



Website: <http://openisdms.iis.sinica.edu.tw/>

The three-year thematic project AS-101-TP2-A01, entitled Open Information System for Disaster Management (OpenISDM), started in January 2012. Its overall goal is to develop a framework, called the OpenISDM framework, for building open and sustainable disaster management information systems. Such a system should be able to facilitate access and use of data and information not only from government-owned sources but also from sources owned by non-government entities during emergencies; exploit synergistically information from networks of things and crowd of people; make effective use of early warnings to enhance preparedness; and adapt agilely in response to changes in disaster situations.

The project has an information technology (IT) component and an application component. The IT component aims to develop concepts, architectural principles and technologies that form the OpenISDM framework and tools and services that support the use of data and information made available by systems built on the framework. The application component aims to provide people conducting research on, and developing plans for, disaster reduction with coherent and easy-to-use repositories of information on climate changes, earth behavior, and past natural disasters, as well as experiences and knowledge on disaster susceptibility and vulnerability collected from disaster-prone communities.

In this year, all project components are in their preparatory and set up phases. All have made good progress. We now have developed representative disaster scenarios which can serve as basis of requirement analysis, case studies, test cases, and quality assessment. At the end of the year, we aim to have constructed a testbed capable of providing the project with computing and storage capacities and a collaborative development environment, selected sets of information sources and applications to be served by the proposed OpenISDM prototype and VR resources to be adopted, and completed the designs of the virtualization layer, interface services and other VR components. The proposed public participation GIS platform (PPGIS) will be functional; so will the proposed virtual scientific databases CEWD (climate extreme

and weather disaster), PV (population vulnerability) and CDEF (crustal deformation and earth faulting) DB's. The IT component of the project will have developed key technology building blocks, including concepts and models of TIBS (trustworthy information brokerage service); methods and algorithms to support crowdsourcing; and methods and services for assessing network connectivity, planning network recovery, and so on.

In the second year (i.e., year 102), the project will enhance the testbed and transform it into an OpenISDM integration environment. The main focus of sub-project 1 will be on collection and analysis of data on disaster susceptibility and vulnerability of selected communities. Sub-projects 2 and 3 will enhance the above mentioned scientific databases so as to make them ready for integration into the OpenISDM prototype by the end of the year. The major thrusts of efforts of sub-projects in the IT component will be on the development of prototype interface services, TIBS prototypes and prototype components of the open information gateway. Their goal is to make these prototypes ready for integration within the proposed OpenISDM prototype towards the end of the second year.