



DEVELOPING RESILIENT WATER SYSTEMS FOR A SUSTAINABLE FUTURE

March 2020 Newsletter

World Water-Tech Innovation Summit 2020

SPECIAL ISSUE

London – February 25-26, 2020

Join us at the **World Water-Tech Innovation Summit** in London on February 25-26 to explore how market leaders are moving forward from successful proof-of-concept to full integration of innovative water solutions.

The Event – Two days of discussion highlighting the latest industry developments across a range of topics, including flood resiliency, asset optimization, water analytics, industrial stewardship, wastewater treatment, and more.

Engagement with utility and municipality leaders, technology providers, engineering firms, government stakeholders, investors and water-tech start-ups from around the world.

Opportunity to connect before, during and after the summit through 1-1 meetings, an innovative technology showcase, dedicated networking breaks and a reception.

Major Summit partners include the following:



The World Water Innovation Fund (WWIF) is helping to protect the future of water for everyone around the world using an open innovation approach that encourages water companies to work together towards the rapid adoption of water technologies. Each WWIF member company allocates time and money to innovative technology research, development and demonstration, openly publishing the results, so that expertise, experience and resources can be shared on a global scale. Learn more at: <https://www.waterinnovationfund.com/about-us>



Department for
International Trade



The UK Department for International Trade (UK-DIT), is an important Summit partner, attracting large delegations from around the world, showcasing innovative solutions and forming productive business relationships. With professional advisors both within the UK and across more than 100 international markets, UK DIT helps companies succeed in the global economy. Learn more at: <https://www.gov.uk/government/organisations/department-for-international-trade>



VerifiGlobal

Thomas Bruun, VerifiGlobal Managing Director, will be attending the Summit. Book a 1:1 meeting with him at:
<http://meetings.worldwatertechinnovation.com>

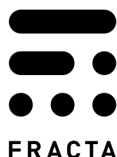
ATKINS

Atkins is a design, engineering and project management consultancy that delivers effective, reliable solutions throughout the water sector value chain, utilizing the latest digital technologies to improve asset management and performance. Learn more at: <https://www.atkinsglobal.com/en-gb>



Badger Meter is an innovator and leading manufacturer of flow metering and control solutions, serving the global flow measurement market with products for water utilities, district cooling, industrial and commercial markets.

Learn more at: <https://www.badgermeter.com>



Fracta shifts asset operation and management from reaction to prevention using machine learning to assess the condition and risk of drinking water distribution mains. This helps avoid disruptive water main breaks, improves leak detection and educates water utilities on the true costs and risks of aging water main infrastructure. Learn more at: <https://fracta.ai>

Innovyze®

Innovyze water infrastructure data analytics software helps global water utilities plan, manage, design, protect, operate and sustain highly efficient and reliable infrastructure systems. Learn more at: <https://www.innovyze.com/en-us>



Rezatec

Rezatec applies satellite data, machine learning, and data modelling to monitor critical water infrastructure. Rezatec helps its customers predict where leaks will occur, identify sources of pollution and reduce water treatment costs.

Learn more at: <https://www.rezatec.com>

If your 2020 goals include collaboration with international partners on innovative water solutions, join us at the World Water-Tech Innovation Summit in London on February 25-26, 2020.

View all speakers at: <https://bit.ly/39TfPSb>

Register at: <https://bit.ly/2CQPrcB>

rethink.



VerifiGlobal

VerifiGlobal will be attending the Summit. Please join us.

Register at: <https://bit.ly/2CQPrcB>

World Water-Tech Innovation Summit Speakers

The global line-up of Summit speakers includes:

Mads Leth, CEO, VCS DENMARK, DENMARK

Bob Stear, Chief Engineer, SEVERN TRENT, UK

Mark Fletcher, Global Water Business Leader, ARUP, UK

Peter Nicol, Global Vice President, Water, JACOBS, CANADA

Randy Hayman, Commissioner & CEO, PHILADELPHIA WATER, USA

David Balsar, General Manager, Innovation & Ventures, MEKOROT, ISRAEL

Miriam Berhane Russom, Senior Program Manager, Azure IoT, MICROSOFT, USA

Albert Cho, VP & General Manager for Advanced Infrastructure Analytics, XYLEM, USA

Maurizia Brunetti, Technical Director, Water Distribution System, GRUPPO HERA, ITALY

Michael Alexander, Head of Water, Agriculture & Environmental Sustainability, DIAGEO, UK

Adam Lovell, Executive Director, WATER SERVICES ASSOCIATION OF AUSTRALIA, AUSTRALIA

Cumali Kinaci, General Manager, ANKARA WATER AND SEWERAGE ADMINISTRATION, TURKEY

Julie Foley, Director of Flood Risk Strategy & National Adaptation, UK ENVIRONMENT AGENCY, UK

Marco Aurelio Pereira da Silva, Head of Projects, Process & Innovation, AEGEA SANEAMENTO E PARTICIPAÇÕES S.A, BRAZIL



WORLD WATER-TECH INNOVATION SUMMIT London, February 25-26, 2020

Recent additions to the speaking faculty include:



Randy Hayman
Commissioner & CEO,
PHILADELPHIA WATER
USA



Bob Stear
Chief Engineer,
SEVERN TRENT
UK



Mads Leth
CEO,
VCS DENMARK
Denmark



David Balsar
General Manager –
Innovation & Ventures,
MEKOROT, Israel



Peter Nicol,
Global Vice President –
Water,
JACOBS
Canada



Maurizia Brunetti
Technical Director,
GRUPPO HERA
Italy



Miriam Berhane Russom
Senior Program Manager
– Azure IoT,
MICROSOFT
USA



Mark Fletcher
Global Water Leader,
ARUP
UK



Julie Foley
Director of Flood Risk
Strategy & National
Adaptation,
UK ENVIRONMENT
AGENCY, UK



Albert Cho
VP & General Manager
for Advanced
Infrastructure Analytics,
XYLEM, USA



Michael Alexander
Head of Water, Agriculture
& Environmental
Sustainability,
DIAGEO
UK



Marco Aurelio Pereira da Silva
Head of Projects, Process
& Innovation,
AEGEA SANEAMENTO E
PARTICIPAÇÕES S.A
Brazil



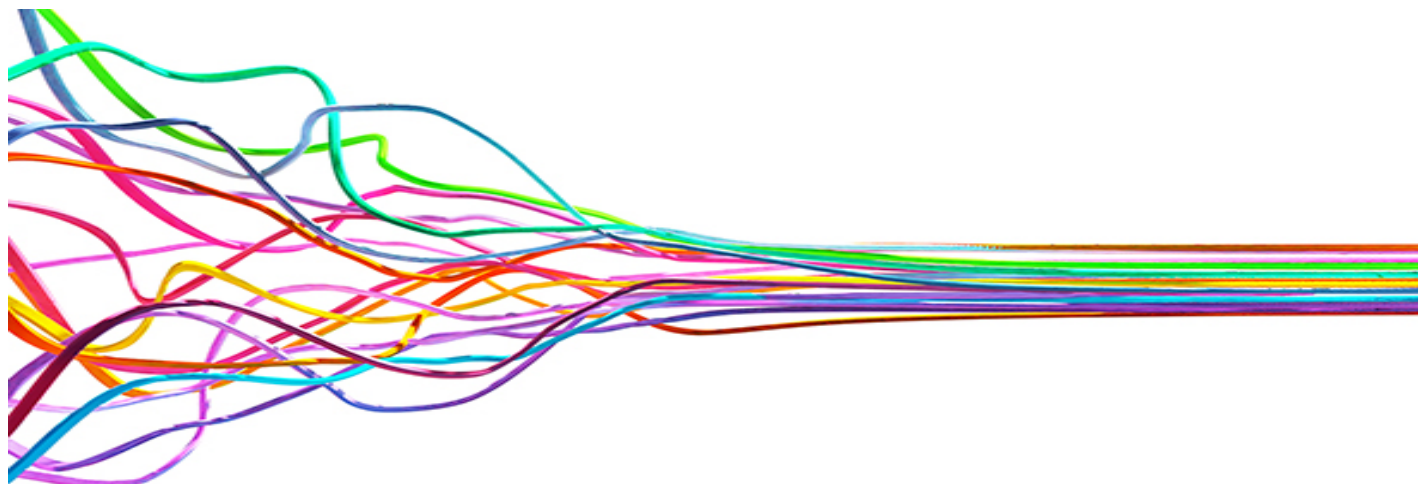
Cumali Kinaci
General Manager,
ANKARA WATER
AND SEWERAGE
ADMINISTRATION
Turkey



Adam Lovell
Executive Director,
WATER SERVICES
ASSOCIATION OF
AUSTRALIA, Australia

View all speakers at:
<https://bit.ly/39TfPSb>

SUMMIT-RELATED THEMES EXPLORED IN THIS NEWSLETTER



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1. Collaborative Innovation and Clean Growth

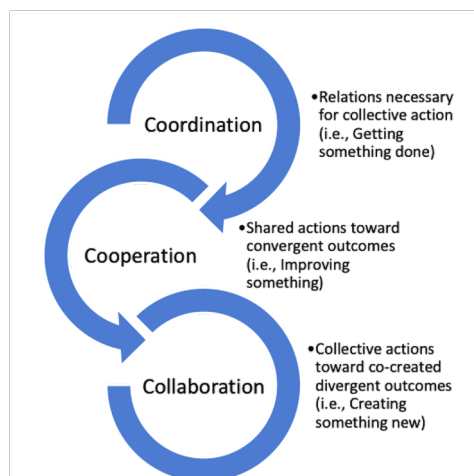


VerifiGlobal Goal: Advancement and deployment of innovative, sustainable solutions that protect and enhance environmental quality.

Strategy: Recognition and acceptance of technology performance verification within key economic sectors as a means of reducing risk associated with the adoption of new technologies that help meet environmental and sustainability targets.

Actions:

- * Effective dialogue and new ways of thinking to raise awareness about economic, social and environmental resiliency.
- * Engagement and participation of companies, industry associations, government agencies and other stakeholders in identifying technology needs and generating the data required to reliably inform and continuously improve decisions.
- * Cooperation and collaboration with committed public and private organizations that have practical experience in using, implementing and financing new innovations.
- * Establishment of the VerifiGlobal Forum to promote a collaborative innovation culture.



How this aligns with Water Summit Goals:

- * **Prioritizing water resiliency across people, processes and technology**
- * **Development and implementation of transformative water technologies that support clean growth and the circular economy**
- * **Creation of an innovation culture to demonstrate and assess new technologies**
- * **Moving from proof of concept to full integration of innovations in day-to-day operations**



Innovative technologies are essential for the development and implementation of comprehensive solutions that support the transformation from 'business-as-usual' to a more integrated, resource efficient 'circular economy'.

ISO 14034 verification provides a reliable, internationally accepted framework for demonstrating and assessing new technologies that may be novel or unique. Using the ISO 14034 standard, VerifiGlobal is able to independently verify the quality and reliability of innovative technology demonstration results and environmental performance claims. This benefits companies with innovative technologies seeking acceptance within a competitive global marketplace.

Collaborative Innovation and Clean Growth is a key theme of the London Water-Tech Innovation Summit and one of the reasons VerifiGlobal is pleased to be a partner.

You can also join the **Innovation in Action Tour** of Anglian Water's 'Shop Window' on February 27 and hear from technology innovators, at the frontier of leakage and carbon reduction.

Register at: <https://bit.ly/2CQPrcB>

2. Watershed Management and Sustainability



VerifiGlobal Goal: Address threats to water resiliency and sustainability through the advancement and deployment of innovative, sustainable solutions that protect environmental quality and the regenerative capacity of ecosystems.

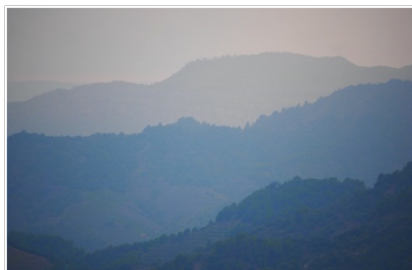
Strategy: Strengthen global capacity to undertake performance benchmarking, testing and verification in the water sector, ensuring that performance reporting on water technologies and infrastructure solutions is clear, objective, and useful to interested parties.

Actions:

- * Defining performance objectives for watershed management solutions to help municipalities, utilities and other water sector stakeholders make informed choices, balancing the risks and returns of investing in green infrastructure.

- * Providing access to a robust, quality-assured verification platform with established methods and procedures, based on accepted international standards.

- * Encouraging broader acceptance of effective watershed management technologies and strengthen the business case for users, operators, regulators and investors to invest in and implement innovative watershed management technologies.



Global threats to water security, resiliency and sustainability derive from population growth, rising demand for water resources, jurisdictional disputes, and the effects of climate change.

At the local level, water resiliency and sustainability require effective access, movement, treatment and transformation of water for multiple purposes.



The new paradigm for water resiliency and sustainability is based on watershed and ecosystem carrying capacity, climate change adaptation, and the integration of water and energy efficiency across all production and consumption activities in all sectors.

Resilient, sustainable water management is a continuum, which both supports and depends upon decisions and subsequent actions based on measurement, analysis and feedback.

How this aligns with Water Summit Goals:

- * **Balancing the risks and returns of investing in green infrastructure and designated wetlands**

- * **Developing synergies and efficiencies between private stewards and public utilities**

- * **Solving the critical challenges of reducing water use and improving quality across watersheds**

- * **Capturing large volumes of rainfall without building costly infrastructure**

Watershed Management and Sustainability is a major underlying theme of the London Water-Tech Innovation Summit.

Take part in the **Flood-Tech Workshop** on February 24 to explore how the global water industry can meet the challenges of extreme flooding events and how the latest flood prevention, prediction and mitigation technologies can be implemented.

Register at:
<https://bit.ly/2CQPrcB>



3. Water Efficiency, Resource Recovery and Reuse



VerifiGlobal

VerifiGlobal Goal: Balancing stable, predictable infrastructure investments with flexible, adaptive solutions that optimize water efficiency, resource recovery and reuse.

Strategy: Encourage integrated technology demonstrations throughout the water cycle supported by performance benchmarking and verification.

Actions:

- * Engaging with small and rural communities to encourage the adoption and use of new water reuse technologies and closed water systems.
- * Enhancing technology demonstration and verification initiatives by providing reliable performance information to support water reuse and resource recovery.
- * Encouraging technology development, deployment, and verification to support building-scale water reuse, disaster response, and other small and remote systems applications.

How this aligns with Water Summit Goals:

- * Integrating water reuse technologies and closed water systems
- * Using technology to capture the maximum value from wastewater
- * Reducing energy use in water and wastewater treatment
- * Utilizing grey water in new developments



Safe and reliable water reuse systems rely on technologies that are demonstrated to be responsive and resilient to diverse sources of water while meeting the specific requirements of various reuse applications.

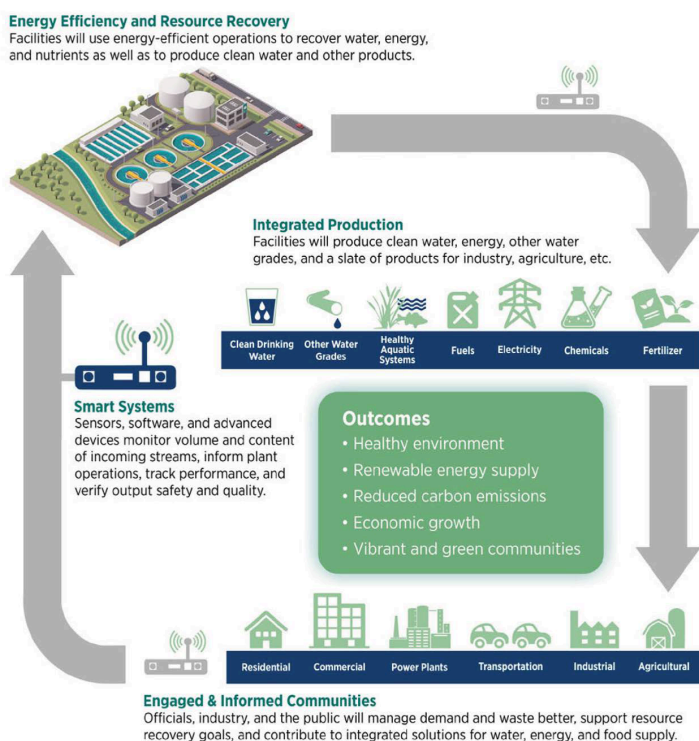
Water reuse opportunities exist across a full spectrum of water technology applications from collection and distribution, to treatment, to operations and maintenance. The ability to effectively operate, maintain and integrate with these systems relies on efficient data management, dependable communications, real-time control, and strategic asset management.

Water Efficiency, Resource Recovery and Reuse is an important underlying theme of the London Water-Tech Innovation Summit and is expected to be major topic of discussion.

Register at: <https://bit.ly/2CQPrcB>

Image on left, "Model of water resource recovery facility of the future", is adapted from the 2015 NSF, U.S. DOE, and U.S. EPA report, "Energy-Positive Water Resource Recovery Workshop Report":

https://www.energy.gov/sites/prod/files/2016/01/f28/epwrr_workshop_report.pdf



4. Digital Integration and System Optimization



VerifiGlobal Goal: Optimization of efficiency improvements in the measurement, management and performance of technologies and infrastructure for treating, protecting and conserving water.

Strategy: Digital integration throughout the water cycle incorporating innovative 'smart water' sensors and advanced monitoring technologies.

Actions:

- * Identifying and tracking the development of 'smart water' sensors, advanced monitoring technologies, infrastructure options, and best management practices.
- * Verifying and reporting on the performance of innovative sensors and advanced monitoring technologies.
- * Establishment of an inventory of verified sensors and advanced monitoring technologies that municipalities, utilities and other stakeholders can draw upon.
- * Creating greater market awareness of the value of digital integration and innovative solutions that address environmental priorities.



How this aligns with Water Summit Goals:

- * Capturing the value of digital integration
- * Adaptation and transformation of supply chains towards digital integration across water networks
- * Innovations in data analytics to optimize water systems operations



Challenges related to the extraction, delivery, and sustainable use of water represent opportunities to test and scale innovative water technologies and resilient solutions in an integrated way throughout the water cycle.

Coupled to this is the application of new "smart" water tools and systems to gather meaningful and actionable data about the flow, pressure, distribution and quality of water. The combination of affordable, high quality sensors and new technologies means safer and more reliable operations for a diverse range of water/wastewater facilities and infrastructure (both centralized and decentralized), equating to more effective risk management and better informed decisions.

Digital Integration and System Optimization is a key theme of the London Water-Tech Innovation Summit where you can learn more about managing water and wastewater system performance using sophisticated granular information that can be shared with other infrastructure networks.

Register at: <https://bit.ly/2CQPrcB>

5. Accelerating Project Financing



VerifiGlobal

VerifiGlobal Goal: Directed transformations to encourage public and private investments in effective, innovative technologies that achieve time-bound, sustainability goals.

Strategy: Comprehensive design and policy coherence to ensure technical feasibility, efficient investment, and buy-in from all parts of society.

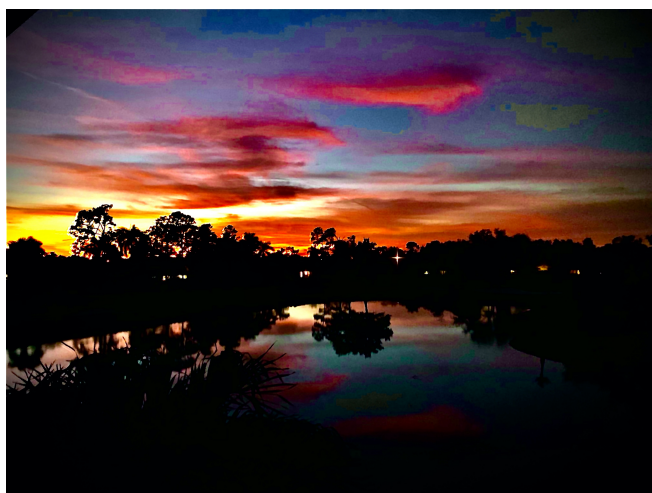
Actions:

- * Understanding the technical and market challenges for acceptance, adoption and use of innovative technologies, and the role of independent performance measurement, analysis and feedback.

- * Use of ISO 14034 verification to support transparent, evidence-based decisions and value-based investment and procurement.

- * Sharing of performance data and best practices amongst affected stakeholders and communities of interest.

- * Management of stakeholder expectations to achieve market acceptance and adoption of innovative technologies with positive performance outcomes.



How this aligns with Water Summit Goals:

- * Accelerating public-private partnerships, green infrastructure and deployment of advanced water technologies

- * Addressing opportunities and barriers to investment in upgrading water related assets

- * Optimizing water project financing and risk management



With the global market for environmental technologies and services exceeding \$1 trillion per year, it is essential to strengthen the capacity of decision-makers to identify, assess and invest in 'clean' technology-based solutions.

The effective deployment of innovative water technologies and infrastructure solutions can greatly benefit from evidence-based performance benchmarking and verification. Investment fund managers, industry and regulatory agencies can use ISO 14034 verification to determine the performance of a technology, or suite of technologies, through a comprehensive assessment based upon established criteria and rigorous technical analysis using scientifically and statistically valid protocols.

Verifying the performance of technology options against criteria that reflect stakeholder needs and expectations leads to informed decision-making and creates a level playing field for solution providers, solution adopters and other stakeholders, which in turn facilitates the development and deployment of effective, sustainable solutions.

Accelerating Water Project Financing is a key exploratory theme of the London Water-Tech Innovation Summit and one of the primary reasons for attending.

Register at: <https://bit.ly/2CQPrcB>



Project Update

US EPA ASSNSC

The US EPA Advanced Septic Sensor Nitrogen Sensor Challenge (ASSNSC) has now completed a comprehensive screening process to determine eligibility of nitrogen sensors for a six-month field verification test at the Massachusetts Alternative Septic System Test Center (MASSTC) in Barnstable County, Massachusetts.

Battelle Memorial Institute (Battelle) will oversee the field testing of the sensors, in accordance with the International Organization for Standardization (ISO) standard *ISO 14034:2016 - Environmental Technology Verification (ETV)*. Verification reports and statements will be prepared for sensors that complete the six-month field testing and meet the minimum performance goals. In 2021, following the release of the verification reports and statements, it is anticipated an order of 200 deployable septic sensor units may be presented to the best performing sensor(s).

This innovative technology demonstration project is providing a credible platform for sensor developers to improve and optimize their technologies. Project features include stakeholder participation in identifying and refining sensor performance goals, and the development of a nitrogen sensor testing Test/Quality Assurance Plan (T/QAP).

A key benefit of the project is the enhanced potential for global acceptance of verified nitrogen sensor performance made possible through application of the ISO 14034 ETV standard. As the project progresses from technical validation of innovative prototype sensors to verification and market acceptance of commercially viable technologies, it will remain important to continue to explore and better understand operational requirements and functionality in relation to performance expectations and the intended market deployment of these technologies.

Funding for the testing program is provided by the US EPA Office of Research and Development and the Office of Water/Wastewater Management.

For more information, contact:

Gail DeRuzzo, Battelle - E: deruzzo@battelle.org

Amy Dindal, Battelle - E: DindalA@battelle.org

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Background on VerifiGlobal and the VerifiGlobal Alliance

VerifiGlobal is an international platform comprised of member organizations that conduct independent performance testing and verification of environmental technologies in accordance with the ISO 14034 ETV Standard. VerifiGlobal operates under the purview of ETA-Danmark A/S, which is accredited by Danish Accreditation (DANAK) to conduct ISO 14034 verification in conformity with requirements of ISO 17020.

As a member of the VerifiGlobal Alliance, **Battelle** has successfully completed the VerifiGlobal Peer Assessment Process and as such is recognized as a competent body with the expertise and capabilities to conduct ISO 14034 verifications according to the requirements of ISO 17020 and ISO 17025.

MASSTC is also a member of the VerifiGlobal Alliance. The MASSTC facility can accommodate over 20 concurrent tests, allowing companies to conduct research and development on their products or complete any number of standardized test protocols. In addition to technology and product testing, MASSTC conducts research on questions relating to pathogen transport, removal of pharmaceuticals and personal care products, and a range of other topics.

The **VerifiGlobal Alliance** is committed to:

- Understanding the technical and market challenges for acceptance, adoption and use of innovative technologies, and the role of independent performance measurement, analysis and feedback;
- Applying ISO 14034 verification to support transparent, evidence-based decisions and value-based investment and procurement;
- Sharing performance data and best practices amongst affected stakeholders and communities of interest;
- Managing stakeholder expectations to achieve market acceptance and adoption of innovative technologies with positive performance outcomes.





VerifiGlobal

Forthcoming Events in 2020

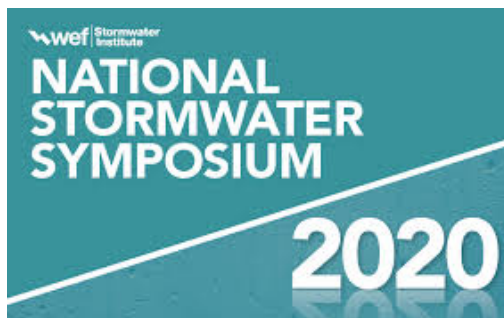
Opportunities to promote VerifiGlobal and ISO 14034 ETV verification.

Feb 2020	<ul style="list-style-type: none"> - GLOBE Forum, Vancouver Canada, 10-13 Feb - World Water-Tech Innovation Summit, London England, 25-26 Feb
March 2020	<ul style="list-style-type: none"> - National Stormwater Symposium, Cincinnati OH USA, 15-17 March - TRIECA Stormwater and Erosion Control Conference, Toronto Canada, 25-26 March - Sustainability Summit 2020, London England, 26 March - WEF Residuals and Biosolids Conference, Minneapolis MN USA, 31 March – 03 April
April 2020	<ul style="list-style-type: none"> - NASTT No-Dig Trenchless Technologies Conference, Denver CO USA, 5-9 April - WEAO Technical Symposium and OPCEA Exhibition 2020, Toronto Canada, 26-28 April - Florida Water Resources Conference, Palm Beach County, FL USA, 26-29 April
May 2020	<ul style="list-style-type: none"> - Blue Cities Forum 2020, Toronto Canada, 7-8 May - World Water Congress XVII, Daegu Republic of Korea, 11-15 May - 2020 Trenchless Technology Road Show, Niagara Falls ON Canada, 20-21 May - 12th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Portland OR USA, 31 May - 4 June
June 2020	<ul style="list-style-type: none"> - WEF Collection Systems Conference, El Paso TX USA, 02-05 June - Canadian Water Summit, Ottawa Canada, 10-12 June - ACE 2020 American Water Works Association Conference and Exposition, Orlando FL USA, 14-17 June - Sustainability Research & Innovation 2020, Brisbane Australia, 14-17 June - TechConnect World Innovation Conference & Expo, National Harbor MD USA, 29 June – 01 July - Air & Waste Management Association Conference & Exhibition, San Francisco CA USA, 29 June – 02 July
Sept 2020	<ul style="list-style-type: none"> - International Conference on Circularity in the Built Environment, Delft Netherlands, 22-24 September - European Conference on Sustainable Cities and Towns, Mannheim Germany, 30 Sept - 2 Oct - Canadian Environmental Engineering Conference, Vancouver BC Canada, 30 Sept - 2 Oct
Oct 2020	<ul style="list-style-type: none"> - WEFTEC 2020, New Orleans LA USA, 3-7 Oct - IWA World Water Congress & Exhibition, Copenhagen Denmark, 18-23 Oct - World Water-Tech North America, Los Angeles CA USA, 27-28 Oct
Nov 2020	<ul style="list-style-type: none"> - 12th International Exhibition & Conference on Trenchless Technology, Kuala Lumpur Malaysia, 17-18 Nov - Association of Equipment Manufacturers Annual Conference, Napa CA USA, 18-20 Nov

Contact us about joining the VerifiGlobal Forum - Access, Engagement, Alignment

Ready <u>access</u> to:	Meaningful <u>engagement</u> through:	Effective <u>alignment</u> in:
<ul style="list-style-type: none"> - Services provided by qualified performance testing and verification organizations that are members of the VerifiGlobal Alliance; - Verified environmental technologies, solutions and business opportunities available through progressive companies that are part of the VerifiGlobal Solutions Network. 	<ul style="list-style-type: none"> - Dialogue with other committed organizations with practical experience in evaluating, using, implementing and financing new innovations; - Reliable information to inform and continuously improve decisions based on appropriate benchmarks, supported by quality-assured performance verification; - New ways of thinking to raise awareness about economic, social and environmental resiliency; - Participation in the development of new verification protocols for technologies of interest. 	<ul style="list-style-type: none"> - Advancing and deploying innovative, sustainable solutions to protect and enhance environmental quality and the regenerative capacity of natural ecosystems ... with measurable results; - Addressing stakeholder needs and market opportunities in meeting sustainability goals, facilitating the transformation towards a sustainable future. 

WEF National Stormwater Symposium 2020 - Cincinnati, Ohio - March 15-17, 2020



Key Topics:

Identifying Priorities and Addressing Risks, including: Project Evaluation and Prioritization; Green Infrastructure for Long-Term Provision of Ecosystem Services; Risk Assessment; and Predictive Analytics.

Stormwater Action Planning and Integrated Watershed Management, including: Managing Storm Water Assets to Maintain Water Quality, Beneficial Use, and Stream Integrity.

Technology Innovation for Stormwater Management, including: Testing and Verification; Cooperative Research Partnerships; and Pilot Projects.

Computer Based Innovation for Stormwater Management, including: Modernizing Stormwater Programs through Digital Transformation; Adaptive Real-time Controls; and Machine Learning to Confirm Green Infrastructure Performance for CSO Management.

Communications and Engagement, including: Measuring the Impacts of Resident Engagement on Water Resources; and the Role of Strategic Communications when Implementing a Stormwater Fee.

Water Resiliency, including: Ecologically Sustainable Solutions to Climate and Urban Flooding; Near Real-time Flood Threat Recognition to Improve Resiliency in Urban, Peri-urban and Natural Watersheds; and Locating 'Bluebelt' Stormwater Management Systems in Dense Urban Areas.

Tools for Quantifying and Monetizing Green Infrastructure Co-benefits, including Enhancing Stream and Floodplain Restoration Projects Through Property Acquisitions; How Environmental Impact Bonds Work; Implementing Green Infrastructure to Comply with Unique CSO Consent Decree Requirements; Holistic Stormwater Management with Community-enabled Lifecycle Analysis of Stormwater Infrastructure Costs (CLASIC); and Evolution of Stormwater Utilities to provide Incentives for Green Infrastructure in CSO Communities.

For more information:

<https://stormwater.wef.org/event/wef-national-stormwater-symposium-2020/>



TRIECA 2020

Brampton, Ontario - March 25-26, 2020

Toronto and Region Conservation Authority (TRCA) and the Canadian Chapter of the International Erosion Control Association (IECA) are hosting the annual TRIECA Conference. TRIECA is Canada's premier stormwater and erosion and sediment control conference, bringing together leading experts, influencers and distinguished research partners. Together, these participants play a defining role in shaping the future direction of the stormwater, erosion and sediment control and natural channel design industries. The conference format includes two full days of concurrent speaker sessions presenting the latest technological innovations, case study findings and academic research. TRIECA also features an industry tradeshow, offering delegates the opportunity to speak directly with representatives from a wide variety of leading solutions providers.

For more information: <https://trieca.com>



National Watershed & Stormwater Conference
Austin, Texas - April 14-17, 2020

This is another important event where Greg Williams, Director of Water Quality Technology at StormTrap, will be making the case for a central source of quality assured stormwater technology performance information. Greg notes that: *"Performance data currently available to decision-makers is often provided by manufacturers and, although much of this data is derived from reputable sources, it is difficult for many decision makers to navigate these sources to confirm the data ... and in some cases the quality of the data is not assured"*.

Greg argues that a solution to this is the establishment of a central source of quality assured information. He points out that the Stormwater Testing and Evaluation of Products and Practices (STEPP) initiative, headed by the Water Environment Federation (WEF), is leveraging resources from several different organizations in order to improve the way data is produced and reported going forward. He further suggests that the ISO 14034 Environmental Technology Verification (ETV) Standard provides a best practices framework, which can help programs like STEPP progress in providing tangible, quality-assured technology performance information for end users.

For more information:

<https://www.cwp.org/2020-national-conference/>

2020 Chlorinated Conference

May 31-June 4, 2020 | Portland, Oregon

The Twelfth International Conference on Remediation of Chlorinated and Recalcitrant Compounds will be held May 31-June 4, 2020, in Portland, Oregon, at the Oregon Convention Center.

Battelle's Chlorinated Conference is one of the world's largest and most comprehensive meetings on the application of innovative technologies and approaches for characterization, monitoring and management of chlorinated and complex sites.

The 2020 Conference will include more than 1,000 platforms and posters in 88 breakout sessions, plus five panel discussions.

Sessions and panels are organized according to thirteen major topic areas, that will address the innovative application of existing and new technologies and approaches for characterization, treatment and monitoring of chlorinated and other recalcitrant compounds and emerging contaminants in various environmental media. Risk, regulatory, site management/closure and sustainability issues associated with these technologies will be discussed. Presentations will emphasize cutting edge research to address current environmental challenges, recent advances in site characterization, new developments in remediation technologies, and field applications to achieve site closure.

Sessions include the following major topics:

- Remediation Technology Innovations
- Emerging Contaminants
- International Environmental Remediation Markets
- Characterization, Fate, and Transport
- Petroleum and Heavy Hydrocarbon Site Strategies
- Metals
- Assessing Remediation Effectiveness
- Vapor Intrusion
- Advanced Diagnostic Tools
- Addressing Challenging Site Conditions
- Fractured Rock and Complex Geology
- Technology Transfer and Stakeholder Communications
- Green and Sustainable Remediation

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Panel discussions include:

- * Should We Develop PFAS Ambient Levels: Why and How?
- * Perspectives, Paradigm Shifts, and Implications of Evolving Developments in PFAS Chemistry, Toxicity, Transport, and Remediation
- * Integrating Systems-Based Monitoring and Predictive Modeling into Adaptive Site Management
- * Investigating and Remediating a Major Chlorinated Solvent DNAPL Site
- * Remediation Geology, Remediation Hydrogeology, and Process-Based CSMs Support Complex Site Remediation



Program at a Glance

Sunday, May 31, 2020

8:00 am-5:00 pm - Short Courses

6:00-9:00 pm - Welcome Reception, Exhibits, Poster Displays

Monday, June 1, 2020

8:30-10:30 am - Plenary Session "Climate Change: Insights from Science, Imperatives for Action" featuring Dr. Rosina Bierbaum (Dean Emerita, School of Natural Resources and Environment, University of Michigan; Weston Chair in Natural Economics, University of Maryland).

12:10-4:20 pm - Platform Presentations

4:30-6:30 pm - Poster Presentations and Reception

Tuesday, June 2, 2020

8:00 am-1:50 pm - Platform Presentations

1:50 pm - Technical Program Recess

2:00-6:00 pm - Short Courses, KaBOOM! Playground Build

Wednesday, June 3, 2020

8:00 am-4:20 pm - Platform Presentations

4:30-6:30 pm - Poster Presentations and Reception

Thursday, June 4, 2020

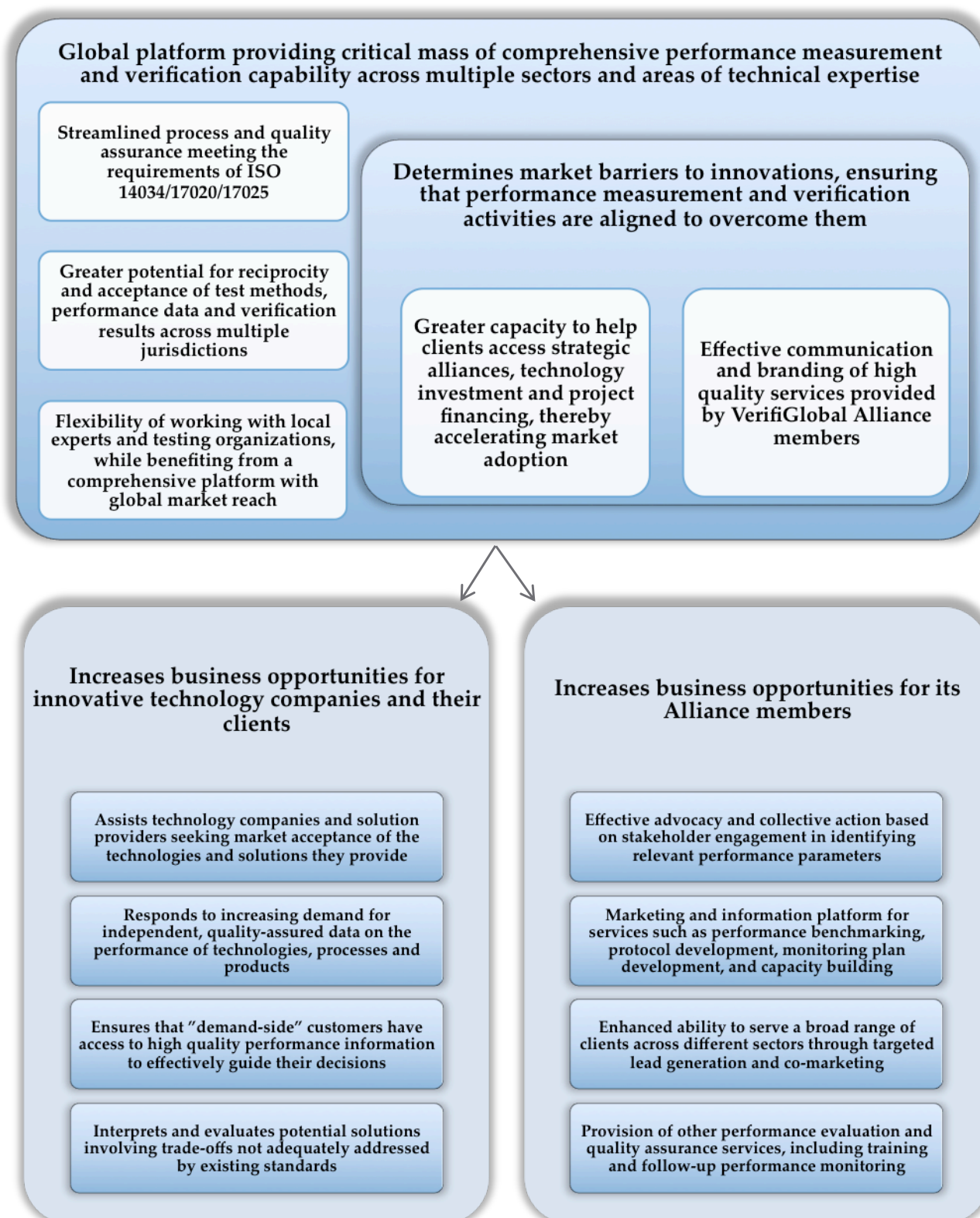
8:00 am-4:20 pm - Platform Presentations

4:30 pm - Closing Cocktail Reception

The Preliminary Program is now available at:

https://www.battelle.org/docs/default-source/newsroom/chlorinated-conference/2020chlor_final-preliminary-program_12-18-19.pdf?sfvrsn=939cdad1_8

VerifiGlobal and the VerifiGlobal Alliance



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The VerifiGlobal Alliance is a global network of 13 organizations providing testing and verification services across multiple sectors and areas of expertise. Current member organizations are - Battelle (USA), CAWT (Canada), CMI (Australia), ETA-Danmark (Denmark), Eurofins (Finland), GHL (Canada), IETU (Poland), KTL (South Korea), MASSTC (USA), RESCOLL (France), Southern Research (USA), TRCA-STEP (Canada), 350Solutions (USA).

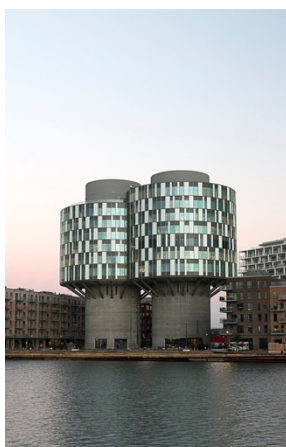
VerifiGlobal Alliance members demonstrate their conformity with the requirements of ISO 14034 and ISO 17020 through a peer assessment process designed in accordance with the requirements of ISO 17040.

Contact VerifiGlobal about joining the VerifiGlobal Alliance.

The VerifiGlobal Solutions

Network is comprised of progressive, forward-looking companies with innovative technologies that have been independently verified in accordance with the ISO 14034 ETV standard and the VerifiGlobal Performance Verification Protocol.

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The VerifiGlobal Forum has been established to engage with cooperative and supportive organizations that recognize the importance of innovative technology solutions to address global challenges and the value of independent quality-assured technology performance testing and verification.

Contact VerifiGlobal about participation in the VerifiGlobal Forum.

ETA-Danmark A/S, a subsidiary of Danish Standards, hosts the VerifiGlobal Secretariat. Accredited by Danish Accreditation (DANAK) in accordance with ISO 17020, ETA-Danmark is the Danish verification body for both ISO 14034 ETV and the EU ETV Pilot Programme. For information on ETA-Danmark, contact Thomas Bruun: tb@etadanmark.dk

For more information about VerifiGlobal, go to: www.verifiglobal.com