

Implementation system

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Background

- Although Bali has economically developed driven by tourism, it has been facing rapid environmental degradation, especially in public waters, due to increase in tourists and population, industrialization and urbanization.
- To improve water quality, Bali established its own effluent standards, severer than the national ones, for middle- to large-scale septic tanks, and orders for improvement if necessary. The state government and owners of the septic tanks, however, still are suffusing from low quality of treated sewage caused by inefficient waste water management.
- Given the current situation, it is inevitable to provide a technical assistance for septic tank managers and promote energy- and cost-effective wastewater management system.

Project outline

- Promote energy- and cost-effective wastewater management system through application of a liquid-film aeration system and an IoT monitoring sensor

Location

- Bali, Indonesia



Outline of technology

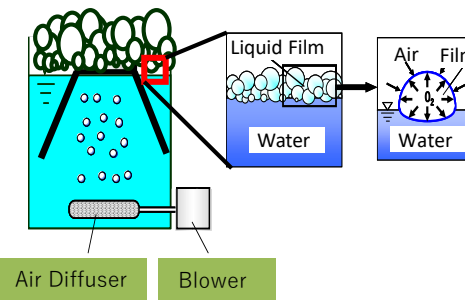
< Aeration System >

- Easy installation and low cost of equipment
- Reduction of electricity usage led to operating cost reduction
- Improvement of capability of activated sludge due to increase of DO

<IoT Monitoring Device>

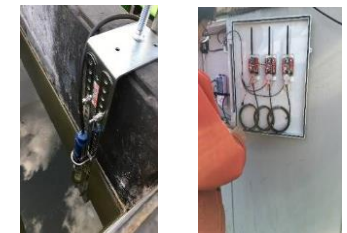
- Monitoring data can be checked in cloud
- Easy to change specification adjusting local conditions
- Design to adjust local connection

Aeration System



IoT Monitoring facility

Water quality monitoring sensor Telecommunications equipment



Expected results and business prospects

- Increase of wastewater treatment facilities to properly manage
- Developing management capacity of local government officers and facilities managers
- Diffusion of proper skill to maintain facilities through consultation of local subsidiary
- ✕. Our targets (in Badung regency of Bali, Indonesia):
 - Hotels (more than 600)
 - Private and public wastewater treatment facilities (more than 3,000)
 e.g. large commercial constructions, elementary and junior high schools, hospitals