



# Kyowa Kako Co., Ltd.



- ❑ Address: Shinagawa-ku, Tokyo
- ❑ Employees: 164
- ❑ Established in 1959
- ❑ Business: Wastewater Treatment, Industrial Composting and Resource Recycling

<https://kyowa-kako.co.jp/>

## Outline of the demonstration project

- Introduction of monitoring system to composting plant.
- The operation of an industrial composting plant is based on the information of the fermentation variables of the process. Using a system that allows operators to check the data of the variables live, will optimize the actions in the daily operation of the plant.

## Cooperation with local companies/governments

- Local Partner: Davao Thermo Biotech Corporation (DTBC)
- Details of Partnership/Cooperation: The monitoring system will be introduced to the DTBC's Composting Plant.



## Targeted economic/social issues

- According to the National Solid Waste Management Commission of the Republic of the Philippines, as of 2015, organic waste accounted for 52% of all waste, and the demand for composting facilities is increasing due to the growing need to convert organic waste into resources in the Philippines. However, as composting facilities using our technology become more widespread in the future, there may be a shortage of engineers with appropriate maintenance and management knowledge and skills.

## Details of demonstration

- In the demonstration, the current operation management method with manual measurement and data management will be replaced by a measurement method using IoT sensors, which will enable remote check of composting operations. The five measurement items are; (1) temperature, (2) air flow, (3) CO2 concentration, (4) compost pile check with monitoring camera, and (5) ammonia odor. Sensor selection and system configuration will be done with consideration to the local natural environment and communication environment in the Philippines.

## Expected outcome of beneficiary effects

- By introducing the monitoring system for composting facilities developed in this project, the quality and efficiency of the composting process will improve, leading to improved environment for plant workers and managers. By checking the situation remotely, it will be possible for both the Philippine and Japanese sides to respond quickly when issues arise on site.
- Expanding this composting technology to treat organic waste, which is an issue in the Philippines, will turn to be a tool for an appropriate resource recycling method to produce good compost that can be returned to agricultural land.