

Corporate Research and Development



Corporate Research and Development will provide more competitive products and services by drawing on its core technologies and combining them with cutting-edge green and digital technologies. By enhancing collaboration with industry, academia and government, and combining each other's strengths, we will create new value not only in existing markets but also in potential markets and customers.

TAGIRI Sawane

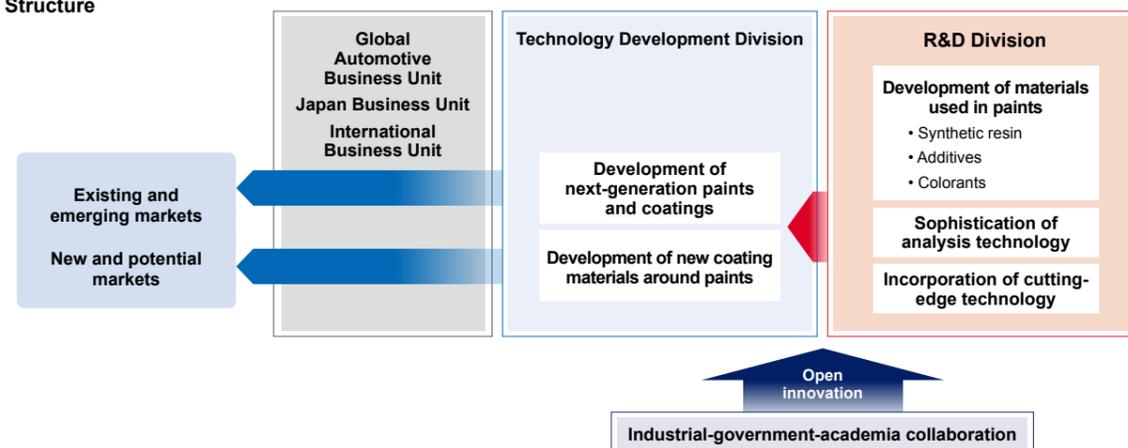
Managing Executive Officer
Chief of Corporate Research and Development

Q What are the goals of Corporate Research and Development?

Up to now, Kansai Paint has used "customer focus" as a strength to individually manage the development themes required for each business in R&D. This was viewed as a strength in terms of responding quickly to customer requests, but on the other hand the deployment of technology across the Group was slow, resulting in a personalized and inefficient development system.

Now we must step up our efforts in new and potential markets while maintaining our strengths in existing and emerging markets. This assumes that we boost the productivity of R&D. I believe that improving productivity through organizational reform and digitalization is the challenge that I have been tasked with as chief. As part of our organizational reforms, we first consolidated the R&D teams and R&D of each business into Corporate Research and Development, and removed barriers between them to promote discussions and people-to-people exchanges across business units. To advance digitalization, we are recruiting key members for a cross-functional project team within the company, cutting into the engineering chain as well as the supply chain, and promoting digital transformation that achieves visualization of progress in R&D and sharing of technical information.

R&D Structure



Q You have proposed front-loading and concurrent development. What is your aim?

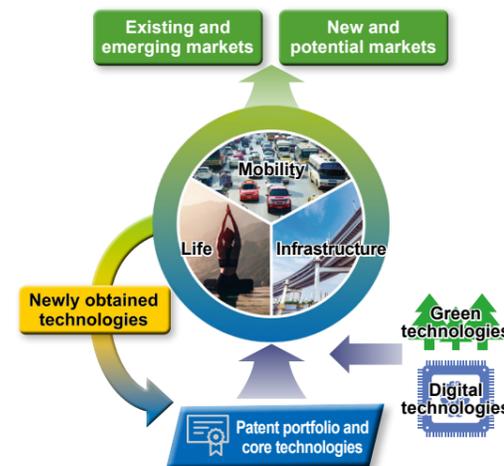
One of our challenges has been repeatedly adjusting to customer needs until the last instance of commercialization, pushing various specification changes back to the post-production process and placing a tremendous burden on the entire supply chain. To solve this problem, we adopted the concept of front-loading, which identifies problems and risks related to the entire supply chain from the early stages of development and addresses concerns in advance. We are also attempting concurrent development in parallel with the entire engineering chain. To assess progress in the management of development themes, we have introduced stage and gate management, and we are scrutinizing development proposals, product design, production specifications, and quality assurance based on our marketing at each stage. By conducting design reviews with members of R&D, production logistics, and sales and marketing, we will promote the seamless development of products without turning back.

Q What are the solutions you provide that address customer challenges?

Paints are effective only when applied to the customer's product. In a sense, the role of a paint manufacturer is to provide solutions to the problems faced by customers' products. Particularly in our focus on fast-growing fields of mobility, life, and infrastructure, since novel functional demands are likely to pop up, we will pay close attention to the trends and changes to arrive at better proposals. For example, with regard to mobility, which finds itself in a once-in-a-century

period of major change characterized by electric vehicles and autonomous driving, there is a high possibility that our core technologies will lead to solutions, and in actuality new products and services are being born. Furthermore, to accelerate and expand this trend, it is necessary to utilize novel core technologies and supplement them with new knowledge. Toward this end, we are also promoting open innovation with industry, government and academia. By expanding these new activities, we believe that resolving customer issues and leading them to business success together represents our ideal image of providing solutions.

R&D Scheme



Q What new value are you providing by combining core technologies with digital and green technologies?

By combining our accumulated fundamental technologies with the promotion of efficient product development using digital technologies and green technologies that contribute to biomass technology and energy efficiency, we intend to provide new value to the mobility, life, and infrastructure markets on which we are focusing.

As a conviction passed down from our founder, pursuing both our own sales and solutions to social issues through customers' businesses provides great motivation for our company and employees who are engaged in manufacturing. We believe that resolving these social issues will address our Materiality.

Case Study

Introduction of AI technology for Computer Color Matching stage

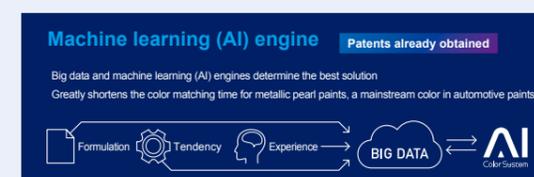
Today, when sustainability is required, we also require labor savings and shortening of the learning period in color matching work. For this reason, we are promoting the use of Computer Color Matching. The first order of business is to improve its accuracy in order to further spread it as a solution. However, we faced a challenge that the color matching accuracy of paint colors containing luminous materials such as aluminum and pearl pigment was low, due to the original theory that applied the conventional and specific calculation formula. Therefore, we incorporated AI technology (machine learning in this case) to improve the accuracy.

To ensure the volume, diversity, and accuracy of the learning data essential for this AI technology, we utilize as a foundation an in-house system and database that efficiently records and manages color matching data that we have improved on repeatedly over

many years. By applying the latest learning algorithms to control over-learning and optimization methods that prevent localized optimization, we have been able to greatly improve color matching accuracy.

In 2021, we brought to market a color matching system (product name: AI Color System) for automotive refinishing that features this technology. We are working to further boost sales by reducing color matching work time by approximately 60% from the conventional work time; thereby increasing efficiency.

We believe that this AI technology can be applied to a wide range of fields, and that we can create and provide new value by combining it with our strengths in paint and applying technologies. Going forward, we will continue working on technological development with a timely understanding of changing needs.



AI-CCM Manager



AKAHANE Junji
Principal Research Scientist,
Technology Development Division



TAKEBE Kyosuke
Technology Development Division