MOLDOVA STATE UNIVERSITY
Faculty of Physics and Engineering
Scientific Research Laboratory
Environmental Physics and Modeling Complex Systems
Al. Mateevici str. 60, Chisinau MD-2009, Republic of Moldova
tel.: +373-79776944, e-mail: veaceslav.sprincean@usm.md

HR EXCELLENCE IN RESEARCH

THE NATIONAL PLATFORM FOR INSTANT WARNING OF THE POPULATION IN CASE OF NATURAL HAZARDS AND THE *eALERT* USER GUIDE

Research project no. 20.80009.7007.05: ***Advanced physical technologies with the UVS application in monitoring and modelling of environmental factors***

AUTHORS: Veaceslav SPRINCEAN, Alexei LEU, Roman BUIMESTRU, Marianna SAVVA, Vasili ANDRUH, Marian JALENCU, Mihail CARAMAN, Alexandr A. BARSUK, Florentin PALADI

APPLICATION FIELD: Environment and Climate Change

AIM: Real-time environmental monitoring; Reducing pollution as result of anthropogenic activity; Guide describes *eALERT* platform

SOLUTION: Complex monitoring of the environment in real-time; Forecasting dangerous natural and anthropogenic hazards based on the collected data, and *eALERT* comprehensive user guide

Air quality monitoring station powered by an external solar panel

UNIVERSITATEA DE STAT DIN MOLDOVA
FACULTATEA DE FIZICĂ ȘI INGINERIE
Laboratorul de cercetări științifice „Fizica Mediului și Modelarea Sistemelor Complexe”

PRIDE SYSTEM
IT&C Solutions and Technologies Provider

PROIECT DE INOVARE ȘI TRANSFER TEHNOLOGIC
„Crearea platformei eALERT pentru monitorizarea mediului în regim de timp real și avertizarea instantanee a populației din Chișinău în cazul hazardurilor naturale și antropogene periculoase”
Cifrul 22.80015.7007.262T

GHID DE UTILIZARE A PLATFORMEI

ealert

Autorii:
Veaceslav SPRINCEAN
Florentin PALADI
Alexei LEU
Marian JALENCU
Marianna SAVVA
Victor Ciobu

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Waspmote Plug & Sense! accessories: 1 enclosure, 2 sensor probes, 3 external solar panel, 4 USB cable, 5 antenna, 6 cable ties, 7 mounting feet (screwed to the enclosure), 8 extension cord, 9 solar panel cable, 10 wall plugs & screws.

The Waspmote Plug & Sense! line allows you to easily deploy Internet of Things networks in an easy and scalable way, ensuring minimum maintenance costs. The platform consists of a robust waterproof enclosure with specific external sockets to connect the sensors, the solar panel, the antenna and even the USB cable in order to reprogram the node. It has been specially designed to be scalable, easy to deploy and maintain. The battery can be recharged using the waterproof USB cable but also the external solar panel option. The external solar panel is mounted on a 45º holder which ensures the maximum performance of each outdoor installation. The External Battery Module (EBM) is an accessory to extend the battery life of Plug & Sense!. The extension period may be from months to years depending on the sleep cycle and radio activity. The daily charging period is selectable among 5, 15 and 30 minutes with a selector switch and it can be combined with a solar panel to extend even more the node's battery lifetime.

For the modeling of natural hazards, in our case we use the data collected from the air quality monitoring stations. This model is based on knowledge of the characteristics and behavior of these phenomena, as well as available data on the affected areas and their intensity. Mathematical and statistical models are used to estimate the probability and severity of the hazard, as well as to identify the areas most at risk.

ADVANTAGE: *eALERT* is the first platform in the municipality of Chisinau for real-time monitoring and instant warning of the population in case of dangerous natural and anthropogenic hazards. This application derives from an applied research project, which studies atmospheric pollutant emissions from various sources in the Republic of Moldova, their dynamics and impact. The *eALERT* platform user guide is intended for the staff of the General Directorate of Social Assistance and Health of the Chisinau City Hall, the staff of the General Inspectorate for Emergency Situations of the Ministry of Internal Affairs, and the staff of the State Hydro-Meteorological Service of the Republic of Moldova, as well as other beneficiaries interested in this field.

IMPLEMENTATION STAGE: Actual system proven in operational environment, https://ealert.md