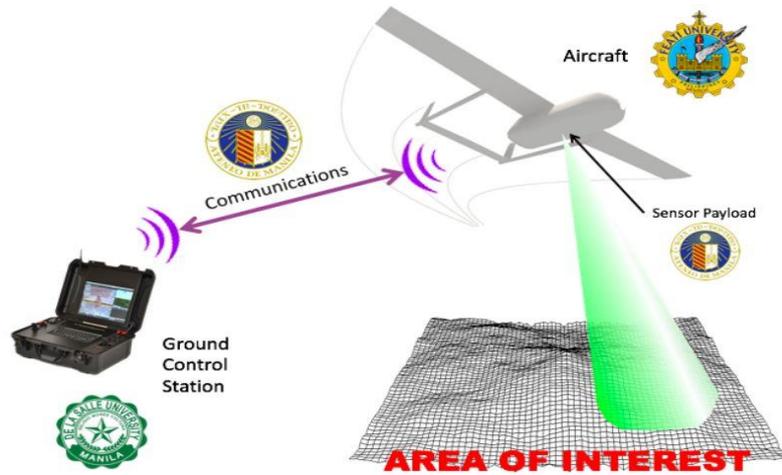


## R&D Supported Projects

### 1. Development of a Fixed-wing, short takeoff and landing (STOL) UAV for Disaster Risk Reduction and Management



The Program aims to develop a medium-range, short takeoff and landing (STOL) UAV for disaster risk reduction and management. It has three component projects:

- Project 1: Design and fabrication of an airframe for a medium-range, short takeoff and landing UAV (FEATI University)
- Project 2: Development of a Flight Controller for a Modular UAV System (De La Salle University)
- Project 3: Cooperative UAV-UGV Missions and Applications with Custom Communications and Imaging Capabilities (Ateneo de Manila University)

### 2. e-ASIA: Development of Information Gathering and Utilization Systems Using Small Unmanned Aerial Vehicles (UAVs) for Disaster Risk Assessment, Monitoring and Response



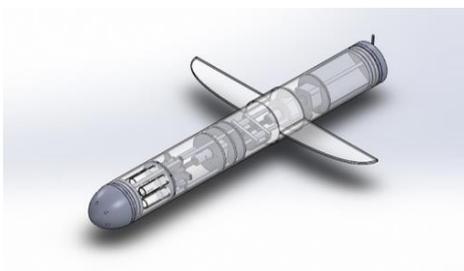
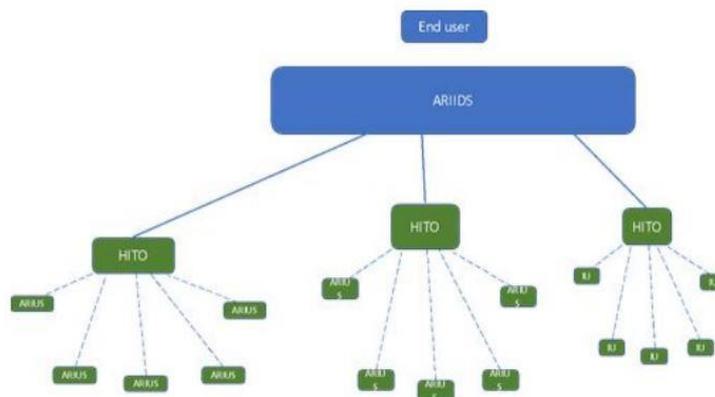
The e-ASIA-JRP Project “Development of Information Gathering and Utilization Systems Using Small Unmanned Aerial Vehicles (UAVs) for Disaster Risk Assessment, Monitoring and Response” is a three-year collaborative project of the Department of Science and Technology - Philippine Institute of Volcanology and Seismology (DOST-PHIVOLCS) and the National Research Institute for Earth Science and Disaster Resilience (NIED) of Japan, as well as partners from Vietnam, Thailand and Indonesia. Funding of the project is from the Philippine Government, and additional support for research is from the Advanced Science and Technology Institute (DOST-ASTI), and the University of the Philippines Diliman – Department of Geodetic Engineering.

The main objective of the project is to mainstream the application of UAV technology into the different aspect of disaster preparedness and risk mitigation program of PHIVOLCS.

### 3. CATFISH: A Modular Mini-Autonomous Underwater Vehicle (AUV) System

#### General Objective

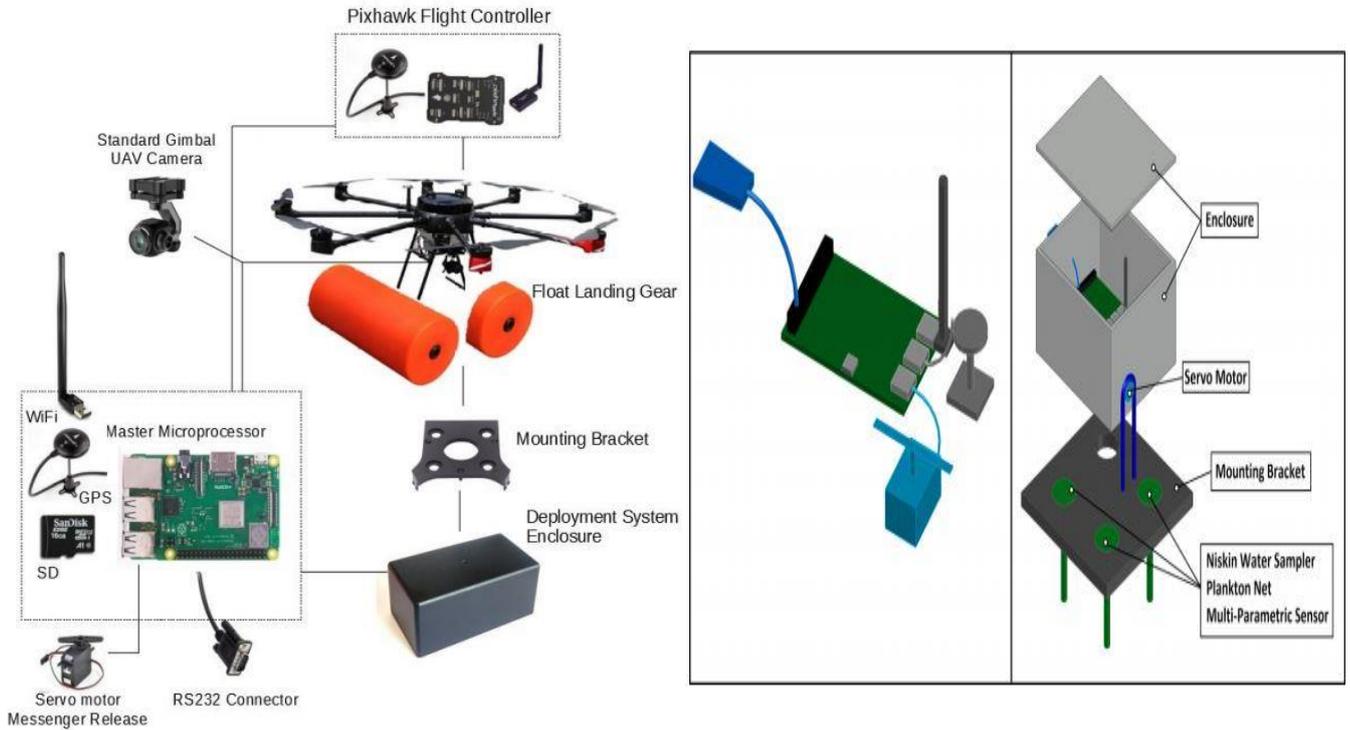
The objective of the project is to develop a modular, semi-autonomous mini-remotely operated underwater vehicle system CATfish composed of three (3) subsystems: ARIUS, HITO, and the control platform ARIIDS.



The project addresses the need for a low-cost platform for wide-spatial coverage and high temporal underwater monitoring and sensing. The project aims to develop a modular, semi-autonomous mini-remotely operated underwater vehicle (AUV) system (CATFISH).

#### 4. AQUADRONE: UAV Assisted Deployment System for Water Quality Monitoring

The primary objective of this proposal is to develop a deploying system UAV attachment to carry a water sampling and sensor packages that can autonomously test water quality at different, hard to reach locations in the lake.



#### 5. Unmanned Aerial System with Passively-rotating Spherical Shell for Close-proximity Inspection of Infrastructures

The general objective is to develop a UAV system that can facilitate the inspection/can perform close visual investigation of infrastructures with following main components: (a) A shelled-UAV as a platform. (b) A crack detection system using deep learning technique.

