Hochschule Fulda
University of Applied Sciences

ВОЕНА АКАДЕМИЈА 1995

ICB | SOFTWARE INNOVATION

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NATIONAL CLUSTER FOR INTELLIGENT TRANSPORT AND ENERGY SYSTEMS

Project:
Advanced Systems for Prevention & Early Detection of Forest Fires ASPIRES

ECHO/SUB/2016/742906/PREV03
European Commission
Directorate-General for European Civil Protection and Humanitarian Aid Operations (ECHO)
ECHO A - Emergency Management; Unit A4- Civil Protection Policy
2016 Call for Prevention and Preparedness Projects in the field of Civil Protection and Marine Pollution
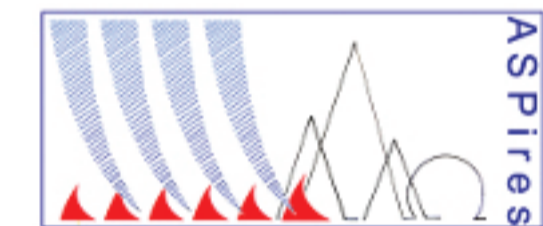
Objectives of ASPires Project

Development of advanced concepts of systems for early forest fire detection integrating sensor networks, mobile (drone) technologies and cloud computing.

Use of data collection to improve the percentage of forest fire prevention and detection in areas of importance by monitoring the fire weather index, hot spots, affected places and predicting the forest fire behaviour.

Specification of communication interfaces, protocols and data flows to share information between authorities and end-users improving the coordination at regional, national and international level.

Development of new information and communication technology solutions and services that allow platform interoperability and integration using recent big data, context-aware and artificial intelligence algorithms.

Improve sustainability in collecting disaster data for CMIS by sharing the best practices in cross-sector and cross-boundary risk management.

Summary

The goal of ASPires project is to develop advanced concepts for early forest fire detection systems. It integrates sensor networks, mobile (drone) technologies and cloud computing for data collection at existing Crisis Management Information Systems (CMIS).

The mobile technologies allow covering large areas raising the percentage of forest fire detections, monitoring areas with high fire weather index and affected by forest fires. Initial tests of the ASPires open virtualized platform are planned in fYR of Macedonia and Bulgaria.

It will allow CMIS in Europe to develop and implement different methodologies and services for initial stage warning, prevention, localization and organization of the firefighting teams and tactics for disaster suppress.

Beneficiaries

University of Applied Sciences, Fulda, Germany - Coordinator; Military Academy „General Mihailo Apostolski", Skopje, fYR of Macedonia; Comicon Ltd. Bulgaria; InterConsult Bulgaria Ltd; National Cluster for Intelligent Transport and Energy Systems (NCITES), Sofia, Bulgaria.

End users of ASPires: Ministry of environment and physical planning; Ministry of Agriculture; Forestry and Water Economy; Crisis Management Center, Skopje; National park Mavrovo (testbed); National park Pelister; Directorate General Fire Safety and Civil Protection, Ministry of Interior, Bulgaria; Bundesministerium des Innern, Germany.