United Nations Institute for Training and Research

Unitar Online Catalogue

Integrated Satellite Application for Urban Disatser Risk Reduction

Type:	Course
Emplacement:	Colombo, Sri Lanka
Date:	1 Sep 2016 to 2 Sep 2016
Durée:	2 Days
Zone du programme:	Satellite Imagery and Analysis
Site internet:	http://www.unitar.org/unosat
Prix:	0.00 $US
Personne de référence de l'évenement:	bangkok.unosat@unitar.org
Partenariat: (NABRO)	National Building Research Organisation

ARRIÈRE PLAN

The purpose of the project is to reduce the impact of urban crisis and disasters by using space-based resources (satellite observations, navigation and communications systems) in the context of the ASIGN application from AnsuR, that allows operational real-time communication of visual content between field observers and remote HQ. In this was a remote coordination team can react to critical observations faster with improved situational awareness, but also help secure the quality and relevance of field observations as teams are in the field. It

is also possible to do remote inspection with experts sitting in remote locations and guiding local field teams based on what they see coming in from their observations. ASIGN has been used by UNOSAT for response and post disaster phases, but in this case, the focus is pre-disaster. To reduce risk effectively more emphasis needs to be given to Mitigation & Prevention phase, Preparedness phase. Without knowing the disaster risks, it is not possible to reduce them. With accurate risk assessment it’s possible to develop specific mitigation plan with cost viability of different measures

OBJECTIFS DE L'ÉVÉNEMENT

The demonstration will focus on understanding flood risk in Colombo. High detail exposure database and drainage system database will be created using ASIGN interactive semantic visual communication and Unmanned Aerial Vehicle (UAV). ASIGN on smartphones will be used to collect visual and other vulnerability information of different building types. Ideally through the UAV photos building typology can be identified to be associated with correct vulnerability. Additionally, hi resolution digital elevation model can be produced using stereo pair aerial images with further processing.

It will be essential to simulate that field teams get remote, live support and guidance form experts at UNOSAT and/or ADPC, and that the observations are approved while the team is in the field. The remote experts can assess smaller versions of the ASIGN photos on the Web, and they are also available in a professional ESRI Web Map. The small preview allows very rapid assessment of initial relevance, but at the same time ASIGN allows interactively to pull semantic content and details with potential impact, like license plates, faces, text and other textural details. This allows remote experts to assess observations in full details for only 1% of the time and cost of sending photos in full precision, yet still allowing full precision for operationally relevant content.

CONTENU ET STRUCTURE

ASIGN can be used as follows in this exercise:

- **ASIGN UAV** along with DJI drones allows remote experts to see UAV photos live as the drone is flying and can comment on needs for further observations while there still is time, batteries and opportunity to capture

more photos.

- **ASIGN Pro** will be used by professionals for collect and communicate relevant content, both in terms of photos and text and forms by professionals. AnsuR will create Username and passwords.
- ASIGN Crowd will be used to invite some of the public to help capture potentially relevant contents. Users themselves can create Usernames.

The system designed is intended to empower the government or the authority in the urban area in innovative Disaster Risk Reduction (DRR) approaches. Specially the local government can understand pertaining risk in area of interest quickly, generate update hazard vulnerability exposure data with little effort and cost.