



## SatCom for in situ Earth observation and disaster response

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Efficient and robust communications are key to effective management of natural risk and response to disasters. But even in the most developed regions, where the telecommunication backbone provides widespread access to data from monitoring stations in most cases, the institutions who are in charge of alerting civil protection agencies of impending disasters often struggle with telecommunications running costs. In remote regions, telecommunications infrastructure is often scarce and vulnerable to natural disasters, both directly and as a result of the peak of demand that accompanies a crisis. The advent of SatCom, namely VSAT, was heralded as an opportunity for the inclusion of remote regions in the natural hazard monitoring effort. But, while the technical characteristics of satellite communications are suited to achieve that goal, service costs remain a hurdle that hampers widespread use of SatCom for this purpose.

The INSPIRE Directive (2007/2/EC) laid down general rules for the establishment of the Infrastructure for Spatial Information in the European Community, for the purposes of Community environmental policies and policies or activities which may have an impact on the environment. INSPIRE builds upon infrastructures for spatial information established and operated by the Member States. The Tampere Convention on Satellite for Disaster Relief and Mitigation was subscribed by 60 countries in 2005 provide the framework for agreement on satellite and other telecommunication matters in most operations of international humanitarian operations.

I propose that the potential of SatCom to in situ data retrieval can be better exploited through innovative forms of organization among the end users, and EPOS provides a unique platform to test and implement this approach. The first steps towards the necessary change are: 1) to test different SatCom solutions currently available, evaluating their relative merits towards the expected cost reduction through end user cooperation; 2) to implement the selected technical solution(s) in a suitable test-bed, and demonstrate its value; 3) to create, under EPOS, the appropriate type of infrastructure that will foster the use of the selected solution(s) by the in situ EO community.