Project Title: Cyber to Real World Integrated Testbed for Dam Safety Management and Water Governance System

Introduction :

In ASEAN countries, dams have helped to remedy life-threatening problems such as poverty from lack of economic development, famine resulting from drought, devastation from floods, and disease from lack of water supplies. However, dam failure risks loom due to evolving hydrological and seismic hazards induced by climate change, aging infrastructure, and varying levels of expertise in dam safety management.

To mitigate these risks, the "Cyber to Real World Integrated Testbed for Dam Safety Management and Water Governance System in ASEAN Countries" aims to bridge the gap between digital simulations and real-world implementations. Building on existing initiatives like Thailand's Dam Safety Remote Monitoring System (DS-RMS), the project seeks to enhance dam safety protocols and water governance frameworks across ASEAN nations. By leveraging advanced cyber-physical systems (CPS) technologies, the nationwide ICT testbed infrastructure and international High-Speed R&D Network Testbed will be used as a tool to connect to each country for facilitates comprehensive testing, validation, and optimization of dam safety measures.

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Fig. 1 IoT network Link on JGN network

Fig. 2 Basic concept of CyReal testbed of NICT