market share. However, compared to Oceania, another large market, there is still room for expansion here.

In order to expand our mining business, we consider it essential to further increase our presence in both mining excavators and dump trucks, primarily in the Americas.



This graph shows global demand for mining excavators and dump trucks, focusing on ultra-large models in which we specialize.

The overlapping lines are price movements of iron ore and copper for reference.

Small and medium-sized models are closely correlated with coal prices, and demand tends to fluctuate greatly. However, as shown here, demand of ultralarge models is not heavily affected by resource prices and has generally been expanding steadily.

For dump trucks, in particular, we have limited our lineup to large models, and we expect demand from large hard rock mines such as iron ore and copper mines. Therefore, even amid some fluctuations in commodity, we believe that there will continue to be stable business opportunities for us.

2-8. Sales Revenues of Mining Business

Steady growth despite market conditions. Increase in mining composition ratio contributes to improved profitability. Aiming for sales revenue of JPY600B by FY2030 through development of the Americas market, etc. % = Percentage of Mining revenue in total company revenue Sales revenue Machines (excavators) Machines (dump trucks) Parts and services Specialized parts and service (billions of yen) 600 600 30% 500 412 416 357 400 24% 300 241 243 237 218 15% 192 163 200 150 125 127 122 128 112 116 108 100 2024Forecast \mathcal{X} 0 2023 2015 2016 2008 2009 2014 2017 2020 2030 (Target) (FY) 202 Strengthening of Enhancement of Value Sales expansion of dump **Mainly machines** trucks in the Americas parts and services **Chain Business** © Hitachi Construction Machinery Co., Ltd. 2024, All rights reserved. 20

This graph shows changes in sales volume since 2008, when we made a full-scale entry into the dump truck market.

During the mining boom up until 2012, which was driven by Chinese rapid economic growth, new machine sales were strong.

After the mining boom ended, there was a lull in demand for new machines. Still, we leveraged the high quality and reliability of our mining products to sell new machines and steadily increase the number of machines in operation. Those machines operating in mines around the world continuously required repairs and maintenance, which steadily drove our sales of parts and services in line with new machine sales. With the addition of specialized parts & service, we are growing steadily. We achieved record sales revenues in new machines, parts and services, and specialized parts & service across the board in fiscal year 2022.

Including specialized parts & service, the composition ratio of mining sales doubled from 15% in 2008 to 30% in 2024. The high profit margin of the mining business is certainly contributing to improved profitability.

Despite some fluctuations expected in the future, we will expand our scale, backed by solid demand for large machines and stable capital investment by mining customers resource companies. We will also further develop our business in the Americas and expand truck sales in various regions, aiming for mining sales revenue of 600 billion Japanese yen in fiscal 2030.

I will explain measures to achieve this sales target from now.

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Now we move on to the business outlook, with more detailed explanations about the solutions offered and the future of the business.



We focus on open-pit mining. One of our strengths is our various touch points, which were realized by bringing Wenco, Bradken, and H-E Parts into the Group through M&A. At these various touch points, which cover from mining to mineral processing we resolve customer issues.

We uphold the themes, "zero emissions", "zero entry" and "zero downtime," for our booth at MINExpo. Based on the themes as keywords, let us find out more about our solutions, specifically electric equipment, remote automatic excavation, autonomous dump truck driving system, and ConSite Mine.



First, I would like to talk about our full battery dump trucks.

About 50% of CO2 emissions at mines occur during the excavation process.

In particular, dump trucks, which are most widely used and thus emit a large amount of CO2, are subject to strong customer demand for electrification.

Manufacturers are developing equipment with different battery systems, such as static charging, dynamic charging with trolley, and hydrogen fuel cells. However, there are still common issues for all the manufacturers:

1. Heavy batteries reduce payload

2. Increased downtime reduces utilization

3. For fast-charging, large power facilities are required, and fast-charging will reduce the battery life.

In response, we began the world's first technological feasibility trial of an ultralarge, full battery dump truck at a mining site in June this year.

Compared to engine-powered dump trucks, each vehicle will use about 1.2 million liters of diesel fuel LESS per year, leading to a reduction in CO2 emissions of 3,000 tons.

3-3. Full Battery Dump Truck (2)



Zero Emission

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This table compares the static charging system with the trolley dynamic charging type for the three issues in the previous slide.

For Issue 1, the trolley dynamic charging system requires a minimum battery, which reduces the vehicle weight and increases payload.

For issue 2, the trolley dynamic charging system can charge while traveling, so there is no need to stop to charge, maintaining a high utilization.

For issue 3, the trolley dynamic charging system can charge every time it passes under the overhead lines, so there is less fluctuation in power usage, the trolley line equipment can be kept small, and the load on the battery is also small. All of these help to prevent deterioration of battery life.

We believe that the trolley dynamic charging system is the optimal choice in the development of full battery dump trucks, since it can minimize the impact on payload, utilization, and life cycle costs.

We will continue our development of the static charging system, as well as battery + fuel cell system, with an eye on future developments in battery technology.



We are developing remote control and automation technology for excavators to realize a zero entry mine, where operators do not enter the operating area, from a safety point of view.

The horizontal axis represents the automation level of the machine, and the vertical axis represents the distance of remote operation.

Development is being carried out in phases. We are currently at Phase 2. In addition to long-distance remote control, we have reached partial automation, enabling automated operation of routine tasks such as excavation and loading.

Mining involves a lot of repetitive tasks. So, our first step is remote control operation of equipment. Then we gradually automate simple actions to increase productivity, and finally to fully automate even complex tasks.



Next is the Autonomous Haulage System for dump trucks.

Our AHS underwent six years of demonstration testing at a mining site in Australia and was commercialized in 2024.

Our AHS has multiple strengths. First, it can operate a mixed fleet of manned and unmanned machines with a single fleet management system.

Our AHS is based on Wenco's FMS, which has an extensive delivery record around the world. Our AHS can be introduced particularly smoothly to mining sites where the Wenco system is already in place.

Secondly, our AHS incorporates Hitachi's railway technology, which enables the operation of over a hundred dump trucks to be controlled with a single system.

The effectiveness of communication control has been proven using a self-developed simulator.

Lastly, we have established a support center that remotely monitors multiple sites 24 hours a day. All kinds of data are collected in real time from multiple mining sites, and personnel experts analyze and study them to provide solutions to customers.

3-7. Monitoring Solutions

Zero Downtime

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We have also implemented an initiative for zero downtime.

Our ConSite Mine and Wenco's site-wide digital solutions in fleet management systems, high precision guidance, asset health and safety systems monitor operating machines 24 hours a day, providing useful information that leads to improved safety and productivity and reduced lifecycle costs, thereby contributing to the stable operation of machinery.

At the same time, we have tried to extend machine operating years by strengthening front attachment structures.

In recent years, ESG issues are becoming increasingly important to mining companies. Improving the mining environment and reducing the environmental burden on local communities are essential for sustainable mining extraction.

As part of our ESG response, we invested in Envirosuite in September this year. Envirosuite is specialized in real-time remote monitoring and prediction of environmental indicators such as air quality, dust, noise, and vibration --- factors affecting health and safety of mine workers and local communities.

Going forward, our solutions will be combined with Envirosuite's technology for sustainable and optimized mine operations.



To conclude my part, allow me to recap the future of our mining business.

The orange area is our current business domain.

Over the years, we have developed and produced all of our mining products inhouse, and accumulated technological expertise and built hardware renowned for its high quality and reliability. Based on all of this, we have been providing solutions centered on our mining equipment through ConSite Mine and AHS.

Going forward, we will leverage our various touch points to provide a wide range of solutions for the entire mine, including analyzing data to manage assets across the mine, visualizing GHG emissions, expanding automation systems, and improving fleet management systems. By all these, we will further contribute to improving productivity and reducing the environmental impact.

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4. Business Strategy in the Americas Market

I am Ishii, general manager of the America Business Division. I will explain the business strategy in the Americas market.



Let me begin with the characteristics of the markets in the Americas.

North America is a major demand area for construction models. Although demand has slightly decreased lately, the overall level is still high.

Also worth mentioning is the size of the rental market.

When it comes to mining, North America has a certain market size, but it is actually Latin America that has the greatest demand.

While coal and oil sands are major commodities mined in North America, many South American countries produce mainly hard rock minerals.

In particular, Chile and Peru have many copper mines along the Andes Mountains, and they are the top two producers of copper ore in the world. Also, Brazil is a major producer of iron ore. These three countries, plus Colombia, account for 85% of mining demand in South America.

Many mines in Latin America are large. In addition, most mines in Chile and Peru, are located at altitudes of over 2,000 meters above sea level, so machinery needs to be able to withstand high-altitude environments.

Until now, we have shown a certain presence, especially in mining excavators. However, in order to further expand our business, including dump trucks, we must pursue the sophistication of our products, their adaptation to local needs, and stronger sales and service structures.



Here are some examples of measures to strengthen our sales and service structures.

The first example is service proposal activities.

Hitachi Construction Machinery America is, together with its dealers, implementing a program starting in fiscal 2024 to understand mining part replacement plans and supply the parts strategically and stably.

In service proposal activities, we inspect machines individually and thoroughly, before making a proposal for part replacement and repairs based on operation data and wear measurement with digital technology.

The top-right photo shows an EX8000 operating in a Canadian oil sand deposit for 18 years, far exceeding typical operating hours thanks to meticulous maintenance.

The second example is activities to expand sales of parts made by our Group companies.

These are led by Hitachi Construction Machinery America's dealers, who recommend such parts to customers.

The graph on the bottom-right corner shows the dealers' sales performance of Bradken parts.

Compared to fiscal 2021, when we began our independent operations, the parts sales have increased 20 times in fiscal 2023, growing to a level comparable to the Australian region.

We will continue to work together as a group to build a full support system that only a manufacturer or OEM can offer.

4-3. Measures for full-scale deployment HITACHI Aiming for mining sales revenue of over JPY200B in the Americas in FY2030 by rebuilding the South American system Achievements so far Measures and issues for the future Establishing a sales and services company in Brazil by January 2025 **Hitachi Construction** Restructuring a sales and services structure in **Machinery Trucks begins** South America other than Brazil in cooperation remanufacturing parts with Marubeni and assembling dump Establishing a remanufacturing center and trucks parts warehouse in South America Training of technical personnel Organizing parts Mill liners to be produced in Peru from 2026 supply networks Expansion of high-altitude models for Peru and Chile **Eastern North America:** Mining sales revenue Jackson/McDonough Parts Warehouses in the Americas Western North America: Salt Lake City Parts Warehouse Full-scale rollout of -11 electric excavator FY2021 FY2024 FY2030 (Outlook) (Target) EX5600-7E for the Americas *Total of machines (excavators/dump trucks) + parts/services + specialized parts/services 32 © Hitachi Construction Machinery Co., Ltd. 2024, All rights reserved.

This is a summary of the measures we are taking towards full-scale deployment.

The results so far are shown on the left.

Starting parts remanufacturing and dump truck assembly in Canada;

organizing parts supply networks, and the full-scale roll-out of an electric excavator with specifications for the Americas.

Future measures and issues include:

- We plan to establish a sales and services company in Brazil by the end of January 2025.

- We will rebuild our sales and services structure in South American countries other than Brazil with partner company, Marubeni.

- We will expand our remanufacturing bases and parts warehouses in South America.

- We will train technical personnel to support our dealers.

- We will start production of mill liners in Peru from 2026.

- We will expand our high-altitude machines to meet the requirement in Peru and Chile.

Through this restructuring of our South American operations, we aim to expand our mining sales revenue in the Americas to more than 200 billion yen by fiscal 2030. This is approximately double the fiscal 2024 level and approximately five times the fiscal 2021 level before we began our independent operations.

This concludes my explanation. Thank you for your attention.

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5. Conclusion

Conclusion : Main Points of Today's Presentation			HITACHI Reliable Solutions
	1	Our Medium-term Management Plan and Mining Business Having set the new concept of LANDCROS as proof of "the Hitachi Construction Machinery Group's desire to provide innovative solutions", we are aiming to provide innovative solutions at various touch points throughout mining operations.	
	2	Business Overview We are aiming to expand our business with diverse solutions and a global network, focusing on much-in-demand ultra-large models, to achieve 600 billion yen in mining sales revenue by FY2030.	
	3	Business Outlook With Zero Emission, Zero Entry, and Zero Downtime as our keywords, we are aiming to leverage digital technology to expand our business into solutions for the entire mine.	
	4	Business Strategy in the Americas Market We are aiming to rebuild our operations in South America, the main producer of hard rock, and aim to achieve over 200 billion yen in mining sales revenue in the Americas by fiscal 2030.	
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September 23, 2024

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