Real-time inspection and monitoring of water infrastructure with remote sensing

Category: Sensors & Measuring Techniques
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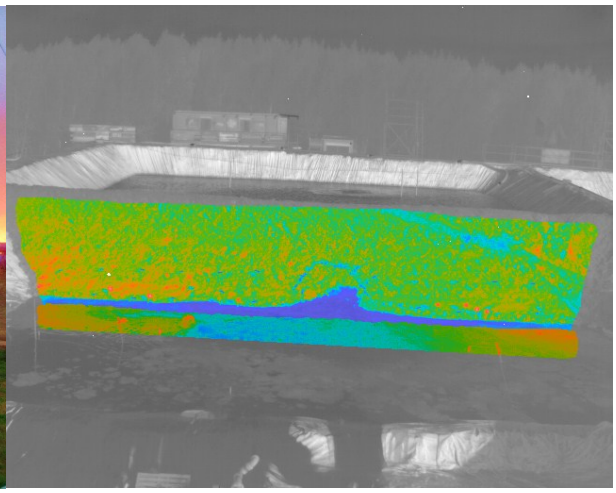

Abstract:

A Dutch company has developed a system for real-time monitoring of water infrastructure. The system recognizes the mechanics causing a dam or dike breach using patterns in the heat image of an infrared camera. The time of breach can be predicted by combining the output of recognition software and models (weather forecast, strength of the dam or dike, geotechnical data). Consequently, early measures can be taken to prevent a breach or carry out a timely evacuation.

Description:

Dam and dike breaches occur globally on an annual basis and - through climate change, rising sea levels and ground subsidence - the chances of dike breaches and flooding increase constantly. According to conservative estimates, the social, environmental and economic damages run in the hundreds of millions of Euro's. By using this system, such damages can be (partially) prevented or reduced.

The system recognizes the mechanics causing a dam or dike breach using patterns in the heat image of an infrared camera. The time of breach can be predicted by combining the output of recognition software and models (weather forecast, strength of the dam or dike, geotechnical data). Consequently, early measures can be taken to prevent a breach or carry out a timely evacuation.

In the spring of 2012 the system has been deployed at an important dam in Vietnam, the 'De Ommelanders' sea dike in Groningen in the north of the Netherlands and many other dike locations in the Netherlands.

Innovations and advantages of the offer:

The IDS System is unique as it currently is the only real-time remote sensing system on the market. Many kilometers of dikes and dams can be inspected or monitored using a single system without affecting the integrity of the structure. The system can be operated in a flexible manner using fixed, semi-mobile or mobile systems and is easy to integrate in existing security and visualization systems.

Further Information:

N/A

Application:

The system can be used for inspection and monitoring of dams and dikes.

Space Heritage:

Since the beginning of space flight, infrared radiation has been used both for Astronomy and Earth Observation. For environmental monitoring and for safety & security applications, more and more advanced infrared technology has been developed over the past couple of years. This technology, in particular the sensors and the data transfer and compression technology, is used in the IDS System.

Broker comments:

The Cool Gas Generator is a unique way to produce different types of gas out of a solid material (grain). By starting the gas generator the solid charge is decomposed and the gas is released. Due to the innovative propellant and design, pure gas is produced at ambient temperature.

A Cool Gas Generator can produce Carbon Dioxide, Nitrogen, Oxygen (pure, MAC TGG8 for human use), Methane, Hydrogen or High Yield Gas.

The Cool Gas Generator can - in principle - replace all the existing compressed gas bottles being used in discontinue processes. Applications range from branches like Utility, ICT, Aerospace, Defence and Maritime. Security, reliability and total cost of ownership are the common denominators in all applications.

The company (EXXFIRE) is a former incubatee of ESA BIC Noordwijk and was supported by the Dutch Technology Transfer Programme (DTTP).