

# Advanced Treatment Technology by Controlling Single Tank Nitrification Denitrification Process with ICT and AI

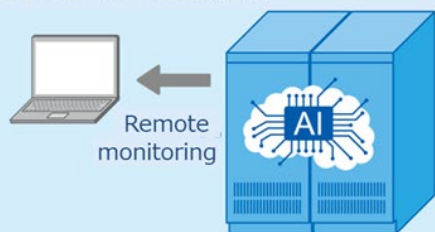
Implementer: The consortium of METAWATER Co., Ltd., JS and Machida city

## Technology Overview

- Achieve **short HRT** by air volume control using ICT
- Achieve facility cooperation using ICT and **blower power reduction** by pressure reduction
- Adaptable to seasonal inflow fluctuation by using AI and **reduce operation adjustment work**

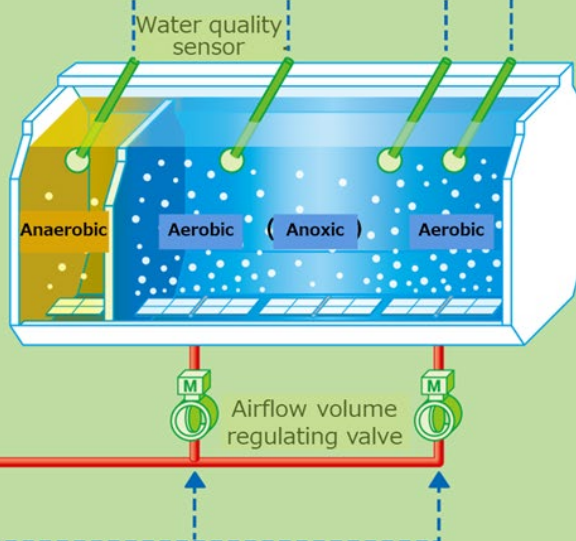
### ① Integrated computing control system

Automatically calculate required airflow volume of a reactor and optimized discharge pressure of blowers (adaptable to the load/seasonal fluctuations)



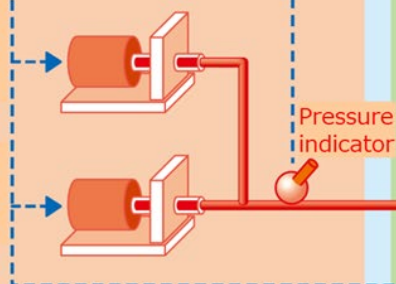
### ② Single tank nitrification/denitrification process

Provide stable airflow volume control with the load fluctuation and equivalent treated water quality to A2O process with short HRT (anaerobic section is installed for phosphorus removal)



### ③ Load fluctuation tracking blower unit

Control discharge pressure for stable and economy air supply



## Benefits

- Reduction of construction costs : Optimal aerobic/anoxic zoning reduces the capacity of a reactor
- Energy saving : No agitator or circulation pump is required, less power consumption of blowers
- Reduction of the burden of O&M: Automatic operation adaptable to the seasonal inflow fluctuation, etc.