Collaboration between industry, academia, and the government business

With the collaborations between the industry, academia, and government, we are selecting potential future technologies and promoting research and development through cooperation with universities and private companies with such technologies. We are involved in collaboration between industry, academia, and government, with local governments as verification fields.

Rainwater management systems in case of localized / concentrated heavy rainfall in urban areas

We are reducing flood damage through the effective and efficient operational reinforcement of flood countermeasure facilities such as rainwater storage pipes and promotion of self-help / co-help activities for residents
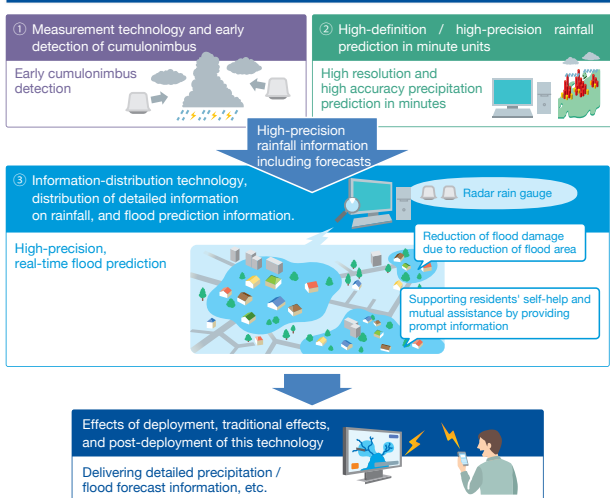
Essentials of Verification Projects

Concerning revolutionary technologies aim at reducing flood damage through rainfall and flood prediction systems using compact radars, we are confirming its efficiency in flood reduction through the deployment of revolutionary technology resulting from the installation and operation of a verification field system.

Specifically, we are constructing an urban area radar network that can detect early rainfall using radars with minute meshes that are cheaper, smaller, and narrower than traditional sewage field radars. Moreover, we are constructing a system that integrates flood and short-term rainfall prediction models based on high-speed flow analysis. In this manner, we are promoting self- and co-help based on rainfall and flood prediction information and clarifying the effects of flood damage reduction by maximizing the capabilities of existing rainfall countermeasure facilities.

Concept of verification technology

Technology overview

Approach to "Verification of smart operation of contaminated water manhole pump using ICT technology (Cloud AI system)" in the 2019 B-DASH project

Essentials of Verification Projects

There are 47,000 contaminated water manhole pumps (hereafter, manhole pumps) installed nationwide. With the yearly increase in the cost of maintaining and managing / renewing deteriorated facilities for local-government with a large range of pumps, the shortage of maintenance and management personnel is becoming a major issue. To address this issue, the manhole pump maintenance, management, and IoT measurement data for this business have been one-stop managed in the cloud. Moreover, using AI technologies to detect abnormalities and predict deterioration, we verified the efficiency of the manhole pump maintenance and management as well as its effect in reducing life cycle costs (LCC). The verification field covers Toyama City, which has a large number of manhole pumps, and we have finished installation of IoT devices in 67 of the approximately 360 locations, and are now rolling out verification

Current issues

Uniform inspection based on the past few years equipment replacement, maintenance, and management of manually performed work and lack of resources in the stock management field.

Verification tests

By supporting maintenance and management for individual pumps and stock management using IoT, we are resolving the issue related to the shortage of resources in the field.