02 Refining Our Capital

Here we outline our strengths in technology, human resources, and financial and capital strategies.

CFO and Investors Dialogue

Resonac's portfolio management: our journey so far and the path forward

We held a dialogue to gather firsthand insights and objective opinions from long-term investors, aiming to improve our management practices and information disclosure. We invited our substantial top three domestic shareholders, who are leading institutional investors in Japan. CFO Somemiya spoke directly with them.

Keisuke Ichihara
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Equity Research Department
Nomura Asset Management Co., Ltd.

Kazuya Uesako
Senior Analyst, Head of Materials and Infrastructure Team
Corporate Research Unit, Research Department
Sumitomo Mitsui Trust Asset Management Co., Ltd.

Hideki Somemiya
Chief Financial Officer (CFO)

Hidehiko Noguchi
Chief Analyst
Analyst Team, Research & Engagement, Investments
Asset Management One Co., Ltd.

Reflecting on the second founding phase

Somemiya: We sincerely thank our shareholders for their patience and support. I first met our shareholders, including all of you, when I joined the former Showa Denko at the end of 2021. Ahead of today's discussion, I looked back at my meeting notes from that time. "Can't trust management. Too many business lines. Performance and stock prices influenced by volatile graphite electrode market. Bottom line heavily impacted by extraordinary losses. Can't evaluate Showa Denko." There was a stack of harsh criticism. But those were fair points and I clearly remember saying, "We take this seriously and will do everything we can to earn your trust."

Uesako: I remember feeling positive about the meeting with Somemiya-san. Hearing about the management structure and business strategy increased my expectations for medium- to long-term growth. We use the MBIS® framework to evaluate non-financial information, and after the meeting, we significantly increased the scores.

Noguchi: I remember our first meeting too. I recall saying we would closely watch if the externally recruited executives could properly boost employee engagement as the Company shifted its focus to semiconductor materials.

Somemiya: Honestly, I was initially unsure if employees would accept what we in management were trying to achieve. CEO Takahashi believes that boosting employee engagement is crucial. From the start, he stated that he would delegate financial and portfolio management to me, the CFO, and Maoka, the CSO, so he could devote his time to our employees.

Noguchi: Engagement seems to have increased over time, going from the integrated report.

Somemiya: Since becoming CEO, Takahashi has visited our business sites around the world. In his first year, he focused on personally conveying the new company's direction to employees in his own words. In the second year, he took a more interactive approach, visiting sites again to hear employees' thoughts on the Company's direction. I doubt many CEOs visit their business locations as often as he does. Our leadership's focused on driving transformation and embedding a new culture and our Purpose and Values has been key to improving our engagement.

Noguchi: As the focus has shifted to semiconductor materials business, I guess that management has communicated that mobility and graphite electrodes are not central priorities. How did employees involved in those businesses respond?

Somemiya: Some might see everything but semiconductor materials as non-core. However, our real aim is portfolio management. Each business has its own unique role. I want any business that contributes to achieving a 10% ROIC target to be part of the portfolio, whether or not it has synergy with semiconductor materials. I also communicate this internally.

KPIs for assessing business and management

Uesako: You referred to ROIC as a KPI just now, but using uniform KPIs—like growth—to evaluate all businesses could result in areas other than semiconductor materials being seen as inferior and undervalued internally. How are you adjusting the evaluation system for different businesses, especially in setting KPIs?

Somemiya: Currently, we use the same KPIs to evaluate each business, but the target levels, like the EBITDA margin rate, vary depending on their positioning in the business portfolio. We evaluate business unit performance by comparing it to the budget, differentiating based on how effectively the budget is stretched.

Uesako: So being in a particular business does not negatively impact the evaluation for now.

Somemiya: That is what we strive to avoid. We aim to refine our evaluation system for our growth businesses by focusing more on growth metrics to better define their positioning.

Ichihara: Chemical manufacturers are expected to deliver both growth and reliability. Creating a medium- to long-term evaluation system that balances these demands is challenging. How do you think reliability should be evaluated?

Uesako: By reliability, do you mean reliability for customers?

Ichihara: More for shareholders.

Somemiya: In that context, we are discussing internally whether we can evaluate businesses with high market volatility, like graphite electrodes, based on their ability to control volatility and stabilize performance over the long term. Foreign investors want more focus on EPS and Net Debt/EBITDA, so we have incorporated these KPIs into our disclosures. What do you all think?

Ichihara: This is not essential, but I think it would be nice to have.

Noguchi: For EPS, in your case, it might be the same as asking when the extraordinary losses will end.

Semiconductor materials industry restructuring and scope

Somemiya: Recently, the media widely covered Takahashi's comments on restructuring in semiconductor materials. The point he was making is that industry restructuring involves other parties, so while the timing is uncertain, we definitely want to be involved when the opportunity arises. That is to say, if a company decides they want to collaborate with others instead of going it alone, we want to be the first potential partner they think of.

Uesako: I would like to see Resonac lead the industry restructuring to grow the semiconductor materials business, including inorganic options.

Ichihara: What is the scope of your restructuring in semiconductor materials? Take Shin-Etsu Chemical, for example. I believe it is Japan's top integrated manufacturer of semiconductor materials. Their strength lies in their ability to integrate lithography and specifications with wafers for cross-selling as advanced semiconductor designs grow increasingly complex. How far is Resonac considering going in that direction?

Somemiya: In that sense, we aim to have a strong lineup of front-end products. Lithography is crucial for device manufacturers. The first step in their development roadmap is to envision that process and consider what kind of circuit and device configuration they will need. Building relationships with client designers during the review process can influence back-end material choices over the following years. For restructuring, we could start by bolstering collaborations similar to those now underway with JOINT P75.

Ichihara: In joint research and development, especially in advanced materials, different companies each have their own agendas. So it is often the case that they cannot conduct evaluation they want.

Somemiya: If a company wants to delve deeper but finds it impossible within the current joint research and development framework, I believe that could trigger restructuring.

Chemical manufacturers are expected to deliver both growth and reliability. Creating a medium- to long-term evaluation system that balances these demands is challenging. [Mr. Ichihara]

If a company decides they want to collaborate with others instead of going it alone, we want to be the first potential partner they think of. [Somemiya]

Preparing to list the olefins and derivatives business

Ichihara: As you prepare to list the olefins and derivatives business, what dividend policy will you implement to increase the likelihood of the price-to-book ratio (PBR) exceeding x1? What support will the head office provide?

Somemiya: The key point as we see it is that even as the domestic petrochemical market matures or contracts, Crasus Chemical can still generate enough profit to maintain steady dividends. We will help build its equity story based on this and set up a shareholder base in Japan.

Ichihara: The Oita Petrochemical Complex as a whole appears to be weaker in midstream and downstream operations compared to other regional complexes.

Somemiya: While much of that is true, there are strong products in the current lineup of derivatives. We aim to showcase the strengths of that business and help you understand them better.

Uesako: They seem to be distancing themselves from the ongoing reorganization of domestic ethylene plants. How will Crasus Chemical navigate the restructuring?

Somemiya: Both east and west Japan are undergoing restructuring, but Oita is geographically isolated from these changes. In my view, regardless of whether a merger happens, a future possibility is collaborating with other regional complexes through maritime transport of ethylene and similar products.

Uesako: The restructuring of other complexes might cause derivative product manufacturers to lose their raw material supply. Could such companies move to Oita?

Somemiya: If there are any companies interested in Oita, we would certainly welcome them.

P45 / Discussion: Choosing to Execute a Partial Spin-off
Crasus Chemical Business Briefing (Video)

Graphite electrode business and structural reform

Noguchi: China's production capacity exceeds global demand for products like lithium-ion batteries, solar panels, and EVs. Graphite electrodes now also fall into this category. It seems that your company might not need to continue offering this product in the future. What are your thoughts?

Somemiya: The current business environment for graphite electrodes is indeed tough. We face a critical management decision: Should we sell the business and accept substantial losses, or should we drive structural reforms to responsibly restore cash flow? Due to the pressing market conditions, we are urgently pushing forward with structural reforms.

Uesako: I believe that mobility needs structural reforms similar to those for graphite electrodes.

Somemiya: Our current fundamental strategy is to select and focus, based on the belief that access to mobility is essential for application of functional materials. Specifically, we will keep functional materials that are competitive and stop those that aren't.

CFO and Investors Dialogue

Breaking out of a low multiple

Somemiya: Our valuation improved beyond the integrated chemicals sector's multiples, bringing the PBR above 1x. However, the Deepseek shock earlier this year and market shifts from the Trump tariffs have pushed our stock price back to the level when I joined, as of April 2025.
Uesako: Multiples correlate with ROE. Increasing ROE should boost multiples, enhancing certainty and credibility.
Noguchi: Valuations are still not improving, much like when former Hitachi Chemical's multiples weren't high enough in the past. Fund managers often point out that the former Hitachi Chemical didn't have a high valuation in the past.
Ichihara: We also receive similar feedback from fund managers.
Noguchi: If you can clearly show and explain how your semiconductor materials portfolio and profitability have changed since then, you might secure higher multiples than Hitachi Chemical had back then.
Somemiya: Although we have already communicated this as part of our company narrative, we believe it needs to be more widely understood. A major change since the days when Hitachi Chemical was publicly listed is the clearer definition of the "More Than Moore" semiconductor landscape and the significant expansion in advanced packaging. The focus has shifted from enhancing value through front-end miniaturization to increasing it via back-end packaging. This shift has increased the added value captured in back-end processes, which is a major change from the Hitachi Chemical era.
Noguchi: Compared to the Hitachi Chemical era, other businesses have shrunk, so expecting higher multiples now is reasonable. Expanding into front-end materials could open up new business opportunities and potentially transform the company into a comprehensive semiconductor materials manufacturer.

Capital allocation

Somemiya: As our performance improves, we are getting more questions about our current capital allocation, particularly regarding our approach to shareholder returns. What do you think about our current capital allocation policy and its disclosure?
Ichihara: Compared to other companies, the disclosure is extensive and clear, so I find it satisfactory.
Uesako: I think your disclosure is quite detailed. It includes setting a target stock price of ¥10,000, avoiding actions that dilute shares for now, and so on. The capital allocation disclosure is more detailed and deliberate compared to other companies. Regarding the policy, your company lacks financial flexibility and needs growth investment, so I personally don't think further returns are necessary.
Noguchi: I agree on the capital allocation. I don't think enhancing returns is necessary at this stage. Many companies increase returns to improve their PBR, often because they have excess net cash. However, your company does not fall into this category. With growth fields, investment should naturally be the priority.

I would like to see Resonac lead the industry restructuring to grow the semiconductor materials business, including inorganic options. [Mr. Uesako]

Achieving clear interim results helps employees understand and align with the strategy, creating a best practice example to share with other companies. [Mr. Noguchi]

Expectations for Resonac

Somemiya: Finally, what are your expectations for our company moving forward?
Noguchi: We hope Resonac becomes a successful example of management change in Japan, encouraging similar practices to spread. Achieving clear interim results helps employees understand and align with the strategy, creating a best practice example to share with other companies. We will continue to watch this closely.
Ichihara: I come from a chemical manufacturing background. In the 1990s, Europe's chemical industry restructuring saw BASF, focused on petrochemicals, become the market leader by market capitalization. Meanwhile, ICI (Imperial Chemical Industries) aggressively restructured but ultimately collapsed, while Bayer, including its spinoff companies, resulted in a lower corporate value than BASF, an integrated chemicals company. However, I believe different times would yield different results, and I expect your company, actively pursuing restructuring, to outperform in this industry.
Uesako: If your current goals are achieved, I think the stock market will recognize your company's value. This is what I expect to see. To boost employee engagement, you should increase stock compensation, aligning employees' interests with those of the company. I'd like to see employees actively hold company shares and work to boost corporate value, benefiting not just investors but themselves as well.
Somemiya: We will continue striving to meet your expectations. Thank you for your time today.

• About this dialogue

Participants: Our effective top three domestic institutional shareholders and CFO Hideki Somemiya

Aim: Listen to investors' opinions on our portfolio management and utilize them in management and information disclosure

• Keywords of the dialogue

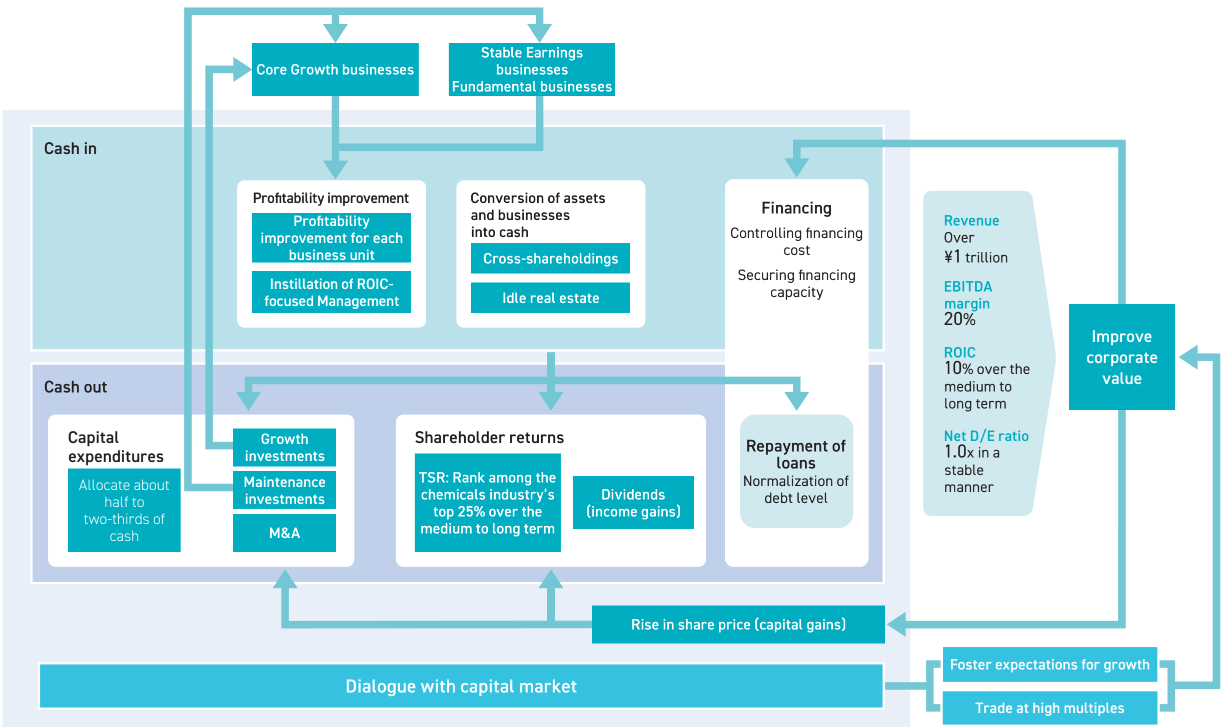
Portfolio management issue	Formulation of business evaluation criteria and mechanisms, KPIs from a shareholder perspective
Challenges in industry restructuring	The importance of front-end processes, clues for restructuring, and the equity story of our petrochemical business
Restructuring underperforming businesses	Sell or rebuild? Can they compete as functional materials?
Improving valuation and prioritizing investment	Improvement of our valuation beyond the integrated chemicals sector's multiples, and prioritization of investment in growth fields

Financial and Capital Strategies

Please also read the "For Investors" page on our website.

We believe that the Financial and Capital strategies which is the basic policy for mean of use cash are backbones that support our growth strategy. Financial condition, which temporarily deteriorated due to the acquisition of Hitachi Chemical, has successfully been normalized to a significant degree over the four years following the acquisition. Currently, we are preparing to build a corporate structure capable of taking the offensive foreseeing the silicon cycle and the next action for growth.

Financial and capital strategies overview



1. Capital Allocation Prioritizing Growth Investments

Companies prioritize spending based on their growth stage. Our company is still in a growth phase, so investing in growth is our top priority. Next, our basic policy is to allocate funds to reduce debt, which improves financial health and prepares us for the future. This is followed by paying dividends as part of shareholder returns.

To drive growth in the semiconductor materials field, we have consistently allocated 50% to 70% of our operating cash flow to capital investments, even during downturns in the silicon cycle. The semiconductor market goes through boom-and-bust cycles as a consequence of companies trying to capture strong demand amid ongoing technological innovation. Only companies that invest during downturns can reap the benefits in the next boom. During the downturn, we pinpointed when demand would recover and kept a close eye on customer inventory and forecasts. This allowed us to adjust and respond to rapid market growth, particularly in areas like AI semiconductors. In our investment decisions, we focus on capital efficiency. We allocate half of our capital expenditure to semiconductors and electronic materials, which we consider our growth drivers.

Over the past four years, as described above, we generated approximately ¥500.0 billion in operating cash flow, with ¥330.0 billion directed towards capital expenditures. This means we allocated two-thirds of our operating cash flow to capital investments. For investing cash flow other than capital expenditures, selling non-core businesses, idle assets, and cross-share holdings brought in about ¥200.0 billion, resulting in a total free cash flow of approximately ¥360.0 billion. This allowed us to reduce interest-bearing liabilities and preferred shares by about ¥300.0 billion, while distributing dividends.

In the cyclical semiconductor market, there are often times when business conditions do not align with investment levels. However, looking at multi-year averages, we believe that, in due course, we will reach a financial position where we can consistently secure at least an annual operating cash flow of ¥200.0 billion, an investing cash flow of ¥(100.0) billion, and a free cash flow of ¥100.0 billion. At this level, we can effectively invest in growth while quickly reducing debt, thereby broadening our strategic options including shareholder returns.

Summary of statements of cash flows

(Billions of yen)

	2021	2022	2023	2024	Four-year total
Operating cash flow	115.3	99.4	118.7	163.7	497.0
Investing cash flow	28.6	(54.7)	(55.2)	(52.3)	(133.5)
Capital expenditures	(67.7)	(87.9)	(85.6)	(88.3)	(329.5)
Other Investing cash flow	96.3	33.2	30.4	36.0	195.9
Free cash flow	143.9	44.7	63.6	111.3	363.5
Capital expenditures/Operating cash flow	59%	88%	72%	54%	66%

*The figures for 2021 to 2023 are based on Japanese Generally Accepted Accounting Principles (JGAAP), while those for 2024 are based on IFRS.

2. Sale of Non-Core Businesses and Monetization of Non-Operating Assets

Operating cash flow is the main source of cash inflow. However, to improve capital efficiency, it is crucial to sell non-core businesses to the best-suited owners and dispose of non- operating assets. This approach generates cash for investments with higher expected returns.

Over four years since 2021, we sold 11 non-core businesses, generating proceeds of approximately ¥120.0 billion. Among non-operating assets, we have sold idle assets, such as a former plant site in Yokohama City, Kanagawa Prefecture, land and buildings of the former head office in Minato Ward, Tokyo, and a former hard disk media site in Taiwan, generating over ¥60.0 billion in cash. We advanced the sale of cross-shareholdings, completing most of these sales by the end of 2023. As of the end of March 2025, only one listed stock remains.

Over the past four years, we have largely streamlined non-operating assets, resulting in a much cleaner current position. We will continue to assess our business using three criteria: profitability and capital efficiency, fitness for strategy, and whether Resonac is the best owner.

Key inflows in investing cash flow

(Billions of yen)

	2021	2022	2023	2024	Four-year total
Proceeds from sale of businesses	84.1	0	31.7	0.7	116.6
Proceeds from sale of non-current assets	2.2	21.0	5.5	32.4	61.1
Proceeds from sale of investment securities	9.3	22.0	3.3	0.6	35.2
Total major investment inflows	95.6	43.0	40.5	33.7	212.9

*The figures for 2021 to 2023 are based on Japanese Generally Accepted Accounting Principles (JGAAP), while those for 2024 are based on IFRS.

3. Reducing Debt and Improving Capital Structure

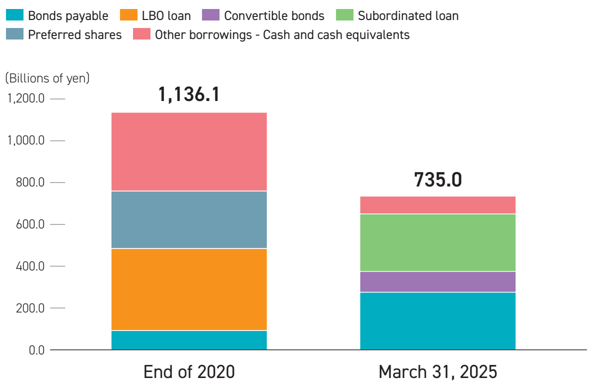
Our financial health temporarily weakened due to a major acquisition, which was a concern for potential investors. However, we believe it has now largely stabilized through liabilities repayment. We not only reduced the balance of interest-bearing debt but also made significant qualitative improvements. These include refinancing at lower financial costs and securing fixed interest rates to manage the risk of rising rates. To enhance our financial credibility with international investors, we have switched our accounting standard to the International Financial Reporting Standards (IFRS), which are recognized globally.

Key financial improvements (comparison between the end of 2020 and the end of March 2025)

- The Net D/E ratio decreased from 1.8x to 0.8x * but rose to about 1.1x in April 2025 due to the repayment of a subordinated loan.
- Net interest-bearing liabilities and preferred shares decreased from ¥1,136.1 billion to ¥735.0 billion.

*The figures as of the end of 2020 are based on JGAAP, while those as of the end of March 2025 are based on IFRS.

Net interest-bearing liabilities + Preferred shares



*In April 2025, the repayment of a subordinated loan reduced the balance from ¥275.0 billion to ¥137.5 billion.

As we position growth as a principal strategy, we aim to maintain a balance sheet that allows us to raise the necessary funds from capital markets when needed to effectively navigate the fluctuations of the silicon cycle, while using financial leverage to some extent. We aim not only to consistently maintain a Net D/E ratio below 1x but also to improve our financial structure to achieve this without relying on the equity component of subordinated loans. We will focus on monitoring the Net Debt/EBITDA ratio to ensure a balanced approach between borrowing and cash management. Our current Net Debt/EBITDA ratio is just under 4x, which is somewhat high, but we believe it can reach the 3x or even 2x range within the next few years. If a Net Debt/EBITDA ratio below 3x comes into view, we will be ready to pursue strategic investments and industry consolidation.

4. Focusing on TSR for Shareholder Returns

We prioritize total shareholder return (TSR), which includes capital gains, as a way to reward shareholders through growth. In 2024, annual TSR was 145%, significantly outperforming the TOPIX including dividends of 121%. With regard to income gains, despite a net loss in 2023, we maintained a dividend of ¥65 per share, ensuring stable payouts to uphold its track record. We are mindful of existing shareholders' interests and plan to avoid capital raising that would dilute shares for the foreseeable future.

We remain committed to rewarding shareholders through stock price appreciation by enhancing corporate value, while also maintaining stable dividends. We are planning a partial spin-off of Crasus Chemical (olefins and derivatives business), to not only address the conglomerate discount on our stock price but also to provide shareholder returns through in-kind dividends of Crasus Chemical stock. As our growth investments pay off over the medium to long term and our financial health improves, we might consider share buybacks as a way to return value to shareholders.

P45 / Dialogue: Choosing to Execute a Partial Spin-off

5. Valuation

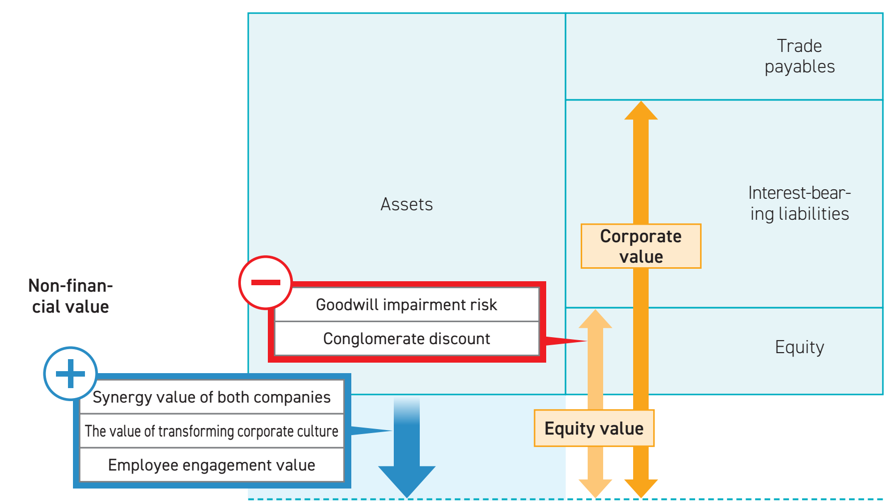
We see our stock market valuation as a direct reflection of our performance, including our financial and capital strategies, and we confront it head-on. Our stock price is still significantly below what we believe is its fair value. To bridge this gap, we need to improve our execution capacity and practical feasibility while communicating clearly and convincingly. To ensure investor confidence in our stock, CEO Takahashi and CFO Somemiya take a hands-on approach in investor relations, presenting our growth strategy and equity story and discussing their credibility with investors. This involvement is crucial to our financial and capital strategies.

After a major acquisition, we restructured our business portfolio by selling 15 businesses to the best-suited owners. The market acknowledges our strong execution capabilities to some extent in this area. Despite a downturn, we continued investing, leading to growth in advanced applications, including AI semiconductors. Through this effort, we are confident that our growth strategy in semiconductor materials, a core area for us, has proven to be right and plausible to some extent. Based on these achievements, as part of our growth story, we will continue to emphasize our transition from a general chemical manufacturer to a functional materials company centered on semiconductor materials. In 2025, by adopting IFRS, we enhanced our appeal to global investors and resolved the issue of profit reduction caused by goodwill amortization. We were also able to advance toward our selection into the SX index to attract investors who prioritize sustainability.

In corporate valuation, resolving the issue of our PBR falling below 1x was merely the starting line. The real challenge begins now. We will continue efforts to eliminate the significant conglomerate discount and ensure the market recognizes our growth potential. The key to eliminating the discount is likely the partial spin-off of the olefins and derivatives business, which is central to the business portfolio reform. We will dedicate ourselves to making the spin-off listing successful by establishing Crasus Chemical as a competitive and attractive investment entity.

To drive growth, it is important to not only strengthen our presence in advanced semiconductor materials but also to minimize non-recurring items, particularly impairments, that reduce profits in Resonac's growth businesses. To increase the probability and feasibility, we recognize that strong leadership from our management and execution capabilities as a company driven by high engagement are crucial. Although these non-financial values do not directly appear in financial statements, we view them as notional assets that increase the likelihood of achieving our growth strategy and, in turn, enhance corporate value.

Diagram of non-financial value and corporate value enhancement



6. Toward a ¥10,000 Stock Price

Our immediate performance target is to achieve revenue of ¥1 trillion with a 20% EBITDA margin, leading to an EBITDA of ¥200.0 billion. Applying an EV/EBITDA multiple of 15x gives the Company a valuation of ¥3 trillion. Assuming Net Debt at a conservative ¥1 trillion, the market capitalization would be ¥2 trillion. Considering the increase in the number of shares issued due to the conversion of convertible bonds and setting the total shares outstanding at 200 million, the stock price would be ¥10,000.

Achieving the targets of ¥1 trillion in revenue and a 20% EBITDA margin is possible if the semiconductor materials business remains strong and the restructuring of the graphite electrode business and the spin-off of the olefins and derivatives business are successfully completed. Our current EV/EBITDA multiple is significantly lower. However, global semiconductor material companies, including our benchmark DuPont, achieve around 15x. We believe that eliminating the conglomerate discount and gaining recognition as a high-growth potential semiconductor stock could help us reach this level.

Reframing the perspective, if the stock price is ¥10,000 and the current P/E ratio remains at 20x, the required EPS would be ¥500. To boost EPS to the desired level, it is essential to achieve "¥1 trillion in revenue × 20% EBITDA margin." Additionally, increasing revenue in growth fields and completing structural reforms are crucial to reducing profit declines from non-recurring items.

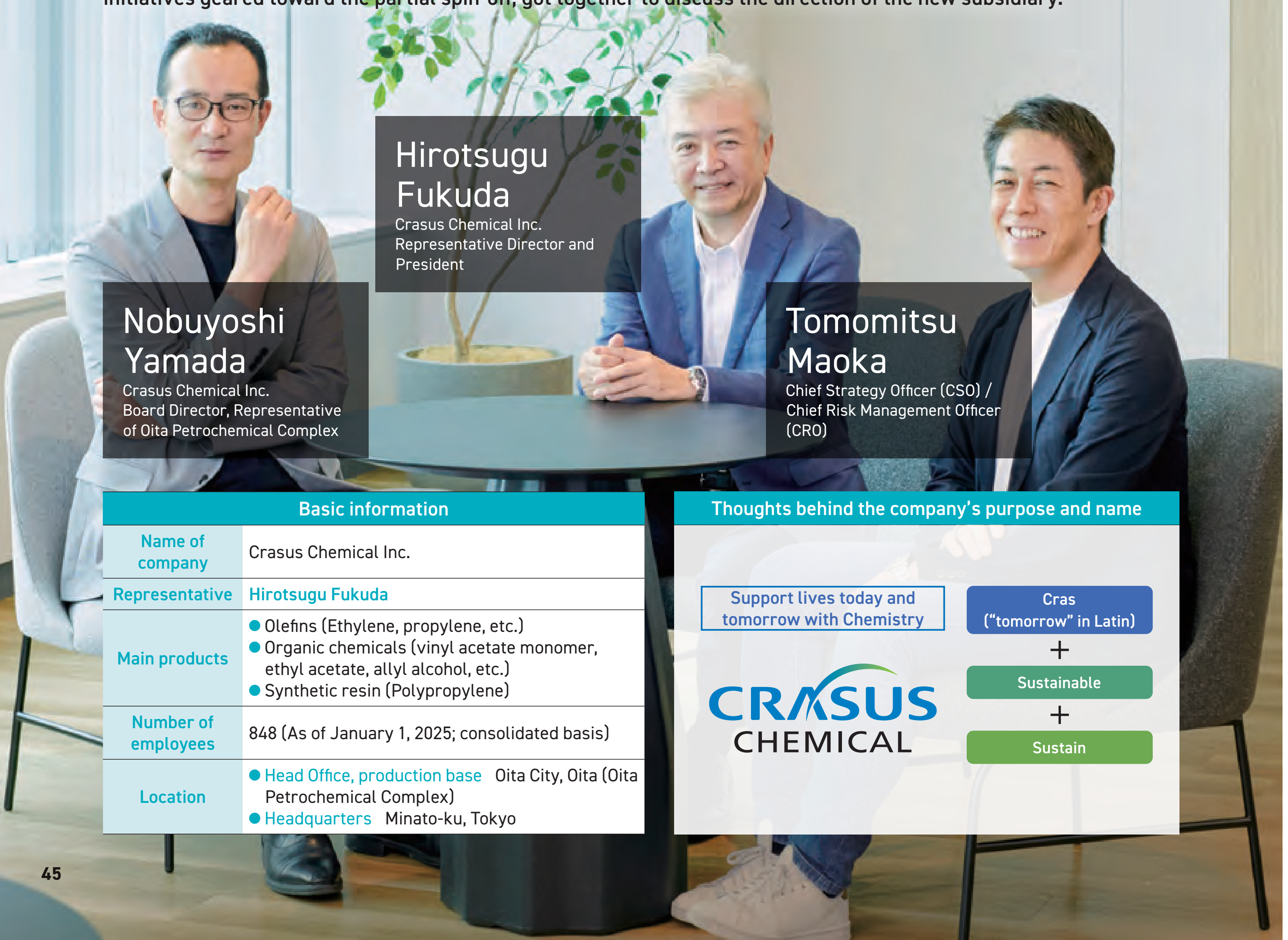
Both approaches face significant challenges, but by focusing on growth businesses and with resulting growth, we aim to enhance profit margins and increase corporate value through higher multiples. If the stock price reaches ¥10,000, it will not only boost shareholder returns through capital gains but also position the Company's stock as a strategic asset for future major initiatives.

▶ See here to learn about our communication with shareholders and Investors P33 / Co-creation with Stakeholders

Dialogue: Choosing to Execute a Partial Spin-off

Road ahead for the petrochemical business

In August 2024, Crasus Chemical, a wholly-owned subsidiary to succeed Resonac Corporation's Olefins and Derivatives business, was newly established. Upper management of Crasus Chemical, which has started its journey toward becoming Japan's leading petrochemical manufacturer, and the CSO/CRO of Resonac, which is implementing initiatives geared toward the partial spin-off, got together to discuss the direction of the new subsidiary.



Hirotsugu Fukuda
Crasus Chemical Inc.
Representative Director and President

Nobuyoshi Yamada
Crasus Chemical Inc.
Board Director, Representative of Oita Petrochemical Complex

Tomomitsu Maoka
Chief Strategy Officer (CSO) / Chief Risk Management Officer (CRO)

Basic information

Name of company	Crasus Chemical Inc.
Representative	Hirotsugu Fukuda
Main products	● Olefins (Ethylene, propylene, etc.) ● Organic chemicals (vinyl acetate monomer, ethyl acetate, allyl alcohol, etc.) ● Synthetic resin (Polypropylene)
Number of employees	848 (As of January 1, 2025; consolidated basis)
Location	● Head Office, production base Oita City, Oita (Oita Petrochemical Complex) ● Headquarters Minato-ku, Tokyo

Thoughts behind the company's purpose and name

Support lives today and tomorrow with Chemistry

CRASUS CHEMICAL

Cras ("tomorrow" in Latin)
+
Sustainable
+
Sustain

This spin-off will enable us to independently decide where to invest earned funds

Maoka: The Olefins and Derivatives Business Unit, which made a new start as Crasus Chemical, was regarded as the "eldest son" of the former Showa Denko. It was a segment that generated stable profits, and its financial results were announced first for olefins and derivatives, followed by basic chemicals. I also feel that the business has strong pool of talent.

Fukuda: There are certainly a lot of talented employees. It also developed human resources for other business units. In terms of net sales, the Olefins and Derivatives Business Unit accounted for about one-third of former Showa Denko's total net sales.

In addition, the Oita Petrochemical Complex, the largest business base of the Olefins and Derivatives Business Unit, has a unique culture. Because of the many hazardous materials handled, the Oita Petrochemical Complex provides its own extensive training for new employees on top of company-wide training, resulting in a well-disciplined organization.

Maoka: The idea of spinning off the Olefins and Derivatives Business Unit wasn't something we had from the beginning. This is because the olefins and derivatives business is an extremely important source of revenue, and also bears social responsibility in terms of achieving carbon neutrality. Given his position as a corporate executive, CEO Takahashi had not planned to easily separate such a vital businesses from the get-go. Meanwhile, discussions continued within the management team regarding whether Resonac was the best-suited owner for the Olefins and Derivatives Business Unit.

After the birth of Resonac, there were two main factors that prompted us to consider spinning off the olefins and derivatives business. One was the feedback from shareholders we received through repeated discussions with them about our strategies. The semiconductor materials business is expected to experience significant growth and high profitability in the medium to long term, but it is subject to substantial short-term fluctuations in performance. In contrast, the olefins and derivatives business generates a stable cash flow, making it an attractive investment option for investors seeking stability.

In other words, when viewing them as individual investment options, semiconductor materials and olefins and derivatives have a relationship that could potentially interfere with one other, so to investors, keeping them separate is preferable.

As various options were being considered, another incentive came in the form of the establishment of special measures based on the Act on Strengthening Industrial Competitiveness in June 2023 regarding partial spin-offs, creating a new mechanism for tax breaks. This led to the idea that these partial spin-off tax rules could be used to split up the olefins and derivatives business more smoothly and efficiently, kicking off concrete deliberations regarding this possibility.

Fukuda: I had assumed that the olefins and derivatives business would remain part of Resonac, so when I heard about the partial spin-off, I honestly had a lot of thoughts. It's not something I could simply say, "Sure, we will operate independently from now on."

At the time, Resonac was already focusing its investments on semiconductor materials, and even when we at the Olefins and Derivatives Business Unit brought up our intent to make investments at the Management Committee meetings, there were several times when we were unable to move forward with these plans. After thinking about it calmly and carefully, we realized that separating the olefins and derivatives business to establish a separate company through a partial spin-off meant that we could invest the funds we have earned at our own discretion. We felt great appeal and potential in the idea of being able to make investment decisions and move forward more flexibly toward our goals, which motivated us to take on this challenge. We were ultimately able to make the decision because the Olefins and Derivatives Business Unit had the underlying strength to operate independently, namely its stable profitability and organizational capabilities built up over the years.

Leading discussions over shaping the new company's approach and vision

Fukuda: Ever since the partial spin-off was decided, everyone involved has been working at full capacity. First were the tangible aspects, such as organizations, governance, personnel acquisition, and IT systems. Basically, shaping ourselves as an operating company. These efforts were carried out with the help of Resonac and outside experts. Another crucial aspect we need to address is the intangible aspects. The culture of the new company; its soul. I think this is something that needs to be built up carefully over time.

Yamada: The plan for the partial spin-off was announced to Olefins and Derivatives Business Unit employees on February 14, 2024, the same day that Resonac announced it to the press.

In the beginning, shock and confusion spread across the Oita Petrochemical Complex. I think there were concerns over the growth potential and future of the Oita Petrochemical Complex once it became independent. However, in March and April, not long after the announcement, the management team set up a series of opportunities to talk with Oita Petrochemical Complex employees. Hearing about plans and outlooks from management at town-hall meetings and roundtable discussions helped to dispel much of this anxiety, which led an increasing number of people to start speaking of their determination to move forward with renewed enthusiasm.

Fukuda: Shortly after Resonac announced it would start considering a partial spin-off, mid-level and young employees of head office from the Olefins and Derivatives Business Unit voluntarily came together to launch the Petrochemical Vision Project, and started conducting discussions on the new company. Through this project, employees took it upon themselves to discuss and develop the new company's vision, purpose, value creation process, and so on. In August, it was renamed the ASU Project after Oita Petrochemical Complex employees joined to form a dynamic team under my direct control. The name of the project, ASU, embodies our desire that we (us) will all work together to create Crasus Chemical's tomorrow (*Asu* in Japanese). Crasus Chemical's purpose, "Sustain daily lives of tomorrow with chemistry" was also born out of discussions within this ASU Project. The activities of the ASU Project are very dependable, and I personally find them reassuring. We are currently working with the management team to formulate a long-term vision. In addition to the strong sense of unity that has existed until now, an environment is emerging that fosters various bottom-up discussions.

As Takahashi-san has been doing at Resonac, since last year, I have held more than 30 town-hall meetings and roundtable discussions, speaking with more than 200 employees so that we can exchange our thoughts.

Maoka: While maintaining organizational leadership, we will increase the value of the company through the self-driven actions of our employees. This culture shows that while Crasus Chemical is inheriting Resonac's uniqueness, it is also building its own identity.

Fukuda: After hearing about the partial spin-off, some people in other business units or those stationed overseas that used to work in the Olefins and Derivatives Business Unit are also volunteering to join Crasus Chemical. Even among people with no prior involvement with the Olefins and Derivatives Business Unit, highly motivated people have joined us who want to take on IPO-related work or transfer to Crasus Chemical to expand the scope of their work.

Superior safety and operation technologies have turned Oita Petrochemical Complex into an "unstoppable petrochemical complex"

Maoka: When we considered separating the olefins and derivatives business, we looked into the details of the business again, comparing it with the operations of industry rivals.

When we considered separating the olefins and derivatives business, we looked into the details of the business again, comparing it with the operations of industry rivals. What we learned from doing so is that our olefins and derivatives business has quite a strong edge. [Maoka]

I believe that the Oita Petrochemical Complex has become an "unstoppable petrochemical complex" thanks to the fusion of the latest technologies with the maintenance and operation technologies cultivated over the past 55 years since operations began at the complex in 1969. [Yamada]

What we learned from doing so is that our olefins and derivatives business has quite a strong edge. It became clear that we would be able to hold our own in the market even after being spun off.

Yamada: The Oita Petrochemical Complex's greatest strength is that it boasts the first- to second- highest uptime in Japan, backed by its excellent maintenance and operation technologies. With the exception of scheduled maintenance periods, there have been no plant shutdowns for over five years due to problems occurring. A single shutdown of the plant can result in losses in the hundreds of millions of yen, so the fact that it can operate stably is a major strength.

Another notable feature of the Oita Petrochemical Complex is that it is a pioneer within the Resonac Group in the use of IoT, smart solutions, and other technologies. We are actively taking on new challenges, such as introducing a system to predict plant malfunctions and using drones for inspections.

I believe that the Oita Petrochemical Complex has become an "unstoppable petrochemical complex" thanks to the fusion of the latest technologies with the maintenance and operation technologies cultivated over the past 55 years since operations began at the complex in 1969.

Fukuda: Another major strength is the ability to use various raw materials other than naphtha. While the main raw material is naphtha, which is extracted from crude oil, the Oita Petrochemical Complex has long sought to diversify its raw materials, and is also able to use LPG, kerosene, and diesel as raw materials. This means that costs can be reduced by flexibly procuring raw materials other than naphtha depending on prevailing prices. No other industrial complex exists that can use raw materials other than naphtha to this extent.

Yamada: The Oita Petrochemical Complex also produces a number of competitive and unique derivatives. We hold the top global external sales market share for high-purity allyl alcohol and the top domestic market share for ethyl acetate. In particular, following the start of operations at an additional plant for high-purity allyl alcohol in August last year, we are now well positioned to expand sales.

We cannot survive unless more emphasis is placed on co-existing harmoniously with local communities and society to promote greening

Maoka: Over a longer timeframe, a huge challenge faced by the petrochemical industry is decarbonization. The Oita Petrochemical Complex has drawn up a roadmap and has been carrying out various initiatives geared toward carbon neutrality, and unless they accelerate their initiatives, it would likely not survive as a company.

Fukuda: I agree. Up until now, we have focused on increasing profitability by selling products made from fossil fuels. However, that approach is by no means sufficient. Unless we place more emphasis on coexisting harmoniously with local communities and society to promote greening, including carbon neutrality, the olefins and derivatives business will not be viable in the future.

Yamada: With regard to greening, we have implemented various measures to date, regardless of the spin-off. I believe that moving forward, we will need to move more swiftly and flexibly than ever before in cooperation with local communities.

As our medium- to long-term plan, we have been working on the "development of a low-concentration CO_2 separation system employing an innovative separation agent" (adopted as part of the NEDO's Green Innovation Fund Project) with Nippon Steel and several universities. We are also participating in the "Feasibility Study on a Carbon Recycling Project Utilizing Cross-industry Collaboration at the Oita Complex" (adopted as a NEDO project), and have begun considering ways to contribute to reducing CO_2 emissions from the perspective of chemical manufacturing that uses CO_2 as a raw material. Furthermore, together with Kyushu University, Marubeni Corporation, and Sumitomo Mitsui Trust Bank, we have established a "knowledge hub" in Kyushu aimed at building a circular economy model. By bringing together the strengths of Kyushu's industry, government, and academia, we aim to establish local production for local consumption processes by recycling waste plastics and other waste materials through chemical recycling.

Cherishing our synergy-creating relationship while remaining independent as two companies with the same origins

Maoka: In the near future, Crasus Chemical and Resonac will have to build a new relationship as independent, publicly listed companies.
Fukuda: Once Crasus Chemical is listed, it is natural for the two companies to go their own way. However, this does not mean that Resonac and Crasus Chemical will break off their relationship. We want to remain emotionally connected to each other, and this is reflected in Resonac continuing to hold an appropriate proportion of shares. I believe that both Resonac and Crasus Chemical will benefit from educational, technological, and personal exchanges. In the future, I think there will be opportunities for us to take on various challenges together.
Yamada: We are also confident in our safety, production, and maintenance technologies. There are aspects in which the directions of our businesses align with one another, so we would like to continue our cooperative relationship in various areas going forward.
Maoka: I would like to consider whether we can build a cooperative relationship in terms of human resources as well. Of course, ensuring a certain degree of independence will be necessary when going public, so we will need to carefully consider specific plans going forward. Even so, as companies with the same origins, I believe we have personnel that can thrive in either company. So, I'd like us to come together to consider how we can establish a relationship that will support the career development of employees from both companies.

Molding a new image of the petrochemical industry around our purpose of "sustain daily lives of tomorrow with chemistry"

Maoka: We need to make this partial spin-off something that all stakeholders will feel glad we have done. To this end, I am determined to achieve results that meet the expectations of not only our shareholders, but also our employees, customers, and local communities.

I also sincerely hope to surprise those who are worried about the future of Japan's petrochemical industry through this partial spin-off. I believe that one of the objectives of this partial spin-off is to create a company that will open up bright prospects for the petrochemical industry, and I have confidence that Crasus Chemical can and will achieve this.

I will do my best to ensure that in a few years' time, employees will feel glad they are working at Crasus Chemical. [Fukuda]

Yamada: The Oita Petrochemical Complex boasts high on-site capabilities cultivated over many years. For example, we mentioned earlier that we are diversifying raw materials and are able to use raw materials other than naphtha. In other words, the complex is capable of flexibly handling a variety of operations. I believe our strengths lie in the fact that the departments that support on-site operations have both the autonomy and expertise to fully recognize their roles and responsibilities, and the organizational capabilities and leadership to execute operations properly.

We have been carrying out various activities with the aim of becoming the strongest industrial complex in Asia, where prosperity, sustainability, and growth potential are in harmony. As the current Oita Petrochemical Complex exists on the back of steady, daily efforts, we must never forget our ambition to become the strongest industrial complex in Asia and the importance of our daily efforts. We will continue to work hard and remain steadfast in this regard.

Furthermore, having become Crasus Chemical, we will strive to be even more flexible in our research and development and technology development activities through internal and external co-creation, including with Resonac, with the aim of becoming a company that creates a sustainable future.
Fukuda: Splitting up a company through a partial spin-off and then aiming for an IPO is certainly a very challenging undertaking. Nevertheless, I bet achieving this will provide an incredible sense of accomplishment. Of course, I understand that what comes after completion of the IPO is more important, but for now, I want everyone to experience that sense of accomplishment together.

Right now, I also feel strongly about valuing the purpose we created: "Sustain daily lives of tomorrow with chemistry." Moving forward, we must constantly think about how we can truly contribute to society through our corporate activities, not solely for the sake of making money. As such, only by always keeping in mind our purpose "Sustain daily lives of tomorrow with chemistry" as we conduct our business can we gain the trust of local communities and our stakeholders. I believe that this will ultimately motivate employees, which will in turn lead to increased profitability and enhanced corporate value. I am currently doing my best to convey these thoughts to all our employees. And I will do my best to ensure that in a few years' time, all stakeholders will recognize this partial spin-off as a positive and worthwhile decision.

• About this dialogue

Participants: Resonac CSO/CRO Tomomitsu Maoka; Crasus Chemical Representative Director and President Hirotsugu Fukuda; Board Director, Corporate Officer, Representative of Oita Petrochemical Complex Nobuyoshi Yamada
Aim: Raise expectations for the future growth of both Resonac and Crasus Chemical by holding a discussion between members of Crasus Chemical, an independent entity that has started deliberating the partial spin-off, with Resonac's CSO

• Keywords of the dialogue

Background to the commencement of the deliberation on the partial spin-off	Shareholder perspective, investment in R&D and facilities in the olefins and derivatives business
Progress with preparations for establishing a new company	Steady progress with preparations for governance, organizations, IT systems, and other tangible aspects Active participation in the ASU Project, joined voluntarily by young and mid-level employees
Confidence in the operation of the "unstoppable petrochemical complex"	Maintenance and operation technologies developed over many years of operating the petrochemical complex combined with the latest IoT and smart solutions
Striving to become a green industrial complex	Promoting the realization of carbon neutrality through R&D of new technologies via industry-academia collaboration

Resonac's R&D

See the"R&D"website for additional information.

Masato Fukushima
Chief Technology Officer (CTO)

Value Nurtured by Co-creation and a Sustainable Future

The evolution of Resonac's R&D is driven by the two wheels of "cheerful challenges" taken on without fear of failure and the "solid results" that come from them. Each individual demonstrates their expertise and freely exchanges ideas to create new value. I like this culture and want everyone to empathize more.

In recent years, industrial structure and social issues have become increasingly complex, so it is more difficult for a single company to solve them alone. In this context, technology is truly valuable when we work with customers to solve problems and realize the results in the field. Through the process of co-creation, we create "usable technology" and create a path to new challenges based on trust. Furthermore, it is the mission of all of us at this chemical company to promote technological development that reduces environmental impact and aim for carbon neutrality. We believe that challenges undertaken by each engineer will shape Resonac's future, and will link all elements such as computational science, generative AI, intellectual property, and marketing to research and development to deliver solid value to society.

An explanation! A microcosm of Resonac's R&D

Resonac's core competencies (A) consist of "Chemistry to Synthesize (materials technologies)," "Chemistry to Formulate (basic design technologies)," and "Chemistry to Think (computational science, analysis, and interpretation technology)" that supports them. By combining these competencies and utilizing and deepening our four strengths (B to E), we are able to develop products and technologies that correspond to a wide range of fields, from upstream to downstream of the supply chain. We also create practical and advanced innovations by increasing our corporate value through intellectual property strategies (F) and carefully understanding customer needs and fusing multiple technologies (G).

In the future, we will position the semiconductor and electronic materials fields as pillars of growth and actively invest and develop technologies. Even in these fields, where technological innovation must be speedy, we have established a system that can respond flexibly and quickly through co-creation both inside and outside the Company.

A microcosm of Resonac's R&D

Roadmap for Co-Creative R&D

By 2030, we aim for our co-creative R&D to drive continuous innovation and consistently deliver technologies that contribute to a sustainable society. We will continue to cultivate leaders and research professionals and advance their capabilities. Since the integration of the two companies, we have formulated strategies for our technology and talent platforms through 2024. From 2024 to 2030, we will embed these initiatives company-wide and aim to lead in addressing social issues through innovation by 2030. As a co-creative chemical company, we will expand the possibilities of chemistry, which underpins all industries, and help create a sustainable, prosperous future.

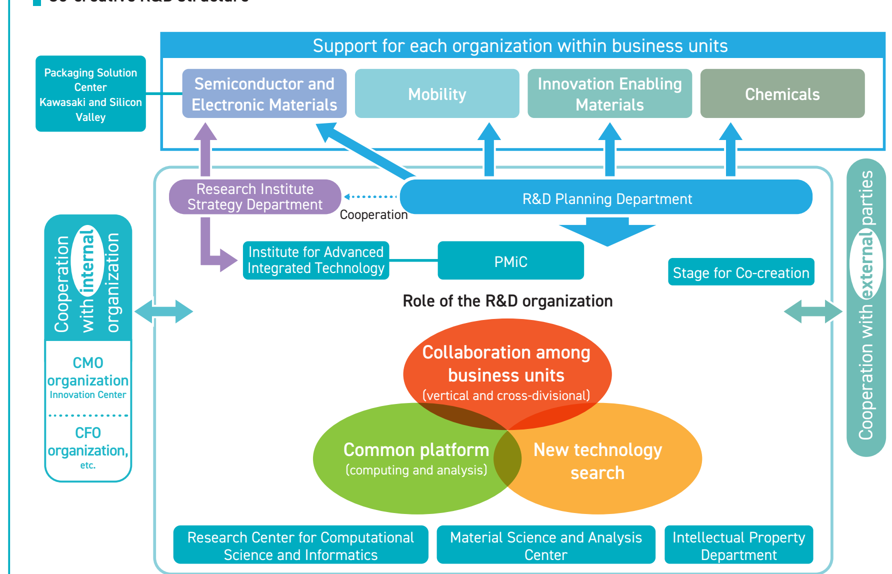
Before 2024		2024 to 2030		2030	
Technology strategy formulation Human resource platform strategy formulation	· Clarification of core technologies · Long-term trend analysis · Electronic laboratory notebook (ELN), to promote AI utilization activities	Penetration of each measure	· Establishment of technology landmarks · Develop new fields and evolve core technologies in key areas · Promote internal collaboration and co-creation · Foster ambidextrous talents in the use of AI	Enhancing core technologies Driving innovation	· Advanced collaboration centered on core technologies · Promoting new market development · 100% ambidextrous talents

Co-creative R&D system

We are pursuing co-creation across our business units and internal organizations, as well as with external stakeholders, to improve the likelihood of successful research outcomes. At our research sites, we are creating open environments where people from inside and outside the company can gather to discuss and collaborate freely. Our two core organizations—the Institute for Advanced Integrated Technology and the Stage for Co-creation—are advancing cutting-edge development in areas such as semiconductor materials, the creation of new research themes, and foundational technologies.

In addition, supporting organizations such as the Research Center for Computational Science and Informatics and the Materials Science and Analysis Center possess advanced capabilities in molecular design, AI-driven analytics, and structural analysis. These capabilities are accelerating our path from research to commercialization and enabling us to manufacture products with greater precision.

Co-creative R&D structure



A Accelerating Core Competencies

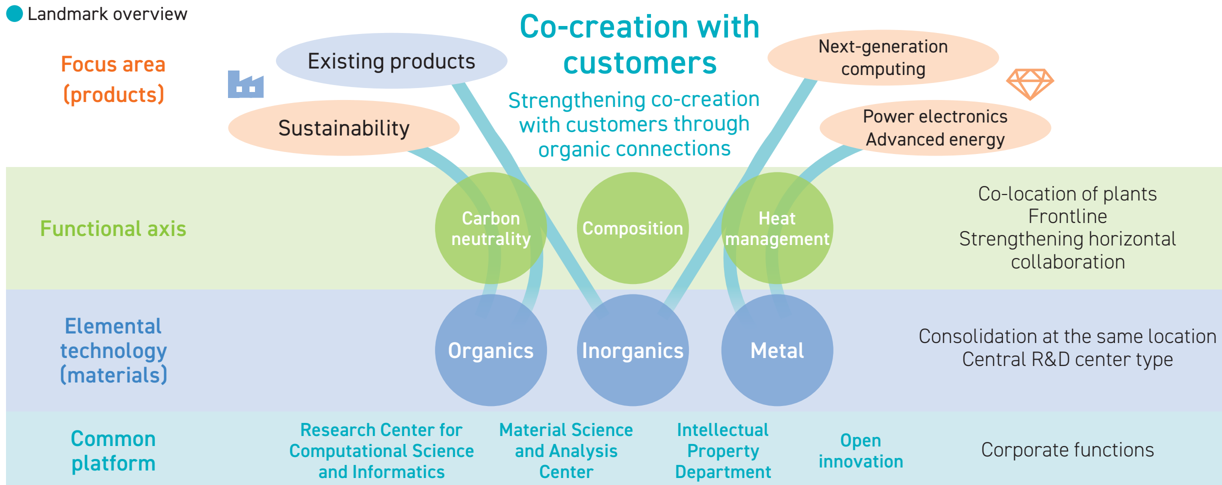
Realizing the Landmark Concept of Consolidating Elemental Technologies and Creating a Base for Co-creation with Customers

We are going deeper with the Landmark Concept, which connects elemental technologies and strengthens the network between technologies. Using the Landmark, which is based on each core competency on the common foundation, elemental technologies, and functional axes, we hope to strengthen our co-creation capabilities with customers through organic connections. This fiscal year, we are promoting the maximization of R&D functions and the realization of results, mainly through consolidating core bases for organic materials and strengthening functions in composite materials.

Purposes of Landmark Concept

- Formation of a hub and center for technology and functions
- Strengthening collaboration across functions and technologies

Landmark overview



Progress in Co-creation <Some Semiconductor-related Examples>

The Research Center for Computational Science and Informatics is an organization that integrates computational science (molecular simulation, structural and fluid simulation) and informatics (AI, MI, image analysis, natural language processing, and development of the infrastructure for data utilization) technologies at a single location. The Center's mission, as an infrastructure for all business segments, is to position Resonac as a world-class functional chemical company Here, we introduce examples and results of co-creation both inside and outside the Company.

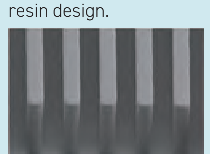
Developed low thermal expansion copper clad laminates for next-generation semiconductor packages through simulation

By applying "multiscale analysis*," a computational science technology, we clarified and developed the design guidelines for each material that makes up the copper clad laminates. We have developed this technology into a general-purpose physical property visualization system and have now introduced it within the Company.

Copper clad laminates for next-generation semiconductor packages

Developed a new photosensitive film for advanced semiconductor packages

We have developed a new high-resolution photosensitive film for use in the manufacturing of advanced semiconductors, such as AI processors. In the development process, co-creation was carried out by four business units. In this development, we utilized AI technology provided by the Research Center for Computational Science and Informatics to perform optimal resin design.



Resist pattern (resist line width 1.5 μm / wiring pitch 1.5 μm)

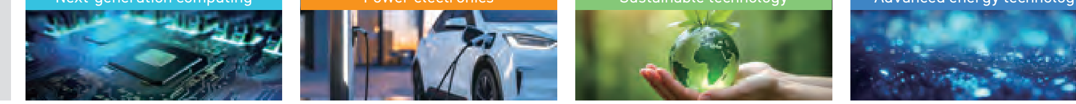
Accelerating semiconductor materials development with AI-based cutting-edge simulation technology

We have introduced a new neural network potential technology that combines first-principles calculation method and AI for the first time to simulate the semiconductor circuits polishing mechanism using CMP slurry. This technology will help clarify the behavior of complex materials, thereby leading to the rapid creation of new materials.

*An analysis that couples the physical properties or behaviors of structures at different scales.
By homogenizing the material properties of composite materials made from multiple heterogeneous materials, it facilitates understanding of the overall behavior of composite materials.

B G Linking New Field Exploration Focus Areas with Marketing Strategy

Resonac has identified four strategic focus areas for new growth—next-generation computing, power electronics, sustainable technologies, and advanced energy technologies—based on their fit with our business portfolio and their future market attractiveness. Through close collaboration between Marketing and R&D, we match market needs with our technical capabilities, accelerating the cycle from ideation to concept validation.



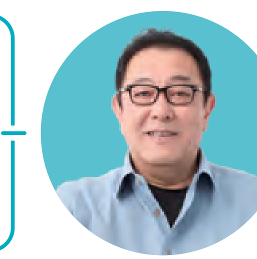
New field exploration focus area	Next-generation computing	Power electronics	Sustainable technology	Advanced energy technology
Subdomain examples	✓ Next-generation semiconductor technology ✓ Non-von Neumann type computers	✓ Next-generation heat management materials ✓ Next-generation packaging solutions	✓ Bio-based materials ✓ Next-generation mobility materials	✓ Energy generation and storage technology ✓ Clean nuclear energy

To turn proposals into formal research themes, ideas are sourced from Marketing insights and staff proposals within the focus areas, then developed into projects with appropriate resource allocation. Next, we hold a Theme Proposal Review to assess the proposal and validate the business model. We also upskill staff through training programs, and advance only those themes with a high probability of success that are jointly endorsed by Marketing and R&D.

Flow toward the development of a theme

	1 Idea creation	2 Concept verification	3 Feasibility verification
Point of activities	• Marketing in focus areas • Proposals from staff • Resource optimization through project development	• Overview at new theme proposal meeting • Business model verification • Marketing educational program • Improve staff levels by using project management and educational programs • Themes are developed for projects that have been agreed upon by the marketing and R&D organizations as being highly feasible	

Resonac is promoting problem-solving marketing close to the needs of customers, combining multiple products and technologies to solve customer issues. Meanwhile, in the long term, we would like to create new business ideas in fields other than semiconductors and mobility. That is why our marketing and R&D departments are currently holding repeated discussions in new theme review meetings, examining possibilities for new business ventures in advanced energy and environmental fields. We hope to eventually involve each business unit in this system, making it a company-wide effort.

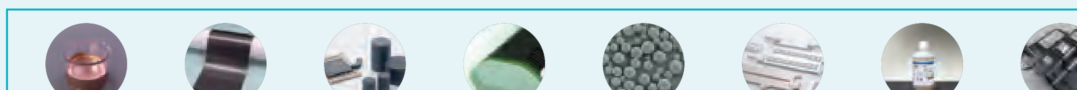


Shigeru Fujita
Chief Marketing Officer (CMO)

Accelerating the development of heat management materials through mounting and evaluation of power devices and cutting-edge semiconductor packages for automotive and data center applications

In electronics, heat management of power devices and semiconductor packages is especially crucial. Heat generation in devices leads to the deterioration of elements and junctions, reducing reliability. Efforts to minimize energy loss and designs to effectively dissipate generated heat are required, with advanced thermal conductivity and insulation of materials being particularly crucial. These heat management measures need to be optimized not only through circuit design but also in collaboration with materials development. We promote materials development through device assembly, evaluation, and analysis tailored to our customers' specifications.

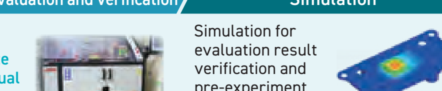
Development of heat management materials through mounting and evaluation of semiconductor packages and power modules



Optimal combination of materials and components that deliver performance

Prototyping and mounting → Performance evaluation and verification → Simulation → From 2025 Conduct evaluations jointly with customers

Powered on and measured in a state that simulates actual use



Simulation for evaluation result verification and pre-experiment prediction

Improving properties through heat management

Accelerating the customer co-creation cycle

Resonac's R&D

C Promoting a R&D Ecosystem by Utilizing Open Innovation (OI)

We are building an R&D ecosystem that maximizes the use of external resources worldwide, from extensive collaboration with external research institutes to partnerships with university laboratories and start-up companies, in order to promote technological development. This will help create new value that leads the way in areas such as innovative materials, carbon neutrality, thermal management, digital transformation (DX), evaluation, and process technology, and contribute to a sustainable society.

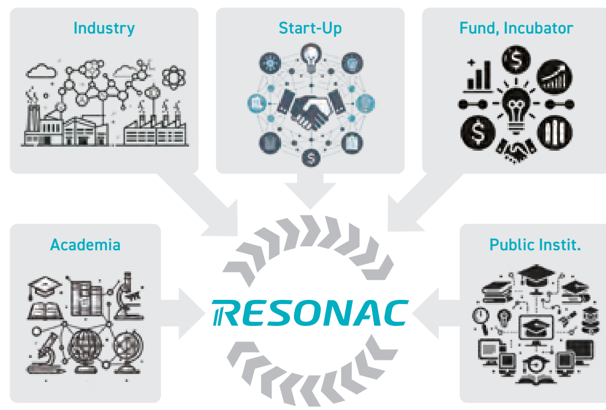
Make maximum use of external resources, from comprehensive collaboration with external research institutions to collaboration with university laboratories and start-up companies

Innovative materials

Magnetic particles for high-frequency applications
Particle surface treatment technology
Heat storage and utilization system for use on the lunar surface
High refractive index polymer
High adhesion polymer

Carbon neutrality

Synthetic gases to olefins
Bio-based aromatic chemistry
Research on CO_2 conversion catalysts
Innovative CO_2 separation
Plastic decomposition using microwaves
Gas separation membranes



Heat management

Heat diffusion evaluation of thermally conductive filler
Thermal characteristic evaluation of filler complexes
Spin caloritronics
High thermal conductivity polymers

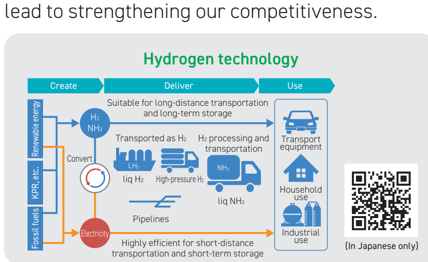
DX, evaluation, process technologies

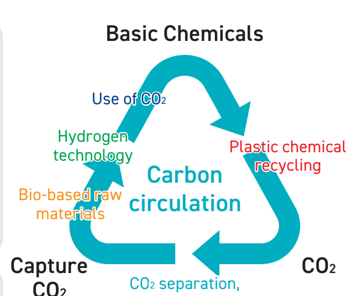
Data-driven analysis of polymers
Digital twin of mass production process
Polymer informatics
Synthetic real-time monitoring
Magnetic characteristics evaluation of recording media
Seamless microfabrication technology

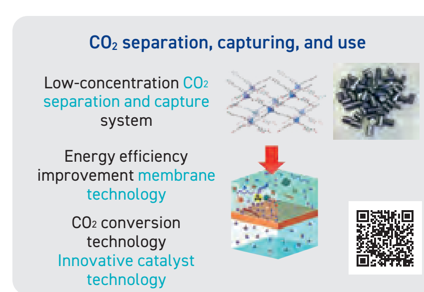
E Identifying Themes of Socially-Driven Issues (Carbon Neutrality, Digital Transformation)

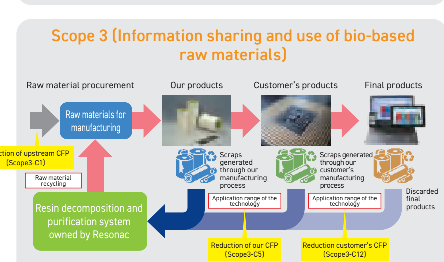
We aim to achieve carbon neutrality by 2050, and are contributing to the transition to a society that uses non-fossil-based raw materials and hydrogen. Specifically, we are promoting initiatives through industry-government-academia co-creation and collaboration, such as technology to manufacture basic chemical raw materials from waste plastic using microwaves, technology to utilize ammonia and hydrogen, CO_2 separation, capture, and utilization technologies, and CO_2 emissions reduction throughout the entire product life cycle, expanded to Scope 3.

As for digital transformation, we are focused on the advancement of AI semiconductor materials. AI semiconductor materials realize dramatic improvements in computing performance and power efficiency. Creation and implementation of innovative materials is essential as a basic technology that will play a central role in the next generation of AI, and we will focus on this as an important area that will directly lead to strengthening our competitiveness.





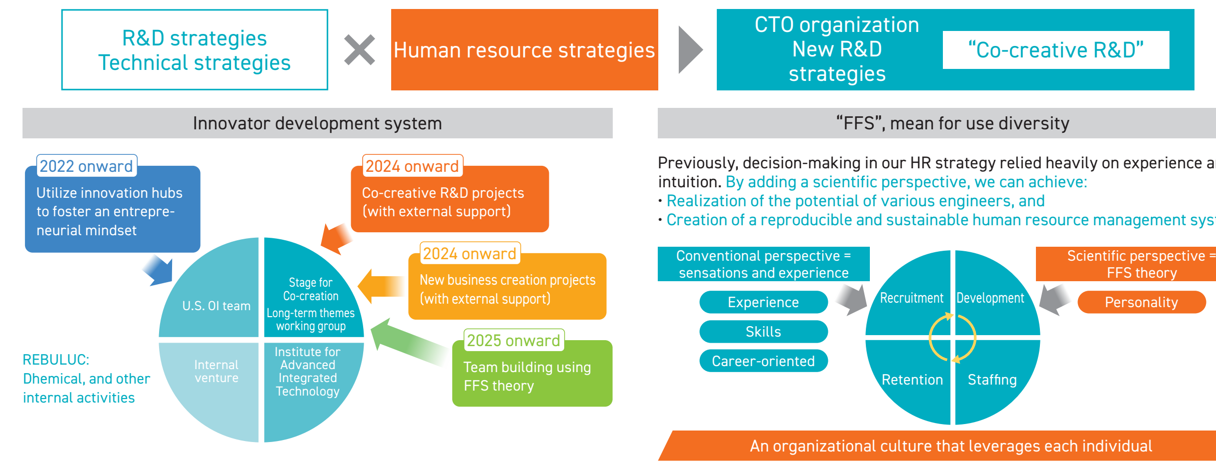




D Human Resource Development that Creates Chemistry to Synthesize, Chemistry to Formulate, and Chemistry to Think

We have set a new R&D strategy that combines research themes and technology strategies with human resource strategies, and are working to build a training guideline that understands and develops the diverse personalities of our engineers. We aim to develop diverse and outstanding professionals by actively using training plans and personnel exchanges that are suited to each individual's personality and career plan, as well as study abroad and dispatch to universities and external institutions. In addition, we foster an entrepreneurial mindset and promote the development of innovators through new business creation projects and innovation process experience programs . Furthermore, we are focusing on creating a culture and system that makes the most of personality, and are working to improve both individual and organizational performance. For example, we are also conducting FFS diagnosis in the CTO organization, and from 2025, we started building teams using it. P63

To realize co-creative R&D, we will push forward with the design of human resource diversity and a system to utilize it



R&D personnel use computational science and informatics like air

We will train researchers who have a high level of expertise and can autonomously select and utilize computational science, AI, and data science (DS) as one of the research and development tools. By effectively using computational science and informatics tools with specialized domain knowledge, we will further accelerate research and development. Ultimately, we will ensure that researchers use computational science and informatics like air.

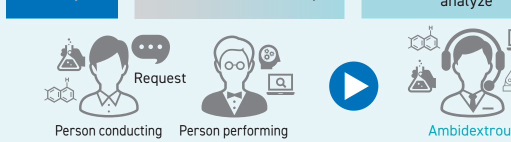
What a researcher should be like in 2030

• Highly specialized professionals
• Free use of computational science and informatics (as research and development tools)

100% ambidextrous talents in the R&D center by 2030

Strategy and vision for strengthening computational and informatics skills

Processes	At present	Future (2030)
Theoretical analysis (first time only)	Theoretical analyst uses software to perform analysis	Theoretical analyst uses software and AI to perform analysis
Lab verification	Researcher conducts experiments	DS talent uses robotics
Data assetization	DS talent stores data	DS talent uses AI to collect and organize
DS analysis	DS talent uses MI to analyze	DS talent uses MI and AI to analyze



Legend: Conventional | Ambidextrous

▶ See here to learn about the members of our in-house community REBLUC P22 / How Far We've Come! Fostering Resonac's Corporate Culture

Resonac's R&D

F Co-creative intellectual property strategies

Naotake Ota
General Manager, Intellectual Property Department

To achieve our purpose of "Change society through the power of chemistry," we are promoting a dual-purpose strategy of exclusivity and co-creation based on three principles: (1) Proactive IP: accelerating value creation through proactive IP activities, (2) Fascinate with IP: disseminate intellectual assets that contribute to realizing our Purpose in the right place at the right time, and (3) Reliable IP: protecting and guiding our business through an IP landscape and IP management platform.

In 2025, we organized a Corporate Value Enhancement Committee within the Intellectual Property Department to update our efforts to date and accelerate our IP portfolio reform. By 2028, we aim to reach the top tier globally in PatentSight's TR and MC within the functional chemicals field, contributing to the enhancement of corporate value originating from our intellectual property.

Before 2024

- Analyze the synergistic effects of the integration of the two companies through the IP landscape and report to the management
- The proportion of our international patent applications rose to 52% (compared to the overall applicant average of 39.5% according to Japan Patent Office data)
- Established the Fascinate with IP initiative to actively disseminate intellectual property-related information externally
- Support the promotion of intellectual property strategy by strengthening the foundation of our intellectual property management system (SWIPS)

2025

- Establishment of the Corporate Value Enhancement Committee
  Set annual targets and manage progress for the following activities
  — Build a value-creation foundation linked to R&D and business strategies
  — Implement measures to increase competitive advantage and presence
  — Vitalize innovation creation activities
- Restructuring the organization to execute IP strategies aligned with business strategies
- Strategic development of intellectual property ownership and contract frameworks in co-creation activities such as US-JOINT
- Expansion of the internal use of IP landscape across departments
  Use for exploration of themes and co-creation partners up 2.8x year on year

2026 onward

- Accelerate co-creation to establish intellectual property superiority over competition
- Expand our strong patent portfolio, including in overseas markets, aiming to rank in top tier for TR and MC in key technology areas of functional chemicals (TR>1.2, MC>1.0)
- Innovation in intellectual property operations and governance through the use of generative AI
- Redefine intellectual property skills and talent for the new era
- Visualize business contributions through effective use of intellectual property, including exercising, leveraging, and monetizing rights

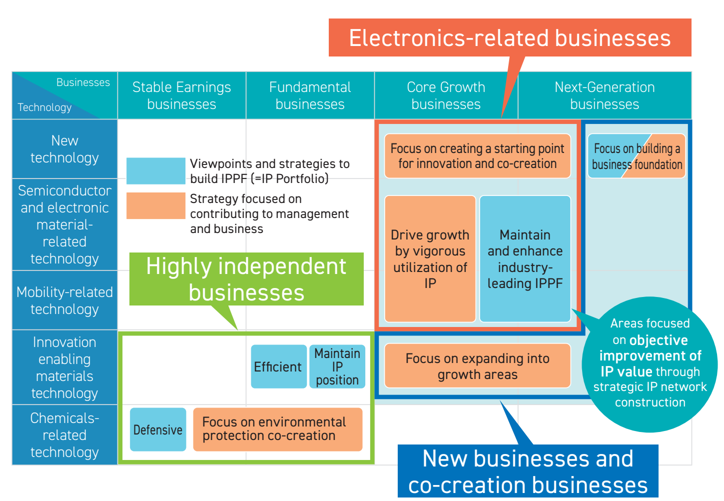
Intellectual Property Strategies to Increase Corporate Value

We categorize our organization into three areas based on a matrix with technology areas on the vertical axis and portfolio attributes (stable earnings businesses / foundational businesses / core growth businesses / next-generation business areas) on the horizontal axis, and we pursue the optimal approach tailored to the characteristics of each area.

Highly independent businesses	: Building barriers to entry with a multi-layered patent network that focuses on cost efficiency based on differentiated technologies
Electronics-related businesses	: Overseeing the entire supply chain, we execute a dual intellectual property strategy combining exclusivity and co-creation
New businesses and co-creation businesses	: Use intellectual property as a catalyst to facilitate an influx of partners, allowing for market development and risk diversification

We have assigned IP Designers to serve as hubs in the field. IP designers' mission is not only to obtain patent rights, but also to visualize the market, competitors, and customers in the IP landscape, and to design application strategies, contract structuring, and business schemes in a seamless manner. They aim to create a direct connection between intellectual property and business by working with business units to provide intellectual property solutions that push up EBITDA and support their growth stories. In the future, we plan to develop a program to systematically train IP Designers that possess strategic thinking, financial knowledge, and negotiation skills. By producing talent in such a systematic manner, we also aim to strengthen our competitive advantage in terms of human capital.

Furthermore, we are undertaking initiatives that are expected to contribute financially, while also creating new technologies and businesses that solve social issues, such as the patent license agreement with Shimadzu Corporation and the partnership with PulseForge. By communicating the results of this "IP-driven co-creation" to society, we will demonstrate the contribution of our IP strategy to enhancing corporate value.



Signed patent license agreement with Shimadzu Corporation

Partnership with PulseForge

Initiatives to Improve Intellectual Property Value

We position intellectual property as a "strategic asset that generates future cash flow" and continuously monitor TR (technology relevance) and MC (market coverage) from LexisNexis's PatentSight* as our core KPIs. TR and MC are calculated based on the number of citations and the number of countries where applications are filed, objectively demonstrating how widely our intellectual property covers the market and establishes technological advantage.

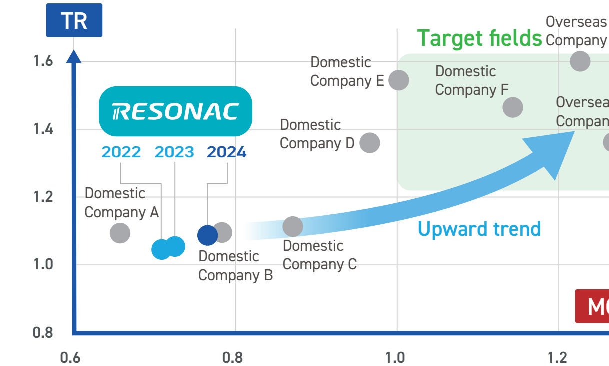
We have strengthened our market advantage and technological leadership by globally obtaining rights to our research and development results in an "early, multifaceted, and layered" manner, conducting quarterly TR and MC reviews, and dynamically inventorying low-value-added patents. As a result, TR and MC have steadily increased since 2022.

In semiconductor materials, our Competitive Impact (CI), calculated as TR × MC, has also improved significantly. The improvement in CI indicates that: (1) our patent network establishes exclusivity exceeding industry benchmarks, (2) we have built a global patent network covering key markets, and (3) strengthened barriers to entry allows us to expect sustained margins in the medium to long term.

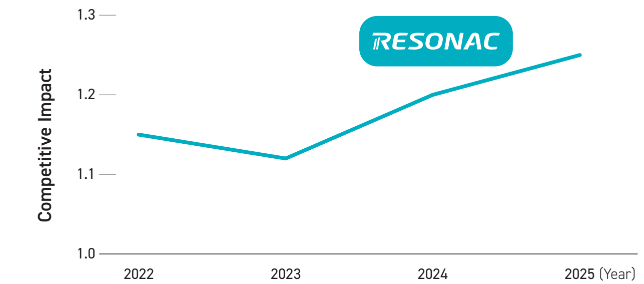
Our goal is to raise TR and MC to a globally top-tier level in the functional chemicals field by 2028, and to accelerate the creation of free cash flow and sustainable profit growth originating from our intellectual property. Through a robust IP network and portfolio optimization, we will clearly demonstrate the enhancement of long-term corporate value with continuous numerical disclosure and performance reporting.

*"PatentSight" is a registered trademark of PatentSight GmbH in Japan and other countries.

Improvements in the Technology Relevance (TR) and Market Coverage (MC) of the patent portfolio and target areas



Trend in indicator of competitiveness in the semiconductor-related field



*Competitive Impact (CI) is an evaluation of valid patents using the LexisNexis patent database, being an indicator of the competitiveness and quality of a patent family. Calculated based on the TR and MC of each patent. (CI = TR × MC)

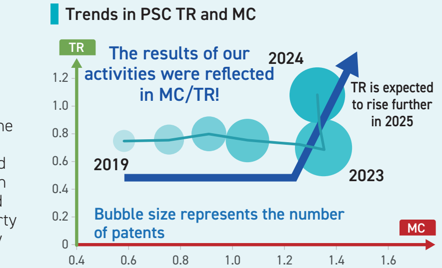
Example Intellectual property supporting business strategy: PSC: Packaging Solution Center

The Packaging Solution Center (PSC) works to create value by formulating intellectual property measures that are linked to our business strategies from the early stages of research and development. In PSC, we have equipment and lines equivalent to mass production processes that enable prototyping of semiconductor packages, allowing researchers and developers to immediately incorporate customer needs and conduct demonstrations. This enhances technical reliability and steadily increases our market presence and the speed of co-creation with customers.

In addition to traditional acquisition of IP for the purpose of exclusivity, PSC is actively promoting the acquisition of IP centered around co-creation. Patent portfolios reflecting the customer perspective expand the points of co-creation, strengthen our technological capabilities and brand recognition, and contribute to establishing a corporate position where we continue to be chosen. For example, through co-creation with customers, we pioneered the theme of moisture absorption in the industry, patented it*, and achieved high ratings (TR 13.9, MC 1.7). The assessed value of PSC-related intellectual property has increased year by year as a result of these initiatives. We are expanding our intellectual property portfolio as a source of competitive edge that create future cash flows.

*Patent No. 6950699

Trends in PSC TR and MC

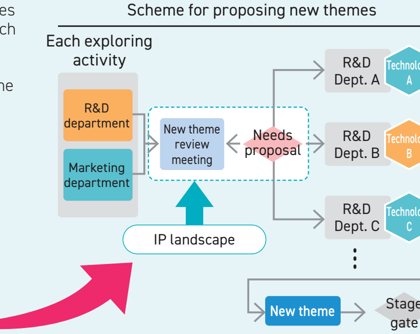


Example Proactive intellectual property strategies: Exploring needs to propose new themes using IP landscape

We are horizontally deploying our IP landscape beyond R&D to include the creation of new businesses and exploration of growth areas. When formulating new research themes, the R&D department, which drives technology, and the marketing department, which capture market trends, collaborate closely and set themes from a customer-centric perspective. By surveying global market trends, customer challenges, and competitor technologies through the IP landscape, we improve the accuracy of theme exploration and support appropriate decision-making.

Furthermore, we have established an environment in which all employees can use cloud-based patent research and analysis tools, normalizing the use of intellectual property information at the on-site level. This structure enables the entire organization to seize opportunities both from market and technological perspectives and quickly and flexibly translate them into value creation.

Scheme for proposing new themes



Human Resource Strategies

Please visit our website for more details on our policies, promotion system, and activities.

Nori Imai
Chief Human Resource Officer (CHRO)

Amid the rise of AI, human happiness is now more important than ever. Resonac aims to create an environment where all employees can unleash their individuality while valuing their physical and mental health, and work hard and grow together with colleagues who share the same aspirations to achieve our Purpose. We pursue happiness through physical and mental health, connections with colleagues, and a sense of accomplishment, which ultimately leads to sustainable business growth and the enhancement of corporate value.

The basis for this is the implementation of the Purpose and Values we introduced in 2022. At Resonac, all employees come together to create a culture of co-creation unique to Resonac through the combination of quick wins and self-driven activities. This year's theme is the (further) implementation of value-based co-creation. In today's fast-changing world, we need to take swift action. We will continue to hone our mindset of "just give it a try!" and continue taking on new challenges.

Schedule for the implementation of personnel measures

2023	2024	2025	2030
■ Preparations for introducing new human resource system ■ Consideration of framework for early selection of core management personnel ■ Start the introduction of talent review ■ Creation of CxO/BU leader succession plan (implemented outside the system) ■ Start the introduction of co-creative leadership training ■ Start the introduction of training sessions to bolster the co-creative collaboration capabilities	Business Integration ■ Integration of personnel systems (Japan) ■ Introduction of new human resource system (mainly in Japan) ■ Selection and development of candidates for core management personnel (Japan) ■ Implementation of succession planning / talent review (Japan) ■ Implementation of co-creative leadership training (Japan) ■ Implementation of training sessions to bolster the co-creative collaboration capabilities (Japan)	■ Global development ● Introduction of global grades ● MBO unification ● Selection and development of candidates for core management personnel ● Succession planning / talent review ● Implementation of co-creative leadership training	2025 - ■ Expansion and establishment of global measures ■ Trials of new measures in Japan Ideal state ■ Global development ● Ensuring the right person is in the right position on a global scale ・Global internal recruitment system ・Strategic rotation, etc. ● Optimization of global personnel system ● Acceleration of delegation of authority to managers

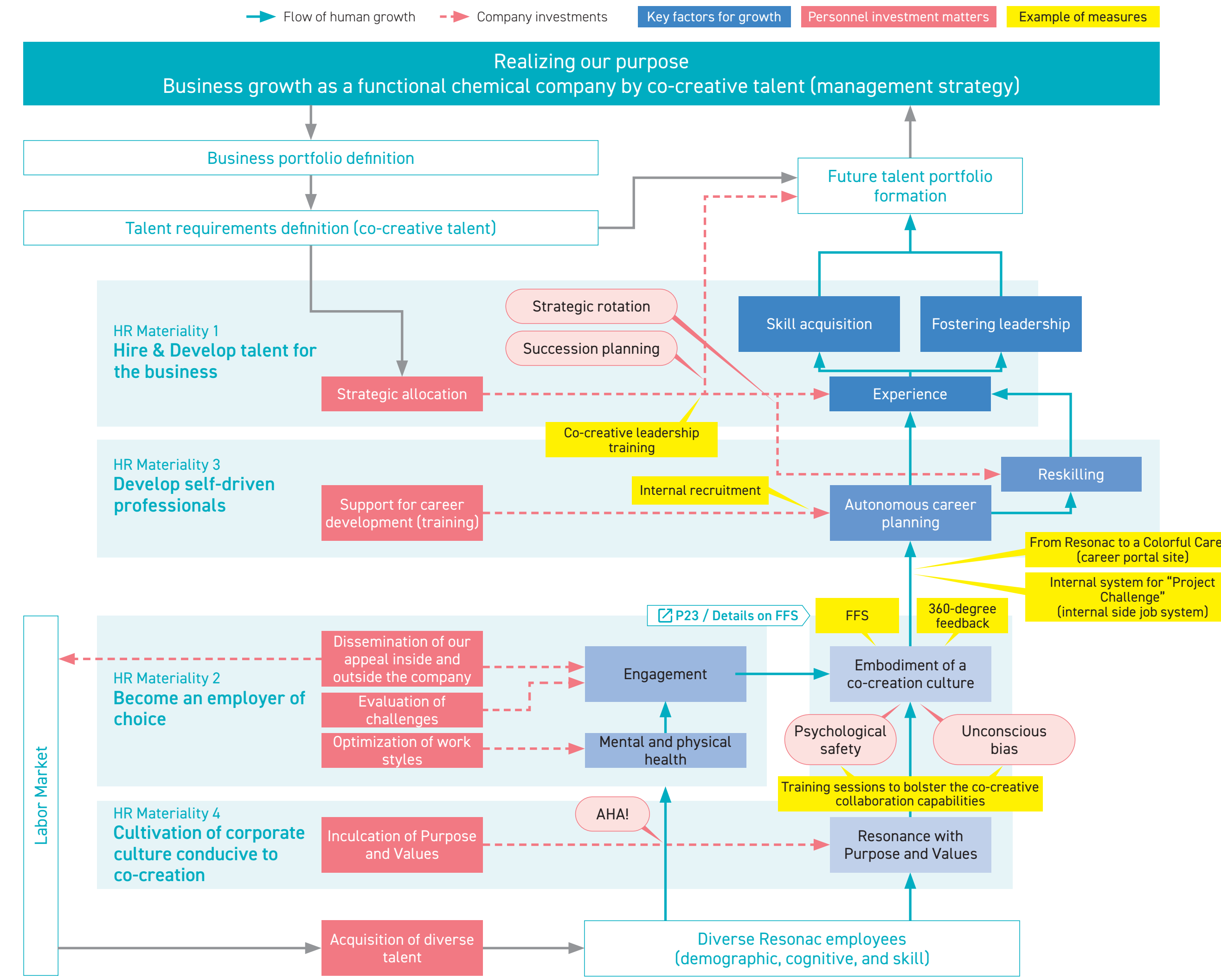
Key KGIs and KPIs that measure the progress with measures to address material issues for human resources (other items, 2025 targets, and 2024 results are provided on P126)

Composition	Key items (KGI/KPI)	2023	2024	2025 (targets)
Hire & Develop talent for the business	Future talents Portfolio formation	First target division formation	Formation for two target divisions	Portfolio formation for target divisions
	Succession planning readiness rate	135%	142.7%	150%
Become an employer of choice	Employee engagement score	54%	57%	Improved year on year
Develop self-driven professionals	Percentage of line managers who participated in co-creative leadership training	70%	87%	90%
Cultivate corporate culture conducive to co-creation	Purpose and Values implementation survey score	Purpose implementation: 48% Values implementation: 51%	Purpose implementation: 57% Values implementation: 67%	Purpose implementation: Year-on-year improvement Value implementation: Year-on-year improvement

Resonac's human capital management model

With the aim of growing our business as a functional chemical company, we are fostering co-creative talent that create and provide new functions. By formulating a human capital management model linked to our four material issues for human resources and implementing various measures to address them, we will develop co-creative talent to realize our Purpose.

Based on our four material issues for human resources and "fostering autonomous and creative human resources and cultivating the associated corporate culture," one of our material issues for sustainability, over the long term, we will create an organization that creates co-creation talent, and in the short to medium term, we will implement measures to foster co-creative talent to realize growth as a functional chemical company.



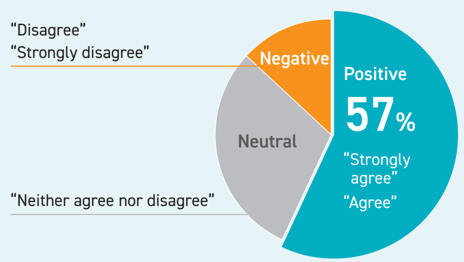
Utilizing employee feedback in management!

Engagement survey 2024

Every year, Resonac conducts engagement surveys focused on listening to employees' voices in a timely manner and utilizing them in management through various measures. In the survey conducted in 2023, positive response rate of the engagement score was 54%, but rose to 57% in the 2024 survey.

While there have been improvements in the figures for "career development support" and "workplace environment/psychological safety" (for reference: 51% in 2021), further efforts are needed for "management's response to employee feedback" and "work process," as there have been few improvements in these items and employees' actual feelings are not reflected in the figures.

Engagement score 2024



Number of respondents
21,735
Target
24,574
Response rate
Approx. **88%**
(up 5 pts from the previous survey)

Response rate
2021 63% ▶ 2023 83% ▶ 2024 88%

Engagement score
2021 54% ▶ 2023 54% ▶ 2024 57%

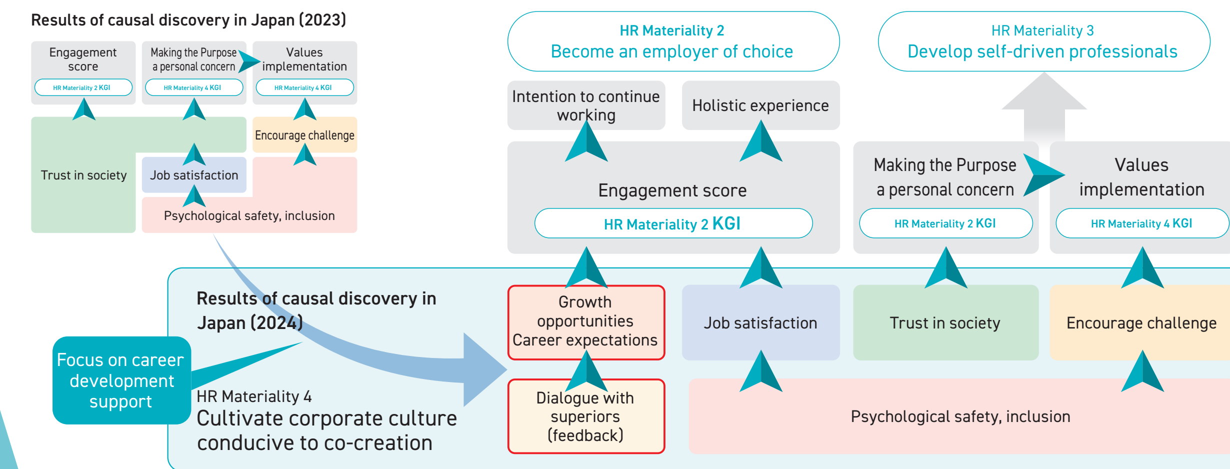
Priority issues	Survey topics	Proposed actions for improvement in fiscal 2023	Specific measures	Positive response rate		
				Fiscal 2021*	Fiscal 2023	Fiscal 2024
Communication	Management's response to employee feedback	· Disclose the results of various surveys and the decisions based thereon to survey participants	Report the engagement survey results to employees and communicate the results via LINE	43%	44%	44%
	Expectations for positive change fueled by survey results	· Disclose progress with groupwide/departmental action plans to improve engagement	Consider implementation of actions for improvement at each workplace (1,129 cases across the Resonac Group)	23%	46%	45%
Career development	Meaningful discussions between employees and managers about one's own career development	· Provide support for improving communication skills as a co-creative manager	Start rolling out 360-degree feedback for managers and co-creative leadership training overseas, conduct one-on-one training	44%	45%	52%
	Receiving feedback that helps employees improve the quality of their work	· Build a corporate culture that praises co-creative change and improvement activities		48%	48%	51%
	Expectations toward achievement of overall career goals	· Expand career autonomy support system for employees	Launch a career portal site on the company Intranet, conduct rank- and age-based career training, external career consulting	54%	55%	57%
Work processes	Work processes that maximize employee productivity	· Build a corporate culture that praises co-creative change and improvement activities · Streamline cross-CXO/BU work processes	Promote AHA! activities, publish tips for improving communication on the CEO blog, start operation of the Work Improvement Ideas Box, and review/reduce work issued by the CXO	32%	39%	40%
Workplace environment	Collaboration between people working together to get a job done	· Create an organizational culture where psychological safety is ensured and individuals are respected	Develop training on psychological safety through training sessions to bolster the co-creative collaboration capabilities	72%	76%	77%
	Psychological safety (composite index)			51%	60%	61%

* As 2021 was before the merger of the former Showa Denko and the former Hitachi Chemical, survey items differ from those in 2023 and beyond. These numbers have thus been provided for reference only.

Analyzing causal relationships with engagement surveys and moving on to the next step

Causal discovery is a method of statistically inferring the relationship between factors that cause a certain phenomenon. At Resonac, we use Bayesian networks, one such method, to visually organize the probabilistic relationships between multiple elements, as shown in the figure below. We clarify the chain of causal relationships, such as "When A occurs, B is more likely to occur" or "When B increases, C also increases," and not just look at correlations, but also explore deeper connections, such as "What is the cause and what is the result?" which we then use to implement our initiatives.

Dialogue with superiors and career expectations emerged as factors resulting from career development support, one of our priority measures.



*▲: Direction of causality (Bayesian network analysis using score-based structural learning)

Based on the causal discovery of the 2023 engagement survey results, we set four companywide priorities (listed on the left), incorporated them into concrete measures, and started implementing them. For "career development support," set as one of our actions for improvement, we focused on supporting the career development of team members through measures such as introducing 360-degree feedback for managers and implementing one-on-one training. These efforts led to an increase in the positive response rates for related items. As a result, the causal discovery of engagement scores for 2024 confirmed that dialogue with superiors and career expectations were causally linked to improved engagement scores.

Additionally, the causal discovery of organizational-level engagement surveys revealed that some workplaces need to take measures for improvement in terms of psychological safety and inclusion. We have subsequently implemented such initiatives as delivering messages from site managers and other members of the management team through videos and other means. From 2025 onwards, we will also focus on work engagement measures to ensure that our employees can feel job satisfaction.

Going forward, we will not only continue to verify the effectiveness of our measures, but also analyze the causal relationships obtained, grasp the current situation, and make predictions, so that we can plan and implement effective measures that are backed by data, rather than simply carrying out ad hoc measures.

Utilizing Generative AI to Improve Engagement

At Resonac, we are developing our own AI tool to help on-site managers interpret engagement survey results as they move to take concrete action.

This tool will realize the verbalization of the difference between managers' perception of their organization and the state of the organization as determined by the AI. By utilizing this tool, organizations will be able to take more effective action by approaching their issues using an objective AI perspective.

We have now created a prototype and are in the user testing stage. We are making preparations with an eye to implementation in fiscal 2026 onwards.

We are developing tools that use generative AI to support problem-solving within each organization. We will continue to carry out initiatives to further improve engagement!

Naoya Koda
Culture Communication Department

Our Current Priority Measures

FOCUS (1) Understanding individuality and using it in management! Team building using FFS theory

More than 4,000 individuals have completed FFS (as of July 2025)

Resonac uses FFS (Five Factors & Stress) theory to promote the creation of teams in which each individual is aware of their unique personality and is able to leverage their strengths (See page 23 for more details on FFS theory). To date, we have conducted workshops at the organizational level that incorporate FFS theory during junior training, helping employees to understand diversity and apply it to their work. Therefore, we are utilizing the strengths of FFS theory, namely the quantification of individual behavioral characteristics (personality) and the design of relationships that takes individuality into account, to build a system that considers individuality in organizational management, which tends to rely on experience and intuition.

Case study: Use of FFS theory in the R&D field

In May 2024, the CTO organization responsible for R&D conducted an FFS diagnosis for all employees within the organization. Employees then created self-understanding sheets based on the results, which they then shared with each other and held workshops where they could provide feedback to one another. We hope that by understanding that their own tendencies and unconscious communication can cause stress to others, our employees will be able to communicate in a way that respects and makes the most of each other's individuality.

We have also developed FFS trainers within the CTO organization, and have co-created and launched a program in collaboration with an external company in which the trainers taking the lead in using FFS theory as a tool to support organizational management.

Head of each organization will formulate training plans that take into account the individuality of their subordinates and implement communication with an awareness of FFS theory. It is a program designed to enable participants to share their realizations with other participants, thereby broadening and deepening their practical knowledge.

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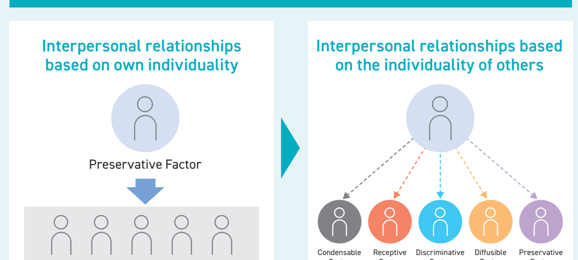
These are the effects we're aiming for!

What we expect from FFS theory is to scientifically examine the quality of relationships. While this initiative is still in its early stages, we are seeing an increase in people using FFS theory when introducing themselves. This makes me feel that people are showing interest, which is a positive sign.

Feedback from organizers

Satoshi Yamaoka
Research Institute Strategy Department

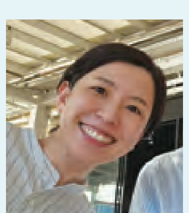
The accompanying support program provided by an external company was conducted for 14 participants, mainly head of organizations, with the aim of establishing reproducible management with a scientific perspective.



Program satisfaction: **4.7** / 5.0 (5: 10 persons / 4: 4 persons)

Would you recommend the program to other managers? **4.5** / 5.0 (5: 9 persons / 4: 3 persons / 3: 2 persons)

Use FFS theory as a tool to identify individuality → Understand the individuality of subordinates → Formulate training plans for subordinates → Execution of training plans



Feedback from participants

Maki Yamada
Institute for Advanced Integrated Technology

At first, I couldn't imagine a specific use for FFS theory, and felt that it might be used to classify people. Taking this program helped me understand that it's an effective tool in team building to improve team performance. Understanding of FFS theory has deepened within the team, enabling members to respect each other's individuality and create synergies.

FOCUS (2) Understanding Resonac's values and reflecting them in our actions! Ramping up leadership training on a global scale

90% of all managers have completed training on a global scale

We are implementing common global training measures to ensure that our line managers around the world understand Resonac's Values and reflect them in their day-to-day conduct as management. The core programs are co-creative leadership training and training sessions to bolster the co-creative collaboration capabilities.

In co-creative leadership training, managers learn the knowledge and skills necessary to effectively set goals, hold one-on-one meetings, and provide feedback and coaching to support the growth of their subordinates. The training focuses on how to utilize management by objective (MBO), on-the-job training (OJT), and on strengthening communication with subordinates. We also implement train-the-trainer (TTT) programs for HR overseas. More than 90% of managers have already completed training.

In training sessions to bolster the co-creative collaboration capabilities, the aim is to acquire fundamental skills to enhance team collaboration, such as bolstering their ability to provide psychological safety, understanding unconscious bias, improving communication skills, active listening skills, and facilitation skills.

Furthermore, as a follow-up measure to complement these training programs, we have developed original workshops that enable managers to reaffirm the essence of our Values and their connections to behavior, and to incorporate them into behavioral growth targets. Behavioral growth targets are targets set with the aim of achieving behavioral growth based on values of a company, and are a mechanism for achieving both individual growth and the instilling of organizational values.

Through this series of initiatives, we aim to promote the implementation of value-based management to foster a co-creative organizational culture on a global scale.

By participating in the TTT program, I was able to not only improve my facilitation skills, but also gain experience in localizing the global training program to suit the circumstances of my country. I am proud to have been able to support growth rooted in on-site operations by linking Resonac's values with employees' daily work. I hope to continue contributing to local human resource development and sustainable development through learning opportunities.

Ms. Candy Tan
Resonac Asia Pacific

Dr. Napattaramon Phalaphon
Resonac Materials (Thailand)

FOCUS (3) Mechanisms to further encourage autonomy: internal recruitment and project challenge

As a measure to foster an awareness of career ownership among employees and to provide opportunities for them to build their own careers independently, we have been operating an internal recruitment system since 2022, which allows employees to volunteer for transfers.

Furthermore, to encourage employees to take on new challenges, we have begun operating an internal side job system (project challenge system) that allows employees to participate in projects in other departments for a certain period of time while continuing their current work. This provides employees with an opportunity to demonstrate their hidden potential, while also encouraging them to pursue the growth opportunities and career autonomy they want.

	2023	2024
Number of successful internal job postings	80	108
Co-creative leadership training participants	1,448	1,754
Training sessions to bolster the co-creative collaboration capabilities	1,172 (In Japan only)	641 (Japan: 369; Overseas: 272)

"From Resonac to a Colorful Career" has reached 100,000 views in less than a year since its launch! We want everyone who works at Resonac to enjoy their own unique career journey...! To this end, we will continue to provide opportunities for employees to think about and discuss their careers, and take on challenges with an eye to the future!

Miki Mochizuki
Organization & Talent Development Group
Human Capital Management Department

Learn About the Various Careers at Resonac!

From Resonac to a Colorful Career

In 2024, we launched an internal career information website "From Resonac to a Colorful Career." We share various career-related information, mainly through interviews with employees who work enthusiastically based on their own principles and preferences. Introducing the career histories and values of various employees in this way provides an opportunity for viewers to think about their own careers.