

# GLOBE PERFORMANCE SOLUTIONS



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## Industry News

### *“Smart Utilities and Sustainable Resources Management” – CIO Review*

[CIO Review](#) magazine published an article prepared by GLOBE Performance Solutions on “*Smart Utilities and Sustainable Resources Management*,” which appeared in last December’s “Utilities Technology Special” edition.



Utilities implementing smart technologies and networks face challenges in understanding the necessary equipment, information tools and data analytics solutions needed to effectively manage the data generated. Utilities considering smart infrastructure investments should have a detailed roadmap in place, not just for the necessary infrastructure, but also for the use of the data generated. Solutions should be customizable and meet the future needs of the utility.

There are five aspects to this:

- Stakeholder engagement–Determining relevant performance parameters that reflect the needs and priorities of the principal stakeholders
- Obtaining the right data–Acquiring and installing the core infrastructure to gather and analyze the data, including sensors, meters, systems, networks, and other automation software and hardware
- Managing the data–Storing the data in a functional manner that addresses the operational requirements of the utility
- Using the information derived from the data – Analyzing the data to reveal trends and patterns, and applying the information to address challenges and improve service efficiency
- Verifying system performance–Using performance benchmarking and verification to validate system design and outcomes within a transparent, quality-assured reporting framework

Stakeholders may also require independent verification of capital, operating and maintenance costs to determine return on investment and long-term financial sustainability. A pilot program can help utility managers better understand the achievable return on investment. The bottom line is that greater flexibility and functionality can be achieved by utilities incorporating smart technologies. Data analytics that target performance and system optimization ultimately lead to better planning and capital investment decisions. These integrated benefits translate into more effective asset management, service delivery, and sustainable resource stewardship.

The entire article may be accessed on the GLOBE Performance Solutions website by clicking [here](#).

## Drinking Water & Wastewater Protocols

[GLOBE Performance Solutions \(GPS\)](#) and the [Bureau de normalisation du Québec \(BNQ\)](#) entered into an agreement to harmonize procedures for verifying the performance of drinking water and domestic wastewater treatment technologies. This includes the development of two new protocols to provide guidance and a common approach for independently testing and verifying the performance of these technologies under controlled conditions.



Both Protocols have been posted on the Canadian ETV Program Website:

- [Protocol for Performance Testing of Drinking Water Treatment Technologies](#)
- [Protocol for Performance Testing of Domestic Wastewater Treatment Technologies](#)

## “Verification of Technologies Used for the Production of Drinking Water in Canada”

*The following is adapted from an abstract prepared by Jim Ferrero, Standards Development Coordinator, “Bureau de normalisation du Québec” (BNQ) for the 16<sup>th</sup> Canadian National Drinking Water Conference, October 2014*

Around the year 2000, the Québec government recognized the need for a performance verification program of new technologies being proposed to produce drinking water. The Québec government wanted to have an independent assessment and verification program for technical performance claims made by suppliers, based on a scientific demonstration of the performance and reliability of their technologies prior to provincial funding of new drinking water treatment plants. At about the same time, Environment Canada set up the Canadian Environmental Technology Verification (ETV) Program to help stakeholders, including municipalities, reduce the risks associated with innovative technologies related to protecting health and the environment. After several years, the Québec government and Environment Canada decided to explore the harmonization of both verification programs in order to facilitate and simplify the approval process for suppliers wanting to be recognized by both programs.

The Québec government mandated the BNQ (a standard development organisation accredited by the Standards Council of Canada), to establish an agreement for the mutual recognition of results with the Canadian ETV Program, administered by GLOBE Performance Solutions. In support of this, the Canadian ETV Program created a specific protocol to verify technologies used for the production of drinking water, based on the modified protocol used in Québec. It is expected that this harmonized protocol will assist provinces, municipalities and other regulatory authorities streamline the approval process for drinking water treatment technologies.



## Spotlight on the GPS Consortium

### PAMI - Off-road vehicle technology workshop

The [Prairie Agricultural Machinery Institute \(PAMI\)](http://climatechange.gc.ca/default.asp?lang=En&n=4FE85A4C-1#X-201206200904113) was recently invited to participate in a roundtable discussion on off-road vehicles, organized by Pollution Probe at Environment Canada’s River Road facility in Ottawa. Roundtable participants included stakeholders from government, industry and academic research who were asked to discuss the topic of emissions technologies and regulations in the heavy duty, off-road environment. Representatives from Environment Canada who attended the meeting were particularly interested in this topic, in light of the Canadian Government’s “Action Plan on Climate Change” goal to reduce GHG emissions from 2018 model-year heavy-duty vehicles by up to 23 percent. (Source: <http://climatechange.gc.ca/default.asp?lang=En&n=4FE85A4C-1#X-201206200904113>).



Some key challenges and topics discussed at the roundtable included:

- lack of unified standards around the globe for engine manufacturers.
- longer service life of off-road engines and vehicles compared to on-road engines.
  - for example, the ability for regulators to ensure that a production engine in a 2015 model year machine will still emit acceptable levels of emissions 20 or 30 years into the future.
- availability of (mostly illegal) kits to delete, disable, or modify the emissions equipment in the off-road industry, once stricter emissions regulations are implemented – similar to what has already taken place in the on-road industry
- need for exhaust after-treatment systems (current technology for emissions reduction in off-road engines) to function effectively in any environment where they are sold.
  - this includes colder climates, such as those in the Canadian prairies, Russia, and other regions of the world that are subjected to extremely cold temperatures.
  - current urea injection after-treatment systems utilizing DEF must deal with the fluid's high freezing point of -11°C, a temperature that is common in many areas of the world where heavy duty engines are required to operate.
  - as new regulations are phased in and new technologies are developed, manufacturers need to be diligent in their cold temperature validation and durability testing to ensure that emissions levels can be maintained in all outdoor environments.



This roundtable discussion served to raise a number of important issues relating to off-road vehicle technology. In many cases, the discussions resulted in a greater number of new questions than answers. Nevertheless, the overriding consensus was that the identification of “unknowns” is the critical first step in trying to understand and recommend solutions to many of the issues that exist and relate to emissions regulations.

PAMI has a 40-year history of applied research, design, build, and testing of heavy duty agricultural and industrial machinery and is located in chilly Humboldt, Saskatchewan and Portage la Prairie, Manitoba. PAMI is a member of the GLOBE Performance Solutions Consortium and has provided services as a Verification Expert for environmentally friendly products under the Canadian ETV program.



## Spotlight on ETV Clients and Verification

### Korea-Canada Co-Verification EnbioCons / SAFE Technology

GLOBE Performance Solutions and the Canadian ETV Program are pleased to announce the completion of the first ETV Co-Verification between Canada and Korea. In November 2014 representatives of [Enbiocons Co. Ltd.](#) (based in Seoul, Korea), the [Korea Environmental Industry & Technology Institute \(KEITI\)](#) and GLOBE Performance Solutions (GPS) gathered in Toronto to finalize the co-verification of EnbioCons Co.'s System for Sludge Advanced Fuel and Energy (SAFE) technology.



SAFE has been developed for sewage sludge drying, using a two-axis rotary type disintegrator in a hot air kiln dryer to increase the heat transfer area of sewage sludge fed into the inside of a rotary kiln, and thus drying



the sewage sludge with moisture content of 10% or less. Additional information about the technology and co-verification may be obtained by accessing the following links:

- [EnbioCons Co. Ltd. SAFE Technology Brochure](#)
- [Canadian ETV Program – Verified Technologies Website](#)

This marks an important milestone between both the Canadian and Korean ETV Programs and, in light of the recently signed Free-Trade Agreement between Canada and Korea, paves the way for future collaboration between technology companies in both countries.



## Upcoming Industry Events

### Alberta Onsite Wastewater Management Association (AOWMA) 2015 Convention and Trade Show, Edmonton, AB, March 5-8, 2015



GLOBE Performance Solutions looks forward to meeting you at the upcoming [AOWMA 2015 Convention and Trade Show](#).

On Thursday, March 5th, GPS will be making a presentation on the "[Protocol for Performance Testing of Domestic Wastewater Treatment Technologies](#)," recently published on the Canadian ETV Program website. For additional details on the Protocol, please also refer to "Industry News" / "Drinking Water / Wastewater."



### AMERICANA 2015 – Palais des Congrès de Montréal, QC, March 17-18-19, 2015



### GLOBE Performance Solutions Exhibit – Booth #211

GLOBE Performance Solutions looks forward to meeting you at this year's AMERICANA *International Environmental Technology Trade Show and Conference*. To mark the event's 20<sup>th</sup> anniversary, we are pleased to join forces on the trade fair floor with our GPS-Consortium partners, [Centre for Alternative Wastewater Treatment \(CAWT\)](#) and [Good Harbour Laboratories \(GHL\)](#).

The Centre for Alternative Wastewater Treatment (CAWT) at the School of Environmental and Natural Resource Sciences, Frost Campus, Fleming College in Lindsay, Ontario, is an internationally



recognized research institute committed to excellence in research and education. The CAWT conducts research in the areas of water and wastewater treatment science and communicates results in high quality publications. The Centre continues to expand research capacity and productivity over time.

Good Harbour Labs is a private company specializing in testing the performance of water treatment technologies. Located in Mississauga, Ontario, GHL's flexible pilot lab is capable of testing a wide variety of water technology from measurement devices such as flow meters to treatment devices such as filters. An on-site analytical lab can rapidly analyze for several common water contaminants, and arrangements with local qualified third party labs, provide clients with a full range of laboratory services.



Whether you represent a technology developer looking to advance in the market, a technology buyer seeking to confirm the performance of a prospective purchase – or any technology stakeholder wishing to learn more about performance benchmarking, testing and verification – then you will certainly want to visit the GLOBE Performance Solutions Booth to meet with our partners and learn more about the benefits of the Canadian ETV Program.

The AMERICANA International Environmental Technology Trade Show and Conference is one of North America's leading multi-sectorial events and is held every 2 years. For this year's event, organizers are expecting approximately 350 exhibitors, 200 speakers and 10,000 participants from more than 50 countries. Additional information can be found on the official website: <http://www.americana.org/en>

GLOBE Performance Solutions is pleased to offer complimentary trade fair passes to our clients and business partners (a value of \$30.00). Requests for trade fair passes should be made directly to Mark Heilig, Director of Operations, [mark.heilig@globeperformance.com](mailto:mark.heilig@globeperformance.com). Please note that ticket quantities are limited and distribution is subject to availability.

### **Stormwater and Wastewater Management Sessions – Tuesday, March 17, 2015**

Réseau Environnement and the Water Environment Federation will be organizing the following two sessions at AMERICANA 2015:



- (a) Innovation for utilities of the future - Moderator: Barry Liner, Water Environment Federation
  - 10:30 a.m. – Vulnerability assessments, resiliency developments and funding initiatives at a utility
    - Jonathan Reeves, District of Columbia Water and Sewer Authority (DC Water)
  - 11:00 a.m. – Financing innovative technologies in the water sector
    - Jonathan Grant, Research Manager, Water Tap Ontario
  - 11:30 a.m. – Potable reuse partnerships and regulatory advances
    - Ifetayo Venner, Wastewater Treatment Practice Technical Leader, Arcadis
- (b) Stormwater innovations - Moderator: Barry Liner, Water Environment Federation
  - 1:30 p.m. – Advances in pervious pavement
    - Doug Buch, President/CEO, PaveDrain, LLC
  - 2:00 p.m. – Performance testing and verification of stormwater filtration devices
    - John Neate, President, GLOBE Performance Solutions
  - 2:30 p.m. – Combined sewer overflow (CSO) improvements in Ottawa
    - Maxym Lachance, Project Manager, Municipal Water Division, Tetra Tech

### **Canadian ETV Program Innovative Technology Showcase – Thursday, March 19, 2015**



GLOBE Performance Solutions will collaborate with Environment Canada and Réseau Environnement to host AMERICANA's Canadian ETV Program Innovative Technology Showcase, which is generously sponsored this year by Environment Canada.

This session will take place on **Thursday, March 19<sup>th</sup> from 8:30 – 10:00 a.m.** and will showcase the practical application of environmental performance benchmarking and verification through illustrative examples. A panel of companies with innovative technologies that have participated in the ETV program will also share their experience of how ETV has helped them achieve greater market recognition.

Session Moderator: John Neate, President, GLOBE Performance Solutions

8:30 – 9:00 a.m. – Introducing environmental technology verification



Environment  
Canada

Environnement  
Canada

- Benoit Desforges, Environment Canada
- Paul Jiapizian, Environment Canada

9:00 – 10:00 a.m. – Achieving greater market recognition and commercial success with ETV

- Darryl Nelson, CEO, [Nelson Environmental Remediation Ltd.](#)
- Jean Lucas, Executive Vice President, [Eco Waste Solutions](#)
- Ralph Sheldrick, Director of International Sales, [Ozonator Industries Ltd.](#)
- Scott Perry, Director, [Imbrium Systems](#)



Attendees to the Technology Showcase Session will also learn how the Canadian Environmental Technology Verification (ETV) Program provides independent environmental performance verification of technologies, processes, and products based on measureable, quality-assured data and recognized protocols. In particular, our presenters will demonstrate how verified performance adds value in a number of ways for:

- Technology users and early adopters
- Technology investors and regulators
- Technology developers and companies with innovative technologies

Stay tuned for further details as they become available on the official website for AMERICANA 2015:  
<http://www.americana.org/en>.

**TRIECA 2015, Toronto, ON  
March 25-26, 2015**



The 4th Annual TRIECA Conference, organized by TRCA, will take place at the Pearson Convention Centre in Toronto on 25-26 March, 2015. TRIECA refers to the Toronto Region International Erosion Control Association. The TRIECA Conference brings together leading experts, influential leaders and research partners in the area of stormwater, erosion and sediment control.

TRIECA 2015 includes a Panel Session on "Performance Testing and Verification of Stormwater Practices".

Presenters will include:

- John Neate, GLOBE Performance Solutions (representing the Canadian ETV Program)

- Seth Brown, Water Environment Federation (representing STEPP)
- Joel Garbon, Imbrium Systems

Additional sessions of interest may be found on the TRIECA 2015 website:  
<http://www.trieca.com/home/program>

## Recent Meetings and Events

### "Armtec-Contech" Technical Seminar on Stormwater Management Technologies, Windsor, ON, February 13, 2015

GLOBE Performance Solutions attended and presented at the "Armtec-Contech" Technical Seminar on Stormwater Management Technologies in Windsor ON, organized by Contech Engineered Solutions and Armtec.

The presentation focused on GLOBE Performance Solutions' role as the official delivery agent for the Canadian ETV Program and our collaboration with the GPS-Consortium to complete performance testing and verification of stormwater management technologies. In particular, information was presented on a variety of initiatives relating to oil & grit separator technologies and filtration devices, including the development of [Procedure for Laboratory Testing of Oil-Grit Separators](#), the online [Stormwater Management Stakeholder Forum](#) and the [Water Environment Federation \(WEF\) Stormwater Testing and Evaluation for Products and Practices \(STEPP\)](#).

[CONTECH Engineered Solutions](#) is headquartered in West Chester, Ohio and develops and distributes site-specific civil engineering products related to storm water management, earth stabilization, erosion control, and wall and bridge structures. The company participated as a member of the Technical Advisory Committee during the preparation of the *Procedure for Laboratory Testing of Oil-Grit Separators*.



[Armtec](#) is one of Canada's largest infrastructure companies supplying precast, corrugated steel and HDPE products and solutions. The company is based in Concord, Ontario and is a national distributor for CONTECH Stormwater Solutions products in Canada.



### "Inuit Perspectives on Canada's Arctic Future" - Economic Club of Canada, Ottawa, ON, February 3, 2015

In light of the growing spotlight on Canada's North, GLOBE Performance Solutions was privileged to participate in the recent session on *Inuit Perspectives on Canada's Arctic Future*, hosted by the Economic Club of Canada in Ottawa.



In partnership with the national Inuit organization, Inuit Tapiriit Kanatami (translated: Inuit are United in Canada), the Economic Club of Canada presented an All-Inuk armchair discussion aimed at exploring regional perspectives on the vast opportunities and complex challenges for economic development in the Arctic, including highlighting areas of success and ongoing work. The event included presentations by the

Honourable Leona Aglukkaq, Federal Minister of the Environment, the Honourable Peter Taptuna, Premier of Nunavut, and Terry Audla President, Inuit Tapiriit Kanatami.

The session further demonstrated the increased need for “informed decision making” and “reduced uncertainty,” as communities in Canada’s North move ahead with ambitious economic development plans in the near future.

## **Greater Vancouver Clean Technology Expo & Championship - January 28, 2015**



Forty companies from across the Greater Vancouver region gathered at the Surrey City Hall Atrium to exhibit their clean technologies and also contend for the title of Greater Vancouver’s Clean Technology Champion. In addition to meeting with technology exhibitors, visitors to the first Greater Vancouver Clean Technology Expo and Championship were also able to attend three Powerhaus Workshops, focusing on strategic partnerships overseas, financing and clean technology deployment and innovation. Further details on the event may be access at: <http://www.surrey.ca/business-economic-development/16130.aspx>

## **CERIU - Congrès INFRA 2014, Montreal, QC December 1-2-3, 2014**



GLOBE Performance Solutions continues to work closely with our partners and clients in the Quebec market and looks forward to further developing our presence that will benefit Quebec’s municipal stakeholders.

To support our Quebec initiatives, GLOBE Performance Solutions enjoyed the opportunity to attend the « Congrès INFRA » which took place in Montreal from December 1 to 3, 2014.

The INFRA 2014 event was centred around the theme of moving “Towards a New Municipal Dynamic for Sustainable Urbanism” and served as an excellent nexus for productive debate among diverse groups of participants, including specialists in urban infrastructure and key decision makers from government and academia. GPS was particularly impressed by the active discussions on stormwater and drinking water management, urban sustainability projects and management of underground infrastructure, along with the growing recognition of performance verification as an integral part of future infrastructure development.

INFRA is organized by CERIU (Centre d'expertise et de recherche en infrastructures urbaines), a not-for-profit organization founded in 1994, which is known throughout Quebec for its wealth of expertise and research in urban infrastructure. The annual «Congrès INFRA,» focuses on the important role that infrastructure and planning play in the ongoing development of municipalities.

INFRA 2014 attracted nearly 1500 delegates, 45 exhibitors and facilitated delivery of 100 case studies to attendees. Additional information on INFRA may be found at: <http://www.ceriu.qc.ca/en/congres/infra-2014-congress>

## **QUEST 2014 – Quality Urban Energy Systems of Tomorrow, Vancouver, BC, December 1-2-3, 2014**



The importance of independent performance benchmarking and verification was once again reinforced at the recent QUEST 2014 Conference and Trade Show, held in Vancouver his past December.

As Canadian and international stakeholders from across the public and private sectors converged on the Vancouver event to discuss the changing face of energy and key drivers of Smart Energy Communities, it

was apparent that a number of barriers still exist which limit implementation of municipal Clean Energy Plans, including the uncertainty relating to technology performance. Particularly in the case of public sector initiatives, it is recognized that procurement managers are held accountable first and foremost to the taxpayers of their respective cities and municipalities. Moreover, during times of economic constraint, municipal spending tends to fall under even greater internal and public scrutiny.

Although an abundance of new technologies are developed annually and introduced to the market, the underlying key questions being asked are: "How can I be certain of this technology's performance?" and "How can our municipality or city be certain that we are getting the best value for our investment?" In many cases, the inability for purchasers to obtain independently verified performance data may hinder the adoption of the best solution, thereby resulting in a less-than-optimal solution being implemented. The solution has therefore become increasingly clear, as evidenced by a growing number of local governments, public organizations and authorities that are recognizing the need to incorporate technology verification criteria into their purchasing models.

QUEST is a non-profit organization that conducts research, engagement and advocacy to advance Smart Energy Communities in Canada by working with government, utilities, the energy industry, the real-estate sector, economic regulators, and the product and professional service sector.

QUEST 2014, the 8<sup>th</sup> annual QUEST Conference and Trade Show, attracted 30 exhibitors and over 300 delegates from Canada, and around the globe. QUEST's 9th Annual Conference & Tradeshow will be taking place in Toronto from October 26-28, 2015.

Additional information can be found on the official website at: <http://www.questcanada.org/>

### **Petroleum Technology Alliance Canada (PTAC) – "Energy Efficiency & Emissions Reduction Technologies Forum," Calgary, AB, November 18, 2015.**



In recent years, the petroleum industry has witnessed an ever increasing demand for improved energy efficient technologies that substantially reduce emissions. Both efficiency and emissions reductions present important areas of shared opportunity for government and industry stakeholders. In his presentation to PTAC industry leaders, GPS President, John Neate reinforced the importance and relevance of the Canadian ETV Program to the petroleum sector. In particular, he highlighted the significance of innovation, collaborative research and technology development within the Canadian hydrocarbon energy industry. Additional details on the presentation may be downloaded [here](#) from the [PTAC Events Website](#).

### **World Water-Tech North America Toronto, ON, November 12 – 14, 2014**



GLOBE Performance Solutions President, John Neate, moderated the two Technology Showcases which took place at World Water-Tech North America this past November.

A total of eight notable technology companies from Canada and around the globe presented snapshots of their technologies and the opportunities for investment:

- [AUG Signals](#) (Canada), Toronto, ON, Canada
- [Emefcy](#), Israel
- [NanoStruck](#), Mississauga, ON, Canada
- [Real Tech](#), Whitby, ON, Canada
- [The WatrHub](#), Toronto, ON, Canada
- [Xogen Technologies](#), Orangeville, ON, Canada

- [Noble Purification](#), Peterborough, ON, Canada
- [Zweec Analytics](#), Singapore

## **Center for Eco-Smart Waterworks System** **Toronto, ON, November 12, 2014**

On November 12, 2014 GLOBE Performance Solutions, along with EnbioCons Co. Ltd, KEITI, the Korean Ministry of Environment and the Centre for the Advancement of Trenchless Technologies (CATT) participated in a meeting with a visiting Korean water delegation comprised of municipal water/wastewater officials and engineering firms interested in Canadian technologies.

The meeting was organized by the Canadian and Ontario governments, [WaterTAP](#) and the Korean "[Center for Eco-Smart Waterworks System](#)" (SWS) and served to further promote trade, investment and collaboration among Canadian and Korean companies in the water management industry.



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