May 12th, 2023

Financial Results – FY 23/03

(Matters related to Business Plan and Growth Potential)

Microwave **Chemical**

Make Wave,
Make World.

世界が知らない世界をつくれ

Executive Summary

1

FY 23/03 Financial Results

Compared to the previous year, a significant growth was recorded

- **Sales reached ¥1,215 million (+41.2% YoY), while operating profit was ¥59 million.**
- The number of new contracts and total contracts exceeded the target, stage-up contracts increased from original budget.
  - The number of new contracts **increased to 27 from 18 YTY (+50.0%)**
  - The total number of contracts **increased to 61 from 41 YTY(+48.8%).**
- Standardization is progressing in the chemical recycling and freeze drying. Advancement made in the green area, new pilot plant being built for carbon fiber and turquoise hydrogen production, successfully scaled-up lithium and beryl ores extraction process.

2

FY 24/03 Business Plan & Forecast

Focus on carbon-neutral Strategic investment in high growth domain Expand capacity

- Focus on quality rather than quantity of potential projects that lead to large-scale business. Target number for new contract acquisitions and total contracts comparable to 23/03.
- Expect a significant increase in Phase 2 sales due to stage-up.
- Strategic investment in R&D, with focus on chemical recycling, mining process, and other high growth potential areas.
- Capacity expansion in terms of both personnel and R&D infrastructure to capture growing carbon-neutral demand.
- Based on the above policy, we plan to achieve **sales of 1,846 million yen (+51.9% YoY) and operating income of 40 million yen in the fiscal year ending in March 2024.**

Agenda

1. Financial Results - FY 23/03
2. Business Plan & Financial Forecasts - FY 24/03
3. Company Overview
4. Appendix

HIGHLIGHT

Significant growth achieved through new contract acquisition and stage-up in projects.

Newly Acquired Contracts
18⇒27

Phase 1 Total Contracts
33⇒44

Phase 2 Total Contracts
5⇒12

Sales
860⇒1,215 MY

*FY 22/3 result ⇒ FT 23/3

Financial Results for FY23/03

Net sales exceeded the initial plan. Operating income and ordinary income slightly fell below target due to increase in COGS as a result of additional Phase 2 orders and active investment in R&D.

Net income exceeded the forecast due to the recognition of special profits from government grants and adjustments for deferred tax assets related to corporate taxes.

(Unit : million Yen)

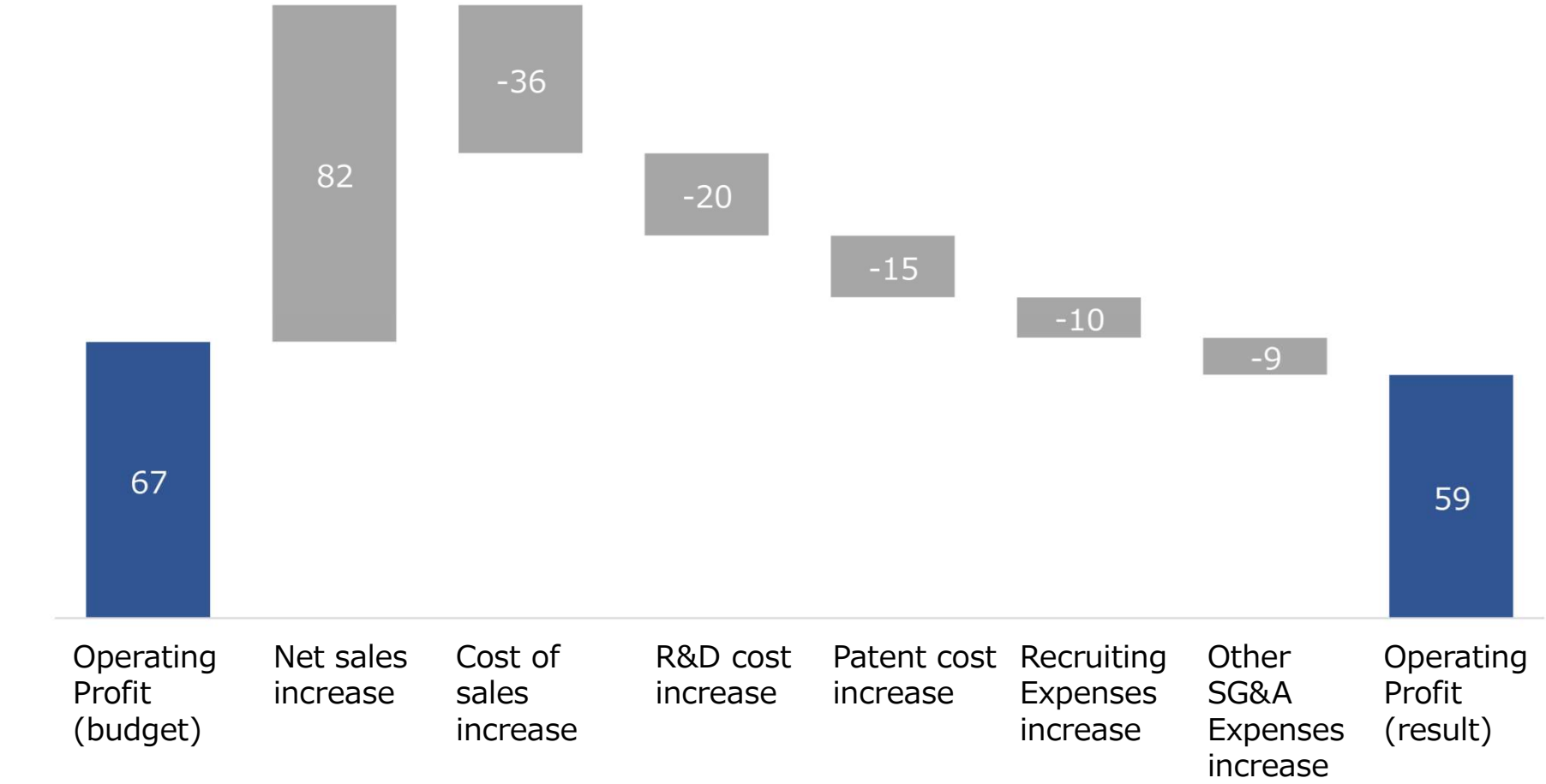
	FY 22/03 Full-year (result)	FY 23/03 Full-year (result)	Difference		FY 23/03 Full-year (budget)	Difference
Net Sales	860	1,215	+354	41.2%	1,133	+7.3%
Phase 1	309	567	+257	+83.0%	686	▲17.4%
Phase 2	320	593	+273	+85.3%	381	+55.7%
Phase 3	30	35	+5	+16.7%	35	0.0%
Phase 4	200	–	▲200	▲100.0%	–	-
Others	–	19	+19	-	30	▲36.0%
Operating profit	▲87	59	+147	-	67	▲11.9%
Ordinary profit	▲98	26	+124	-	30	▲13.2%
Profit before tax	▲107	56	+163	-	51	+10.8%
Profit after tax	▲110	75	+185	-	45	+65.7%

*Phase 1: Research and development, Phase 2: Demonstration, Phase 3: Introducing commercial reactor, Phase 4: Manufacturing support

(Supplemental material) Explanation of the factors contributing to the impact on operating profit.

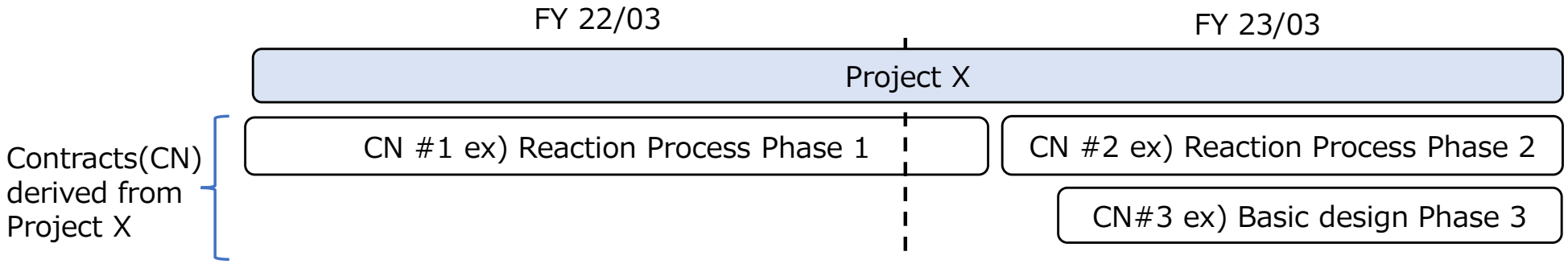
Active R&D led to an increase in SGA such as patent cost, recruitment expenses.

(Unit : Million Yen)



KPI(Key Performance Indicator)

1. **Important KPI** for our business are ①**Total Number of newly acquired Contracts** and ②**Total Number of Contracts.**
2. Contracts are signed with clients based on solutions we provide which will defer per phase and service we provide. Multiple contracts could be signed with one project as indicated below.
3. Contracts is basis of our revenue. We disclose only the Contracts that is expected to complete and book sales within this FY as KPI.



【Related information】

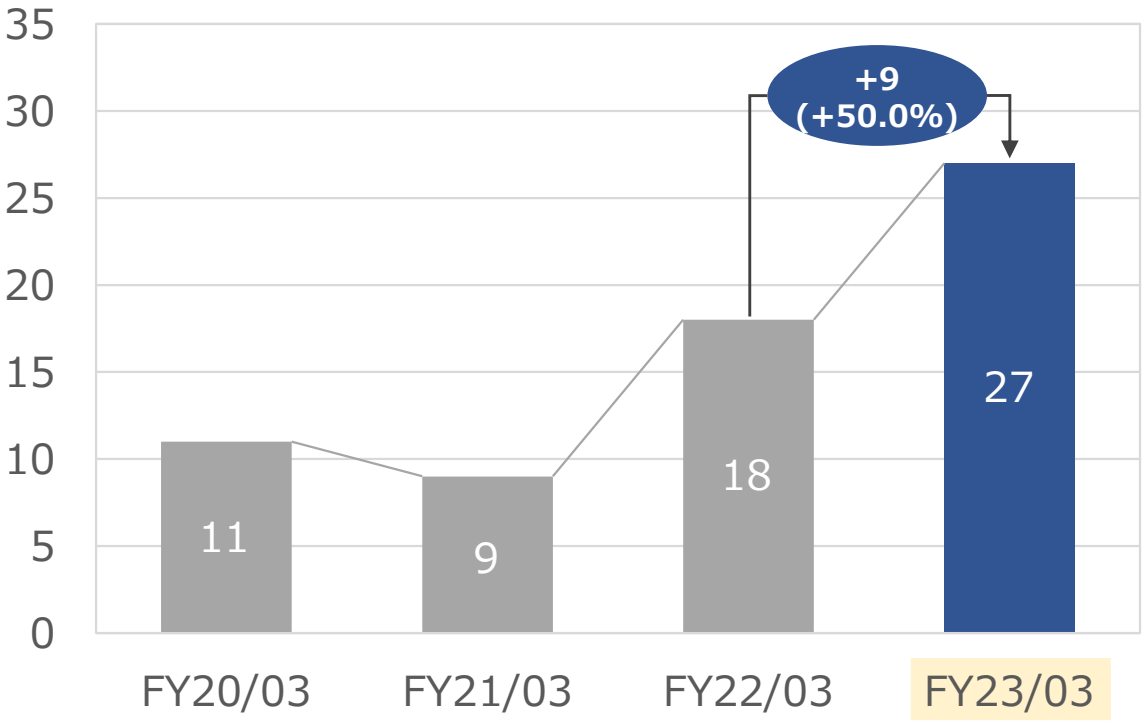
a. **Sales per Phase :** To understand the progress of the contract by sales per each phase(1～4).
b. **Total Number of Projects**：Project consist of a team with task to provide “total solution” to clients. It is also referred as a pipeline and categorized in two types.
   - Revenue generating project: Solution Providing Project to a client
   - Non-revenue generating project : R&D Project which we invest our own resources.

KPI① Total number of newly acquired contracts

Acquired 27 contracts, an increase of 9 contracts (+50.0%) from FY22/03, increase of 2 contracts (+8.0%) compared to the original budget.

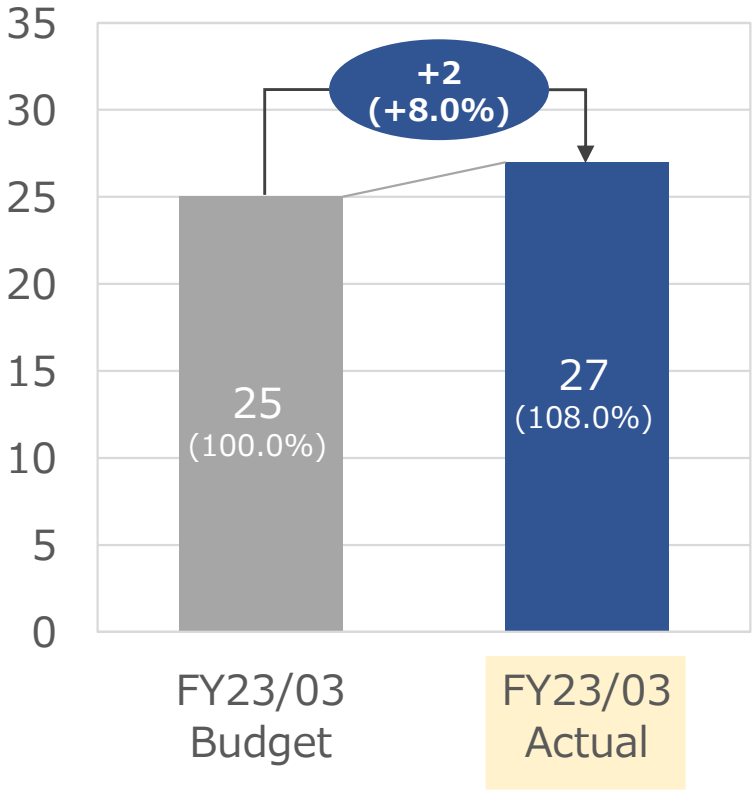
Newly acquired contracts : Qtr by Qtr

(Unit : # of Contracts)



vs. Budget

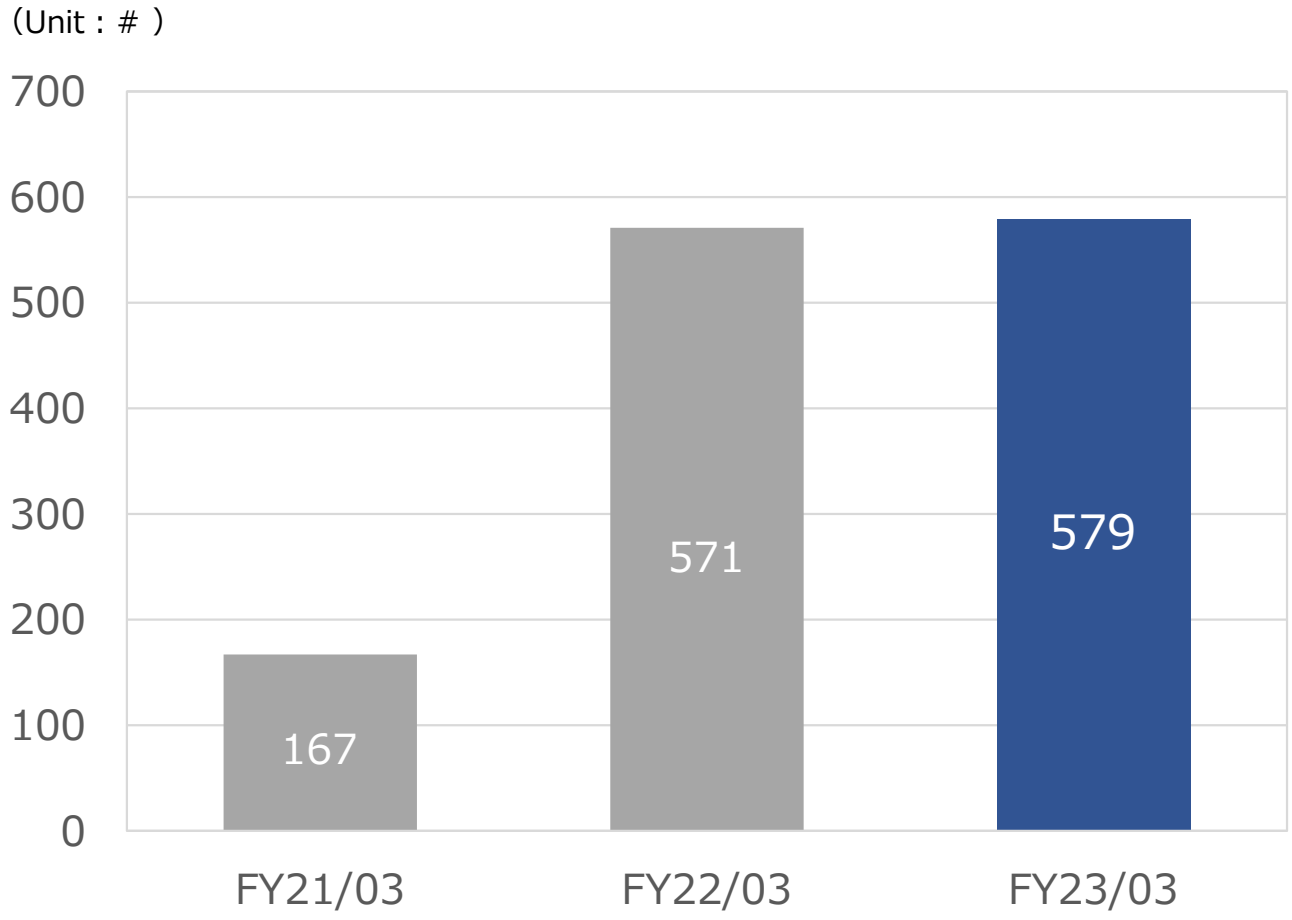
(Unit : # of Contracts)



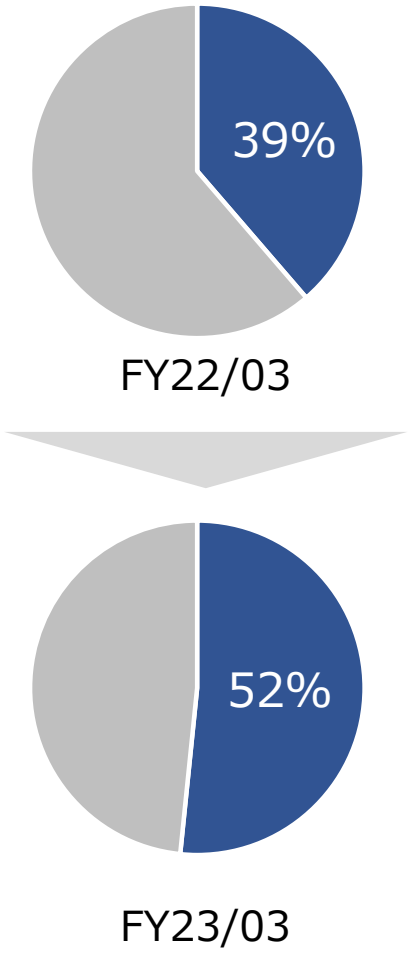
Ref: Status of Inquiry

Inquiry driven by carbon neutral (CN)-related projects. Similar numbers to FY22/03.

Status of Inquiry



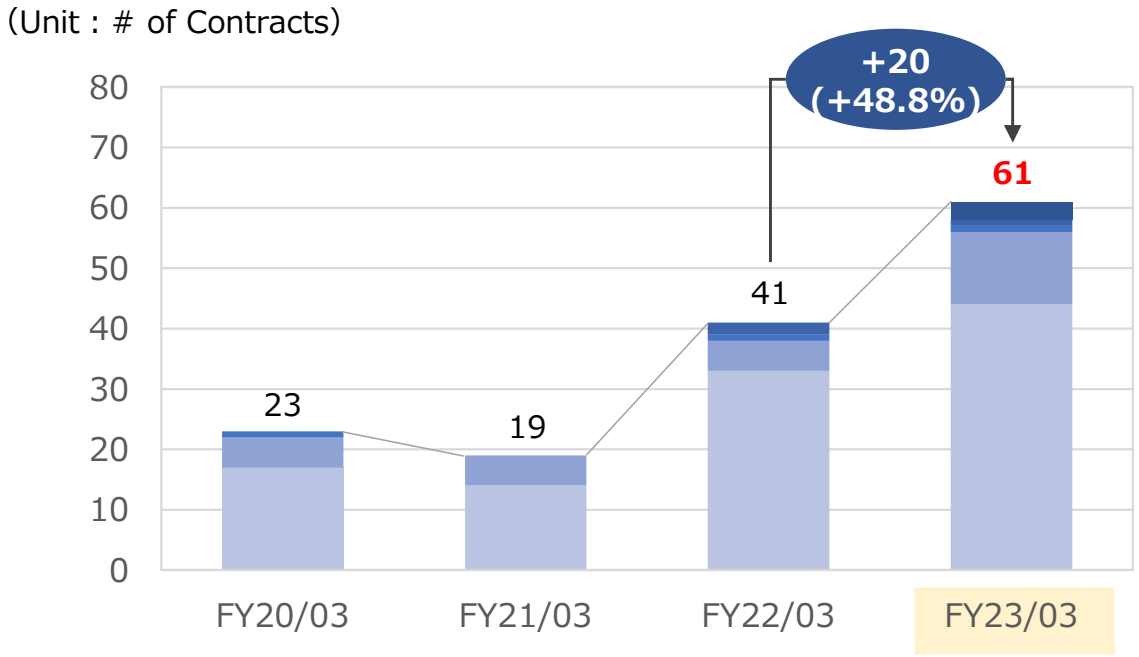
Percentage of CN related Inquiry



KPI② Total number of contracts

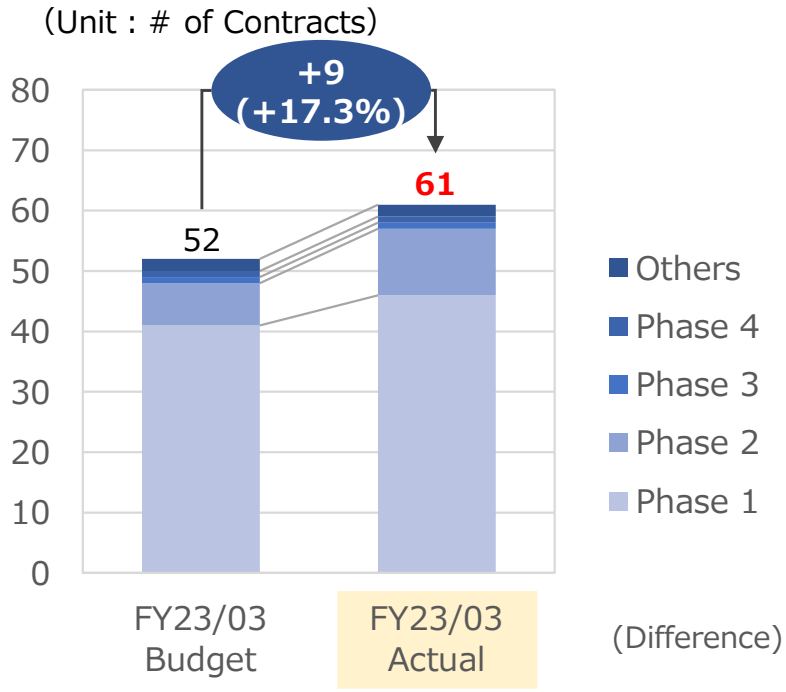
Acquired 61 contracts, an increase of 20 (+48.8%) compared to the previous year. Compared to the original forecast, Phase 1 and 2 progressed smoothly and achieved +9 contracts (+17.3%).

Total number of contracts: Trend



Phase 1	17	14	33	44
Phase 2	5	5	5	12
Phase 3	1	0	1	1
Phase 4	0	0	2	1
Others	0	0	0	3
Total	23	19	41	61

vs. Budget



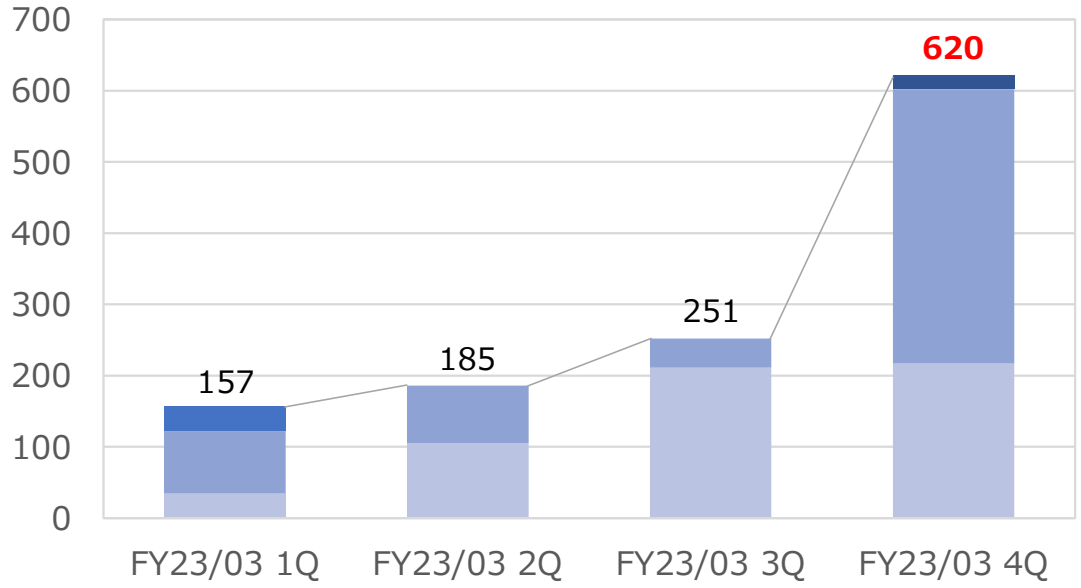
41	44	+3
7	12	+5
1	1	0
1	1	0
2	3	+1
52	61	+9

a. Sales per phase

Most of our revenue recognized in Q3 and Q4. Stage up exceeded our expectation, resulting in decrease of Phase 1 sales and significant increase in Phase 2 sales.

Quarterly sales per phase

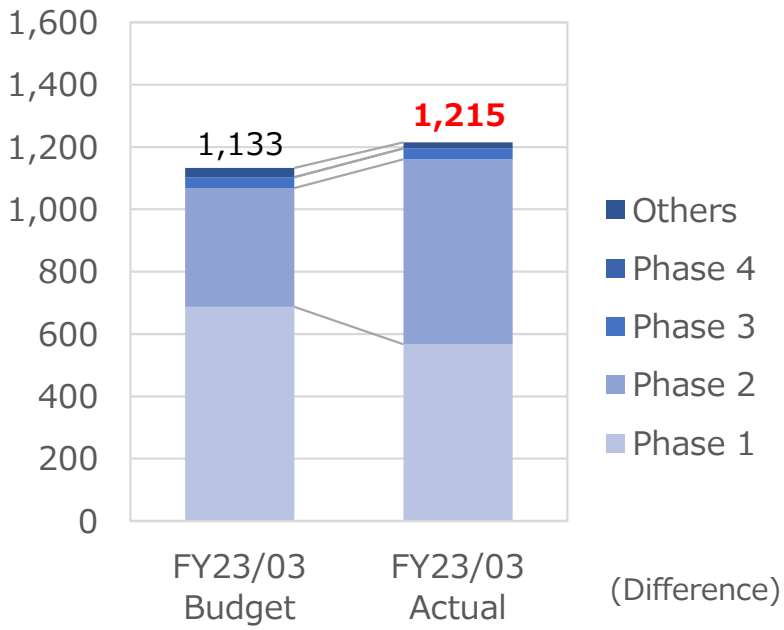
(Unit: million Yen)



Phase 1	34	104	210	216
Phase 2	87	80	41	384
Phase 3	35	–	–	–
Phase 4	–	–	–	–
Others	0	–	–	18
Total	157	185	251	620

vs. Budget

(Unit: million Yen)



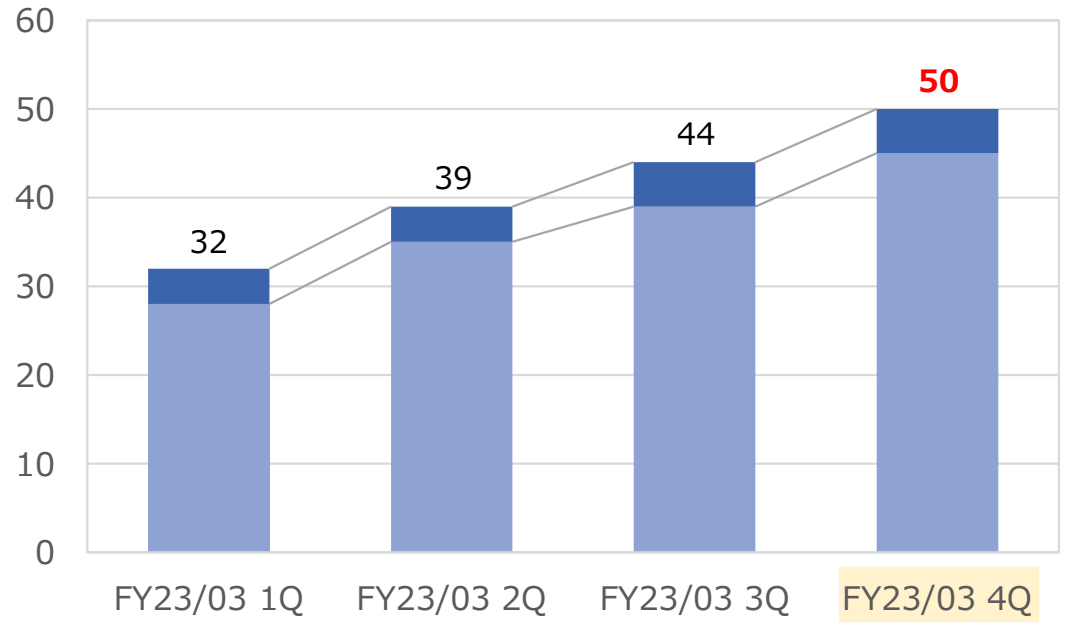
686	567	▲119
381	593	+212
35	35	–
–	–	–
30	19	▲10
1,133	1,215	+82

b. Total number of projects

New Projects > Discontinued Projects: Number of projects in line with the original forecast.

Number of projects: Trend

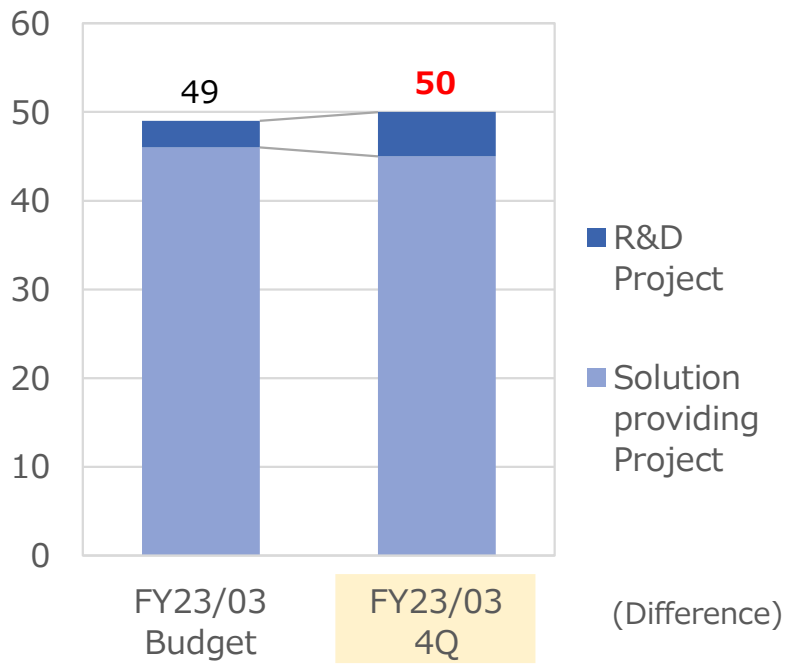
(Unit: #)



	FY23/03 1Q	FY23/03 2Q	FY23/03 3Q	FY23/03 4Q
R&D Project	4	4	5	5
Solution Providing Project	28	35	39	45
Total	32	39	44	50

vs. Budget

(Unit: #)



	FY23/03 Budget	FY23/03 4Q	(Difference)
R&D Project	3	5	+2
Solution Providing Project	46	45	▲1
Total	49	50	+1

Progress in Growth Strategy

Business Model × Market Focus

Projects × Unit Price × Plants in Commercial Production × Packaged Solution

1. New Contract Acquisition

Through new and existing customers, strategic alliances, oversea customers.
Acquisition as planned (P8). The number of new inquiries (leads) remains robust, especially in the carbon-neutral field (P9).

2. A Virtuous Circle Strengthening the Technology Platform

Each project will strengthen our technology platform which in turn increases our ability to provide solutions.
Strengthened technology platform, resulting in an increase in the number of stage-up projects and sales revenue. (P10/11).

3. Standardization

Scaling business by providing packaged solution to multiple clients.
Expansion made in the chemical recycling and freeze drying. (P14)

4. Focus on growth areas

- Green
- Healthcare (Includes food)
- Electronics

Active R&D investment including government grant (P15) . Total number of contracts reached 61 (P10). Of these, 45 were in the Green sector, 4 in Healthcare, 4 in Electronics, and 8 in other areas.

*Progress made during 23/03 stipulated in red figure

FY 23/3 BUSINESS HIGHLIGHT

Scaling through Standardization	Chemical Recycling	• Joint development of microwave-process to directly decompose used plastic into basic chemicals.(Partner: **Resonac**) • Launched a new initiative to chemical recycle polyurethane foam. (Partner: **Mitsui Chemicals**) • Awarded the Osaka Pref. “Carbon Neutral Technology Development and Demonstration Program” for distributed recycling system. (Partner: **Seven-Eleven Japan**) • Completion of Japan‘s first versatile pilot plant.(Institution: **NEDO**)
	Freeze Drying	• Advanced to pilot project phase of microwave Multi-stage freeze-drying for faster, higher quality convenience food production. （Partner: **Asahi Group Foods** ）
Steady Progress in Green Domain	Carbon Fiber	• Decision made to build a new large scale pilot facility of eco-friendly carbon fiber production ”Carbon-MX™” at Nagoya in Dec. 23. (Partner**: Mitsui Chemicals**)
	Turquoise Hydrogen	• Signed JDA to build pilot plant for production of hydrogen from methane using microwave at MWCC Osaka facility. (Partner: **Sumitomo Chemicals**)
	Mining Process	• Successfully scaled up(100X) microwave process to extract beryl and lithium from ore with mild conditions compared to conventional method （Partner: **QST)**

Grant Information

Developing technologies by Green and Healthcare receiving Government Grants.

Institution	Project	Theme	Grant/ Total Project Cost (Unit : 1,000yen)
Osaka Pref.	Carbon Neutral Technology Development and Demonstration Program	Development and demonstration of distributed chemical recycling system utilizing microwave process	13,762 /20,643
NEDO	Strategic Innovation Program for Energy Conservation Technologies / Pilot Phase	Development of new chemical recycling method for plastics using microwave process	148,437 /222,656
NEDO	Carbon recycling technologies based on biobased process	Development of bio-foundry technology for production processes	15,151 /19,999
AMED	Project Focused on Developing Key Technology for Discovering and Manufacturing Drugs for Next-Generation Treatment and Diagnosis	Purification, and analysis of nucleic acid medicines	1,818 /2,600
JST	Program on Open Innovation Platform with Enterprises, Research Institute and Academia (**OPERA**)	Creation of Innovative Oxidation Reaction Activation Control Technology Using Safe Oxidants	4,090* /4,090

*Utilized for Joint Research Course with Osaka University

Seasonal Fluctuations / Revenue Recognition

<Seasonal Fluctuations>

Our major customers, chemical companies, finalizes budgets by March, just before the start of the new fiscal year, so project with MWCC often begins in the first or second quarter. As a result, the completion of the contract, in which our company's revenues are recorded, tends to be skewed toward the second half of the year. There is also an impact from the completion timing of large- scale projects. In addition, since the majority of selling, general and administrative expenses are fixed costs, the proportion of profits also tends to be weighted toward the second half of the year, which may affect investors' decisions.

<Revenue Recognition>

The following is a description of the main performance obligations in the Company's main business related to revenues arising from contracts with customers and the usual time at which such performance obligations are met. Payment is made generally within one month after obligation is fulfilled and dose not include financial component.

① Joint development agreement(JDA)

The Company submits reports, samples, etc. stipulated in the JDA and receives payment. Under such agreements, revenue is booked upon acceptance of the report, samples, etc. by the customer.

② License agreement

Under license agreements, the Company licenses its intellectual property to customers and receives upfront payments and running royalties as compensation. The upfront payment is booked as revenue at the time the intellectual property is licensed. Running royalties are based on the sales revenue of the licensee company, and revenue is recognized when the product is sold by the licensee company.

(Net sales for each quarterly accounting period)

(Unit : 1 Million Yen)

	Q1	Q2	Q3	Q4	Total
FY 22/3	68	61	548	182	860
FY 23/3	157	185	252	620	1,215

Impact of deferred revenue & government grant on our sales and OP

<Impact of deferred revenue on our sales>

During the joint development period, it may be agreed with our partner to extend the development period based on the development progress. If the revised end date of the development period falls within the same fiscal year, there is no impact on sales and operating profit. However, if it falls into the next fiscal year, the recognition will be postponed accordingly, which will impact sales and operating profit.

EX) If a contract worth 10M yen was signed in Dec. 2022 with a development period from Jan to Mar, but the delivery date was revised to April, 10M yen cannot be recognized as sales for FY23/03 and will be recognized along with the cost of sales in the following fiscal year.

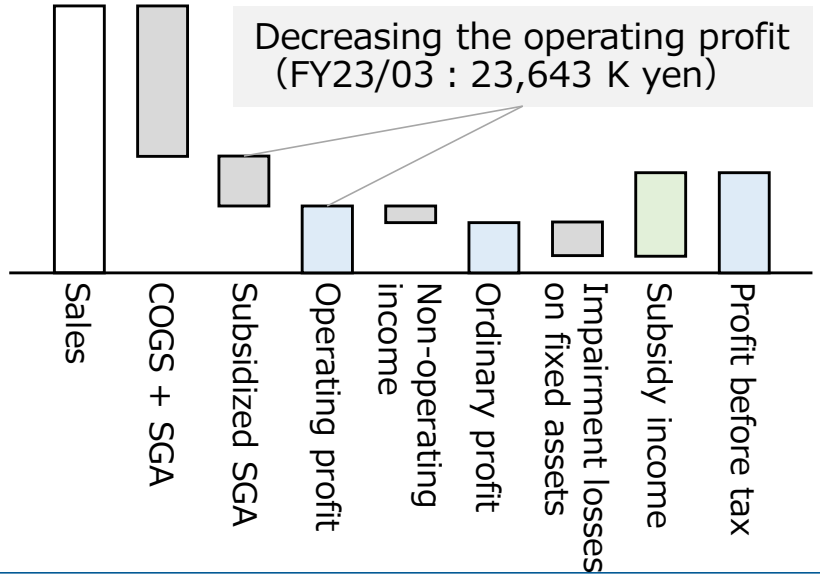
In FY23/03, with 11,725 K yen to be recognized as sales in the FY 24/03.

<Impact of Government Grant on Operating Profit>

For costs related to grant programs, we recognize them as expenses under either SGA or extraordinary losses (impairment losses on fixed assets), and then record the grant income as special profit. As the eligible expenses for the subsidy income are included in the SGA, the receipt of the subsidy appears to decrease the operating profit.

In FY23/3, 23,643 K yen was recognized as SGA, resulting in a decrease of operating profit

(Image)



Unit: million yen	(Actual) FY23/03	Subsidized SGA expenses recorded as extraordinary income
Sales	1,215	1,215
COGS + SGA Subsidized SGA	▲1,131 ▲23	▲1,131 0
Operating profit	59	83
Non-operating income	▲33	▲33
Ordinary profit	26	49
Impairment losses on fixed assets Loss on retirement of fixed assets Subsidized SGA	▲123 ▲13 0	▲123 ▲13 ▲23
Subsidy income	167	167
Profit before tax	56	56

Agenda

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Growth Strategy

Focus and forward-looking investments for 2025 and beyond.

Business Model × **Market Focus**

Projects × Unit Price × Plants in Commercial Production × Packaged Solution

1. New Contract Acquisition

of new contract acquisitions will be comparable to that of the previous FY. Rather than simply pursuing quantity, will **focus on high-quality inquiry that leads to large-scale projects.**

2. A Virtuous Circle Strengthening the Technology Platform

Improvement of efficiency and profitability through strengthening of **technology platforms with focus** on areas with technological superiority and market demand.

3. Standardization

Promotion of existing standardization businesses (chemical recycling, freeze-drying) and launch of new standardization businesses

2. A Virtuous Circle Strengthening the Technology Platform

4. Focus on growth areas

Green

Form projects with focus on green domain. Accelerate growth opportunities by **active investments in the carbon-neutral field.**

R&D Capacity (Personnel + Infrastructure)

To accommodate the expected increase in stage-up contracts after FY25/3, we will gradually strengthen ① personnel and ② R&D infrastructure (labs + pilot facilities).

FY24/3 Forecast

Increase in sales expected due to the completion of the pilot facility for carbon fiber (CF) manufacturing with Mitsui Chemicals. However, due to upfront investment in R&D, we plan to maintain a similar level of operating profit.

(Unit : million yen)

	FY 23/03 Full-year (result)	FY 24/03 Full-year (budget)	Difference	
Net Sales	1,215	1,846	+631	+51.9%
Phase 1	567	559	▲8	▲1.4%
Phase 2	593	1,284	+690	+116.3%
Phase 3	35	–	▲35	▲100.0%
Phase 4	–	–	–	-
Others	19	3	▲16	▲84.4%
Operating profit	59	40	▲19	▲32.0%
Ordinary profit	26	33	+7	+27.8%
Profit before tax	56	102	+46	+81.8%
Profit after tax	75	89	+14	+18.9%

*Adjustment for income taxes is expected to be 0 thousand yen

KPI(Key Performance Indicator)

1. **Important KPI** for our business are ①**Total Number of newly acquired Contracts** and ②**Total Number of Contracts.**
2. Contracts are signed with clients based on solutions we provide which will defer per phase and service we provide. Multiple contracts could be signed with one project as indicated below.
3. ③**Sales per Phase :** To understand the progress of the contract by sales per each phase(1～4).
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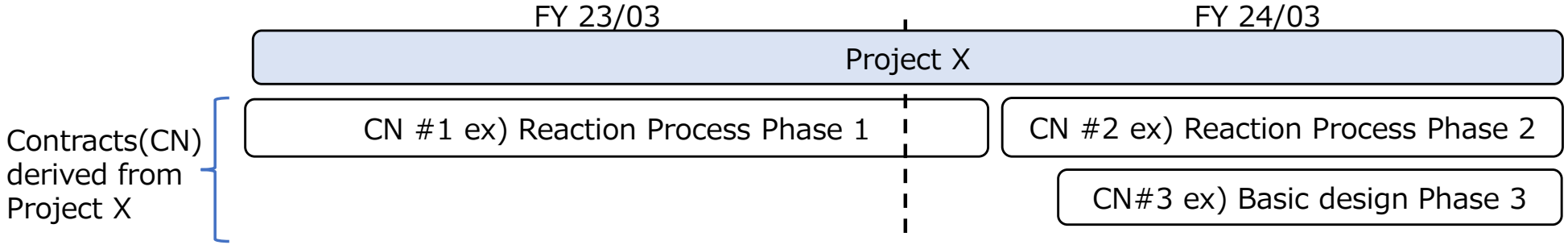


【Related information】

a. **Total Number of Projects**：Project consist of a team with task to provide “total solution” to clients. It is also referred as a pipeline and categorized in two types.
   - Revenue generating project: Solution Providing Project to a client
   - Non-revenue generating project : R&D Project which we invest our own resources.

FY24/3 KPI Highlights

1 New Contracts - total number of newly acquired contracts

- Target 28 contracts, compared to the FY 23/03 acquisition of 27.

2 Total Contracts - total number of contracts

- Target 65 contracts, compared to the FY 23/03 acquisition of 61.

3 Sales per Phase

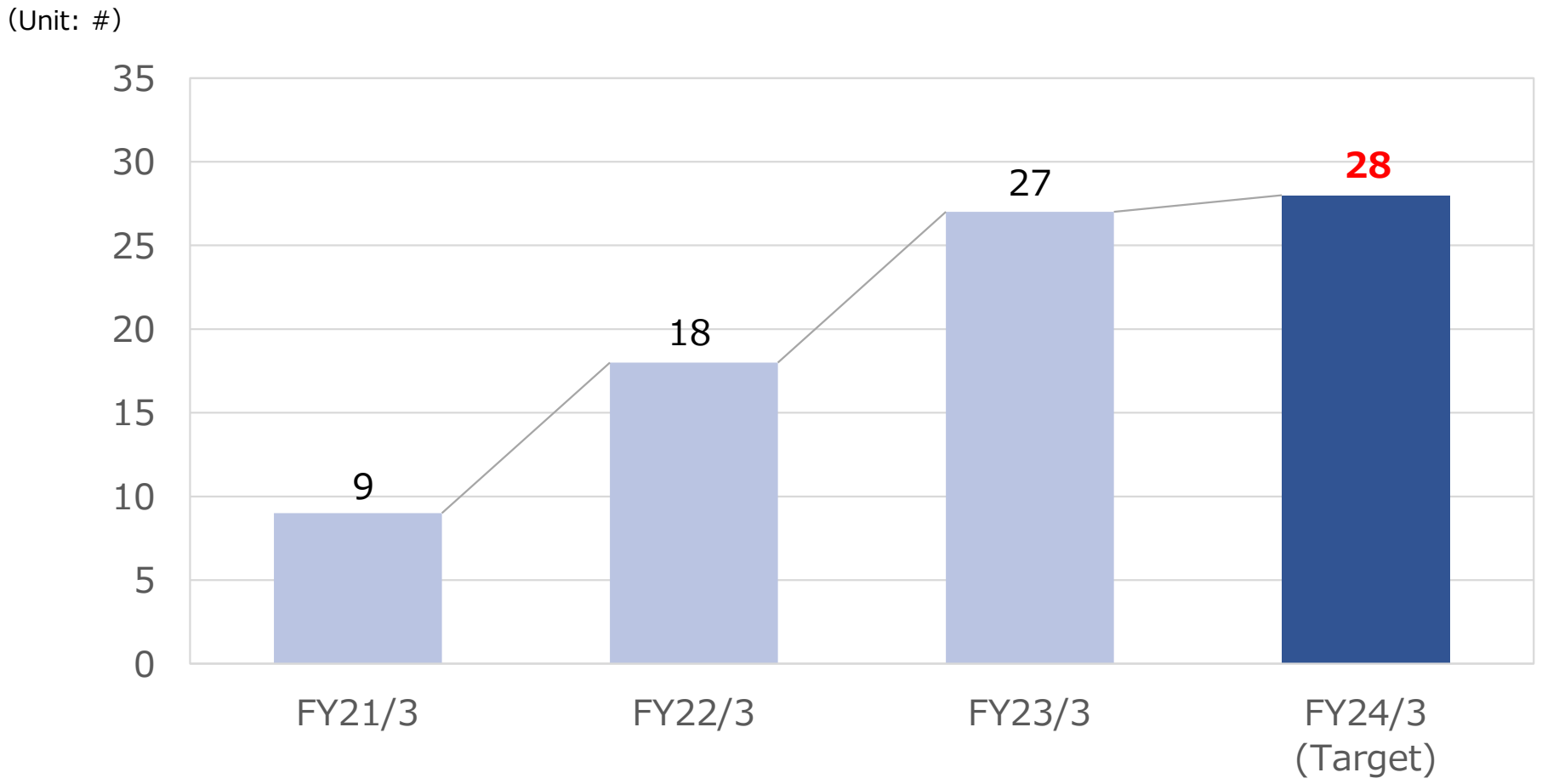
- Significant increase in Phase 2 expected.
- Phase 1:559M yen, Phase 2: 1,285M yen and 3M yen for other projects.

4 Projects – total number of projects

- Planning 49 project (46 solutions / 3 R&D) compared to 50 for FY23/03 (45 solutions / 5 R&D)

KPI① Total number of newly acquired contracts

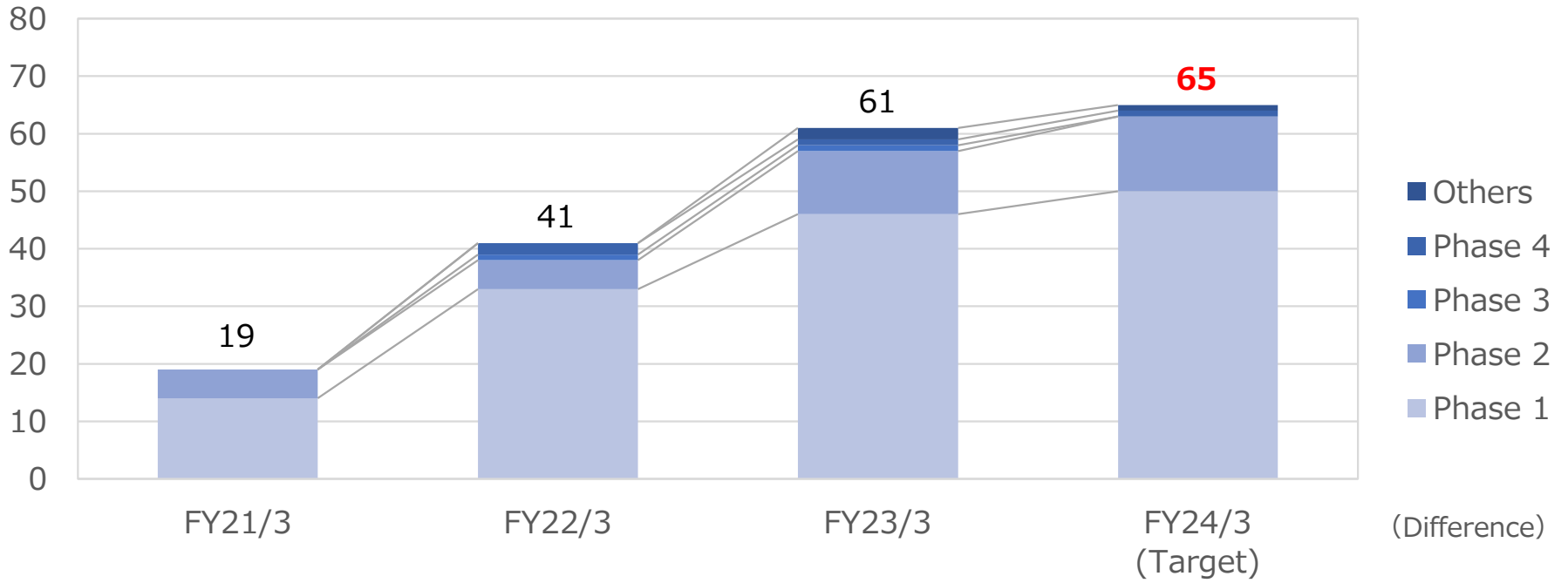
Number of newly acquired contracts comparable to that of FY23/3.



KPI② Total number of contracts

Total number of contracts comparable to that of FY23/3.

(Unit: #)

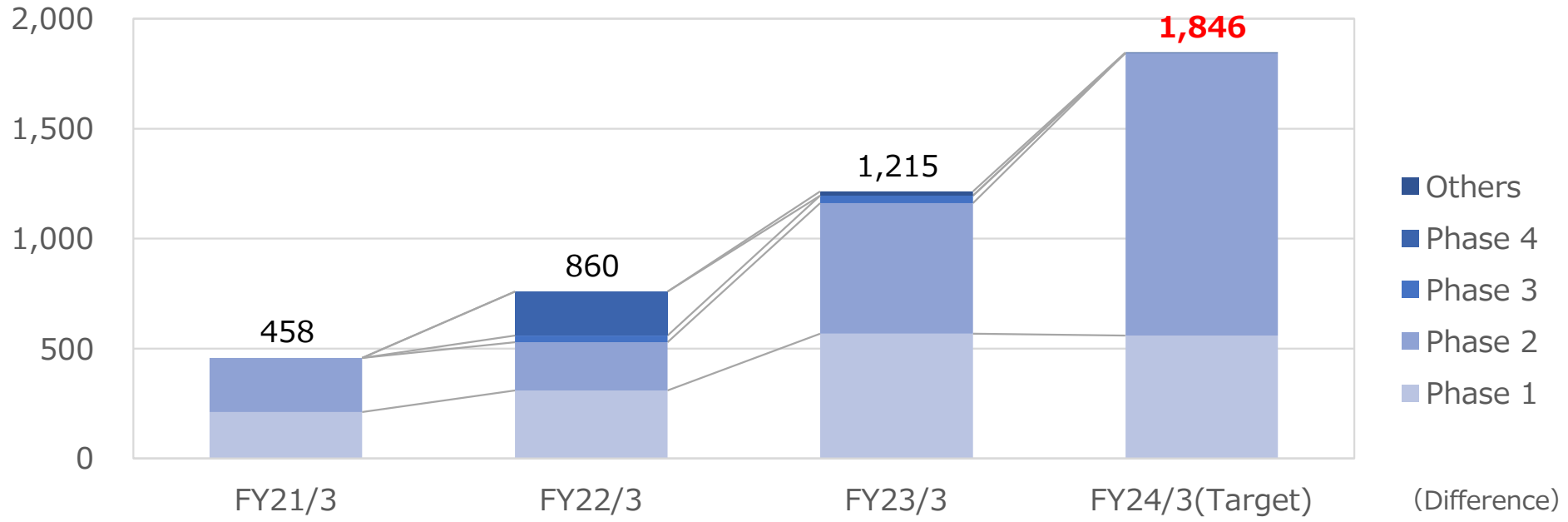


Phase 1	14	33	44	50	+6
Phase 2	5	5	12	13	+1
Phase 3	0	1	1	0	▲1
Phase 4	0	2	1	1	0
Others	0	0	3	1	▲2
Total	19	41	61	65	+4

KPI③ Sales per phase

We anticipate significant increase in Phase 2 sales compared to FY 23/3.

(Unit: million yen)

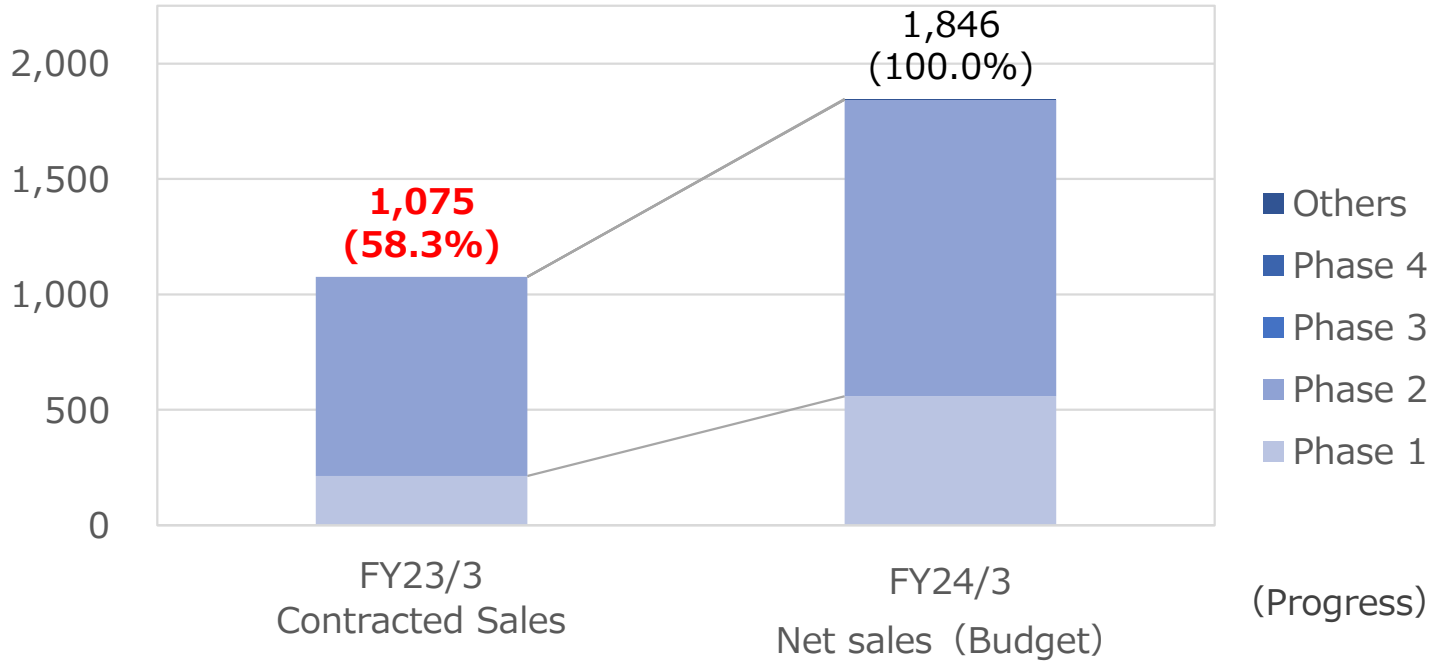


				(Difference)	
Phase 1	211	309	567	559	▲8
Phase 2	246	320	593	1,284	+690
Phase 3	–	30	35	–	▲35
Phase 4	–	200	–	–	–
Others	–	–	19	3	▲16
Total	458	860	1,215	1,846	+631

Ref: Contracted Sales

As of the end of March 2023, the contracted revenue (total revenue expected to be recognized in the 24/3 period and revenue from joint development contracts already signed) exceeded 1 billion yen, with a progress rate of 58.3% against the budget.

(Unit: million yen)

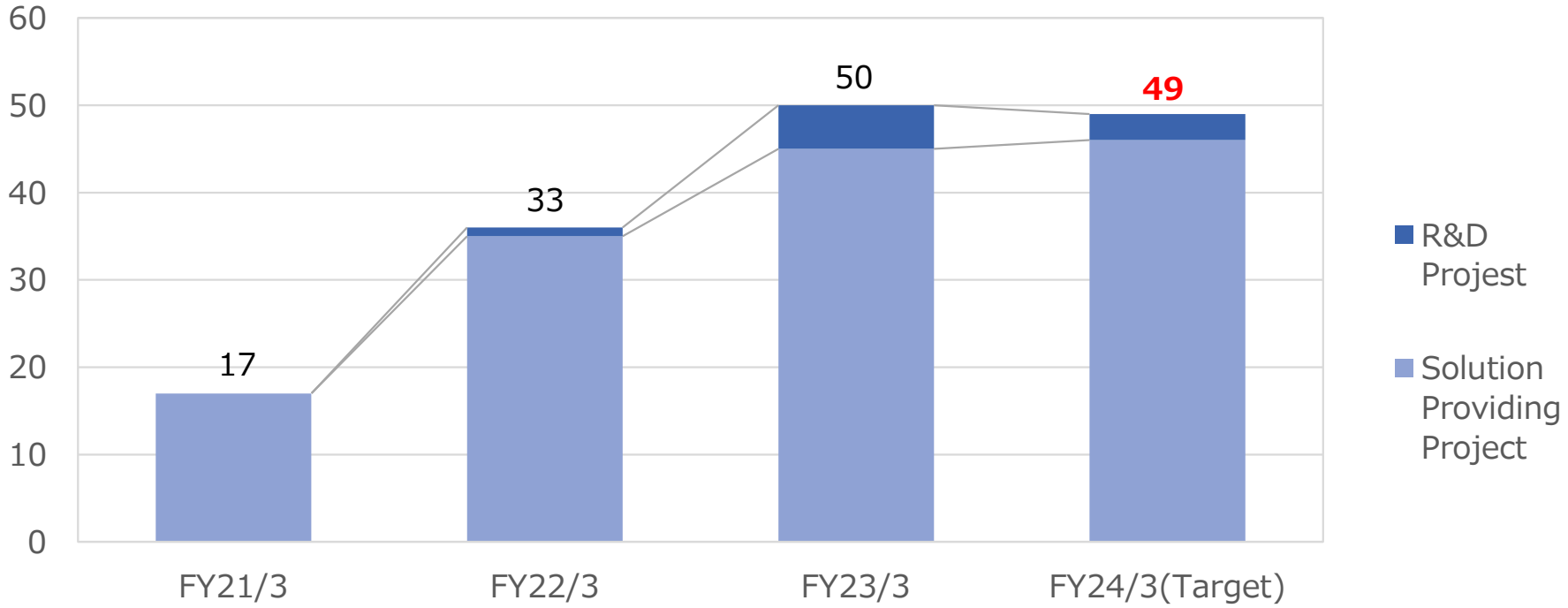


Phase 1	213	559	38.2%
Phase 2	862	1,284	67.1%
Phase 3	–	–	-
Phase 4	–	–	-
Others	–	3	0%
Total	1,075	1,846	58.3%

a. Total number of projects

Total number of projects comparable to that of FY23/3.

(Unit: #)



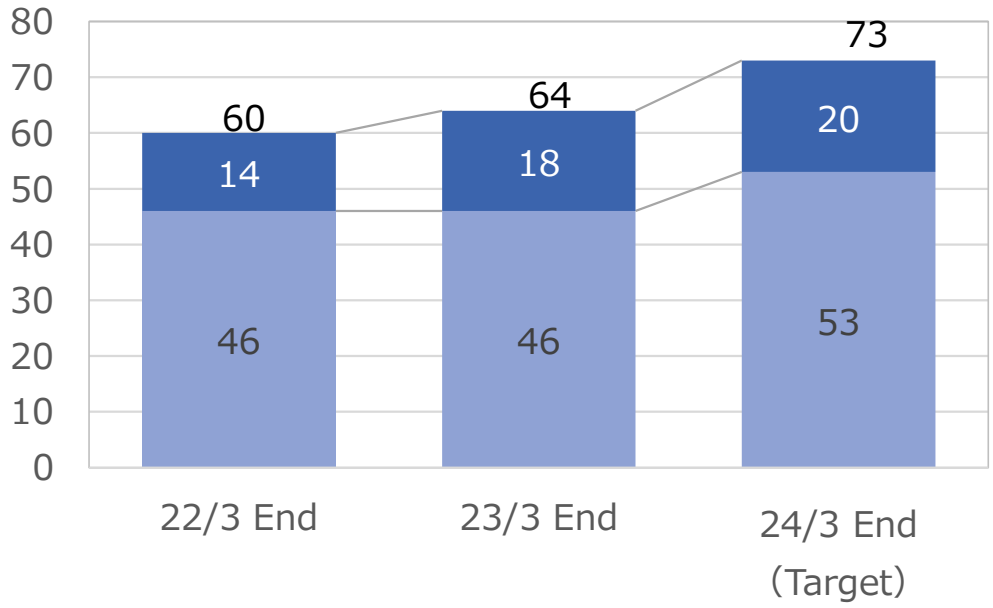
R&D Project	0	1	5	3
Solution Providing Project	17	32	45	46
Total	17	33	50	49

Capacity Expansion① : Personnel

Planning to increase our workforce to prepare for future growth.

Number of employee(FY24/03 Plan)

(Unit : person)

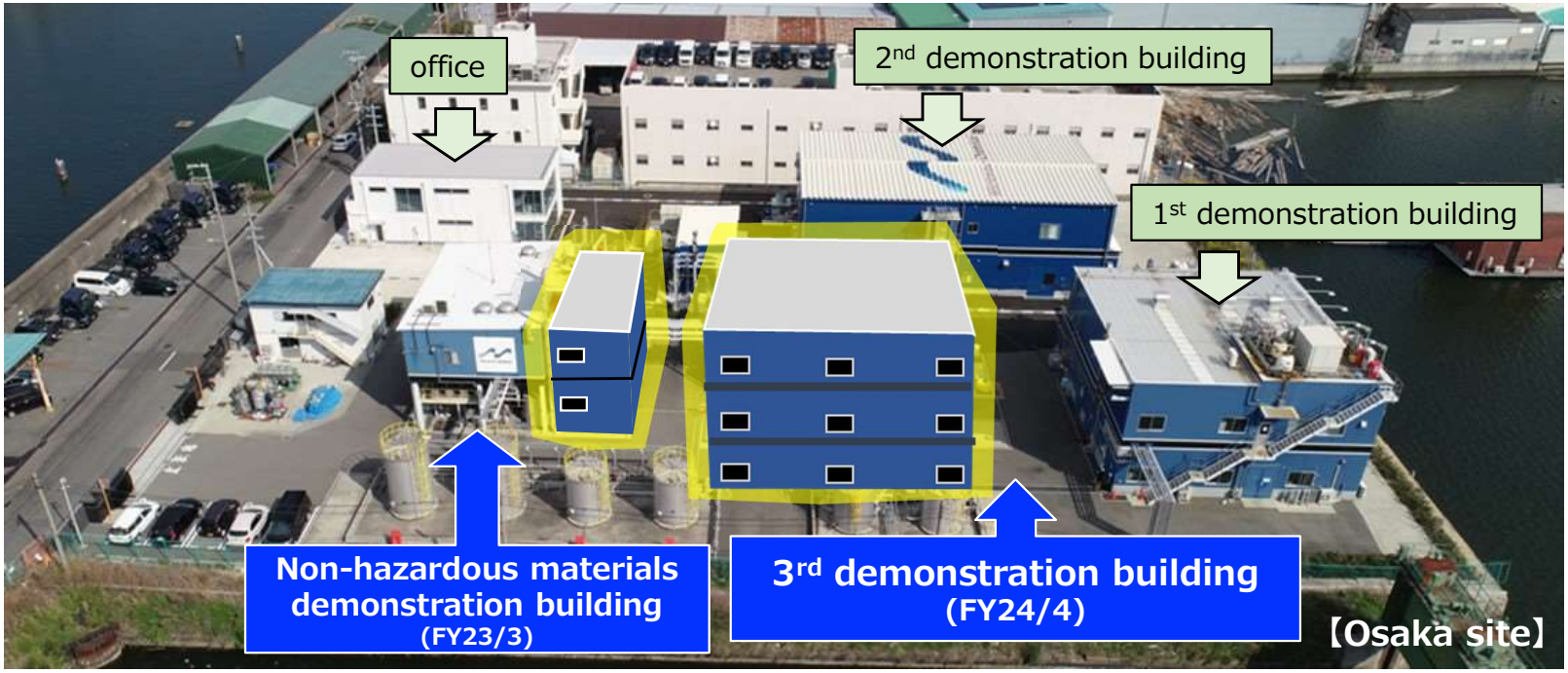


Business development dept. and Admin dept.	14	18	20
R&D dept. and Engineering dept.	46	46	53
Total	60	64	73
		+6.7%	+14.1%

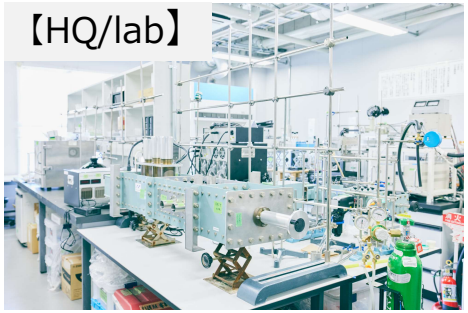
*Number of directors and temporary employees are excluded.

Capacity Expansion② : Lab･Pilot Facility

Expanding research and development infrastructure for future business growth



- ✓ Expansion of Osaka site (Pilot facility)
  - ■ By removing the decommissioned test equipment and constructing a new pilot facility. Following facilities to be added:
    - Non-hazardous facility: Completion scheduled by end of FY23. (approx. CAPEX 70 million JPY)
    - Pilot Facility #3: Completion scheduled by end of FY24. (approx. CAPEX 200-400 million JPY)
  - ■ Floor area for pilot facility to expand by 30% by end of FY23/3 and 80% by FY25/3.
- ✓ Expansion of HQ/Lab(Research facility)
  - ■ The expansion of the experimental laboratory (lab) at Osaka University will result in an approx. 40% increase in floor space。



R&D Strategy

Strategic focus of R&D investment in the following three areas to capture strong Carbon Neutral demand.

	Area	Details	Timeline	Manpower Ratio	R&D Expenditure
1	Drive Standardization	Focus on **Chemical Recycling** and other potential opportunity to accelerate standardization business.	Short ～ Mid.	15～20%	150～200 million Yen*1
2	Establish Technology in Carbon Neutral Domain	R&D investment to establish proprietary **Microwave Mining Process.**	Mid	5～10%	Tens of millions of Yen *1
3	Strengthen Technology Platform	R&D investment to strengthen **Technology Platform***2	Continuous	Approx. 15%	20～30 million Yen

*1 Including utilization of government grant.

*1 Including utilization of government grant.

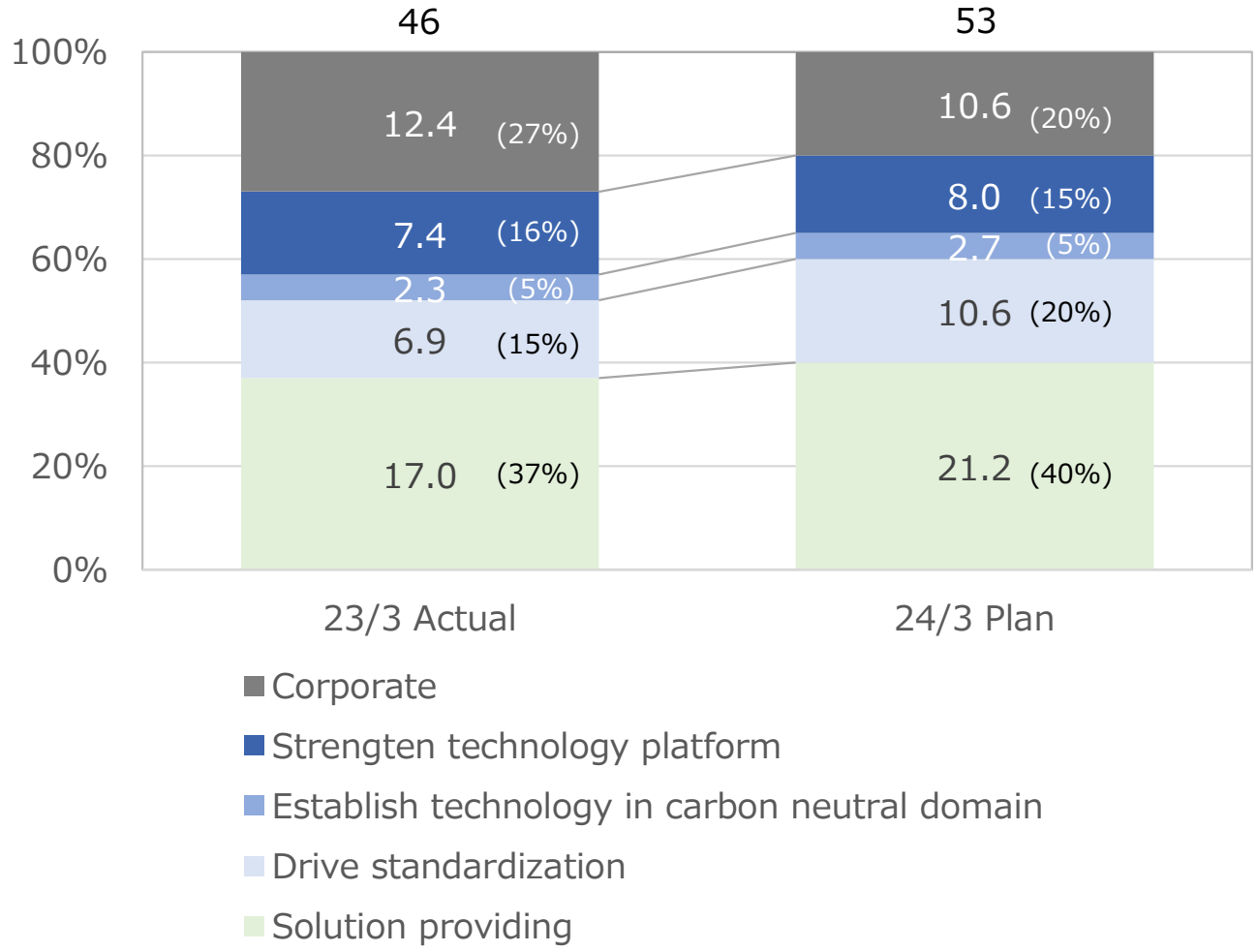
*2 Strengthening the Platform is primarily achievable through providing solution to our customers. However, by proactively investing own resources, we can obtain higher degree of autonomy for use of technology.

Manpower deployment strategy

As part of our strategy to achieve high business growth, we will allocate manpower to research and development activities in priority areas.

R&D and engineering staff resource allocation result and plan *Original calculation method

(Unit : person)

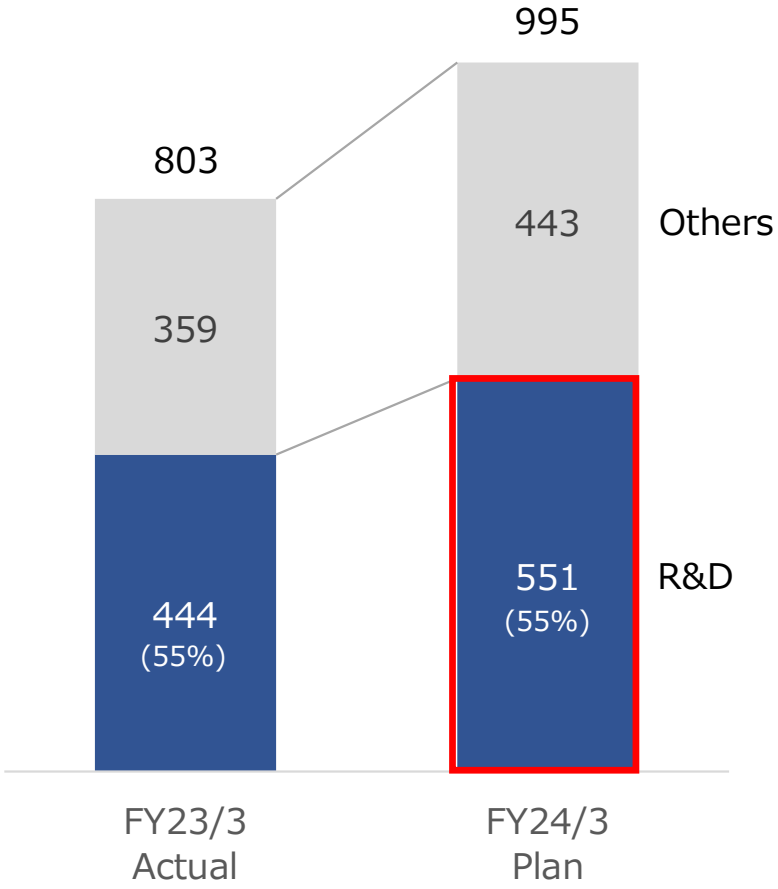


- ✓ To provide solutions in our business model, it is necessary to allocate manpower to each project (COGS)
- ✓ However, in addition to gaining immediate profits, we aim for future high growth by allocating manpower to establish our own technologies in standardization and carbon neutral fields or to strengthen our technology platform.

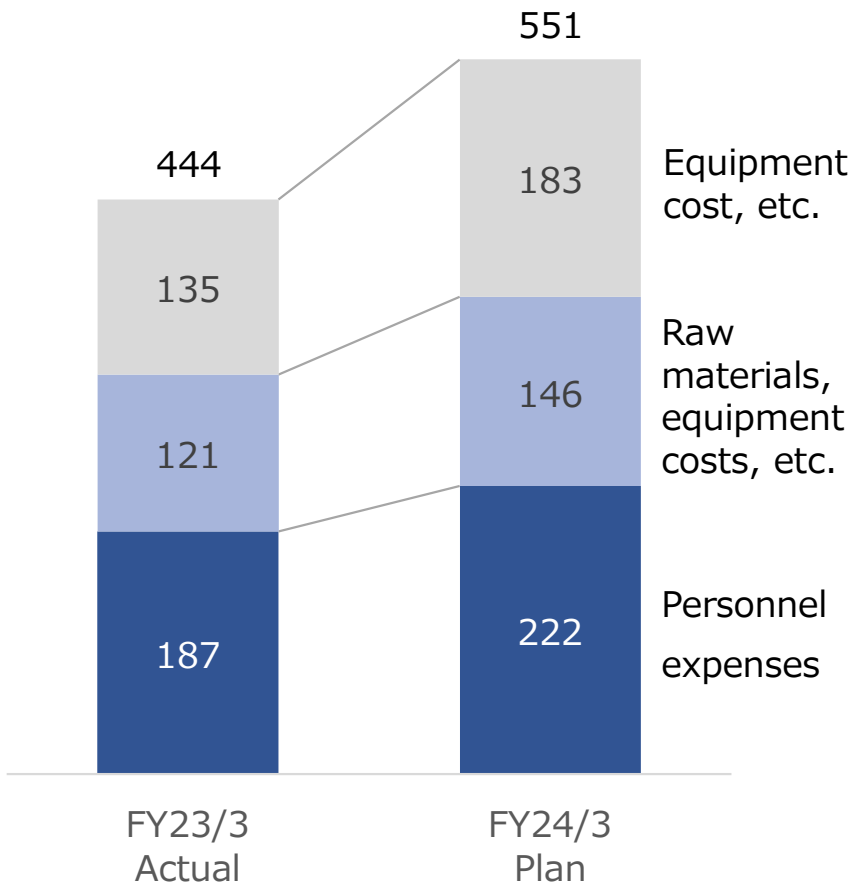
Breakdown of SGA and R&D Expense

- ✓ In order to drive growth, we have allocated approximately half of our SGA to R&D.
- ✓ While it may be possible to improve short-term operating profit by reducing such costs we believe it is necessary to aggressively invest in order to capture future Carbon Neutral demand.

SGA: Actual vs. Plan



R&D Expense: Actual vs. Plan



Agenda

1. Financial Results - FY 23/03
2. Business Plan & Financial Forecasts - FY 24/03
3. Company Overview
4. Appendix

【Mission】

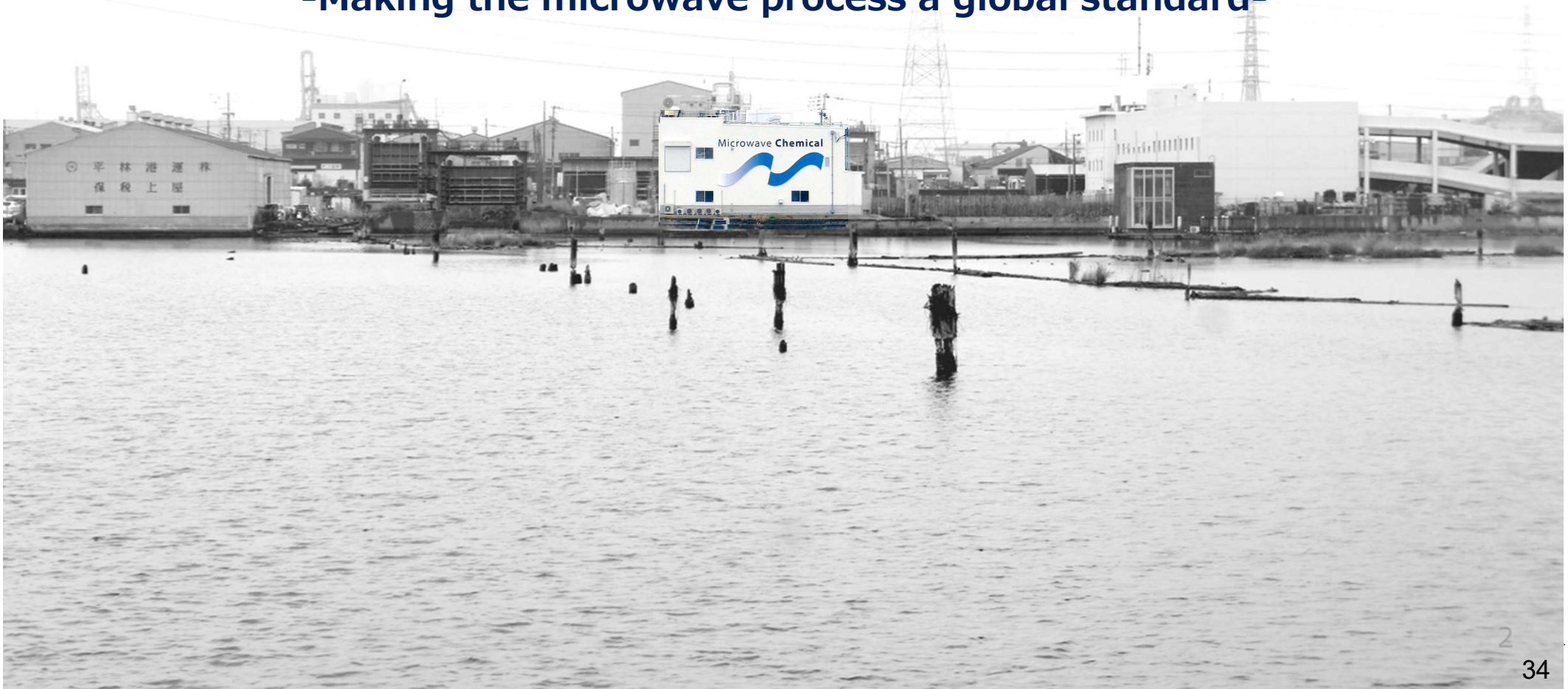
Make Wave, Make World

【Vision】

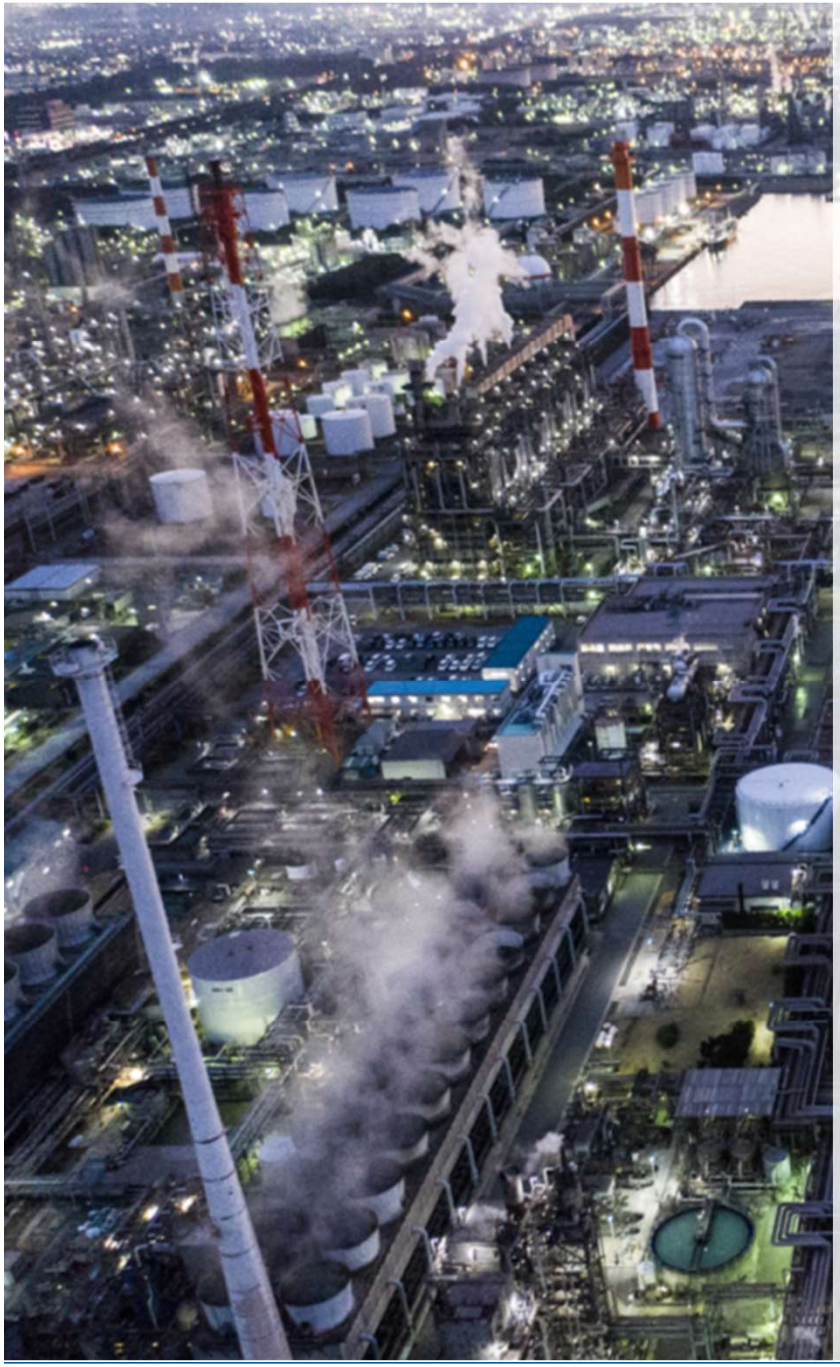
Innovate the chemical industry, unchanged for more than a century

revolutionize the world of manufacturing

-Making the microwave process a global standard-



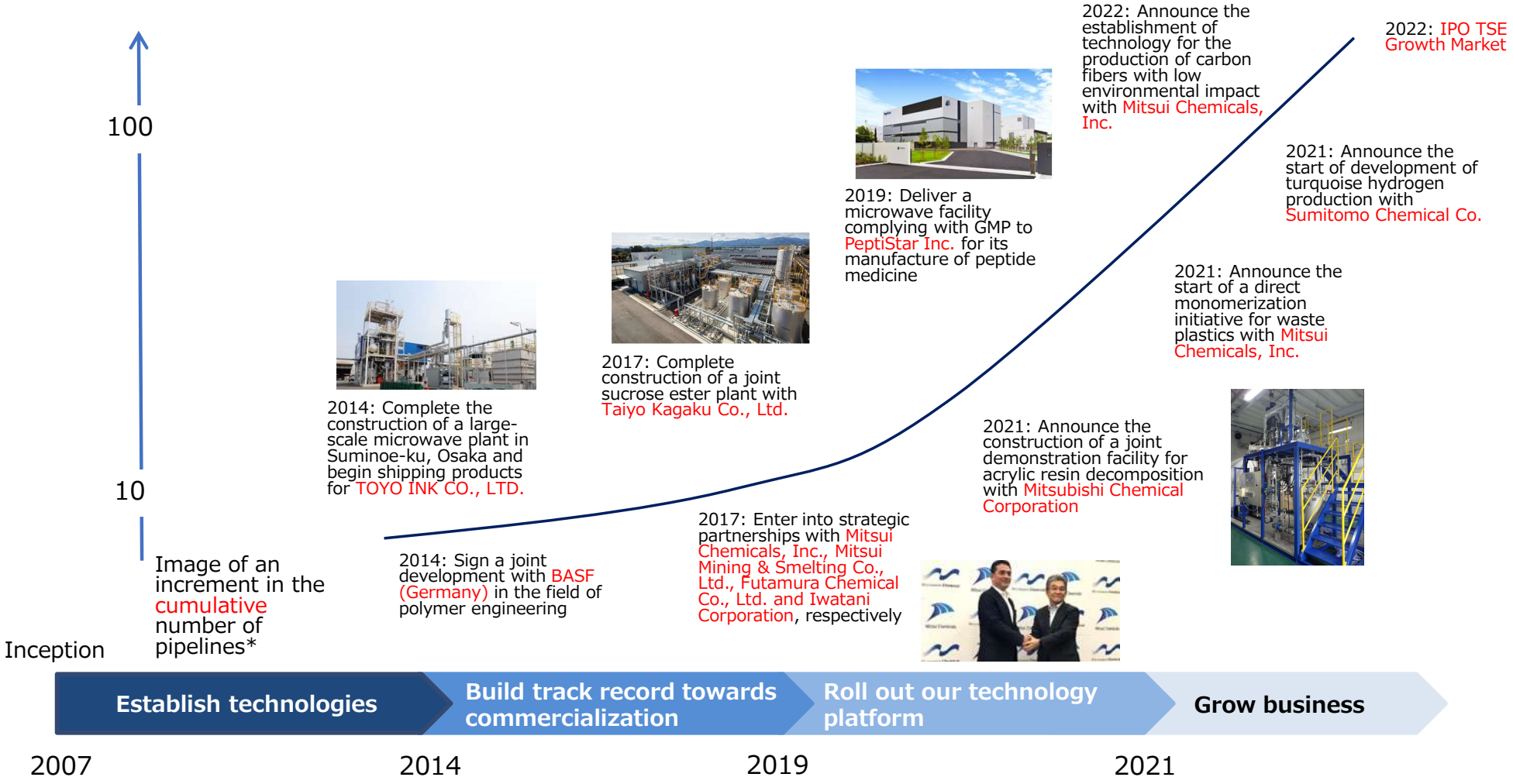
Company Overview



Name	Microwave Chemical Co., Ltd.
Founded	August 15, 2007
Representative	CEO Iwao Yoshino
No. of employees	64 (including 13 PhDs)
Head office	Photonics Center 5F, 2-1 Yamadaoka, Suita, 565-0871 Osaka
Major businesses	Provide solutions for from R&D to engineering processes, making the most use of our microwave technology platform

Note: Number of employees as of the end of March 2023

History

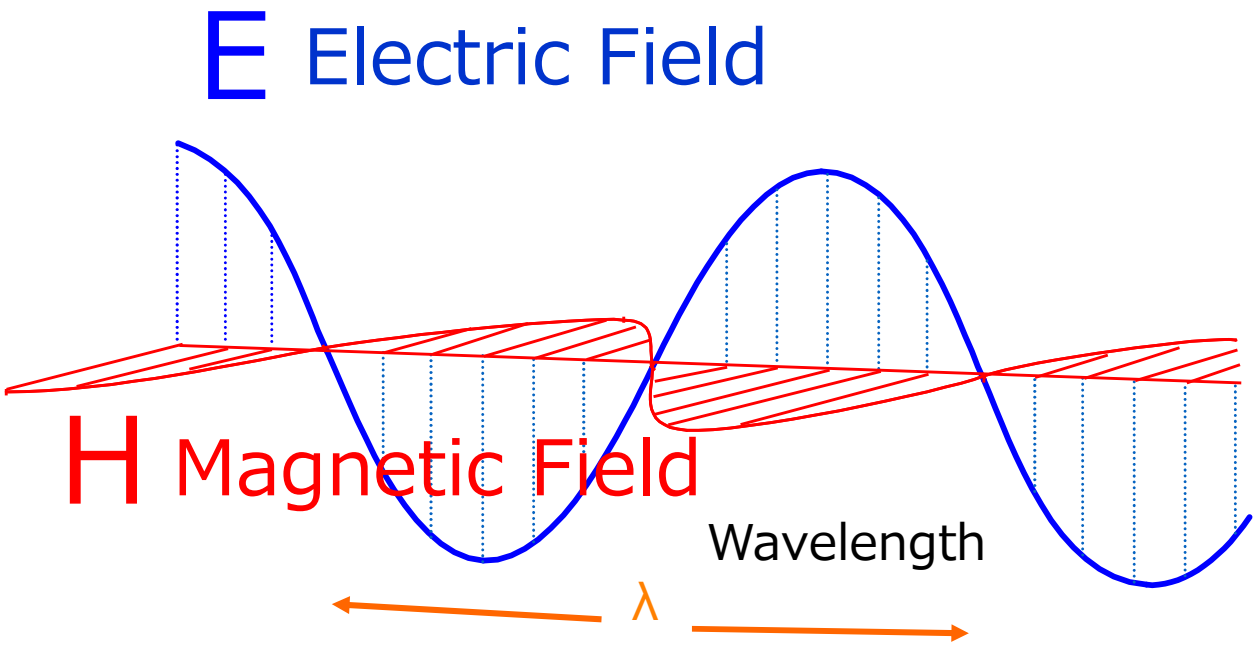


Shift from a manufacturer and distributor to demonstrate its technologies to a solution provider using its technology platform

* The Pipelines refer to development projects in Phase 1 (lab development), Phase 2 (demonstration development), Phase 3 (commercial reactor introduction), or Phase 4 (manufacturing support)

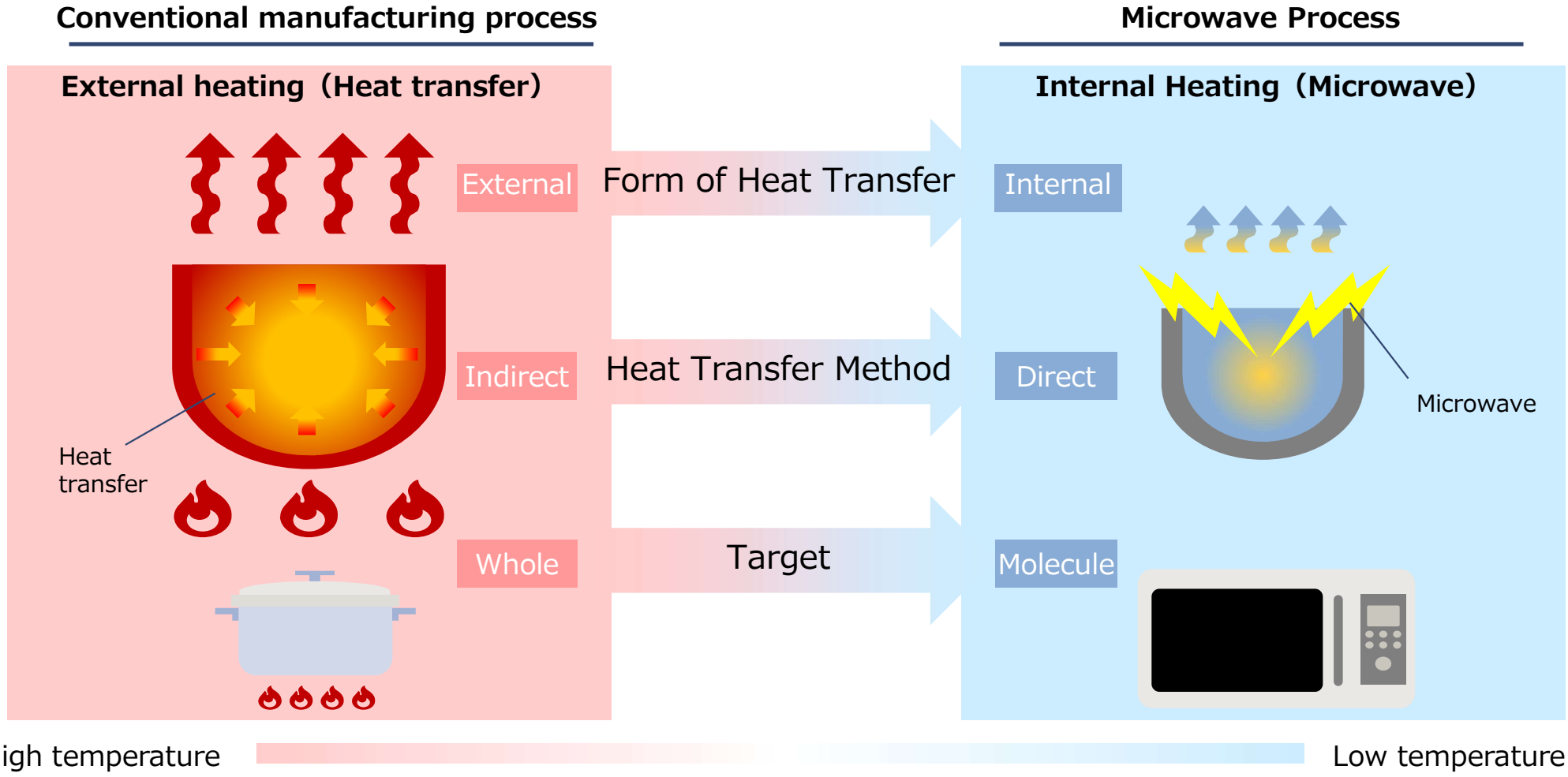
What is Microwave ?

Microwave is an electromagnetic wave used in applications such as wireless base stations, radar-communication systems, and microwave ovens.



Feature of Microwave Process

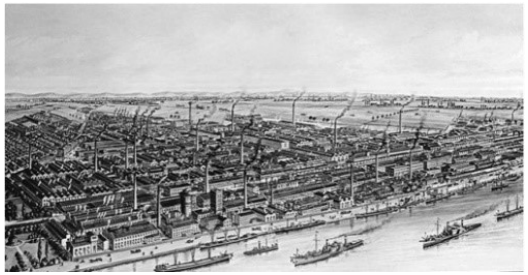
We will dramatically change the manufacturing process utilizing microwave technology.



*In the Conventional heat transfer process, energy is transferred to the whole object indirectly through external material. On the other hand, microwaves process transfers energy to the target molecule directly from inside. **Totally opposite approach**.

Benefit of Microwave Process (1/2)

Legacy System



Source : BASF Corporate History

1900

Current

Innovation

Microwave **Chemical**

Benefits

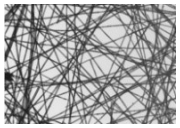
Process

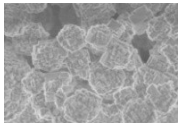
Reduce Energy consumption by 1/3[*1]

Highly efficient and reduces tact timey by 1/10[*1]

Small Footprint 1/5[*1]

Product





Development of new materials and high- quality materials

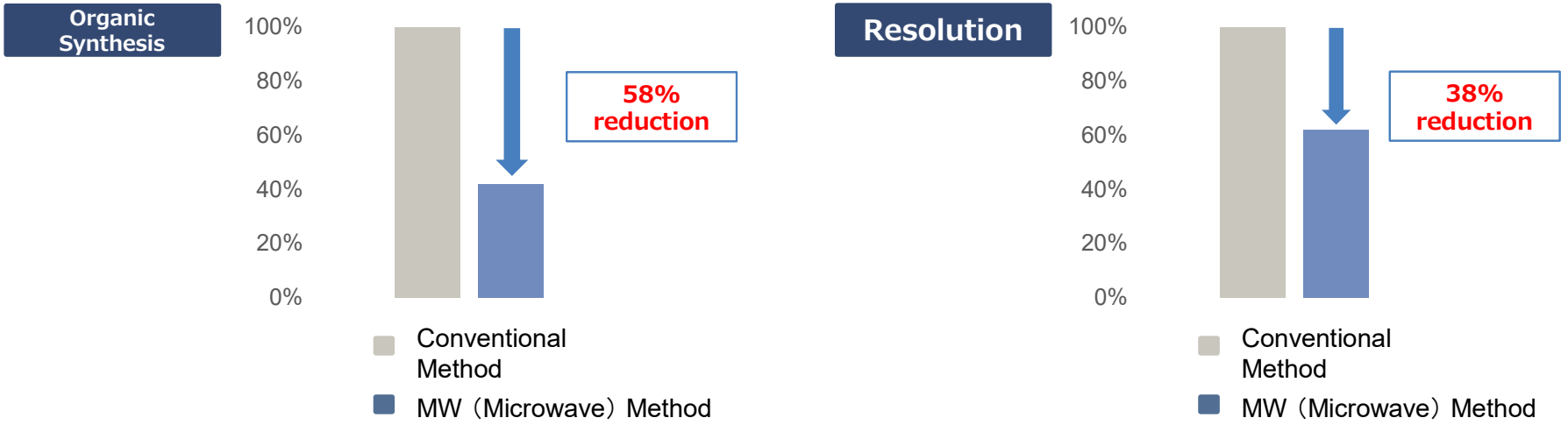
Decarbonation

90%[*1] **reduction of CO_2 emissions** with electrification using renewable energy

*1 : The figures are estimated from our plant of fatty acid esters operated in Osaka

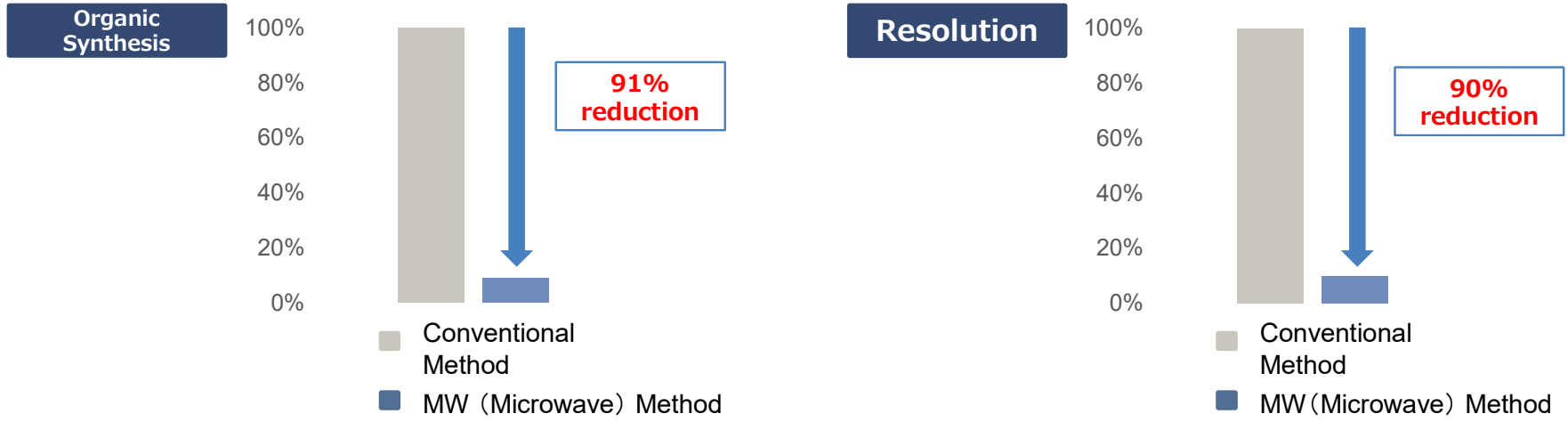
Benefit of Microwave Process (2/2)

Energy consumption: 1. Energy saving with microwave systems



CO_2 emissions:

1. CO_2 emission cuts = 1. Microwave-assisted energy efficiency × 2. CO_2 emission intensity by energy source

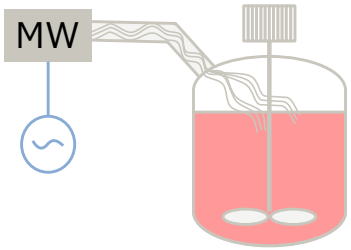
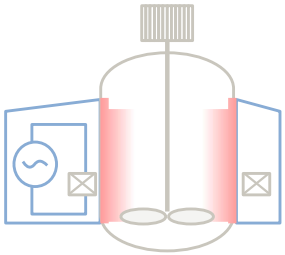
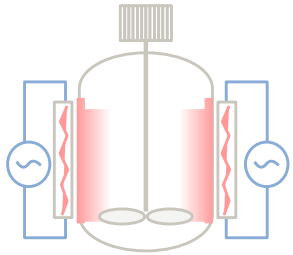
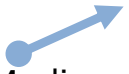
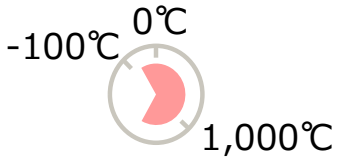
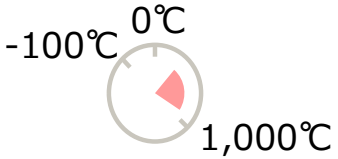
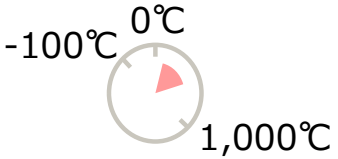


CO_2 emission cuts are calculated by multiplying 1. energy consumption by 2. energy sources used. Use of microwaves reduces energy consumption in many chemical reaction processes. There is a trend that chemical manufactures across the world are laying out their roadmaps, assuming that they significantly reduce the use of conventional fossil fuels to shift to natural energies, which will diminish the intensity of CO_2 emission from energy sources.

* MW Method assumes the use of photovoltaic electricity, CO_2 emission reductions and energy equivalent reductions are our estimates
Conventional method data is our trial calculation, and MW method data is based on our demonstration machine at commercial level

Comparison – Electrification technology

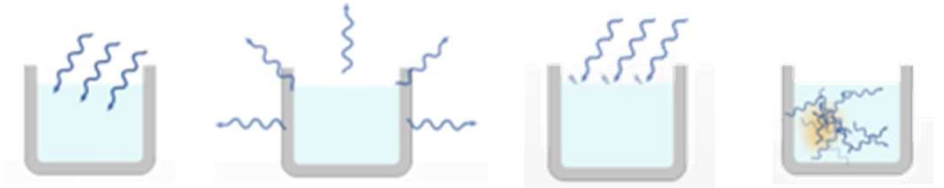
Microwave process is the only process that transfers energy directly, which provides advantage, such as scaling up, energy efficiency, and temperature range.

	Microwave Heating	Induction Heating	Electric heater Heating
			
Energy Transfer	Direct	Indirect	Indirect
Scaling Up	 Easy	 Restricted	 Restricted
Energy Efficiency	 High	 Medium	 Low
Temperature Range			

Success in Scaling Microwave Process to Industrial Level

Challenges for Industrial Applications of Microwaves

In the chemical industry, many useful experimental results using microwaves have been reported in papers since the 1980s. However, because microwaves are "waves," it is extremely difficult to control. Therefore, industry norm was that the microwave technology cannot be used in industrial setting and only in the lab.

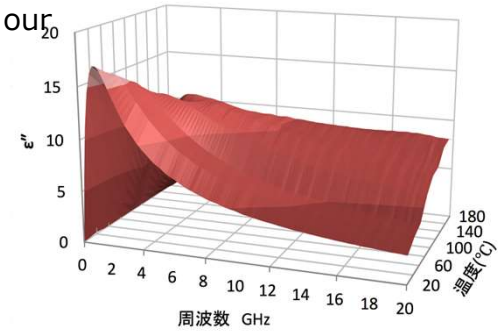


Depth of penetration　Leakage　Reflection　Distribution

Solved by Our Unique Approach

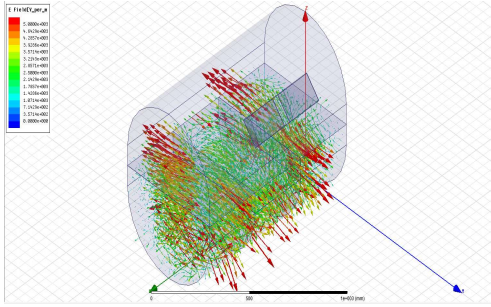
【Reaction System Design】

Developed data base of absorption rate of each molecule through our proprietary measurement technology. Design reaction utilizing the database by recognizing the pattern.



【Reactor Vessel Design】

Develop simulation technologies, couple electromagnetic field and thermic fluid analyses to increase the granularity in simulating the state, and introduce supercomputers, so as to apply to large-sized and complex reactor vessels

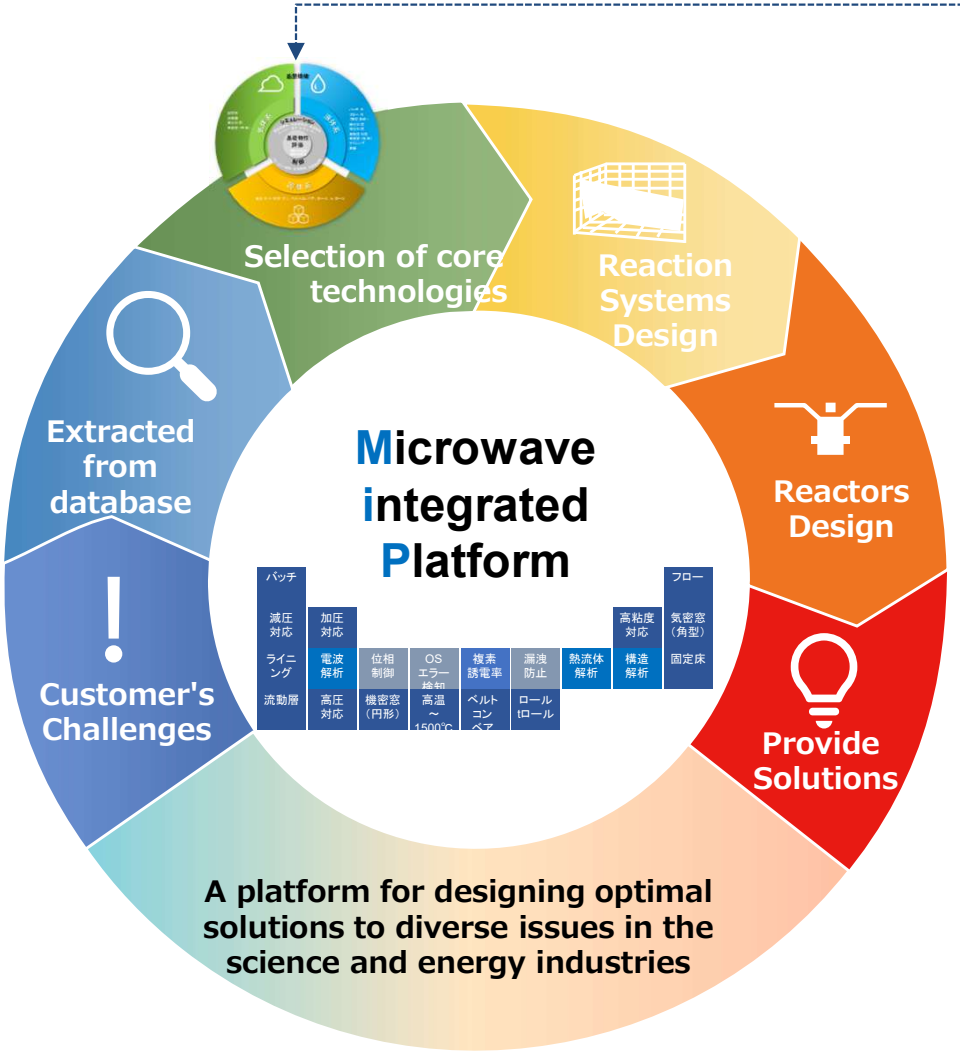


Realizing Industrial Applications of Microwaves

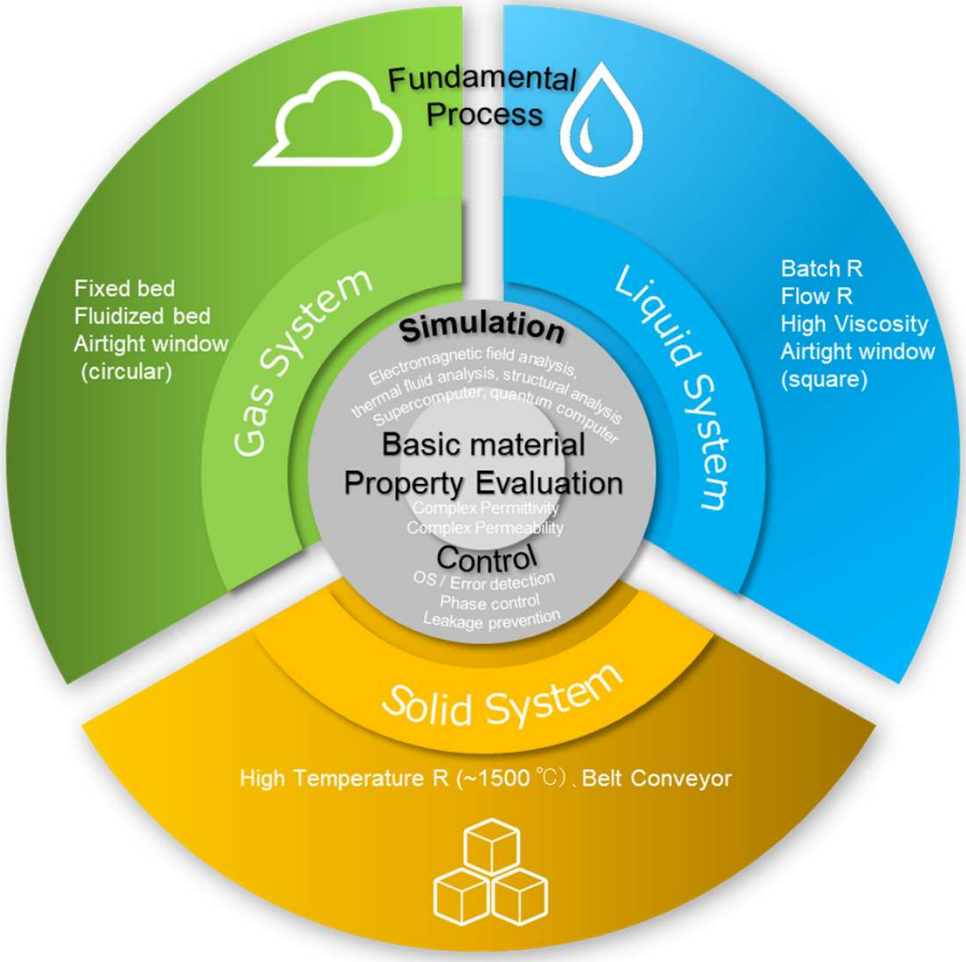
Completed large-scale chemical plant using microwave chemical process in Osaka in 2014 and started commercial operation complying with various laws and regulations such as the Fire Service Act.

Technology Platform and Core Technologies

Our Technology Platform

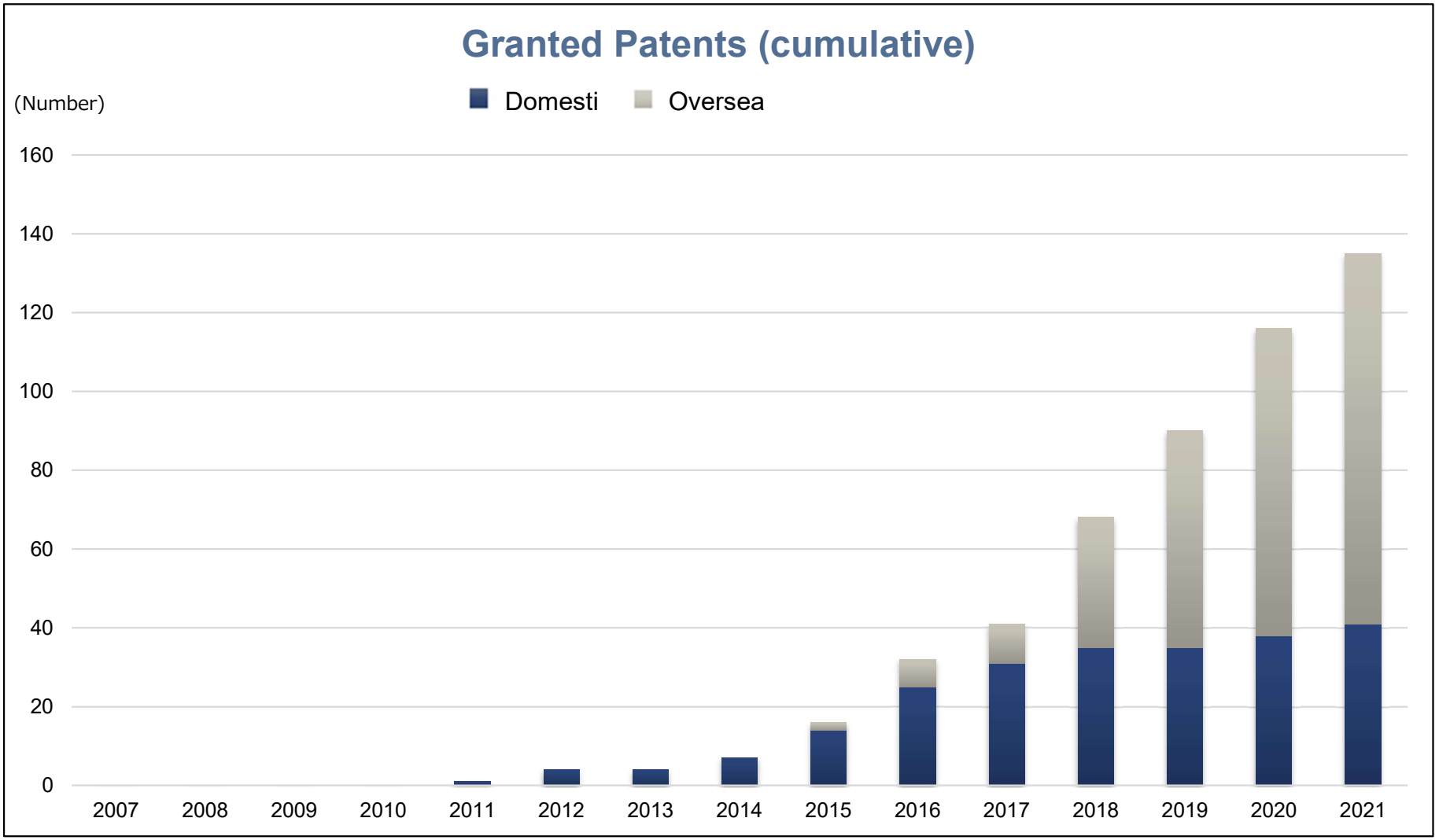


Our Core Technologies



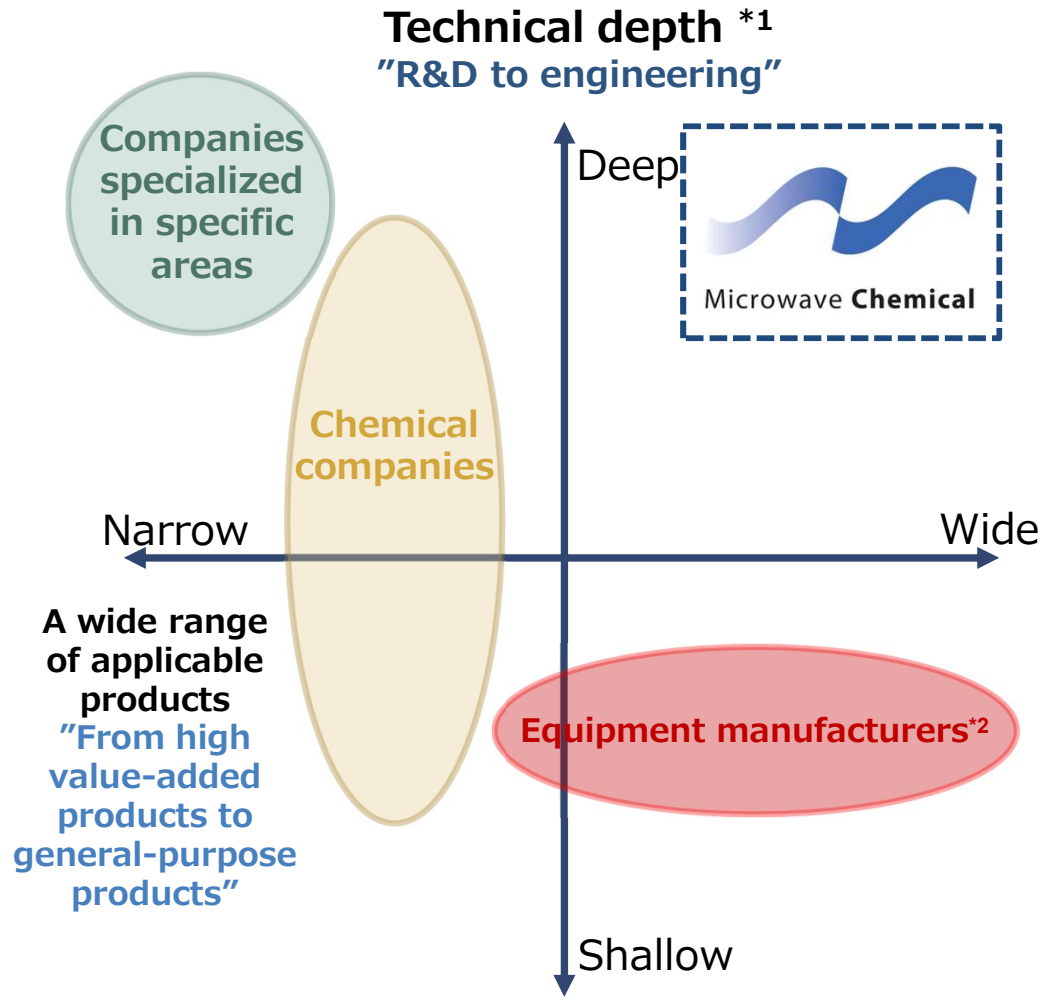
Patent Strategy

We keep secrecy about (build the know-how of) designs of reaction systems and vessels we have developed and obtain patents on the knowledge mainly of hardware development to secure our competitive advantage.



Competitive Landscape

Current Competitive Environment



Multi-layered Entry Barrier

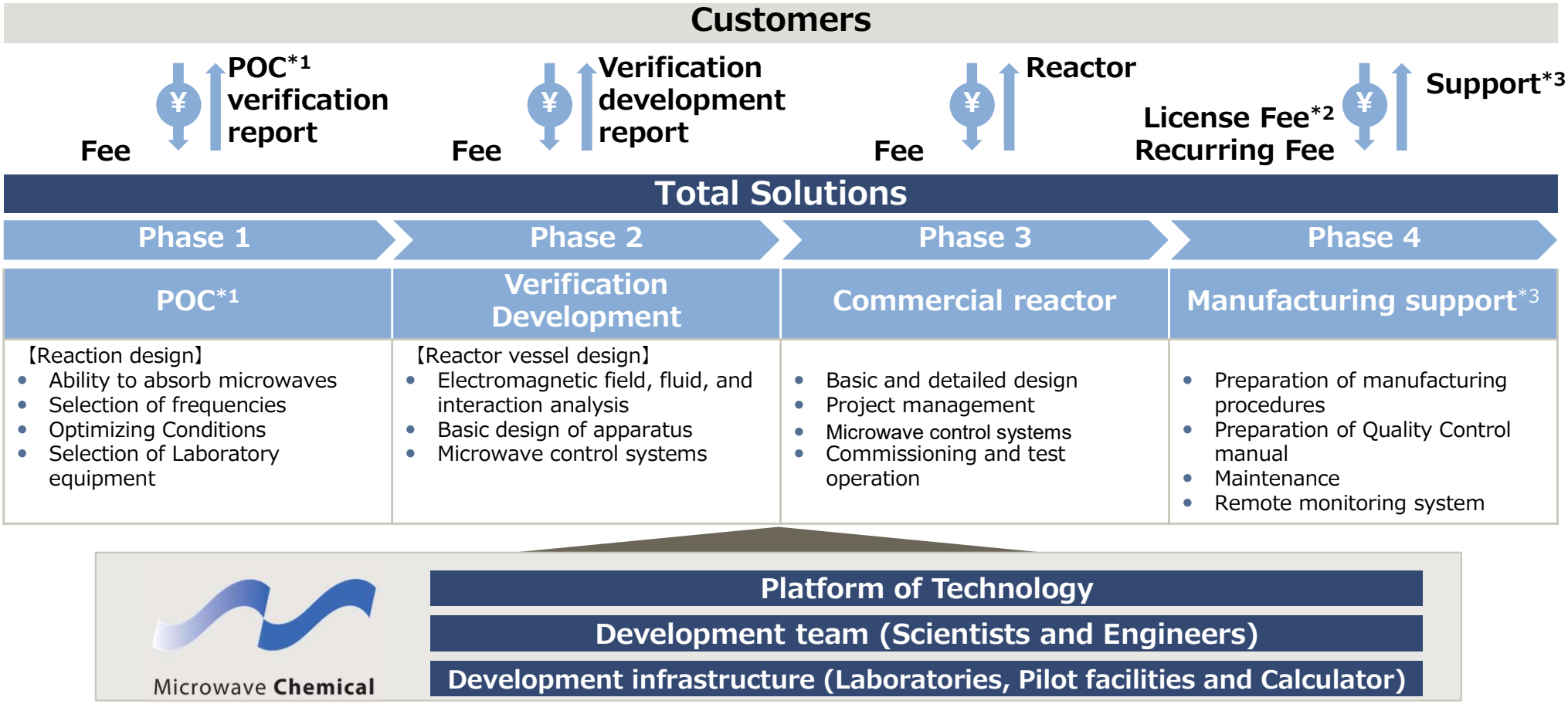
- **Technology platform**
  - ✓ Design capabilities and core technology groups for reaction systems and reactors
  - ✓ Patents and know-how supporting the platform
- **Development team and infrastructure**
  - ✓ Cross-sectorial team, such as physics, chemistry, engineering, and simulation
  - ✓ The large microwave-focused labs and demonstration development infrastructure
- **Customer base accumulation**
  - ✓ Deeply understanding issues and requests identified through constant relationships including horizontal connection
  - ✓ Production technology and compliance with laws and regulations accumulated through experience in the start-up and operation of large-scale commercial plants

*1 Depth of solutions we provide for customers' R&D and engineering challenges, which are backed by our scientific capabilities. Generally, either only R&D or only equipment is provided
*2 Mostly machine manufacturers

Note: This graph is an image of our own analysis of the positioning of each company in the industry

Business Model

(1) Total solutions from R&D to engineering
(2) Profit on each phase. License fee when commercialized by client.



*1: POC: Proof of Concept. The process of testing the feasibility and effectiveness of new concept or idea before actual development
*2: License: Share the customer value earned by introduction of microwave process as license fees. Specifically, receive as upfront payment and recurring royalties
*3: Manufacturing support and maintenance: Support customers who have installed microwave reactors in their manufacturing process. In addition, provide maintenance of microwave reactors and other facilities

Virtuous Cycle Drives Growth

Strengthening of our technology platform will improve the ability to provide solutions to customer issues and increase each project's probability to move to the next phase

Stage Up

Solutions

MWCC's technology platform

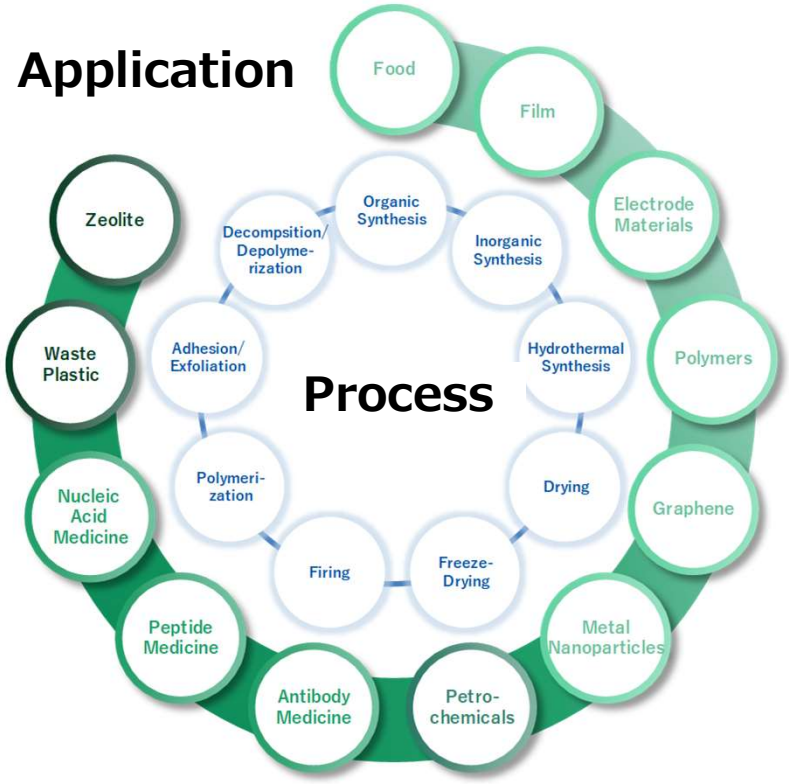
Customers' "Pain"

Strengthen

Enhance core technology

Strengthen technology platform

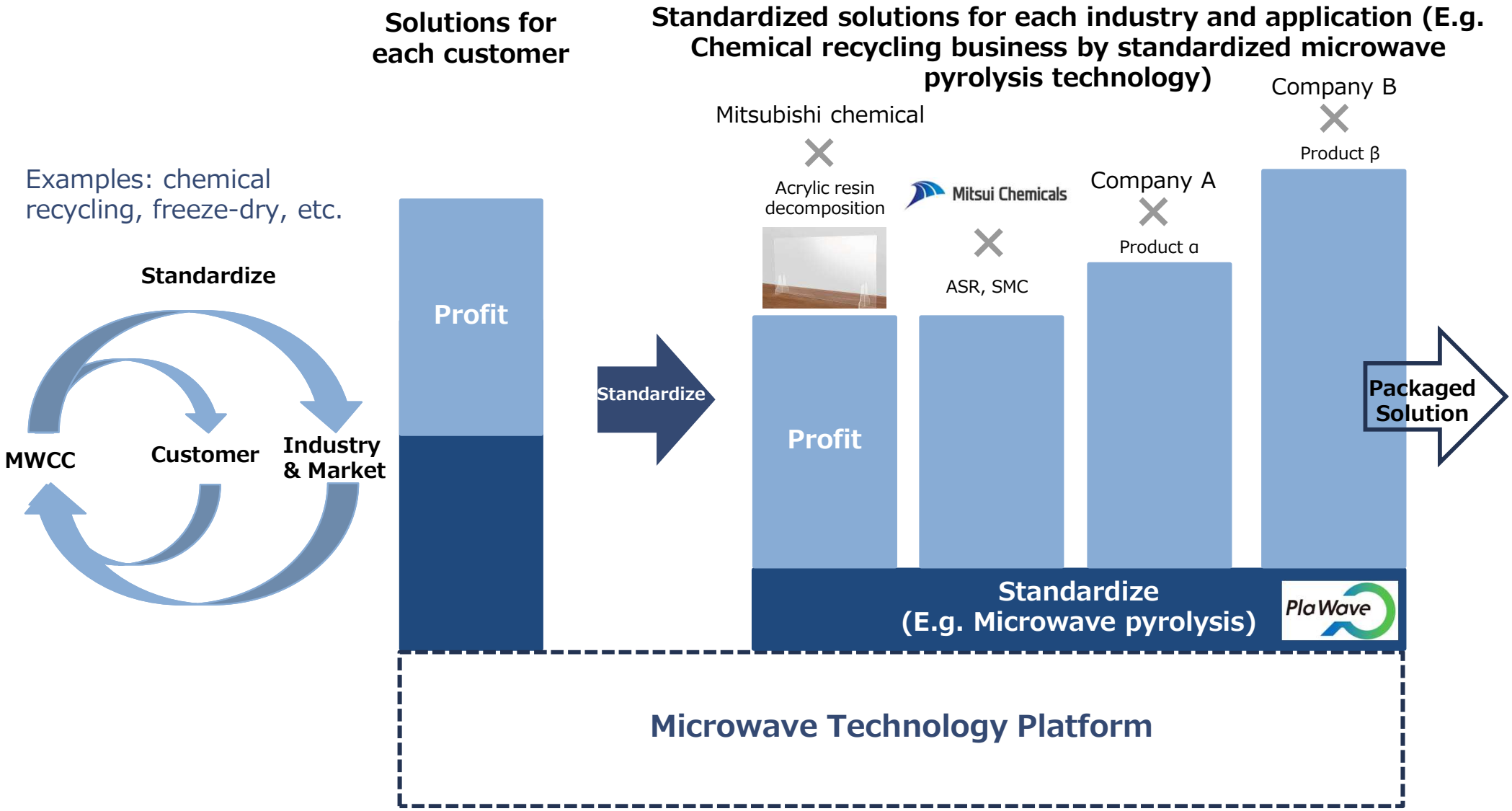
Expand Target Business Areas (process × application)



Enhanced core technology will increase the number of processes (manufacturing methods) and applications (products) for which microwave technology platform can be used

Standardization Drives Growth

We scale our business by “standardizing” our technology platform and providing solutions to “pains” which is common to industries and markets. For example, we have conducted chemical recycling business using microwave pyrolysis technology, pharmaceutical-rerated and food-related business using microwave freeze-drying technology.



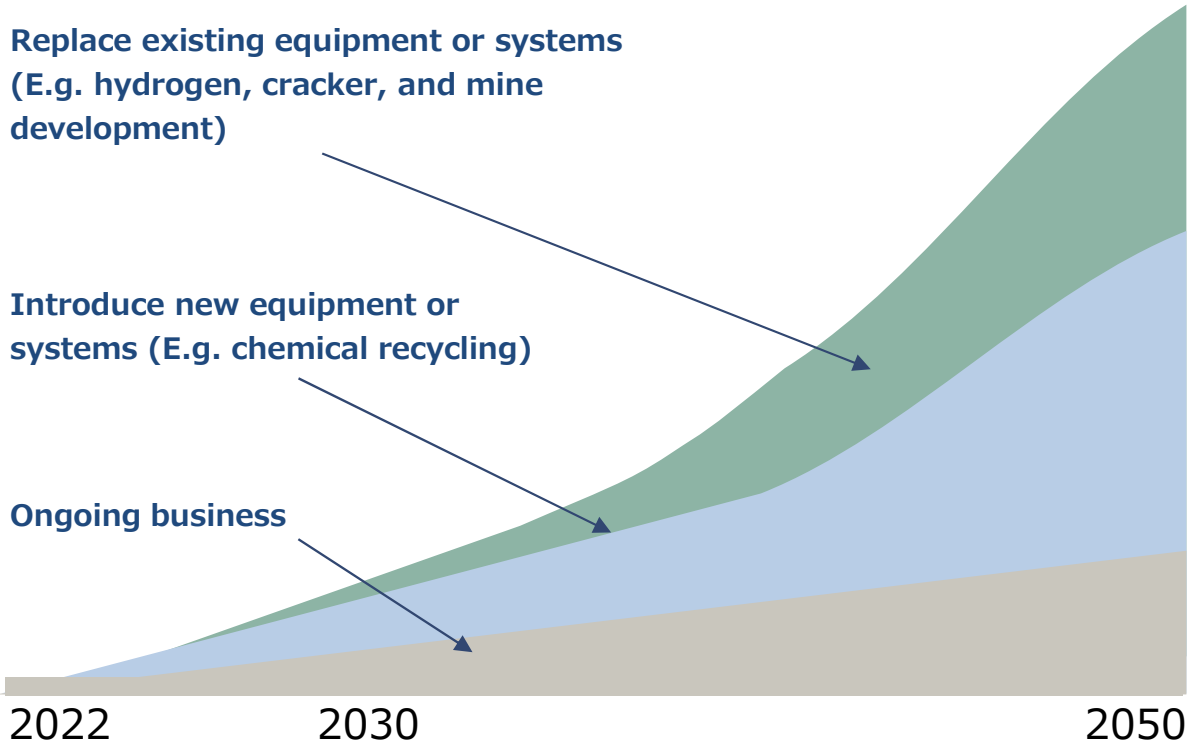
Note: This graph is an illustration of our own analysis of the scale of the business

Carbon Neutral – Our vision

We will expand our business long-term by committing to carbon neutrality of various industry.

MWCC's Growth Image

- For heavy industry, average lifetimes of emissions-intensive assets is around 40 years, and around 30% of existing assets are expected to require major investment to improve facilities within the next 10 years.*1
- In order to achieve carbon neutral, new innovative technologies must be ready for implementation. Generally, it takes about 10 years for new technologies to become commercially viable, so we need to start developing new solutions "now".



MWCC's Active Solutions for Decarbonization

C NEUTRAL 2050 design

- Electrification of the chemical industry
  - Electrification of crackers
  - All other processes

  - Contributions to other industries through new processes and materials

➢ Energy, steel and petrochemical industries
  - Turquoise hydrogen
  - Ammonia
  - CO2 as a raw material

➢ Mobility (automobile, etc.) electronics industries
  - Battery-related material (Cathode materials, etc.)
  - Carbon Fiber
  - Post-consumer recycled materials (chemical recycling)
  - Lithium and rare earth (mine development)

Cathode materials

Lithium

*1: Net Zero by 2050 A Road Map for the Global Energy Sector IEA May 2021

Agenda

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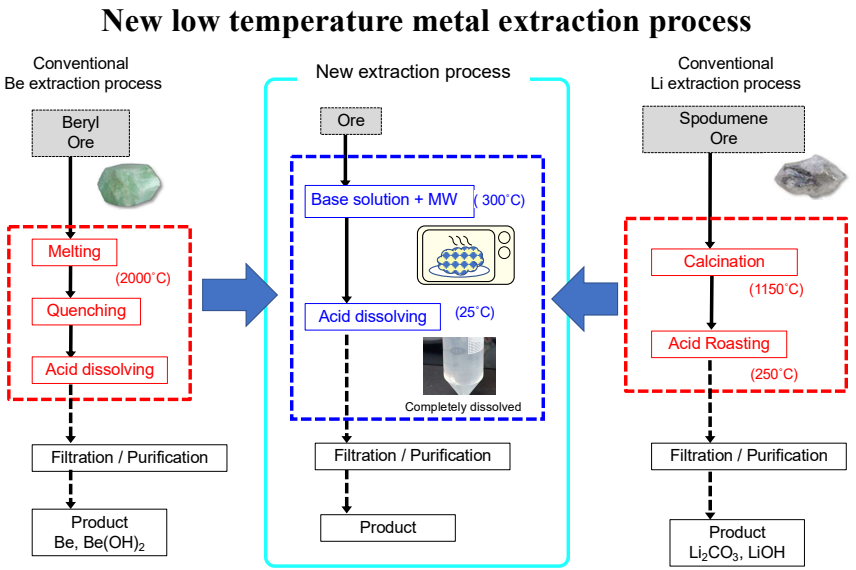
Succeeded in dissolvement of Beryl Ore

Successfully dissolved beryl, a mineral with a higher degree of difficulty than spodumene concentrate - which is the actual lithium ore sorted and mined from our lithium mines.

- ✓ By subjecting the mineral to microwave heating at 300℃ under normal pressure using basic reagents, and dissolving it in acid at normal pressure and room temperature, we have demonstrated the possibility of complete dissolution by one-step heating, instead of the conventional two-step process.
- ✓ Moreover, we have confirmed that different minerals can be dissolved using the same dissolution equipment, and that it is also possible to process multiple minerals in a batch.
- ✓ These results have paved the way for the scale-up demonstration phase.

Experiment @ Rokkasho Research Lab(QST)



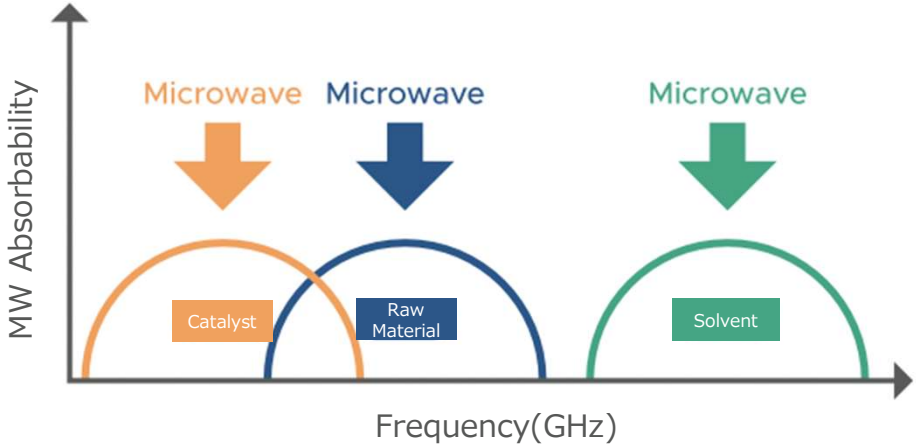
Comparison of conventions method vs novel low temperature method.

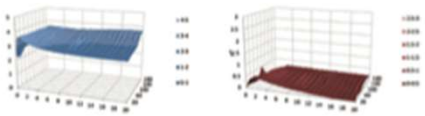
Reaction design

Microwave absorption rate varies by material with frequency and temperature dependency. We design the reaction utilizing this characteristics.

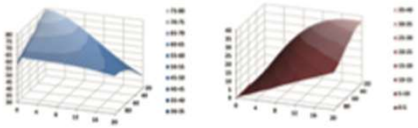
Reaction system design

Design Microwave transmission: Which target material at what frequency and temperature.



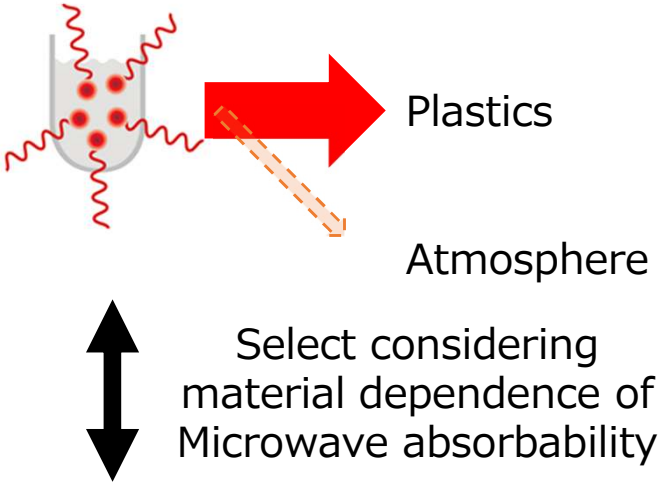


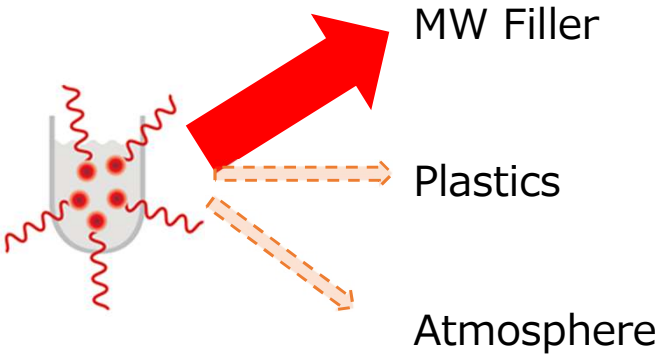
ε′ of 2-Ethylhexyl ester



ε′ of water

Use case: Plastic decomposition

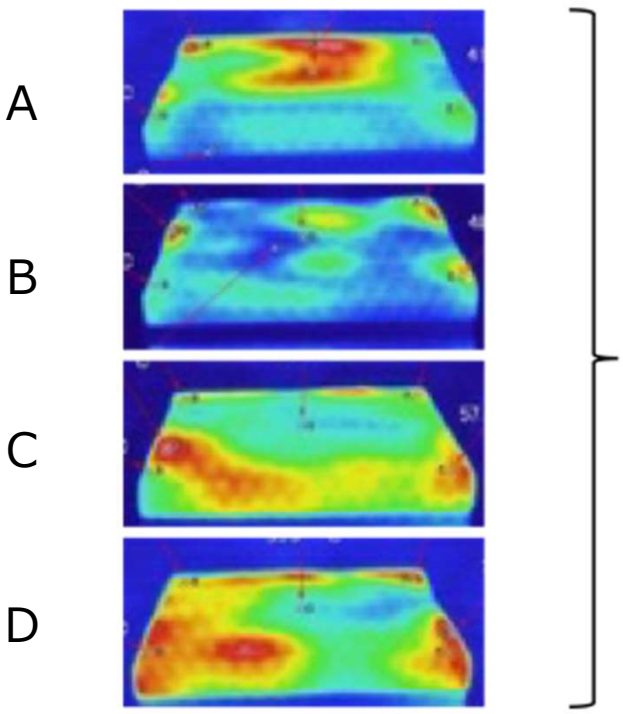




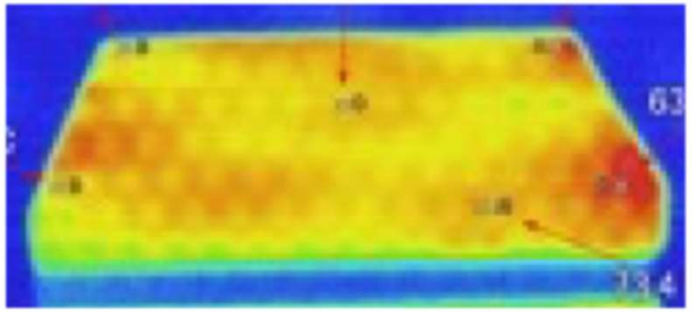
Microwave phase control

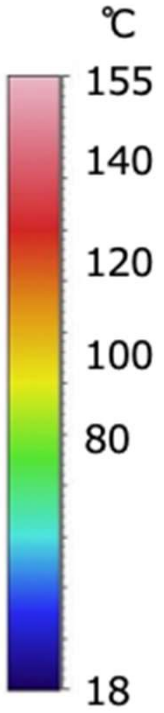
- ✓ Microwave is an electromagnetic wave, we realized precise control of the wave utilizing microwave absorption data and novel simulation technology.
- ✓ This allowed us to control the temperature distribution of the target material.

ex) By precise control of microwave irradiation condition from A through D, we achieved uniform heating that was difficult with conventional methods.



Combination of conditions A-D





Main Business Risks and Mitigation Measures

Items	Main Business Risks	Possibility/ Timing of Occurrence	Mitigation Measures
Expansion of Technological Application Fields	We have successfully achieved the scale-up of the previously challenging microwave process and launched the large-scale microwave chemical plant called 'M3K.' Following this success, we have expanded the application areas to various fields such as food additives, pharmaceuticals, carbon materials, and electronic components. We believe that microwave processes can be applied in diverse domains including commodity chemicals, functional products, and fuels. However, due to being a new technological field with high uncertainty, if the penetration of our technology into the market does not proceed as planned, it may potentially impact our business strategy and performance.	Med/ Medium to Long Term	We adopt a strategy to mitigate such uncertainties by engaging in partnerships through joint development agreements and joint venture contracts with chemical companies and other entities that possess expertise in the relevant fields.
New market entry and technological innovation	We have established proprietary platform technologies as the foundation of our business, and we believe that we have secured a strong competitive advantage in the field of microwave chemistry. However, it is also possible for new entrants with research and development capabilities surpassing ours to emerge, or for technologies that do not infringe upon our patented technologies to be developed, surpassing our own capabilities.	Low/ Medium to Long Term	We believe that by advancing the construction of plants utilizing microwave processes in numerous domains and accumulating knowledge in microwave chemistry, we can strengthen this competitive advantage.
Intellectual property	To date, there have been no known facts of litigation or claims related to intellectual property rights, including patents, associated with our business. At present, we consider the likelihood of significant hindrance to our business due to infringement on patents held by others to be low. We continue to conduct technology investigations and strive to avoid infringement incidents. However, for research and development-oriented companies like ours, it is difficult to completely avoid the occurrence of intellectual property infringement issues. In the event that our company becomes involved in legal disputes with third parties, we will consult with lawyers and patent attorneys to consider specific countermeasures based on the nature of the case. However, regardless of the validity of the claims made by the third parties, it is possible that such disputes could require significant time and expenses to resolve. While we diligently manage our technology, there is a possibility of time-consuming and costly resolution even in cases where third parties infringe upon our technology. In such cases, it could have a significant impact on our business strategy and performance.	Low/ Medium to Long Term	Currently, in the domain of component technologies, we have adopted a strategy of keeping fundamental property evaluation, simulation, and control, which are common element technologies centered around reaction system design, confidential. On the other hand, we patent and make publicly known the underlying mechanisms, which are individual element technologies primarily focused on reactor design. Through this approach, the intellectual property we have accumulated has become a strength for our company.

＊For other risks, please refer to the 'Business Risks' section of the Annual securities report.

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■This document contains forward-looking statements. These statements regarding future prospects are based on information available at the time of their creation. However, such statements do not guarantee future results or performance. These forward-looking statements inherently involve known and unknown risks and uncertainties, and as a result, actual future performance and financial condition may significantly differ from the explicitly or implicitly predicted future performance and results stated in the forward-looking statements.
■The factors that may influence the actual results mentioned above include changes in domestic and international economic conditions, as well as industry trends in which our company operates, among others. However, these factors are not limited to the ones stated.
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