

Technological Development



We will create new value for future generations via the pursuit of technological innovation.

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Evolution Employing Digital Innovation

At Kawasaki Heavy Industries, the Corporate Technology Division has long been collaborating with each business segment to promote product development. In line with the FY2019 MTBP, we are striving to step up such collaboration with emphasis on dramatic innovation as part of a push to create new products and businesses aimed at meeting rapidly evolving market needs. We consider dramatic innovation essential to satisfying latent customer needs, helping resolve future issues, and creating solutions for future generations. I believe that much will be accomplished via breakthroughs in digital technologies. For example, we have positioned future energy systems, transportation systems and robotics as growth fields and are discussing the services we need to create. We are also striving to ensure that staff at the Corporate Technology Division and those at business segments share a common idea of the future products and businesses that will make it possible to deliver solutions. In this way, we are identifying technological targets that must be achieved in order to realize further advances.

In fiscal 2018, the Information Planning Center, formerly part of Head Office's Corporate Planning Division, completed operations previously undertaken by our customers.

We are now enhancing the value of our services through the provision of a comprehensive set of systems, rather than just products, and improved maintenance efficiency. For example, to enhance customer value in our garbage incinerator operation assistance service an AI-driven system analyzes images of the matter being incinerated and automatically calculates the volume of garbage needed for the desired output from the generator the furnace is feeding. We aim to upgrade this system to plan garbage supply

volumes based on market electricity demand.

By thus applying prediction and optimization technologies, we will help customers streamline their operations. This is how digital innovation works, and we believe our efforts to develop efficient facility management systems will contribute to the realization of greater goals, like the SDGs.

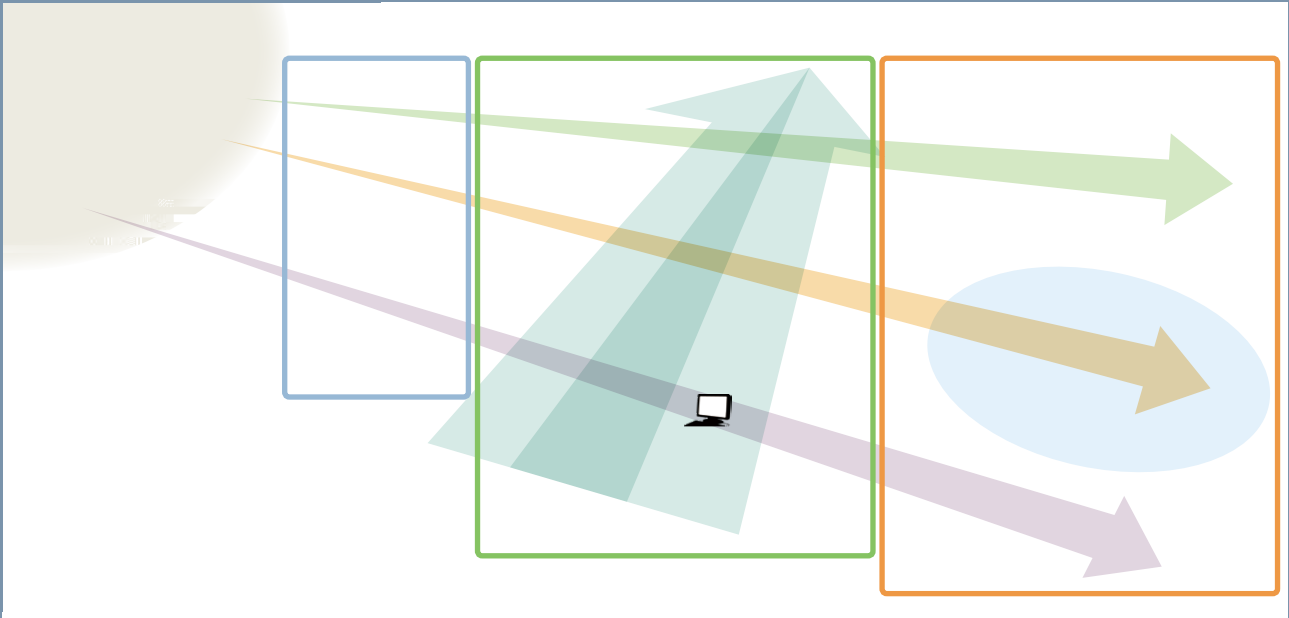
Preparing for the Emergence of a Hydrogen-Powered Society

After the Paris Agreement, signatory countries began pursuing the collective target of keeping the global temperature rise in this century to less than 2°C (ideally, less than 1.5°C) above pre-industrial levels. This agreement also aims to reduce emissions of greenhouse gases (GHGs), including CO₂, to virtually zero in the second half of this century. We are determined to fulfill our responsibilities as a corporate citizen in response to this international shift in focus from low-carbon to de-carbonization, which will bring with it new business opportunities. Accordingly, we are pushing ahead with various initiatives in preparation for the emergence of a society in which hydrogen-fueled clean energy is a major type of power.

The creation of the decarbonized society requires three factors. First, a robust power network must be built despite the intrinsic instability of the renewable energy supply. Our network-based remote facility operation systems will help adjust outputs from power generation facilities, such as gas engines and gas turbines, in response to changes in demand-supply status. Our technologies will thus benefit both the energy market and power suppliers.

The second factor is carbon recycling. We envision a new material chain that prevents the external release of CO₂ emissions and is nondependent on fossil fuels. Despite cost challenges, a growing number of customers are investing in such green energy solutions.

Finally, we believe that the promotion of clean energy will result in the creation of a society powered by hydrogen energy. Over a two-year period ended in fiscal 2018, we were engaged in the verification testing of "Kobe Smart Community." Specifically, we established a hydrogen cogeneration power generation facility on Kobe Port Island



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