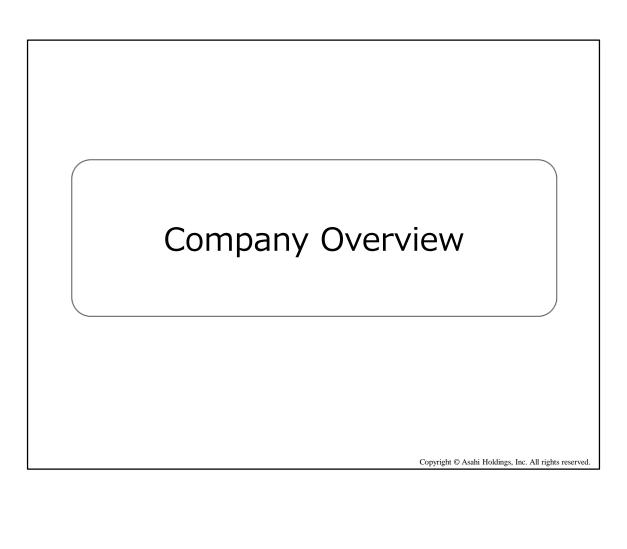


Asahi Holdings Group Business Overview

These forecast performance figures are based on the information currently available to the company's management and certain assumptions judged rational. Accordingly, these might be cases in which actual results materially differ from forecasts of this report.





Founded	July 1952	
Number of Offices	Total of 81 sites (69 inside Japan/ 12 outside Japan) *as of March 31, 2019	
Employees	1,597 (excluding Fuji Medical) *as of December 31, 2019	
Revenue	JPY 128.7 billion *for the year ended March 2019	
Capital	JPY 7.8 billion *as of December 31, 2019	

(Business Segment)

Precious Metals Business
Environmental

Preservation

Business

- Japan/Asia: Recycling of gold, silver, palladium, platinum and other metals from the scraps containing precious metals collected from various industries
- North America: Mainly the refining of gold and silver from mines, and other additional services

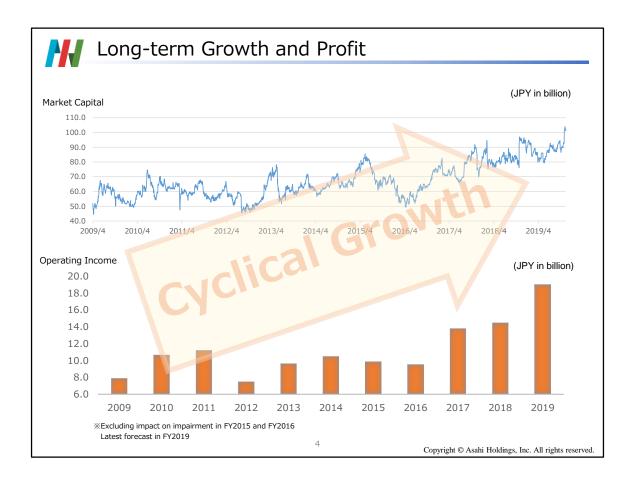
Japan: Detoxification and other proper disposal, as well as recycling of wastes that are difficult to handle from the various fields of industrial waste

2

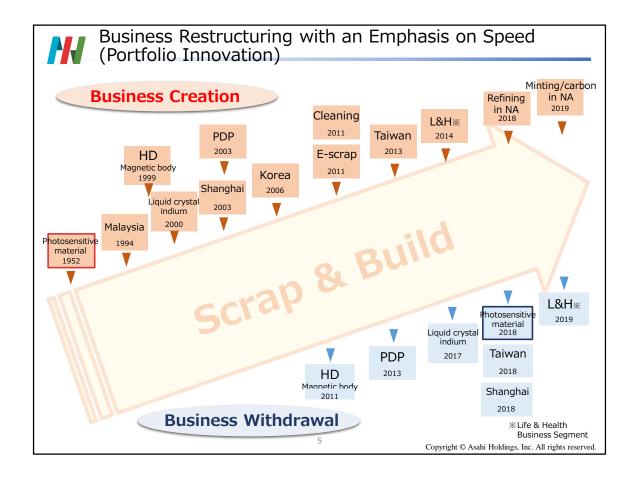
- In 1952, we started a business recycling silver from photosensitive material in a company named "Asahi Chemical Laboratory". Our fields for collecting precious metals for recycling then expanded into dental, jewelry, and electronics.
- Our Environmental Preservation Business started from collection of photographic effluents, and we have continued to expanded the items and service areas through M&A.

M Consolidated Financial Forecast					
(JPY in billion)					
	Previous Forecast (2019/10/29)	Revised Forecast (2020/1/31)	Change		
Revenue	135.0	135.0	-		
Operating Income	19.0	19.0	-		
Operating Income Ratio	14.1%	14.1%	-		
Profit Before Tax	16.8	16.7	(0)		
Profit Attributable to Owners of Parent	10.2	9.4	(0.8)		
Employees	1,647	1,597	(50)		
Operating Income per Head	¥11.5M	¥11.9M	¥+0.4M		
EPS	¥259.22	¥238.89	(¥20.33)		
Dividend Payout Ratio	46.3%	54.4%	+8.1%		
ROE	14.6%	13.5%	(1.1%)		
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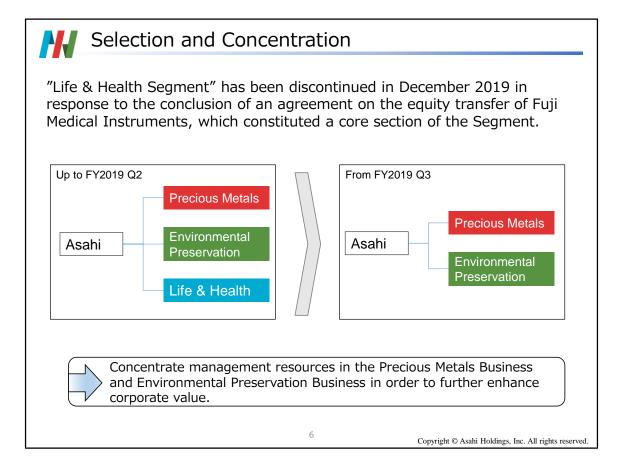
- This is a full-year earnings forecast for this year released on January 31, 2020.
- All the estimates for operating income, earnings before tax, and income for the current year are expected to be the best ever.
- The decrease in the number of employees is caused by the deconsolidation of Fuji Medical Instruments Mfg. Co., Ltd., as described later on. The operating income per employee, which is our major internal guide, is expected to be 11.9 million yen/person.



- This shows the transition of aggregate market value and operating income.
- During the past ten years, the aggregate market value has increased from 50 billion yen to more than 100 billion yen, and the operating income is expected to grow from 8 billion yen to 19 billion yen.
- The situation in recent years fulfills all elements that lead to sustain future growth in profit, such as the thoroughness in price hedging of precious metal recycling business, stable performance in environmental preservation business and establishment of a surplus trend in North American business.



- To keep income stable and to sustain growth, we have withdrawn from and restructured our businesses many times in the past, up until today.
- We make decisions with an emphasis on speed, with profitability and growth as the most important references, focusing on the life cycle and market environment for each business.
- We did not exclude our original business of photographic materials, Shanghai Asahi, and other businesses like indium used in LCDs that largely contributed to our performance. Without exception, for the businesses that we have decided to withdraw from, we have started when the business was still making a profit.



- Conventionally, the stock of Fuji Medical Instruments Mfg. Co., Ltd., which had been the core company in the "Life & Health" segment, was transferred to a Taiwanese company expecting growth in overseas markets. Consequently, the "Life & Health" segment was abolished from the third quarter.
- From this point on, we will be focusing our management resources in the "Precious Metals Business" and the "Environmental Preservation Business" segments to aim for improvement in enterprise value.



"The Asahi Way" - Both in Name and Reality

[Our Credo]

We conserve limited natural resources, preserve the global environment, and support human health.

(Our Corporate Values)

Cooperation with stakeholders

We constantly seek to earn even greater trust from shareholders, customers, business partners, employees, and local communities as we work to preserve the natural environment.

Corporate governance with a balance of protective and proactive measures

We boldly promote growth strategies and business reform while securing transparency in decision-making and properly managing risk.

O No growth without profit

We realize long-term improvement of shareholder value by ensuring the entire group grows and is profitable.

Trusted corporate brand

We aim to be widely recognized as an exemplary corporate group and to build a brand that will be trusted over

Addressing diverse risks

We strive to minimize risks and avert disasters by taking daily safety measures in workplaces and by constantly working to prevent accidents.

Highly motivated employees

We promote work-life balance for employees and continuously improve working environments and conditions.

O Strong sense of mission and high ethical standards

We strive to be an organization where employees take pride in their own work and executives maintain a strong sense of mission and high ethical standards.

Being a company of good people

We value good employees over the long-term; our vision of a "good employee" is a person who is not selfcentered and who contributes to mutual prosperity and the development of the business.

- · Our group philosophy, "Asahi Way", is not just a phrase with no real meaning.
- We have withdrawn from and restructured our businesses to keep on growing and to sustain profitability, and built proactive and conservative corporate governance, based on the principles stated in Asahi Way.
- We will remain faithful to stakeholder value, and continue our efforts to improve enterprise value and promote SDGs.



Characteristics of Financial Position - Low-risk

◆ Consolidated Statement of Financial Position (as of December 31, 2019)

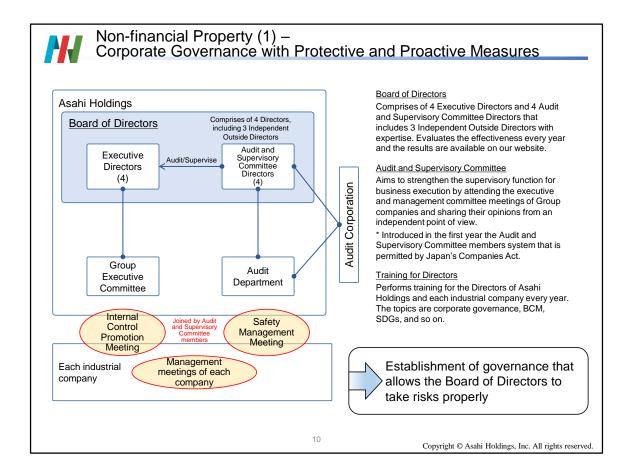
(JPY in billion)

Debit			Credit		
Operating Receivables		126.2	Loans		127.0
	North American business related	105.3		North American business related	107.9
	Others	20.9		Others	19.1
Invento	Inventories		Other	Liabilities	30.8
	Precious Metals	28.3			
	Others	0.8			
Cash		14.1	Equity		68.8
Property, plant and equipment, etc. 57.2					
Total Assets		226.6	Total Lial	oilities and Equity	226.6

- One of our financial characteristics is that the risk is low even if it is based on assets.
- Loans are increasing greatly, and the same amount of operating receivables is included in the calculation. However, this does not mean the business is failing. Loans are the funds for a financial service called "advanced trading" for the North American business clients, and the corresponding operating receivables have practically no risk of bad debt, since the raw materials for precious metals are received from the client prior to the "advanced delivery".
- Inventories are mainly the stocks of precious metals and the products in progress purchased in the precious metal recycling business. Financially, they are considered as cash equivalents, so our finance is practically in positive net cash.

				(JPY in billion)
Category	Ite	ems	March 2019	December 2019
	Profit before tax		13.4	12.1
	Depreciation and a	amortization	2.3	2.2
	Operating receivables	North American business	(25.8)	(63.6
Operating		Others	3.7	3.0
Operating			(29.5)	(60.5
CF	Others, net		(6.9)	(9.6
	Subtotal		(20.6)	(55.9
		North American business	(25.8)	(63.6
		Others	5.2	7.7
Investment	Purchase of property, plant and equipment		(5.6)	(2.1
CF	Others, net		0.1	0.1
	Subtotal		(5.6)	(2.0
	Loans payables	North American business	22.9	63.7
		Others	(0.3)	(2.7
Financing			22.6	61.0
CF	Others, net		(4.4)	(5.1
Ci	Subtotal		18.3	56.0
		North American business	22.9	63.7
		Others	(4.6)	(7.8
Cash and cash	equivalents		16.3	14.1

 In the cash flow statement, our operating cash flow is negative just as with the statement of financial position, due to the expansion of financial services in North America and a change in means of raising funds.



 As for corporate governance, we will build and maintain the current system, especially focusing on "the ability for the Board of Directors to quickly correspond to changes and to take appropriate risks."



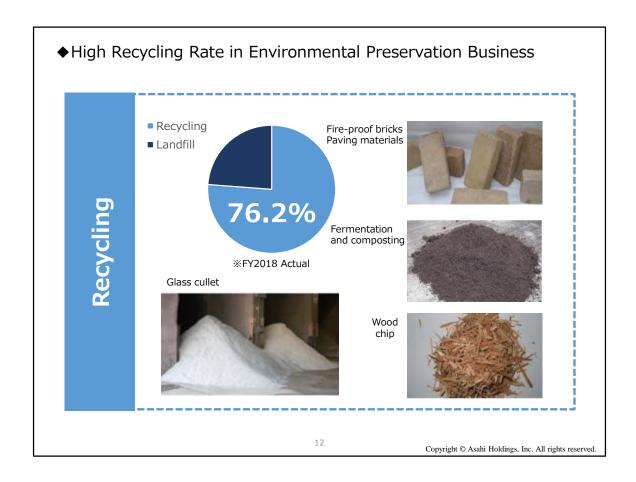
Non-financial Property (2) - Driving SDGs

"Totally Committed to Protecting the Natural Environment and Preserving Resources"

	Priority SDG - Related Goals	Contents	Key Indicator (Target)
Metals	Expand precious metal recycling	We will expand and promote precious metal recycling globally in order to make more effective use of limited global resources.	①Recycling Volume (410t by FY2030) ②External contribution amount of CO2 reduction (1,465t by FY2030)
Precious	Supply precious metals in ways that are friendly to people, society, and the environment	We will promote responsible precious metals management by expanding the supply of precious metal products while protecting the environment and human rights.	Conduct activities as acquiring certificate of various industry organizations, etc. (No numerical target)
Enviro nment	Expand proper disposal of waste	We will strive to expand proper disposal of waste as a waste disposal expert and work to help realize a sustainable recycling society.	Volume of proper disposal of waste (500,000t by FY2030)
	Reduce CO2 emissions	We will work to reduce CO2 emissions group-wide.	CO2 Emissions (26% reduction compared to FY2015 by FY2030)
ESG	Enhance the system for work-life balance and diversity	We will strive to enhance job satisfaction by improving the system to help diverse human resources to succeed within the Group by reforming working styles, etc.	①Thorough implementation of the rest interval system, at least 11 hours rest (100% in FY2020) ②Usage rate of Holidays for Refreshment, at least 3 days consecutive leave (100% in FY2020) ③Percentage of women in managerial positions (Equal to male employees by FY2030) ④Employment of people with disabilities (2.5% by FY2030)
	Encourage and support SDG-related activities	We will encourage and support employee activities outside the Group's main business areas that contribute to SDG achievement, including individual and group volunteer activities.	Give an in-house award to excellent activities (No numerical target)

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- "Totally Committed to Protecting the Natural Environment and Preserving Resources" has been our motto since before "Asahi Way" was adopted.
- Our business itself contributes directly to global "sustainability" through recycling of resources. In addition, we work with the Asahi Way spirit of "Innovation and Challenge" in order to achieve the goals set in each area of E/S/G.



 The precious metal recycling business is completely a resource recycling business, and the environmental preservation business is also working to recycle resources under high standards.

(Issuance of Green Bonds)

Issuance of green bonds is scheduled in March 2020 for capital investment (green project) effective for improving environment

A third-party evaluation is executed by a rating agency for green Bond qualification Expected to acquire the highest evaluation of "GA1"

	Accepting bank	MUFG Bank, Ltd.
Issued amount		JPY 5 billion
Period of term		5 years
	Redemption method	Lump-sum repayment at maturity
	Interest rate of bonds	Annual rate of 0.110%
	Rating classification	GA1 (Preliminary evaluation)
		Capital investment for industrial



Use of fund

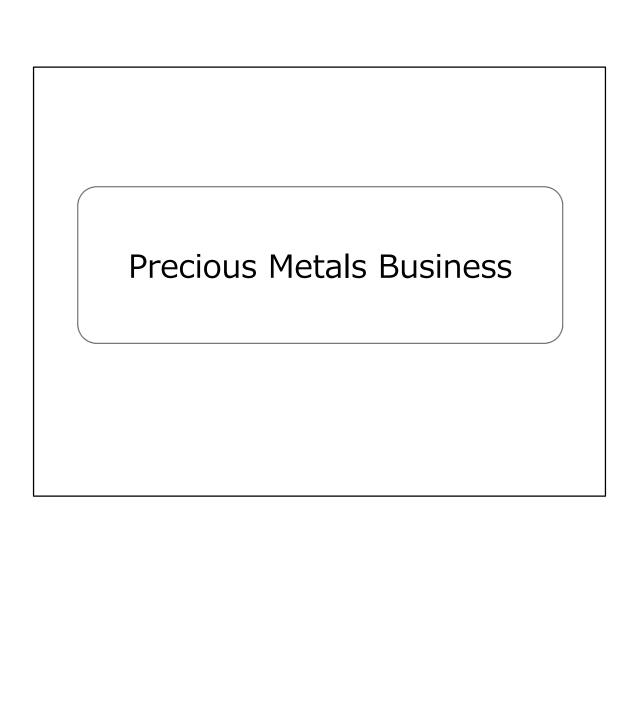
Capital investment for industrial waste incinerator at Kitakyushu/Hibiki Plants of Asahi Pretec and Taniyama Rinkai Plant of Taiyo Chemical (Includes refinancing)

Mar. 10: Submission of report for completion of third-party assessment operation

Mar. 25: Conditions determined Mar. 31: Due date of payment

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- In association with the introduction of global environment-friendly equipment and facilities, we are planning to obtain necessary funds by issuing green bonds in March 2020, and are expecting to get a high rating for the green bond qualification.
- The estimated green bond issuance amount is 5 billion yen, and the period is 5 years.



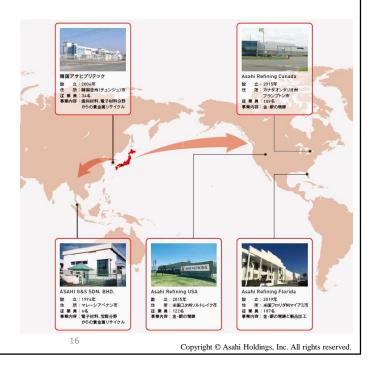
FY2019 Financi	al Forecast (announc	ed on January 31, 2020)
		(JPY in billion)
Full year	FY2018 Actual	FY2019 Forecast
Revenue	87.8	113.0
Operating Income	12.0	17.1
Operating Income Ratio	13.7%	15.1%
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 In the full-year earnings forecast for this year released on January 31, 2020, both revenue and operating income for the Precious Metals Business segment are expected to increase compared to last year.



Strategies in Precious Metals Business Segment

- 1) Further promotion of globalization
- 2) Expansion of financial services business
- 3) Development of downstream business



- The strategy for the Precious Metals Business segment may be summarized into three points:
 - 1) Further promotion of globalization
 - 2) Expansion of financial services business
 - 3) Development of downstream business



Precious Metal Recycling Business in Asia

Asahi Pretec Korea

► Business line: Precious metal recycling from dental and electric waste

► Location: HQ and plant: Chungju, South Korea

Sales office: South Seoul, West Seoul, Busan, Gwangju

► Topic: Hold 35% of market share in dental materials

ASAHI G&S

► Business line: Precious metal recycling from electric materials and jewelry

► Location: HQ and plant: Penang, Malaysia

► Topic: Plant renovation and capacity strengthening in March 2020



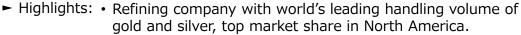
- As a part of globalization, the strategy in Asia is to deploy the precious metal recycling business to other countries.
- We promote the precious metal recycling business by setting up the headquarters/plants in Korea and Malaysia, and by having clients from the fields of dental materials, electronic materials, and jewelry.
- We have achieved a share of 35% in the dental materials field in Korea. This share did not decrease with the deterioration of Japan-Korea relations, since the customer-based sales style has spread in Korea just like in Japan.
- In Malaysia, the reconstruction of the plant aiming to enhance production capacity is scheduled to be completed in March 2020, and the Southeast Asia business will further expand centered on the Malaysian site.



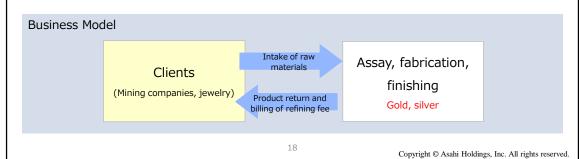
North America's Refining Business

Asahi Refining (Canada and USA)

- ► Business line: Precious metal refining and processing
- ► Refining volume: Gold: 550t Silver: 2,200t
- ► Location: USA Salt Lake City, Suburb of Miami Canada - Brampton

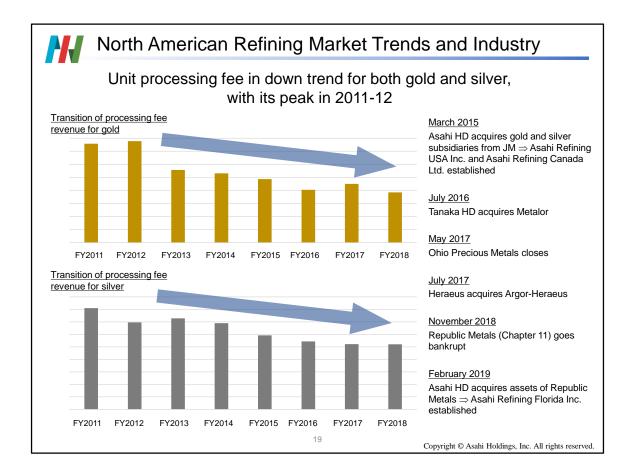


- Holding mint facility for product fabrication of coins, small bars, etc.
- Long and strong relationship with major business partners.

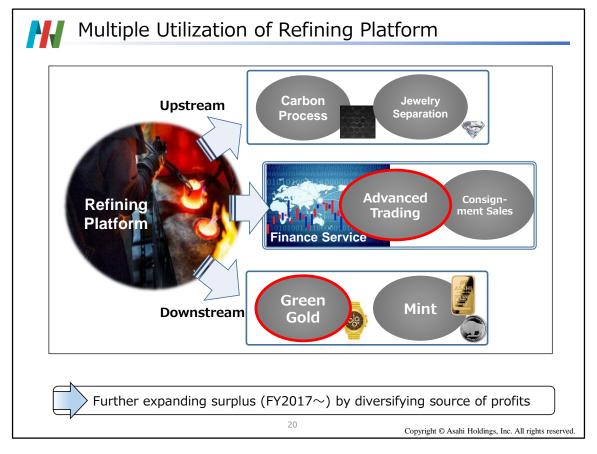


- Asahi Refining, established through an M&A in March 2015, is running a refining business in the U.S. and Canada.
- 90% of the raw materials are from mines and are called Primary materials. The remaining 10% comes from jewelry scraps. It is one of the world's top five refineries, and its production scale is the top level in the world.
- Asahi Refining Florida Inc. was established through an asset acquisition of Republic Metals in February 2019. This company has a mint facility for manufacturing coins and small bars.

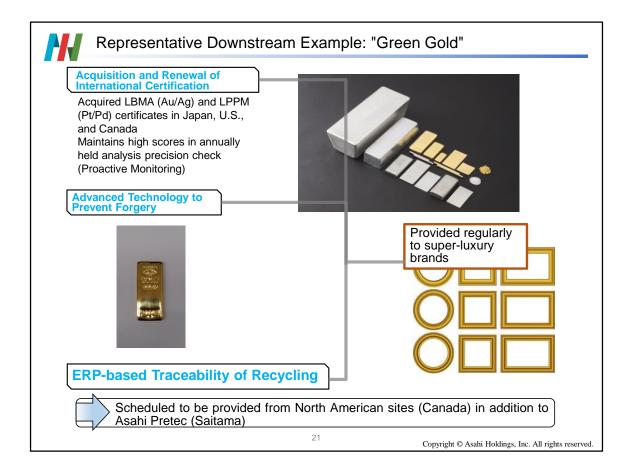




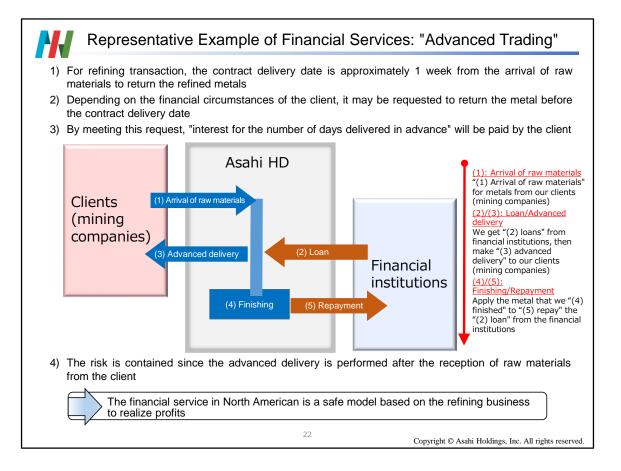
- The situation remains harsh for the North American refining market.
 With its nearest peak at 2011-2012, the unit processing fee has dropped for both gold and silver.
- As the level of profit is declining for mining companies (our main client for refining), the demand to lower refining charges is becoming stronger, and combined with intensified competition with competing companies, it was inevitable to lower the refining charges.



- We had a hard time making a profit in 2015 and 2016 with the declining refining charges. The entire industry was unstable.
- Under these circumstances, we made clear goals to "diversify source of profits in North America" in the 8th medium-term business plan, and made efforts to develop new services with the refining business as its platform.
- One of those new services is the financial service. In "Advanced Trading," a
 plan is developed to eliminate the risk of bad debt along with the reduction of
 funding cost, and this became one of the major sources of business income
 for Asahi Refining.
- In the downstream business field, we are focusing on the business to obtain added value by providing green gold to luxury jewelry brands and the business to manufacture coins and small bars to enhance added value using metals as the material. We are blessed with business chances to provide coins and small bars, since we have many clients dealing with mines and jewelry scraps, and we also have business with financial institutions.
- In the upstream business field, we are developing services to help refining clients who need support. One is the service that enables the mine to process activated carbon by itself. This carbon is used as an absorbent in crude collection of gold ore after mining. The activated carbon absorbs mercury and other toxic elements along with gold, silver, and other valuables at the same time, so it is valuable but difficult to handle. We are entrusted by the mining companies to remove mercury from the used activated carbon and to collect precious metals.



- This is a representative example of downstream business, the "Green Gold".
- Green gold is a bullion created from raw materials with guaranteed traceability, which ensures that there is no problem regarding antisocial/anti-human rights, such as money laundering, financing of conflicts, illegal mining, environmental contamination and child labor.
- We are expanding the procurement of green gold as one of the materials for the super-luxury jewelry brand to appeal to wealthy people.
- The bullion of Asahi Pretec in Japan follows compliance, maintains traceability, and with the approval of RJC (Responsible Jewellery Council) as high-quality green gold, provides the bullion for luxury jewelry brands. We are planning to newly start providing bullion from North American sites, using this know-how and credibility.



- A representative example of financial services, "Advanced Trading", is described here.
- In the refining business in North America, we will keep the deposits of raw materials for precious metals from the clients. After performing the refining operation in the plant, we will return the product metal to the clients in approximately one week. However, there are a considerable number of clients who cannot wait for the delivery period of approximately one week for the return of the product, and desire an early return of the product metal for financing reasons.
- With this request from the clients, we will respond to the early returns with interest paid, and gain interest income. There is no risk of bad debt, since the raw materials for precious metals are deposited prior to the advanced Trading.

(Select How to Get Loans for "Advanced Trading")

Two methods to get loans

- Traditional "Metal lease" option
- Our unique "Purchasing of metal with U.S. dollar loans from Japanese banks"

Preference of loan methods

- Higher rate of selecting the traditional "Metal lease" option in the past
- Now, the "Purchasing of metal with U.S. dollar loans from Japanese banks" option is mostly selected due to its cost advantage.
- This is assumed to be the same in the future as well.

<u>Cost advantage of the "Purchasing of metal with U.S. dollar loans from Japanese banks" option</u>

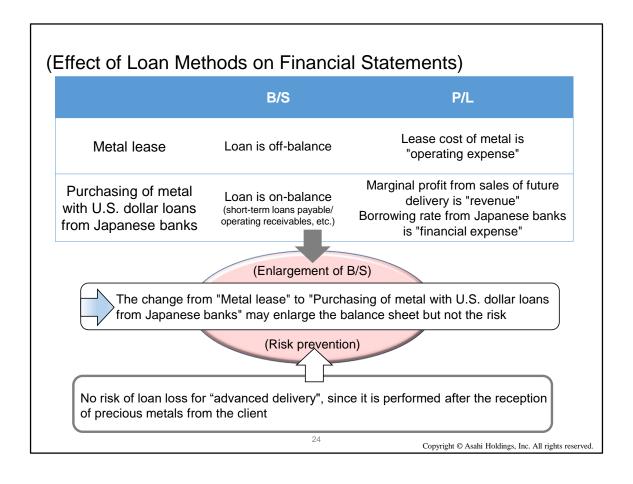
- The futures price for metal is almost always higher than the current price since it has more volume and weight (unlike stocks), and costs more, such as for storage.
- For Advanced Trading, the metal is "purchased at the current price" by us.
 At the same time, the arrived raw materials, a mortgage for advanced delivery, which is sent from the client, are reserved to be "sold at futures price".
 This makes marginal profits, which reduces the borrowing rate from Japanese banks.



Our unique scheme to maximize the difference between the "lending rate" and the "borrowing rate".

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- If we need to deliver product metals to clients before refining the raw materials for precious metals into the product metals, then we need to procure product metals from elsewhere, using one of the following methods.
- One method is to borrow the metal itself from the bullion bank. This is called "Metal lease". Another method is to purchase metal on the market using the "U.S. dollar loan from Japanese banks" as the seed money.
- The latter method is developed by us, and there are no other refining companies that use this method. The "Purchasing of metal with U.S. dollar loans from Japanese banks" method has become more popular since its funding cost is lower than the "Metal lease" method.



- The effect is apparent on the financial statements after the "U.S. dollar loan" method gained popularity over the "Metal lease" method for the expansion of profits in financial services.
- On the profit and loss statement, the lease cost for the "Metal lease" method is included as an operating expense, and reduces the operating income. On the other hand, the borrowing rate for the "U.S. dollar loan" method is included as a financial expense, and will not affect the operating income.
- Since the "U.S. dollar loan" method was used more than the "Metal lease" method in the first half of 2019 in comparison with the first half of 2018, the financial expenses increased and the difference between the operating income and earnings before tax expanded.
- The statement of financial position shows great growth in "borrowings" and "operating receivables", but this does not mean that the financial condition has substantially deteriorated. The safety of "Advanced Delivery" does not change even if the loan method is changed.

◆Reason of Increase in Current Assets and Current Liabilities

(JPY in billion)

	Category	Ended March 31, 2019	Ended December 31, 2019	Change	Main reaso	ns of the change
	Total Assets	160.3	226.6	+66.3		
	Current Assets	113.8	188.5	+74.7	Trade and other receivables +59.7	Impact of the financial services in NA, and change of financing instrument
	Non-current Assets	46.5	38.1	(8.4)		
	Total Liabilities	92.5	157.7	+65.3		
	Current Liabilities	89.7	153.2	+63.5	Short-term loans payable +63.2	Impact of the financial services in NA, and change of financing instrument
	Non-current Liabilities	2.8	4.6	+1.8		
	Total Equity	67.8	68.8	+1.0		

**Long-term loans payable included in non-current liabilities as of the end of March 2019 is transferred to current liabilities for a comparison purpose.

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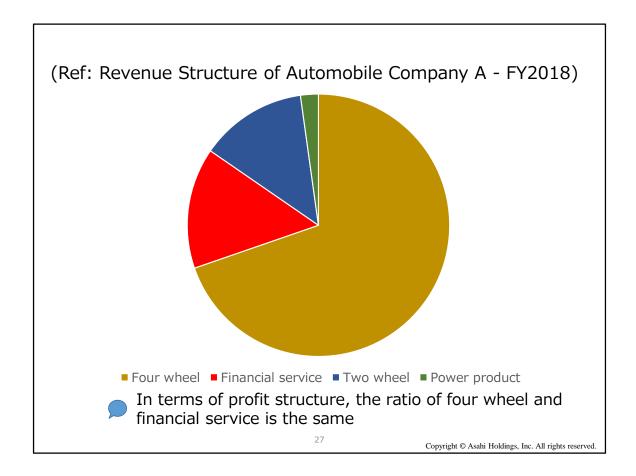
- This shows the effect of changing the loan method on the statement of financial position.
- By comparing the statement of financial position at the end of December 2019 with that at the end of March 2019, you can see that "Trade and other receivables" for current assets increased by 59.7 billion yen, and "Borrowings" for current liabilities increased by 63.2 billion yen accordingly. These are both outcomes of "the effect of expanding financial services in North America and changing the means of raising funds for metals".

◆Reason of Expansion of Negative Operating CF

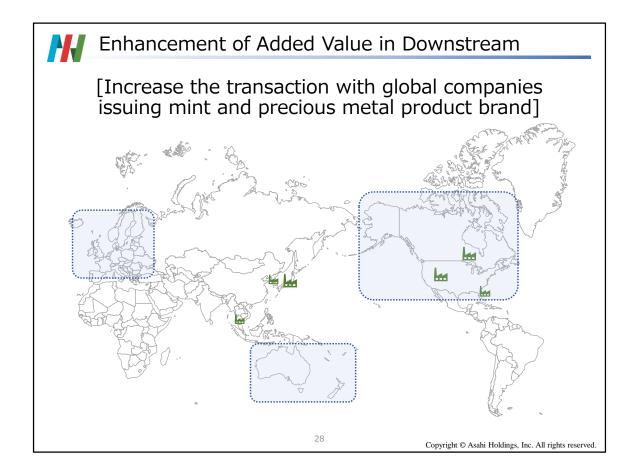
(JPY in billion)

Category	Items	FY2019 3Q	Main reasons of the change	(cf.) FY2018 3Q
	Profit before tax	12.1		9.2
	Depreciation and amortization	2.2		1.7
Operating CF	Decrease (increase) in trade and other receivables	(60.5)	Impact of the financial services in NA and change of financing instrument	(26.7)
	Other, net	(9.6)		(6.4)
	subtotal	(55.9)		(22.1)
	Purchase of property, plant and equipment	(2.1)		(1.7)
Investment CF	Other, net	0.1		(0.0)
	Subtotal	(2.0)		(1.7)
	Net increase (decrease) in short-term loans payable	61.0	Impact of the financial services in NA and change of financing instrument	24.7
Financing CF	Other, net	(5.1)		(5.3)
	Subtotal	56.0		19.4
Cash and Cash Eq	Cash and Cash Equivalents			19.8
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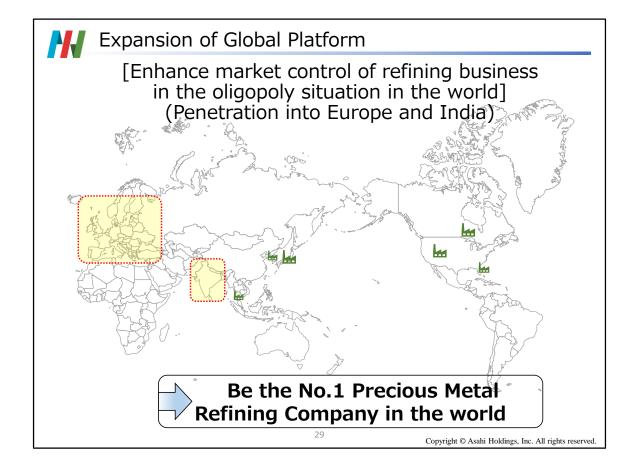
- This shows the effect of changing the loan method on the cash flow statement.
- "Trade and other receivables" for the operating cash flow in the nine months ended December 31, 2019 has decreased to 60.5 billion yen. "Short-term loans payable" for the cash flows from financing activities has increased to 61.0 billion yen accordingly. This is also "the effect of expanding financial services in North America and changing the means of raising funds".



- This shows the composition of sales for an automobile manufacturer illustrated in a recently released finance magazine. Note that the composition rate for financial services is the second largest after the sales of four-wheel vehicles. The weight of financial services is larger in the composition for profits. Although the interest rate for four-wheel vehicles is in the range of 1%, it will be in the range of 3% combined with the financial services attached to the sales of four-wheel vehicles.
- The car loan, which is a financial service deployed by automobile manufacturers may appear to have a lower risk of bad debt, but it can be said that the risk of bad debt is lower for the financial service that we provide in North America, since we have raw materials for precious metals kept in our plant. In addition, the difference between the interest for loans and procurements is larger for financial services that we provide in North America.



- To increase added value to the downstream business, we are working to strengthen our relationship with the issuers called sovereign mints that issue coins not only in North American countries, but also in South Africa, Australia, New Zealand, and other States of the Commonwealth, where many people love collecting coins.
- We are also working to expand business with a precious metal product brand that buys green gold at a high price.



- With the bankruptcy of Republic Metals in November 2018, our largest rival in North, Central, and South America, we were able to increase the efficiency of the refining business with its costs fixed, by taking in the majority of the Republic Metals clients through business efforts. Also, with our increased market power, we were able to gradually make the terms and conditions stricter for clients or limit the transaction of impurities that increases the refining cost. These also lead to improved profitability.
- We aim to increase value added to the downstream and upstream business based on the gold and silver refining business in a larger scale, with an increased number of refining clients for the growth of financial services with high profit margins.
- Our goal is to increase the market share at a global level, and become the number one refining company in the world. We are presently focusing on expanding to Europe and India.

(Supplement) Precious Metal Recycling Business

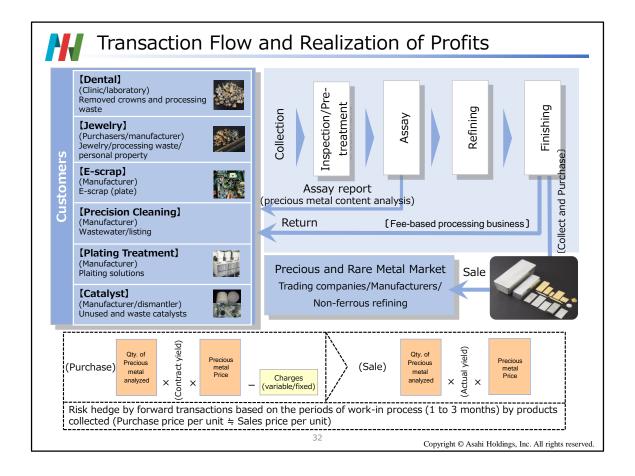


Strength of Precious Metal Recycling Business

- 1) Diverse and widely ranging field of transactions inside Japan and in Asia
- 2) High market share in each field
- 3) Customer-based sales style

Dental	Jewelry	Catalyst
Collect alloys used at dental clinics and dental laboratories and recycle precious metals.	Recycle precious metals from jewelry products in distribution and manufacturing processes.	Recycle precious metals from automotive catalysts, chemical catalysts, etc.
E-scrap	Precision Cleaning	Plating Treatment
Recycle precious metals from electronic components and printed circuit board used in electronic devices.	Recycle precious metals through our precision cleaning service of the manufacturing equipment for Semiconductors and Electronic components. Electronics	Recycle precious metals from plating solutions with environment-friendly technology.
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- · There are three strong points of our precious metal recycling business:
 - 1) Diverse and widely ranging field of transactions inside Japan and in Asia
 - 2) High market share in each field
 - 3) Customer-based sales style
- · Currently, our precious metal recycling business collects raw materials from six main fields. In each field, we have a high market share, due to our customer-based sales style.



- This is a diagram that shows the flow of precious metal recycling transactions, and how to achieve profits.
- There is no risk of bad debt caused by the fluctuation of quotations, since the forward sale corresponding to the refining period is reserved at the time the raw materials are collected, to make a stable profit.
- There are two sources of profits for precious metal recycling: 1)
 "Various charges" that exceed the costs for operations and plants,
 and 2) "actual yield" that exceed the "contract yield". The profit
 from various charges will not be affected by the quotations. The
 profit from actual yield will be affected by the quotations, but it will
 not lead to loss as far as it exceeds the contract yield.



Straight from Technological Development to Commercialization



Research & Development Department (30 staff)

Industrial Technology Department (20 staff)

Technology Management Department Intellectual properties

properties Quality assurance

Technical Research Center

- Assembly of Research & Development Department, Industrial Technology Department, and technical assistance organizations managing quality at each plant or intellectual properties company-wide
- An Annual Achievement Presentation is held with the participation of business units in addition to the management, to hold discussions with commercialization in mind

Research Team for New Technologies

Asahi Holdings

Research Team for New Technologies

To stick to the long-term, exploratory research & development point of view, a special research organization with direct connection to Asahi Holdings is established

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- Our thorough technology development system supports "business reforms emphasizing speed" and "withdrawing from and restructuring of business" explained at the beginning (this is not only limited to the precious metal recycling business).
- We have our high-level technology departments assembled at the Technical Research Center in Kobe City. The technical ideas born here are always assessed from the point of view of commercialization and contribution to profit. Those ideas that received a high rating will be sent to launch or improve business where the parties concerned in the development of technology play the main role.

(Automobile Catalyst Business and E-scrap Business)



Automobile catalyst sampling facility

From 2003, Automobile Catalyst Business

By setting up a technical license from Johnson Matthey, a technology to perform high-precision analysis of palladium, platinum, and rhodium, which are used, for instance, to purify exhaust gas from automobiles, is established and commercialized.

The application is also expanded to a chemical catalyst.

From 2011, E-scrap Business

The Research & Development Department of Technical Research Center itself created a pilot machine, established the recycling flow, and also introduced a new technology for sampling/analysis.

This is currently one of the important businesses of Asahi Pretec, and deals with various materials received from inside and outside of Japan.



E-scrap sampling facility

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The automobile catalyst business and E-scrap business are examples.
 The technology department played the main role from planning to commercialization.

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(Precision Cleaning Business and U.S. and Canadian Gold and Silver Refining Business)

From 2011, Precision Cleaning Business

The cleaning business is established mainly by the Research & Development Department, aiming to collect precious metals from jigs used in sputtering and deposition, and to recycle those jigs speedily.

This also provides services to meet the needs of client by using wet and dry methods for different purposes.



Cleaning facility



Au melting facility

From 2015, the U.S. and Canadian Gold and Silver Refining Business

After the acquisition of two refining sites in North America, this business contributed in improving the accuracy of collection and product quality through major refinement of silver electrolyzers in North America, by merging the technology to clean raw materials from mines owned by the local office in North America and the technology to clean secondary raw materials owned by Asahi Pretec.

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- The start of the precision cleaning business was through the acquisition of a precision cleaning company for jigs used in the semiconductor industries. We were able to reconstruct the business and make it a highly profitable business, by adding technologies and facilities that allow our technology department to strip off the precious metals adhered to the jigs.
- Also, in North American precious metal refining business, we were also able to improve business through major improvements of silver electrolyzers in North America, by merging the technology to clean raw materials from mines held by the local office in North America and the technology to clean secondary raw materials owned by Asahi Pretec.



Participation in Planning of National Projects

2011-12 NEDO "Rare-Metal Substitute Materials and Usage Reduction

Development Project"

2013-15 NEDO "Development of Technology to Recycle Rare-Earth Magnets from

Used Motors"

Awarded "Rare-Metal Recycle Award" from Japan Environmental

Management Association for Industry

Disassembly process and instrument of motor used to drive HEV







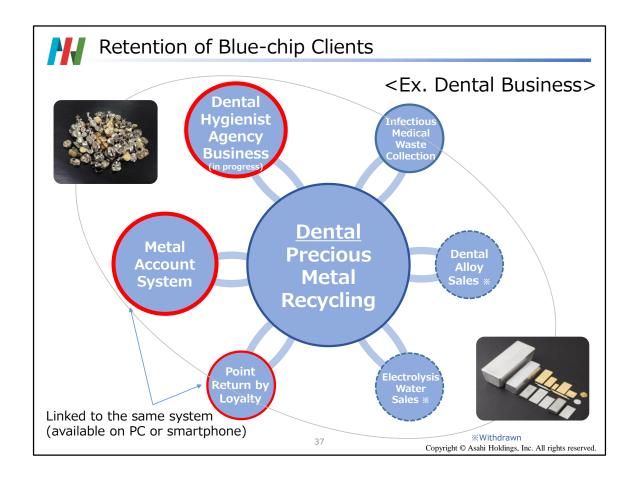
2016-17

JOGMEC "Project for Rationalization of Energy Usage and Establishment of Infrastructure for Development and Promotion of Mineral Resources (FY2016)"

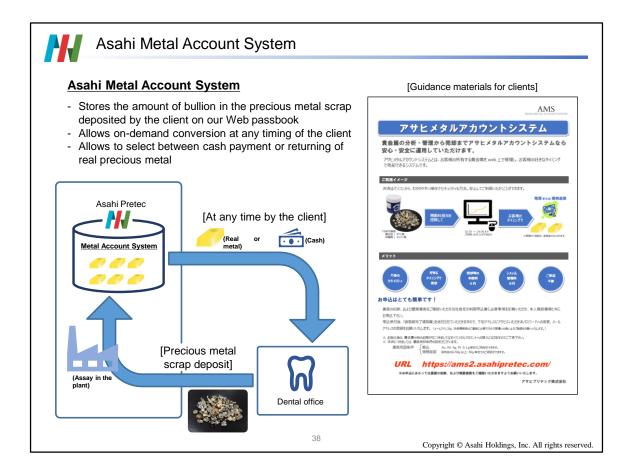
59 industrial property rights obtained up to this point since 1991. There are many more undisclosed inventions and designs, or know-how

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- Although our technological activities are based on a thorough system
 of "straight from technological development to commercialization", we
 established in 2018 a research team for new technologies in Asahi
 Holdings to support long-term, exploratory research and development.
- We were awarded the "Rare-Metal Recycle Award" in 2015 for the development of rare earth collection technology and for participation in the national project.
- We have obtained 59 industrial property rights up to this point since 1991. There are many more undisclosed inventions and designs, or know-how.



- The "customer-based sales style" is our strong point, and it is supported indirectly with weapons that use IT.
- In the example for dental business, a system called Asahi Metal Account was built in 2012, using Amazon's cloud computing services (AWS).



- The Asahi Metal Account System keeps the precious metals produced in the dental offices and dental laboratories in deposit, based on the analysis results. This allows you to settle accounts whenever you want to sell, by checking the account book for the amount of precious metals deposited by the client on your PC or smartphone. In addition, you can also select from either "settlement in cash" or "return in real precious metal".
- This is popular among the clients who sell with a quotation for precious metals in mind. We can deploy our collection activities regardless of the conditions in quotations for precious metals. Also, in the same system, the frequency of using our collection for each client is recorded, and various customer return services appropriate for the customer loyalty are performed. This is a service based on the same idea as the frequent flyer services of airlines.
- The Asahi Metal Account System and the customer loyalty programs are both the industry's first systems, and there are no other companies that have systems like these.

Environmental Preservation Business

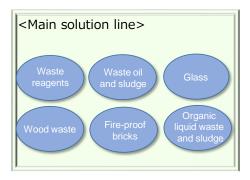
FY2019 Financial Forecast (announced on January 31, 2020)					
	ı	(JPY in billion)			
Full year	FY2018 Actual	FY2019 Forecast			
Revenue	19.4	21.0			
Operating Income	3.9	4.1			
Operating Income Ratio	19.8%	19.5%			
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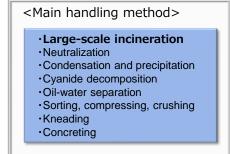
- In the full-year earnings forecast for this year released on January 31, 2020, both the revenue and operating income for the Environmental Preservation Business segment are expected to increase compared to last year.
- As "Life & Health Business" has been classified as discontinued operation from FY2019 Q3, the figures of FY2018 Actual are restated accordingly.



Strategies in Environmental Preservation Business Segment

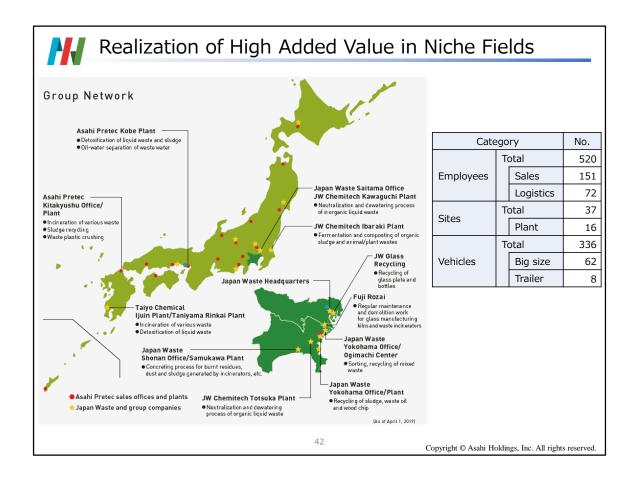
- 1) Finding high added value in niche fields
- 2) Improvement of business efficiency by newly setting up/renewing the incinerator
- 3) Sales and development based on accumulated know-how





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- The strategy for the environmental preservation business segment may be summarized into three points:
 - 1) Finding high added value in niche fields
 - 2) Improvement of business efficiency by newly setting up/renewing the incinerator
 - 3) Sales and development based on accumulated know-how



 Shown here are our Group's sites for environmental business. Licenses are acquired for collection, transportation, and intermediate treatment of most types of industrial waste and specially controlled industrial waste. Many businesses with high added value are deployed here, including the detoxification of waste reagents and the recycling of refractory lining.

(M&A Results and High Return)

(JPY in million)

Company	When Acquired	Initial Investment	Cumulative FCF
Sansho (JW Yokohama)	2001	180	1,700
Nihon Chemitec (JW Saitama)	2004	1,030	7,700
Iyotec (JW Kobe-nishi Center)	2006	450	550
Taiyo Chemical	2007	1,190	2,480
Fuji Rozai	2008	1,410	1,650
JW Glass Recycling	2009	1,370	1,380
Ecomax (JW Shonan)	2010	900	1,480
Inter Central	2012	2,080	1,150

%As of March 2019

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- The business properties for environmental preservation are a mix of a businesses that derive from the business of photographic materials and have grown organically, and a business acquired through M&A. In the organization, the environmental business department of Asahi Pretec is mainly organic, and Japan Waste is mainly made from M&A.
- The "initial investment" in this table includes intangible assets at the time of acquisition. Many M&A businesses have supported the growth of environmental preservation business while providing high returns.



Efficiency Increase by New construction/Renewal of Incinerator

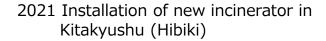
2007 Acquired incinerator business in Kagoshima (Ijuin) and Kitakyushu (Moji) through M&A



2018 Installation of new incinerator in Kagoshima (Taniyama)



2020 Renewal and capacity improvement of incinerator in Kitakyushu (Moji)



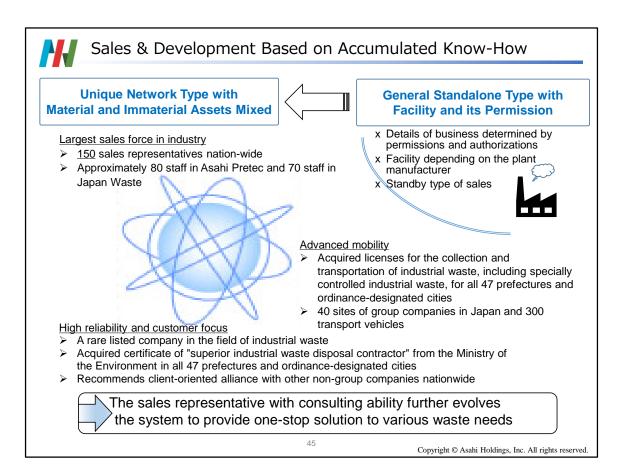




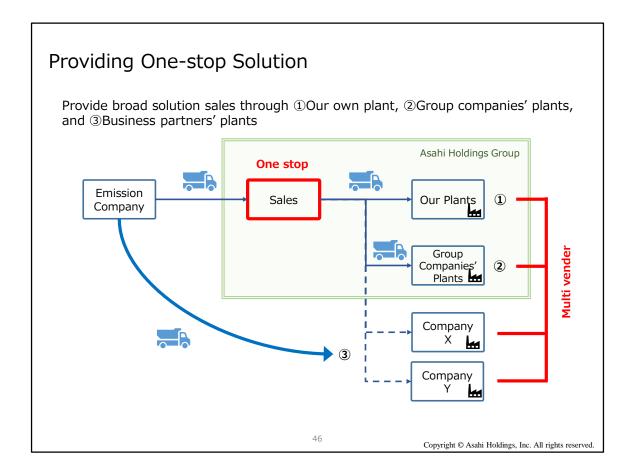
Aim to secure further incinerators in the 2020s

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- The incinerator in the Kyushu district contributed particularly in the size and efficiency of the environmental preservation business.
- They are all acquired through M&A, and through the accumulation of business know-how, we are standing at a new stage to set up a new incinerator, to perform a major update, and to promote addition of functions such as heat recovery and power generation.
- · We aim to secure further incineration facilities in the 2020s.



- Objectively, there are no other industrial waste companies like us that allocate 150 permanent employees throughout the country for the sale of industrial waste business (excluding sales assistants and distribution specialists), or have licenses for collection and transportation all over the country, and also have over 300 vehicles for road transportation.
- However, what makes us truly unique (one and only) in this industry is that we provide one-stop solutions to a variety of waste needs, by deploying industrial waste business independent of our own licenses and facilities.



- The main point of the mechanism for providing one-stop solutions is that the salesperson with know-how as a consultant can not only fully utilize various licenses and facilities owned by Asahi Pretec and Japan Waste, but can also make sales proposals without being restricted by our own licenses and facilities.
- Because we are able to create a flexible sales front like this, we can make greater use of this potential, even when any type of standalone facility is acquired in future M&A, based on the knowhow and affluent customer assets. As a result, it leads to quaranteeing a high return for our M&A.



Expansion of Market Presence

(JPY in billion, FY2018)

Company	Revenue	Profit	Ratio	Employees	Information Sources
Company A	72.2	14.7	20.4%	1,999	Website
Company B	51.3	9.1	17.7%	949	Earnings summary (listed)
Company C	32.7	1.8	5.5%	1,009	Sanpai net (non-consolidated)
Company D	32.3	2.1	6.5%	1,277	Earnings summary (listed)
Company E	28.0	2.4	8.6%	609	Sanpai net (total of three companies)
JW + Asahi Pretec	16.9	2.9	17.2%	527	Revenue: JPY 17.2 billion Operating income: JPY 3.5 billion Group of listed company
Company F	15.0	2.5	16.7%	540	Sanpai net (non-consolidated)
Company G	13.8	2.3	16.7%	582	Sanpai net (non-consolidated)
Company H	10.6	1.4	13.2%	361	Sanpai net (non-consolidated)
JW Group	10.5	1.6	15.2%	352	
Company I	7.1	0.4	5.6%	150	Sanpai net (non-consolidated)
Asahi Pretec Environmental Preservation Division	6.4	1.2	18.8%	175	
Company J	4.1	0.1	2.4%	262	Sanpai net (non-consolidated)

※Operating income or ordinary income

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· We will integrate the environmental preservation businesses that are currently divided into Asahi Pretec and Japan Waste in the future, and we are confident that we will continue to grow as a promising brand in the industrial waste industry, by clearly setting out the corporate identity that promotes proposal capabilities and reliabilities.