

CTO Roundtable with Young Researchers

Creating Innovation through Co-creation and Synergy while Leading Resonac as It Competes on the Global Stage

(From the left of the photo)

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Shared language required for co-creation and synergy

Fukushima: Resonac aims to achieve innovation and business development capabilities that contribute to a sustainable global society. Innovation does not necessarily have to be destructive. When we look at what we have accumulated so far from a different perspective, or when we add something like beauty to a certain function, it can suddenly turn into innovation. As a chemical manufacturer, we want to create important technologies for products that make end users think, "Wow, this is innovative." What do all of you think is necessary to bring about innovation?

Kakuda: I think that the ability to keep up with cutting-edge technology, the ability to incorporate what you have learned into your own technology and implement it, and co-creation are necessary. At the Research Center for Computational Science and Informatics

at the Stage for Co-creation , I mainly develop AI technology and use it to develop semiconductor materials. So far, I have managed to cut the development period by half and formulate an experiment policy using AI technology. Since the Stage for Co-creation consolidates internal research functions and domestic and overseas knowledge, I feel that it is easy for a chain reaction to occur in which innovation by AI technology leads to further innovation.

Kobayashi: At the Institute for Advanced Integrated Technology, I am currently working with development departments to develop next-generation substrate materials by utilizing the technological synergies of the former Showa Denko K.K. and the former Hitachi Chemical Co., Ltd. When it comes to synergy, I sometimes think that there is still a lack of a shared language due to differences in backgrounds. I think that a shared language involves those in charge sharing the technologies and expertise that they have cultivated thus far, and



spreads a common understanding of what must be done to create products that satisfy customers. I believe that cultivating this kind of shared understanding will lead to new discoveries and spark innovation.

Owada: I would also like to make full use of the synergy of our in-house technologies. The mission of the Next-Generation High-Speed Communications Materials Group, to which I belong, is to develop materials and technologies for composite materials that will be used in the telecommunications field in the 2030s. We are co-creating with the Analysis Center for

Materials Science and the Research Center for Computational Science and Informatics from the perspective of establishing analysis methods and predicting properties through simulations. I sometimes think that a shared language would increase the speed of sharing each other's cultures and improve the speed of R&D.

Mameda: I believe that understanding customer needs is essential for innovation. I am in charge of an internal collaboration theme that deals with the development of low-thermal-expansion resins that aim to reduce the warpage of copper clad laminates. In the development theme that I was in charge of before, I regretted that I might not have fully grasped the needs of external customers. Currently, there are related parties and customers in the company, which makes it easier to understand customers and their future needs. In order to deepen mutual understanding, we are promoting hands-on and face-to-face initiatives, such as creating data sharing sites with our partners and receiving two-week practical training at our partners' locations.

Fukushima: With the merging of the former Showa Denko K.K. and the former Hitachi Chemical Co., Ltd., there should be opportunities to create new innovation in the process of understanding each other's cultures and finding inspiration to create one single culture. To that end, how we go about creating a shared language is both important and challenging. I believe that establishing a shared language starts with discussing the needs of customers and society and what we must do to meet them.



Synergy starts with real communication

Kakuda: In order to deepen discussion, I feel that it is important to connect key people. In addition, I think it is important to connect others with your own abilities and knowledge.

Kobayashi: I feel the same way. When I think about co-creation and synergy, I feel that although connections are currently being formed between divisions, there is still a lack of people who truly understand each other's positions and act accordingly. Resonac possesses computational science technology in addition to material manufacturing and composite technology, and I look forward to what kind of leaps will be made when these three strengths come together.

Owada: I think that, to date, there are many technologies that have not been commercialized, and I would like to create a system that promotes the sharing of such knowledge and utilizes it on a person-in-charge basis.


Mameda: Technology and knowledge are shared at presentations and other events, and I hope that this will lead to the integration of technologies, and that said integration will lead to the creation of value. To that end, it is necessary to promote not only systems but also exchanges between human resources, and I believe that these people-to-people exchanges will lead to the integration of technologies. In addition to understanding data such as the technologies and specifications of those we are co-creating with, I believe that it is important to work together to grasp what customers are truly struggling with and understand significant issues that may not be visible yet.

Fukushima: To achieve that, it is essential to have real communication where people gather and information flows naturally. I'm looking forward to seeing what kinds of reactions will occur as opportunities for communication increase.



Co-creation that deepens empathy

Kobayashi: Since its creation, I have been participating in an in-house circle called "Dhematical," which was voluntarily set up by young employees. In this circle, I belong to a team that considers and researches ideas for new product themes, and I have been involved in this for about three years. Resonac now has an environment that encourages such activities. I feel that this is symbolic of the new Resonac, in the sense that it will lead to co-creation, synergy, and innovation.

Mameda: I have been participating in "REBLUC (Resonac Blue Creators )" a new system that began in 2022. REBLUC is a purpose-driven thinking community that started to elicit mutual understanding, where the passions and senses of purpose of each and every employee, such as the desire to change society or contribute to the world, overlap. For example, even if I wanted to solve a problem that I had set myself, or wanted to make friends



to start a new business, I wouldn't have known how to go about doing that with the conventional systems within the company. I feel that REBLUC is a good system that allows everyone to start thinking of such things more lightly and openly.

Kakuda: I believe that creating a culture that facilitates the creation of new businesses will benefit the company both internally and externally. By succeeding with a new business, one can become a pioneer, which leads to motivation. By establishing ourselves as a pioneer, excellent human

resources will gather at Resonac, where innovation and further new business development will become possible.

Mameda: I agree that becoming a pioneer has a great impact on motivation. I think there is a lot to be gained from being a number one brand, and I would like to take on the challenge of how far we can establish that, even if it is difficult.

Fukushima: For engineers of a company, I'm sure it must be an irreplaceable joy to see your creations providing value to society and being recognized by the market and customers. I would like for everyone to always pay attention to what kind of value your creations connect to.

Owada: Of course. Customers are the closest to the market, but we are aware that we need to see the market directly, not just through customers.

Kakuda: The direct customers of the Research Center for Computational Science and Informatics are those in charge of experiments in each division within the company. I see the lack of opportunities to interact with customers beyond those as an issue, and I am trying to increase opportunities to do so. When you interact with actual products and customers, it becomes easier to empathize and understand how a certain calculation might be useful, which in turn makes it easier for innovation through co-creation to occur.

Fukushima: In both research and development, it is important to empathize with the target group.

To Resonac engineers competing on the global stage

Fukushima: The process of growth is important, including what kind of career you all choose to pursue, be it in research, development, manufacturing, sales, or something else. Whether you become a specialist as a researcher, or a generalist after experiencing several positions, I would like for you all to enjoy such decisions as part of figuring out your careers. The company is in the process of designing a human resource development system that allows such career choices.

Mameda: Ten years have passed since I joined the company. I have been thinking about whether I should build a career as an engineer going forward, or whether I should gain experience in another division. In order to change society through the power of chemistry, I honestly think it would be wonderful if we could create an environment where everyone can proceed as they wish and fully demonstrate their individual strengths.

Fukushima: Creating such an environment is essential. In R&D, I would like to develop human resources who can think strategically. People who can draw a roadmap for investment, personnel, scheduling, etc. when they want to develop new materials.

Owada: Since starting my current job, I have started observing the market and searching for future changes more than ever before, and I find it both challenging and interesting. I would like to be able to think about the next step based on what I want to focus on the most.

Kobayashi: Sometimes I feel like there is a gap between what I'm good at and what I want to do, and I'm trying to be conscious of the goals I should be looking at for the future. Rather than wait for an appointment from the company, I am strengthening my determination to pursue my own career.

Kakuda: It's been four years since I joined the company, and for the first time, I became a direct mentor to junior employees. While training him I mentor, I want to be inspired by my team members and increase my own experience, so that in five to ten years, both myself and my team members will have broadened our horizons.

Mameda: I would like to become a person who can understand the purpose of customers and the society they want to realize, and contribute to that society. It is important for engineers to connect with sales and business divisions who research the market and come up with ideas on how to connect it to society. As a company as a whole, I would like to think about how to create a system to go from R&D to products.

Fukushima: I think we have entered an era in which engineers are led by people who have an understanding of what the world needs and people who can create systems that keep up with that. I would like to create an environment in which you all can enjoy the current, transitional period, and take on challenges without fear of failure. You all have ownership over your own careers. As technology continues to develop, Resonac's engineers should stay strongly connected to each other, and compete openly on the world stage without being bound by the framework of the company. I strongly feel that all of you are ready for this.

