

NANOMETRICS NEW INDUCED SEISMICITY MONITORING NETWORKS MONITOR SEISMIC ACTIVITY FOR OIL & GAS OPERATORS IN NORTH AMERICA



Nanometrics Inc. is the world-renowned expert in real-time seismic monitoring for critical operations, with 30 years' experience delivering superior solutions across the globe. The Kanata-based company has sales offices in Calgary, Houston and Beijing, employing a staff of 120 people engaged in operations, instrument design, software and hardware development, and service and installation.

Nanometrics recently launched an Induced Seismicity Monitoring (ISM) network in the Duvernay zone near Fox Creek, Alberta. The network uses the same highly sensitive and accurate technology used by regulators, enabling operators and regulators to see the same seismic data, with a greater level of detail.

We contacted the company to get more details on their historic journey in the Seismology business.

Q: CAN YOU TELL US ABOUT THE TYPES OF PRODUCTS AND SERVICES NANOMETRICS PROVIDES?

We are a world-class provider of precision instrumentation, network technology and software applications for seismological and environmental research. We also have an active research and development group that consists of scientists, geophysicists and seismologists, who are researching seismology and publishing papers on an ongoing basis.

Q: HOW DID NANOMETRICS FIRST GET THEIR START?

The company was started by Robin Hayman, who initially began the company as a geophysics consulting business. His first big break was a large software contract with the Geological Survey of Canada. He also designed a digital recorder that helped Nanometrics to get its start in instrumentation. The first customer was from Iceland who is still using the digitizer 25 years later.

Q: YOU'VE RECENTLY LAUNCHED AN ISM NETWORK IN THE DUVERNAY. CAN YOU TELL US A LITTLE MORE ABOUT THE TECHNOLOGY BEHIND THE NETWORK DEVELOPMENT AND ITS SIGNIFICANCE?

We entered the Oil & Gas market over four years ago, as our seismic technology and expertise is complementary to this market (hydraulic fracturing). We provide monitoring solutions for oil and gas operators who are using hydraulic fracturing to extract oil or natural gas ([Wiki definition here](#)). British Columbia (BCOGC) and the Alberta Energy Regulator (AER) regulate hydraulic fracturing and want operators to monitor for seismicity, whether that is naturally occurring or induced by fracking.

In the past, the public has associated seismicity with very large earthquakes in tectonically active areas such as California. Large events in the rest of North America have rarely been felt. Recently, these "felt" events have become more frequently detected in areas that are tectonically quiescent

(at least to the level of being felt by local residents) and it is thought that this is directly related to oil & gas operations (including fluid injection wells and hydraulic fracturing).

Independent induced seismic monitoring is key to the solution that we provide. Many oil and gas operators and regulators agree that operating within these regulations can be accomplished using a real-time induced seismicity monitoring and notification system. Acquiring, processing and posting accurate and reliable data in real-time is essential to the solution so that Oil & Gas operators can intervene before low magnitude events become large enough to be felt - and before regulators have to step in and take action.

Nanometrics offers a real-time monitoring system that directly addresses this issue. We work closely with operators, academia and geological surveys to establish an accurate and reliable monitoring system that will provide precise data and remove uncertainty and confusion from the equation. At the heart of our monitoring solution is sound science, supported by best-in-class instrumentation and in-depth knowledge of seismology.

STRATEGIC INTELLIGENCE
fueled by  SCIENCE



Q: HAS THIS TECHNOLOGY BEEN USED IN EARTHQUAKE FAULT ZONES IN OTHER AREAS AROUND THE WORLD?

Earthquake monitoring technology is our core business and has been so for 30 years. We are the world’s leading supplier of broadband seismometers and seismic monitoring networks, which monitor earthquake activity around the world, e.g. early warning systems for monitoring Tsunamis and Volcano eruptions. We provide mission critical seismic networks that provide analytical and diagnostic data to governments and institutions in earthquake prone countries as well as instrumentation for seismology and geophysics research applications. (You can see some of the public seismic networks that we monitor on athena.nanometrics.ca).

Q: HAS THE KANATA NORTH TECHNOLOGY PARK ALWAYS BEEN HOME FOR NANOMETRICS? WHAT ARE SOME OF THE BENEFITS OF HAVING YOUR COMPANY LOCATED IN THIS AREA?

Kanata North has always been home to Nanometrics. Located at the corner of Herzberg and Terry Fox Drive, the company originally rented the top half of the building at 250 Herzberg, which was later purchased and renovated by the company to expand the building. Two other buildings on Herzberg and Legget have since been purchased in order to accommodate the growing company, which includes R&D, Systems Engineering, Software Development, Sales & Marketing and Manufacturing.

One reason the company has done so well can be attributed to its state-of-the-art technology. However, they did point out that another key success factor in the stability and longevity of the company is directly attributed to its people. “We have individuals who have been working with us for over 20 years,” said Neil Sriggs, Co-CEO, Global Operations. “The importance placed on work-life balance is an important part of our culture, and this particular region seems to cater to that balance quite well, which contributes to us finding and retaining high calibre talent.”



WANTED: SCHOOL SUPPLIES!



Yes, it is that time of year! We are starting our Back to School Campaign at The Kanata Food Cupboard. Purchasing school supplies can put financial stress on many families. That is why the Kanata Food Cupboard provides school supplies to families in need in the community. We are looking for different groups and businesses to do “Back to School Drives” for us.

As part of our Back to School Campaign, we are looking for school supplies for both elementary and high school students. We are in need of all supplies, such as back-

packs, calculators (scientific), combination locks, markers, pencil crayons, math sets, duotangs, pencil cases, dictionaries etc.

Last year in Kanata we helped out about 63 families, which included 154 students of elementary-, high school- and college/university-age and 12 adults that were back in school.

Your help in making back to school time a positive experience for all Kanata children is greatly appreciated. Items can be dropped off at the Kanata Food Cupboard Warehouse location, 340 Legget Drive door #46, from Monday to Friday 9am–noon, or in any of our bins at all major grocery chains and the Walmart at the Kanata Centrum Shopping Centre.

If you have any questions, please email Karen Waters at coord@kanatafoodcupboard.ca.

