



## Heurika Geographics Pte. Ltd

Introduces

### Smartroad Tools™

#### An Early Warning System for Pavement, Railway and Dike Failure

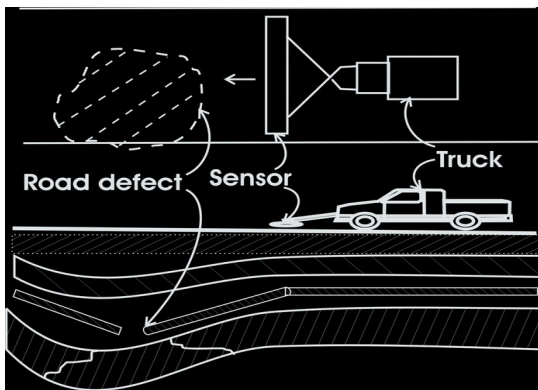
KEYWORDS: *flood control, dikes, railways, highways, airports, disasters*

We have a system to test and monitor highways and other high-value earth works for hidden damage.

Roads, highways, airport runways, railways, and levees (dikes) all consist of carefully designed and built layers which ultimately rest on an earthen subgrade. Over time erosion, nearby construction, weather, seismic activity and other causes can weaken or create gaps in this foundation. There may be no sign of this on the surface, until a collapse occurs. This collapse causes expenses for immediate repair, as well as direct and indirect costs to the surrounding communities due to disruption of transport and damage to buildings. In some cases there can be environmental damage or human casualties.



photo: 123rf.com



At present there is no practical way to monitor the condition of the earthen subgrade. We have invented a "smart" material which can be embedded during construction or reconstruction, and which provides an easy-to-use and inexpensive means to verify the integrity of the underlying earth.

In addition to roads and highways, this technology is applicable to railways, tunnels, airport runways, flood prevention levees, and oil and gas pipelines.

#### Current Status

We have filed a hardware patent application with the U.S. Patent Office. In January 2015 we filed a patent application in Taiwan and an international phase application under the Patent Cooperation Treaty. Research results, which were presented in August 2014 at the Smart Materials and Surfaces conference in Bangkok and at later conferences, support the practicality of this technology. Working prototypes have been created.



photo: Wikipedia copyright released

We are seeking joint venture or joint development partners who want to work with us to commercialize this technology.

Our website [www.smartroadtools.com](http://www.smartroadtools.com) (click on News) shows our current status. Please ask for more details or a prospectus.

contact: Kurt Rudahl ([kurt@heurika-geo.com](mailto:kurt@heurika-geo.com))

revised 2017-December

Smartroad Tools (Thailand) Co. Ltd. และ