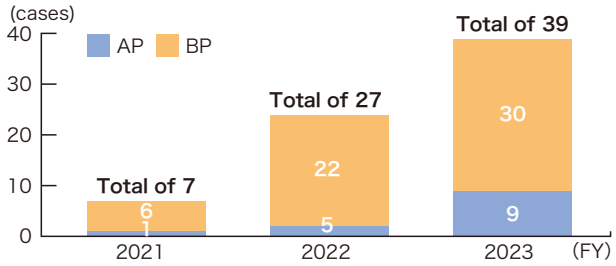
Materiality: Creation of New Customer Values

Strengthening the foundation of flat-rate service and introduction of next-generation preventive and predictive maintenance service

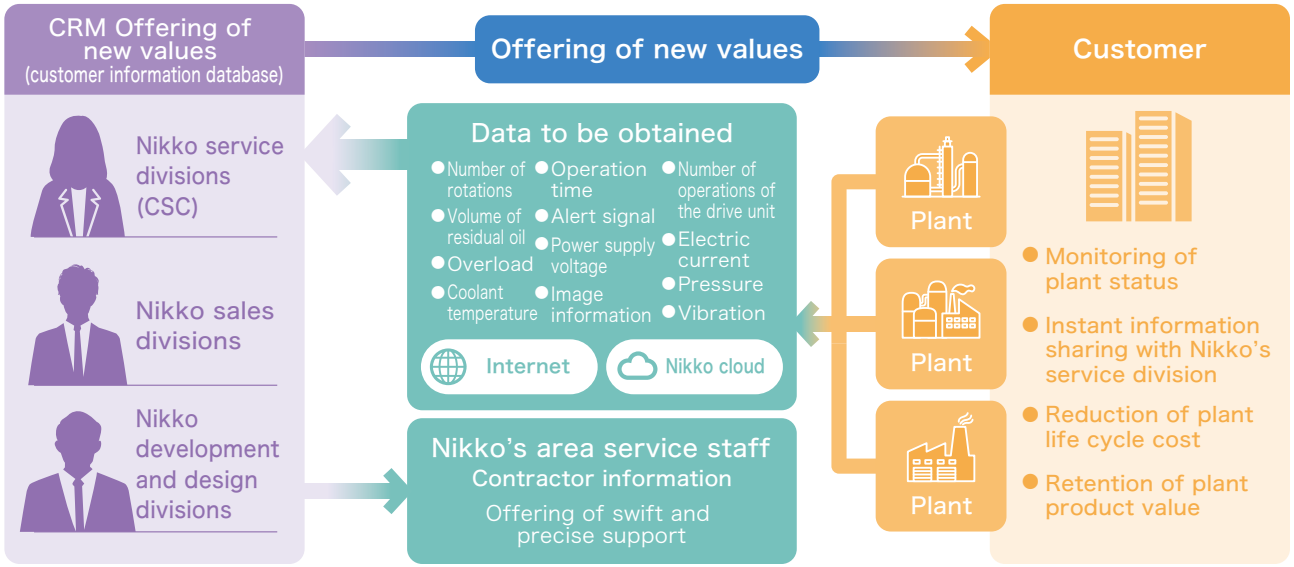
Aiming to create new customer values, Nikko Group is preparing for the introduction of a next-generation preventive and predictive maintenance service that utilizes IoT devices and communication networks.
Specifically, we have a system in place for developing plants and units, increasing the number of personnel and improving their skills, developing contractors, and enhancing remote monitoring equipment.
In advance of offering the next-generation preventive and predictive maintenance, we are transitioning our service to a flat-rate (subscription) service that replaces existing charge system based on each project. We will propose a maintenance plan in advance and provide periodic repairs and parts replacement for the facilities to reduce customers' maintenance costs, and contribute to the improvement of their productivity by reducing emergency post-incident repairs. In this way, we will aim to create customer values.

Status of flat-rate service outsourcing count (cumulative)



Stable operation of asphalt and concrete plants is indispensable for improving the productivity of road pavement and construction sites. To this end, it is important to take required action before the operation status of the plant becomes unstable.
Toward resolving such issues, Nikko Group will remotely monitor the plant operation status, catch signs of malfunction based on data analysis, and replace parts and carry out repair in advance. In addition, visualizing the plant operation status allows to collect failure information and identify the location of the fault without waiting for an engineer to arrive, which can greatly shorten the time taken for recovery.
Next-generation preventive and predictive maintenance through DX not only greatly contributes to the productivity improvement of customers and the Group's employees, but also to work style reform. At the same time, it enhances the sustainability of our support system as it enables the support center at the Akashi head office to respond at a satellite office in the event of a disaster.

Next-generation preventive and predictive maintenance



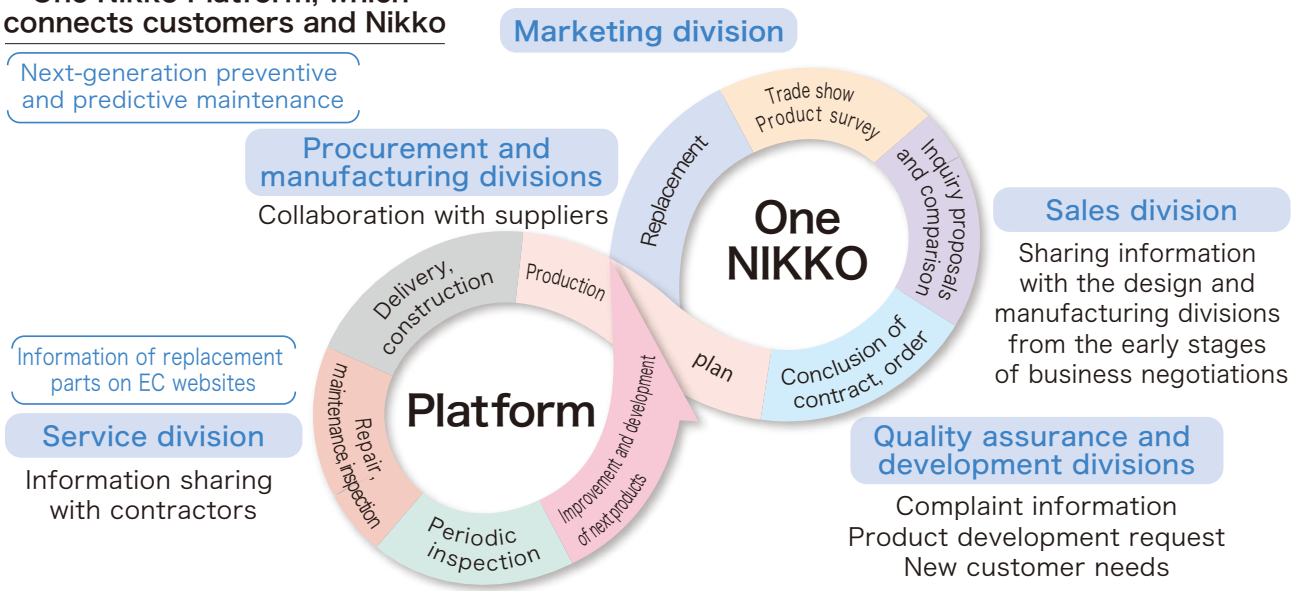
One Nikko Platform, a DX tool that connects customers and Nikko

Nikko Group is building a new CRM (customer information database) that will serve as an infrastructure for next-generation preventive and predictive maintenance, which connects customers and Nikko. We will utilize the big data accumulated through the next-generation preventive and predictive maintenance to support customers' plant life cycle management through the Nikko Group value chain, and link this to the development of new products.

Process toward full-scale operation

Step 1	Centralized management and effective use of control panel data, inspection data, and customer data, etc. Work is underway to check and correct data consistency, and field testing is scheduled to be conducted by the end of FY 2024
Step 2	Utilize data by organizing and visualizing historical data
Step 3	Offer attractive content for customers (FAQs, chatbots, estimate preparation, parts purchasing, use of AI technology)

One Nikko Platform, which connects customers and Nikko



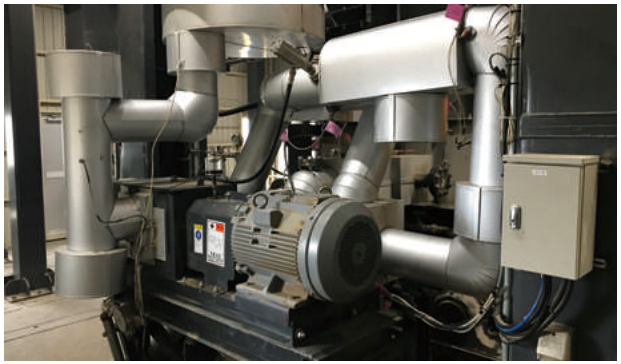
Nikko brand products contributing to realization of low-carbon and decarbonized society

Customers who operate asphalt and concrete plants have been driving forward various initiatives for realization of low-carbon and decarbonized society. As the leading brand in plant manufacturing, Nikko Group has been offering various products and solutions to jointly solve the issues faced by customers.

1 Asphalt warm mix equipment (mechanical foamed equipment)

Nikko has developed Blue Cyclone, mechanical foamed equipment required for manufacturing warm mixture, and has been offering it to the road pavement industry, which has been actively incorporating warm mix as part of efforts to reduce CO_2 emissions. The use of the product enables approximately 6% reduction* in CO_2 emissions compared with a conventional plant.

*Nikko's calculation for the CO_2 emitted at a mixture plant.

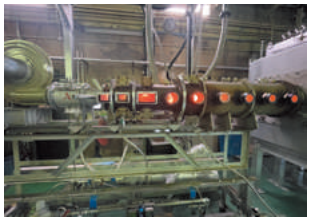


Mechanical foamed equipment Blue Cyclone

2 Fuel transition

Nikko has completed testing a small-sized model of asphalt mixture manufacturing plant using a test burner fired by the next-generation fuel hydrogen instead of heavy oil. Similarly, it has completed the combustion test phase of an ammonia burner and has embarked on the development of a small-sized model. Nikko focuses on developing these products to address new fuels aimed at reducing CO_2 emissions by considering the development status of fuel supply infrastructure.

Hydrogen burner



Ammonia burner

3 Equipment for removing water from aggregate before the drying process

The factor that has the biggest impact on CO_2 emissions in manufacture of asphalt mixture is the amount of water contained in aggregate. Reducing the amount of water contained in aggregate allows us to reduce CO_2 emissions during the drying process. Nikko has been developing a device that reduces the amount of water in aggregate, and has installed a testing device at a user's plant to conduct performance verification tests for commercialization.

Device for removing water from aggregate

See page 60 for details of value creation toward the realization of carbon neutrality.