

SYMPOSIUM ON INTEGRATED APPLICATIONS (B5)  
Integrated Applications End-to-End Solutions (1)

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SAFE: SATELLITES FOR EPIDEMIOLOGY. TUBERCULOSIS SURVEILLANCE IN GEORGIA

**Abstract**

The risk of epidemics of emerging or re-emerging diseases is rising. Globalisation, climate change, population growth, high mobility are some of the factors contributing to this global risk. An efficient global collaboration is essential to respond collectively to these threats. The development of epidemics is also a high risk following a crisis such as a man-made or natural disasters. This risk can be contained with prevention, early warning, and prompt management. In this context, current early warning and response systems could benefit from integrated solutions combining advanced ICT and satellite services. Satellite communications can bring an added value for health early warning in remote, isolate or prone to natural or man-made disaster areas. The SAFE project (SAtellites for Epidemiology), co-funded by the European Space Agency (ESA) in the frame of the Integrated Application Programme preparatory phase has developed and demonstrated the added value of various satcom-based services for epidemiology. The specifications of the proposed services were defined in close collaboration with the World Health Organisation and with two national epidemiological institutes (ISCH and InVS). The satcom-based services of SAFE mainly include the provision of high bandwidth via satellite communications, mobile satcoms, an advanced information system for case reporting with GIS functionalities and a mobile laboratory van. The solution was successfully demonstrated in a post-disaster scenario in Crete in November 2007. Following this 1st phase, in collaboration with the Georgian National Centre for Tuberculosis (TBGEO), the SAFE solution has been deployed for routine surveillance of tuberculosis (TB) in Georgia. The system enables in particular to better follow up Multi-Drug Resistant cases of tuberculosis (MDR-TB). The solution combines an advanced information system for case reporting and satcoms services either to connect via high bandwidth remote sites or to connect mobile surveillance players. The system is now fully operational. TBGEO is now using the service on a daily basis for the TB and MDR-TB case notification at a regional level. Thanks to SAFE solutions, TBGEO has been able to de-centralize the way it was collecting TB related data, going from a data collection that was done at a national level mainly through paper notification to a must faster data collection that is now done electronically from the regional level. The new network also enables better communications through the surveillance players. TBGEO will maintain this service as it has become an essential tool for the surveillance of tuberculosis and Multi-Drug Resistant Tuberculosis cases.