



A.U.G SIGNALS INNOVATION HIGHLIGHT



Airborne
Underwater
Geophysical
Signals

COMPANY OVERVIEW

A.U.G. Signals Ltd. (AUG) is a technology company that originated as a defense R&D firm over 30 years ago. Through multiple collaborations with academic and industry partners, AUG established a reputation as a leading Canadian expert in developing advanced signal, data, and image processing solutions. AUG's intelligent water surveillance system, TRITON, is an example of such innovation. TRITON addresses global water monitoring challenges by offering continuous water quality data in real-time, using the most advanced online water sensors and signal processing methods.

LOCATION: TORONTO, ON

TECHNOLOGY



Internet of Things

TIME CONSUMING AND COSTLY WATER QUALITY SAMPLING

Many remote communities still rely on manual sampling of water quality, which is both time consuming and costly. The nearest certified laboratory can also be hundreds of kms away. This adds further delays to obtaining crucial water quality information. During COVID-19, there has also been a reduction in available personnel and service frequency. TRITON addresses this challenge by providing 24/7 remote monitoring of water quality, issuing instant alerts to operators using its predictive data analytics. It supports the operation and maintenance of water utilities at remote communities without requiring permanent trained operations on-site.

COLLECTING WATER QUALITY INFORMATION IN REAL TIME

TRITON integrates AUG's unique signal processing, multisource data fusion technologies and high-resolution spectrometry to provide accurate water quality information in real-time. TRITON empowers communities and water utility companies by allowing them to pre-emptively detect and diagnose problems in their own water distribution networks. TRITON is currently serving 19 First Nation communities in Ontario, the Health Inspection Agency in China, and IREN water utility in Italy.

SCALE AND FUNCTION TESTING THE TRITON APPLICATION

AUG Signals used the CENGN Testbed to validate the full functionality and scalability of their TRITON application and gained an understanding of the resources required to support operation at scale. The TRITON application handled 400 and 2000 concurrent users while receiving data from 100 and 500 simulated TRITON units. The TRITON application also handled 50 concurrent users while receiving data from 100 simulated TRITON units for a period of 24 hours. The TRITON application performed smoothly under normal load conditions. AUG Signals now knows their TRITON application functions correctly and scales well.

“This project supported AUG to enhance and exploit new business opportunities in the growing global markets for cloud services tailored to remote data management and communication.”

Dr. Cindy Hu

Director & Sr. Project Manager,
A.U.G Signals



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