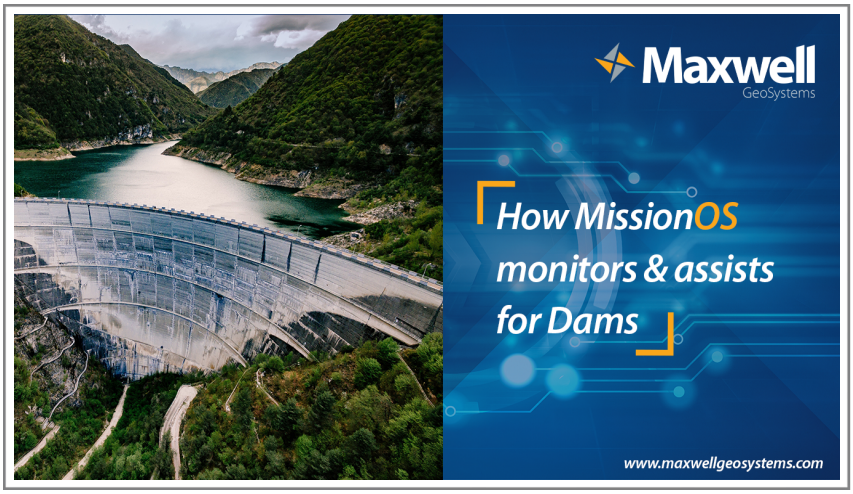
MissionOS

Maxwell GeoSystems

Media News

Dam monitoring through MissionOS



The construction of dams can pose a significant threat or risk to public safety and the environment if they are not built or monitored properly. Successful dam construction and performance monitoring requires multi-disciplinary controls covering soil and rock mechanics, hydraulics, seismology, environmental engineering, as well as civil engineering.

Dams are complex structures and there is a need for careful planning, design and construction to ensure smooth operations. One of the major risks associated with dam construction is that of dam failure. This can occur due to a number of reasons such as poor construction quality, design flaws, or even natural disasters such as earthquakes and / or heavy rainfall. Thus, is it critical to monitor the construction process to ensure that they are built to a high quality so that they will withstand the forces of nature over their design life and limit the possibilities of failure.

The use of construction process monitoring coupled with instrumentation and monitoring systems during the construction and operation of dams is of upmost importance. These systems can include measurement and tracking of machinery, in situ testing and monitoring using a variety of sensors, such as strain gauges, accelerometers, and pressure sensors to measure the performance of the dam during construction and impounding.

Through monitoring, engineers can identify any issues or potential problems before they become critical. It also allows project engineers to make any timely adjustments to the construction process to ensure high levels of safety that result in lower risks.

Maxwell GeoSystems' MissionOS system ensures projects are communicating and speaking a common language, and that quality data gets to where its needed quickly with useful tools to address construction concerns. With its GIS and real time 3D interface providing a rich contextual environment, MissionOS is a great place to collaborate utilising the ready-ability to extract data for analysis and republish the results for sharing.

Quality in construction needs testing and where better to manage this than in the MissionOS system, where data models are linked to configurable activity shift reports. The system is also able to load topographic and geology data digitally, as well as spatially reference documents and photos. Project engineers using MissionOS are able to load weather data, CCTV footage and other environmental feeds. MissionOS is also ideal as a platform for monitoring the dam asset throughout its lifetime managing maintenance inspections and tying these back directly to the data collected during construction.

Recently, MissionOS has been implemented for the Dam Automation Instrumentation Monitoring System, or DAIMS, to support The Public Utilities Board in Singapore, alongside Ryobi Geotechnique Pte. Ltd (Singapore) for the instrument installation and monitoring works.

Read more on the project: https:// www.maxwellgeosystems.com/news/instrumentation-monitoring-project

To find out more capabilities of the MissionOS system for dams, visit: https://www.maxwellgeosystems.com/applications/dam-construction-monitoring-software

#MGS #DamConstruction #InstrumentationMonitoring #RiskManagement #Safety #MissionOS

Date: 21/02/2023 **Ref: MGS-DAM 02**