

e-EcoRisk

A Regional Enterprise Network Decision-Support System for Environmental Risk and Disaster Management of Large-Scale Industrial Spills

Executive Summary

1. ***e-EcoRisk*** will create a regional enterprise network information management and decision-support system that will provide environmental and civil protection agencies and other relevant governmental and non-governmental organisations with improved information and insight into the potential and actual risks (impact) to the environment of a large-scale industrial spill, using innovative information technology, for better decision-making (Figures 1 and 2).
2. ***e-EcoRisk*** will use the catastrophic rupture or overflow of mine tailings dams as the basis for formulating and structuring of the information management and decision-support system, with particular attention being paid to the requirements of environmental and civil protection agencies and relevant EU policies, legislation, and regulations.
3. ***e-EcoRisk*** will include environmental information derived from archive, field, air photo, and satellite remote sensing data, as well as social, economic, legal, and political information, in the risk assessment and decision-support process, to derive a comprehensive and holistic, and thereby improved, approach to environmental risk and disaster management, with particular attention being paid to *RAMSAR* and *NATURA 2000* conservation areas.
4. ***e-EcoRisk*** will develop innovative dam break and spatial-temporal dam break and surface discharge models for analysing different environmental risk scenarios with respect to potential mine tailings dam spills.

5. *e-EcoRisk* will include advanced visualisation tools and techniques to depict thematic and risk information and present it in a readily comprehensible and usable manner by environmental and civil protection agencies.
6. *e-EcoRisk* will comprise an integrated information management and decision-support system for the integration and analysis of thematic and risk information on potential impact areas from mine tailings dam spills for support in environmental risk and disaster management decision-making.
7. *e-EcoRisk* will allow environmental and civil protection agencies at the local, regional, and national level, as well as non-governmental organisations (NGO's) and the general public, to access the information management and decision-support system in real time from fixed and mobile-wireless devices via a regional enterprise network (Internet), using terrestrial and satellite high-bandwidth telecommunication systems.
8. *e-EcoRisk* will be designed, developed, and tested, using data and information obtained from diversely situated mine tailings dam sites and environmental settings.
9. *e-EcoRisk* has partners from research centres, universities, and industry, as well as public sector end-users from environmental and civil protection agencies.
10. *e-EcoRisk* will be a prototype system that will be capable of being further customised and refined on completion of the project and marketed world-wide through licensing arrangements.



