









W-SMART 2017 International Workshop

Water Security Management Assessment, Research & Technology

"SUNRISE - H2020" Colloquium

Smart Utility Network for Resilient Infrastructure & Sustainable Eco-security

Experience Sharing Forum

Local Governments – Water and Wastewater Utilities – R&D Industry – Water Stakeholders

Hosted by: VITENS
At the Lloyd Hotel
http://www.lloydhotel.com
Co-organized by
VITENS – W-SMART – UNESCO-IHP – AMWA - NACWA
November, 3 & 4, 2017, Amsterdam

WORKSHOP OBJECTIVES

The "SUNRISE – H2020 Colloquium" Workshop, organized at the initiative of the W-SMART Association with the collaboration of UNESCO-IHP, AMWA (American Association of Metropolitan Water Agencies), NACWA (National Association of Clean Water Agencies), and hosted by VITENS, is expected to provide an international forum for bringing together drinking water and wastewater utilities, local governments, R&D institutions, international organizations and other stakeholders. Its purpose is to provide an experience sharing platform of lessons learned for interactive assessment of climate change challenges, the threats and opportunities they pose to our local governments and water operators as well as smart utility networks solutions and response adaptation strategies to ensure the security and sustainability of our vital metropolitan water supply service.





Upgrading Utility Response Capabilities to Increasing Threats of Climate Change Impacts, Eco-Risks Anthropogenic and Natural Disasters











Focus Themes:

Welcome to the W-SMART Experience-Sharing Workshop of Local Governments, Water and Wastewater Management Utilities, R&D Industry and other Stakeholders on:

- 1. Climate Change Risks and Eco-Security Challenges for Resilient Infrastructure and Sustainable Eco-security 2020 Priority Goals of Water & Wastewater Utilities
- 2. **Emerging regulatory requirements** under increasingly severe budgetary constraints their impacts on utility management strategy
- 3. **Risks management adaptation strategies** initiated by governments and/or operators to preemptively cope with rising climate change impacts and disaster resiliency challenges
- 4. Lessons learned from recent events and case studies
- 5. **Crisis Management & Preparedness** experience sharing on challenges and current practice of CM exercises, security planning, public information and inter-agency issues
- 6. **Smart Utility Network (SUN)** Building the case for and strategic planning of Smart Utility Network lessons learned from the experience of utilities and the EU-SW4EU project
- 7. Challenges of Integrating innovative technology solutions and smart monitoring systems operational risks, cyber security and performance assessment of current experience
- 8. **Global solidarity support to local capacity building initiatives** facing rising water stress or increasing threat of natural disasters in vulnerable regions,
- 9. Other relevant issues to be identified by the Workshop participants

Acknowledgement:

On behalf of the W-SMART members we would like to acknowledge and thank VITENS for kindly accepting to host the upcoming "SUNRISE – H2020" Workshop. This year will also mark the conclusion of the 4year EU -FP7 co-sponsored Smart Water for Europe (SW4EU) project lead by VITENS on innovative SICT (Sensing, Information and Communication Technology) solutions for Smart Water Management. We would like to thank the SW4EU Consortium partners for their effective cooperation in this project. To present the outcome of the project VITENS, as the lead apartner, is organizing jointly with the W-SMART Association and the SW4EU Consortium partners on November 2nd a Smart Water Management Symposium (https://sw4eu.com/symposium/). At this stage we would like to thank the Workshop Steering Committee members including Eric Adamse, Security Policy Officer, VITENS; Bruno Nguyen, Senior Consultant, UNESCO-IHP; Diane VanDe Hei, CEO, AMWA; Adam Krantz, CEO, NACWA; John Sullivan, Chief Engineer, BWSC; Jean-Pierre Tabuchi, Specialist, SIAAP; Conceição Soares Almeida, Director, Maintenance Department, EPAL, and Secretary General of W-SMART, for their support and contribution to the planning of the upcoming Workshop.

Looking forward to a productive experience-sharing workshop. With our thanks for your participation and contribution

Bruno Nguyen President Professor Ilan Juran Executive Director

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WORKSHOP PROGRAMME

November 3, 2017

(Friday)

8:30

9:00 - 10:20

Location: Het Kantoor, Lloyd Hotel, Amsterdam - 1019 BN

Registration

Welcome & Opening Session

Moderator: Conceição Soares Almeida, Director, Maintenance, EPAL

Secretary General, W-SMART Association

Welcome: VITENS

Panel of Co-Organizers: W-SMART; UNESCO-IHP; AMWA; NACWA Workshop Objective: Prof. Ilan Juran, Executive Director, W-SMART

10:20 - 10:40

Coffee Break

10:40 - 12:20

<u>Session 1</u> - Climate Change Challenges & Adaptation Strategies: Emerging regulations and adaptation strategies of Water/Wastewater Utilities facing current and forecasted Climate Change impacts; including: sustainable integration of renewable resources, wastewater reclamation challenges in rising water stress regions, regulatory constraints and quality control for agro-industry, public awareness initiatives, trans-boundary water governance challenges, other issues;

Moderator: Bruno Nguyen, Senior Consultant, UNESCO-IHP Opening Keynote: Dolf Kern, Dutch Ministry of Infrastructure: "Dutch National Delta Program - Multi Level Safety Strategy to cope Climate Change";

Keynotes/Case Studies:

Jean-Pierre Tabuchi, Specialist, SIAAP:

"2030-SIAAP Master Plan Facing Climate Change Impacts";

Dr. Francisco Cubillo, Deputy Director, R&D, Canal Isabel II: *"Climate Change Impacts and Adaptation Strategies of European Water Utilities"*;

Avraham Ben Yosef, Vice-President, Eng. & Technologies, MEKOROT: "Smart Water Management Systems for Water Stress Regions";

Edward Podczerwinski, Director of Monitoring and Research, Metropolitan Water Reclamation District, Chicago: "Building a Resilient Chicago";

WaterNet (Invited)

12:20 - 13:40 Lunch; Location: Lloyd's Restaurant











13:40 - 15:20

Session 2 - Urban Resilience & Eco-Risks Management:

Lessons learned from recent disaster events for water and wastewater utilities, including: infrastructure resilience building, post-disaster recovery challenges, corporate capacity building, economic resilience, business continuity, contingency planning, sea-rise risks assessment and adaptation strategies, other issues;

Moderator:

Dr. Francisco Cubillo, Deputy Director, R&D, Canal Isabel II;

Opening Keynote:

Jozef van Brussel, Dutch Ministry of Infrastructure: "National Strategy and Legislation on Risk Assessment & Risk Mitigation for Drinking Water Utilities";

Keynotes/Case Studies:

Eric Lesueur, CEO, 2EI - VEOLIA:

"The New-Orleans Recovery Case Study";

Bruno Nguyen, Senior Consultant, UNESCO-IHP:

"Mega-Cities Alliance for Water facing Climate Change Challenges"

Jose Martins, Director, Maintenance Department, Aguas Tejo Atlantico: "Water Cycle Safety Plan – Lisbon Case Study – a way to integrate utilities";

Diane VanDe Hei, CEO, AMWA **& John Sullivan,** Chief Engineer, BWSC: "Debriefing on Disaster Response & Recovery – North American Utilities";

15:20 - 15:40

Coffee Break

15:40 - 17:20

<u>Session 3</u> - Smart Utility Network (SUN) Development - Building the case for SUN, SUN planning, deployment challenges and performance assessment, lessons learned from EU-SW4EU https://sw4eu.com/, project, recent developments and delegates' experience sharing, review of the state-of-practice of SUN applications and discussion of the drivers, barriers and challenges in the way forward.

Moderator:

Prof. Ilan Juran, Executive Director, W-SMART

Opening Keynote:

Jan Gooijer, Innovation Manager, VITENS:

"SMART Water for Europe Initiative (SW4EU), a step closer to real SMART Utilities";











Keynotes/Case Studies:

Adrián Campos Gibert, Automation & Control Engineer, Acciona Agua: "SWING. A Real Case of an Urban SWM Setup";

Yoghyo Park, UNESCO Liaison, K-Water:

"K-Water - Smart Water Approach";

Catalina Pedraza, Demo-site Project Manager, Thames Water: "SW4EU – Thames Water Demo Site";

Professor Isam Shahrour, University of Lille:

"SUNRISE Smart City: Large-scale Demonstrator of a Smart City"

Silvia Tinelli, Research Associate, W-SMART:

"AI Based Early Detection of Leaks & Bio-Contamination in Water Distribution Systems";

Pierre Brunet, Vice-President Business Development, VEOLIA: "Smart Water Management from Innovation to Deployment Challenges";

17:30 - 18:30

19:30

W-SMART General Assembly Meeting

Dinner kindly offered by VITENS; Location: Lloyd's Restaurant

November 4, 2017

(Saturday)

8:30

8:45

9:00 - 10:40

Location: Lloyd Zaal, Lloyd Hotel, Amsterdam - 1019 BN

Registration

Welcome - VITENS

<u>Session 4</u> – Crisis Management & Preparedness – experience sharing on challenges and current practice of Crisis Management, including: Preparedness & CM Exercises planning and management, security & safety planning, media debriefing & customer information, Global Solidarity support for third party and capacity building of LDCs;

Moderator: **Eric Adamse**, Security Policy Officer, VITENS

Opening Keynote:

Richard Kamphuis, Director, Safety Office & CIO, Safety Board, Usselland:

"Net-Centric Cooperation in Crisis Management in The Netherlands";











Panel/ Case Studies:

Alexandra Cristóvão, Director, Corp. Sustainability Division, EPAL: "Contingency Management in a water supply system – The EPAL's Experience";

Arie Amsalem, Deputy CEO, South District, MEKOROT; "MEKOROT Experience of Crisis Management Exercises";

Alain Palmans, CEO, CILE:

"CILE Experience of Capacity Building for Crisis Management";

John Sullivan, Chief Engineer, Boston Water & Sewerage Commission: "Crisis Management Challenges for North American Utilities";

Marco Schouten, CEO, Vitens-Evides International: "Vitens-Evides-International, A successful Dutch Initiative on Global Solidarity";

10:40 - 11:00

Coffee Break

11:00 - 12:40

<u>Session 5</u> - SUN Integration and Deployment Challenges — Integration challenges of smart monitoring systems, including: cyber-security, performance assessment, deployment risks & impediments, regulatory drivers and constraints, innovative applications, big data analysis, due diligence of technology solutions, operational issues, etc.

Moderator:

John Sullivan, Chief Engineer, Boston Water & Sewerage Commission

Opening Keynote:

Peter Rus, Information Security Architect, VITENS, "Challenges and Security Strategies for Smart Grid Automation in Water Utilities";

Keynotes/Case studies:

David Johnson, Deputy General Mamnager, Engineering & Operation, Las Vegas District, Southern Nevada Water Authority: "SUN Integration & Deployment Challenges";

Bérengère Sixta-Dumoulin,

Manager, Control Center, SEDIF: "Planning Challenges of SEDIF Sectorization project";

Jean-Pierre Tabuchi, Specialist, SIAAP:

"SIAAP's Experience in Planning & Deployment for a Real Time Control Systems for Wastewater Management";











Bernard Michaux, Director of Operation, CILE: "The European EU-SMART.MET Project";

Eric Adamse, Security Policy Officer, VITENS: "SUN Integration Challenges – The way Forward";

12:40 - 14:00 Working Lunch & Closing Session; Location: Lloyd's Restaurant

Moderators: Conceição Soares Almeida & Eric Adamse Diane VanDe Hei, CEO, AMWA The W-SMART 2018 International Workshop kindly hosted by AMWA October 17 & 18 (Wed. & Thur.) San Francisco, CA

Closing Remarks – Bruno Nguyen, President, W-SMART

14:00 - 15:30 W–SMART Agenda - The Way Forward

Moderators: Bruno Nguyen & Ilan Juran W-SMART Members & Strategic Partners

For the current W-SMART Agenda: https://www.w-smart.fr/











SITE PLAN

Site Map

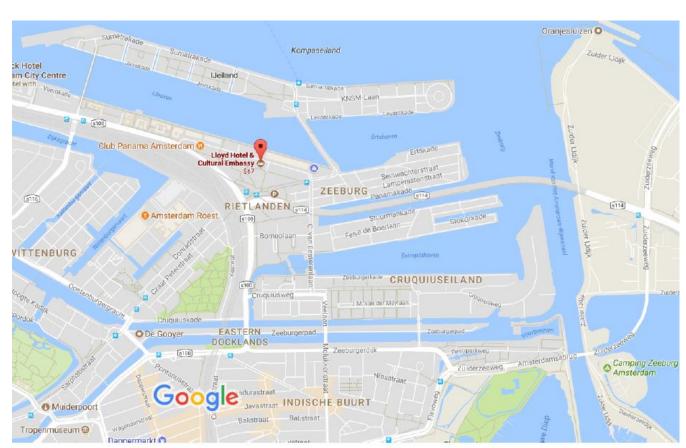
City of Amsterdam

Venue Location

Lloyd Hotel, Oostelijke Handelskade 34, 1019 BN Amsterdam, Netherlands

Web-site link: <u>lloydhotel.com</u>

+31 20 561 3636



Map data ©2017 Google United States 1000 ft ■

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PARTICIPANTS



Dr. Francisco CUBILLO Deputy Director, Research, Development & Innovation, Canal Isabel II

Bio – Dr. Francisco Cubillo is the Deputy Director of Research, Development & Innovation in Canal de Isabel II Gestión, S.A. He has more than thirty years' experience in the Management of Hydraulic Supply, Resources, Environment & Demand Management. At the IWA, he is an IWA Fellow since 2010. He serves as a Member of the Strategic Council between 2000 and 2011 and since 2015. Since 2013 he is the Chairman of Alternative Resources Cluster. He has chaired the specialists Group EO&M (Efficient Urban Water Management) between 2001 and 2011. Francisco Cubillo has published 28 books and more than 250 technical papers.



Edward PODCZERWINSKI

Director of Monitoring and Research, Metropolitan Water Reclamation District, Chicago:

Bio - Edward W. Podczerwinski, is the current director of the Monitoring and Research Department of the Metropolitan Water Reclamation District of Greater Chicago, where he has been employed for 20 years. The M&R Department that he leads is comprised of 308 employees with a \$32 million budget. The Department conducts environmental monitoring to assess regulatory compliance and impacts of District operations, applied research to provide technical support for operations and administers the District's Resource Recovery, Industrial Pretreatment and User Charge programs. The M&R Department also provides analytical laboratory support for use in controlling treatment and other operations, and leads long-term capital planning.













Jozef van BRUSSEL

Policy Coordinator - Drinking Water, Ministry of Infrastructure and Environment

Bio - Jozef van Brussel is a project manager and advisor with 30 years of international experience in the environmental safety field. Since 2012 he has been active for the Ministry of Infrastructure and Environment (IenM) in the area of drinking water safety and security. His current projects include the definition of national drinking water policies on flooding adaptation (Delta Program), the national implementation of the European NIS Directive (cybersecurity) for drinking water and an assessment of the economic safety of the vital drinking water sector. He also supports a national program aimed at the reduction of emerging substances in drinking water sources, due to climate change. Prior to 2012 he was retained by the Ministry of Internal Affairs as a transition manager for the Dutch Caribbean Islands, where he contributed to the crisis management of a major tank fire (Bonaire, NL). Between 2006 and 2009 Mr. Van Brussel was a senior inspector, where he coordinated the design of a drinking water crisis management expert team. In the nineties Mr. Van Brussel was a certified environmental auditor in Vancouver, BC (Canada) active in the field of environmental safety management. He earned his B.Sc. in Environmental Sciences from IJselland University in 1985 (Deventer, NL) and received his M.Sc. in Environmental Sciences from the University of Greenwich in 1998 (London, GB).



Eric LESUEUR CEO, 2EI - VEOLIA

Bio - Eric Lesueur is CEO of 2EI, a subsidiary of VEOLIA dedicated to Innovation and Consulting in the field of sustainable and resilient cities and territories on a worldwide scale. Graduated from Ecole Polytechnique (France), Eric Lesueur started his career in the engineering and chemical industry. He joined VEOLIA in 1993 to enhance the development of global waste management solutions as CEO of ORION, an internal consultancy company. He then carried on, until 2006, as VP of VEOLIA's R&D Department, and Environment Director of the Group.













Bruno NGUYEN
Senior Consultant, UNESCO-IHP & President of W-SMART

Bio - Bruno is since 2015 Senior Consultant at UNESCO-IHP (International Hydrological Programme), Water Sciences Division, based in Paris HQ where he his particularly in charge with IHP Theme 4 on "Water and Human Settlements of the Future". Bruno has an Engineer background in the corps of « Ingénieurs de la Ville de Paris ». As civil servant he worked 26 years for the Water Utility of Paris; his last positions there were Director of Operations and Director of Security & International. He is auditor of the Institut National des Hautes Etudes de Sécurité (institute of the French Ministry of Interior), and is very active within the International Water Association (IWA) as elected member of the Strategic Council, Chair of the Specialist Group on Water Security & Safety Management (W2SM), former Governing Member for France and former Member of the Programme Committee. Bruno gives lectures at Sciences-Po in Paris on Water Management.



JOSÉ MARTINS

Maintenance Director, Águas do Tejo Atlântico (AdTA)

Bio: José Martins, MSc Chemical Engineering – Águas do Tejo Atlântico (AdTA) – Maintenance Director. AdTA is the biggest wastewater utility in Portugal, serving 2,2 million inhabitants in 23 municipalities in Lisbon region. 2015-2017: EPAL Wastewater Operations Director. The company serves 3,5 million inhabitants (1/3 of Portugal population). 2006 to 2015 - Operation Director at SimTejo, the biggest of the 8 companies, dedicated to wastewater, with the operations of a system designed to serve 1,5 million inhabitants (Lisbon+north Lisbon metropolitan area). At SimTejo the functions included some multitasking activities including R&D, Engineering and other technical studies.













Jan GOOIJER Innovation Manager, VITENS

Bio - Jan Gooijer has a background in hydrology (MSc). He joined Vitens earlier this year as Innovation Manager. Previously Jan worked for a regional water authority in the Netherlands on water safety issues. As Innovation Manager, Jan is responsible for the whole spectrum of innovation taking place at Vitens, in collaboration with universities, knowledge institutes and companies ranging from large consultancy firms to small start-ups. Innovations range from new methods to detect RNA in a lab environment, to leak detection in the distribution network to integrated data analysis based on a smart sensor network. Jan chairs the innovation committee at Vitens that decides on financing new innovation proposals based on their innovativeness and their contribution to the mission and strategic goals of Vitens.



Catalina PEDRAZA
Specialist Project Manager, Thames Water Utilities Ltd

Bio - Catalina Pedrazais a Project Manager at Thames Water, in charge of the contractual, conceptual, financial and administrative management of the UK demo-site. Responsible for the coordination of the input from the local partners and ensuring objectives are met and that costs, deliverables and milestones are aligned with the budget. Catalina has 15 years of experience in the water industry. Before Innovation, she worked in Asset Strategy and in Waste Asset Planning. Previously, Catalina was a consultant for the Colombian Ministry of Environment, presenting water and sanitation projects for national and international funding. She also worked for Bogota's water company.













Professor Isam SHAHROUR Univ. of Lille

Bio - Isam Shahrour, distinguished professor, University Lille1- Science and Technology. Graduated from the National School of Bridges and Roads (Ponts et Chaussées - Paris), professor Isam Shahrour is strongly involved in the research, higher education and partnership with the socioeconomic sector. During the period 2007 - 2012, he was Vice President "Research and doctoral program" at the University Lille1. He was also president of the Innovation Agency "Lille Metropole Technopole" for regional economic development via innovation. Currently, Isam Shahrour is director of the Regional Research Laboratory "Civil and Geo-Environment Engineering - LGCgE" and head of the international master "Urban Engineering and Habitat." Since 2011, he coordinates a regional Smart City project "SunRise: a large-scale demonstrator of the smart and sustainable city" which involves a large partnership with local government, water, energy and information technology operators and startups. His research activity concerns: Smart and sustainable Cities, Sustainable management of natural resources, Geotechnical and geoenvironmental Engineering. He conducted an intensive research activity with a strong industrial partnership. His activity resulted in about 100 refereed journal papers and supervised 60 PhD dissertations. He gave about 15 lectures on the smart city concept and implementation, including a TEDx talk.



Adrian Campos GIBERT Automation & Control Engineer, Acciona Agua

Bio – Adrian Campos GIBERT is currently working on tasks like European project management FP7 "SMARTWATER4EUROPE: Demonstration of integrated smart water supply solutions at 4 sites across Europe", obtaining with it the company's internal award for Best Management 2015 in the category of ICT R & D Implementation (Accesit), supporting development of offers and support to other departments - business development and smart cities, SCADA design executed by the ACCIONA AGUA Automation Department in different water treatment plants: La China, Gáldar, Qatar, Oum Azza, Ibarra, Putatan. He was a process Manager at Arroyo Culebro Wastewater Treatment Plant (capacity: 172800 m3/d) from March 1 to June 30, 2017.













Pierre BRUNET Vice-President Business Development Smart Cities Solutions, Veolia

Bio - In his role as Vice President Smart Cities Solutions at Veolia, Pierre Brunet develops innovative partnerships and deploys digital services for cities and utilities at a global level. Veolia helps cities and industries to manage, optimize and make the most of their resources. Pierre manages the development and implementation of smart solutions and services to improve utilities performance and resilience. Pierre has been working in the environmental business and utilities industry with Veolia for more than 20 years. He has spent most of his career in the water industry, managing operations in Europe, South East Asia and the US. His experience includes the integration and transformation of utilities under public private partnerships. Pierre graduated in engineering from Ecole Centrale Paris in France and has a Master of Science in Technology and Policy from the Massachusetts Institute of Technology (MIT) in the US.



Richard KAMPHUIS

Director, Safety Office & CIO, Safety Board, IJsselland

Bio - Richard KAMPHUIS graduated from the Hogeschool Utrecht in 2007 as a bachelor of public management in safety and security science. Later on, in 2009, he started working for the safety region of IJsselland, which is an organization based on the principles of extended local government, working for its 11 municipalities, the police department and other stakeholders such as Vitens and the waterboard, responsible for the fire brigade, medical care and crisis- and disaster management. In 2011 mr. Kamphuis worked as project manager on the implementation of the network centric collaboration in crisis management in Ijsselland. Since 2012 he is responsible for the information organization, as an element of the crisis organization. In this information organization he fulfils the role of information manager of the ad-hoc tactical crisis response team. In 2013 Mr. Kamphuis made promotion as head of crisis and disaster management in Ijsselland and became responsible for the total crisis organization. Besides that, he is the Chief Information Officer of Safety Region Ijsselland. In 2014 Mr. Kamphuis achieved his Master of Science in Information Management. His thesis was about network centric collaboration in the crisis and policy response team of the Mayor.













Alexandra CRISTÓVÃO Director, Corporate Sustainability Division, EPAL

Bio: Alexandra Cristóvão has a degree in Materials Science and Engineering and is the head of the Corporate Sustainability Division in EPAL, the largest water supplier in Portugal. With 15 years of experience in the field, she is the liable for issues regarding compliance with the requirements of the management systems: quality, health & safety, environment and energy, social accountability, information security and business continuity. Managing several crosscutting projects regarding risk management and ensuring crisis management, emergency and contingency, she is also responsible for coordinating crisis cabinet in order to enable business continuity. She is the authorized interface with various external entities (e.g.: governmental organizations, police, municipalities, civil protection, environmental and security officials, NGO's, occupational H&S services, etc.). Created in 1868, EPAL is the oldest water supplier in Portugal, with a daily demand of 170.000 m3. Currently, the area served by EPAL covers 96 municipalities, including Lisbon, regarding water supply and wastewater collection and treatment. It occupies a land area corresponding to 33% of the Portuguese mainland and serves 3.8 million inhabitants.



Alain PALMANS CEO, CILE (Liège, Belgium)

Bio - Alain Palmans has a double degree in Political Science and Public Administration from the universities of Liège (BE) and Bradford (UK). He strengthened his knowledge in Politics and International Relations while studying a master at Dublin University. Mr Palmans has been working for more than 20 years as administrator in various public services, holding high-level positions. He developed extensive knowledge and expertise in water management and established an important network of contacts with the EU and other international institutions. On top of that, for the last ten years, he has been teaching several public administration courses at Liège University. Since 2008, he works as CEO of CILE, one of the main water utilities companies in the Walloon region (BE). CILE produces and supplies drinking water to more than half a million people in the Greater Liège area. As a member of the World Water Council, CILE shares its experience with other water public bodies abroad. In 2009, he became Board member of several organizations: the regional water treatment company (AIDE), a key regional financial company (ECETIA Finances), a renowned Belgian IT group (Network Research Belgium) and the regional











water company in Wallonia region (Société Wallonne des Eaux). Since 2011, Mr. Palmans is member of the Board of Directors and Management Committee of AQUAWAL (an association representing the producers, distributors and purifiers of water). In addition, in 2012, he has been appointed chairman of the experts Committee of the regional water experts water management public company.



John SULLIVAN

Chief Engineer, Boston Water and Sewer Commission, Boston, MA

Bio – He is the Chief Engineer of the Boston Water and Sewer Commission (BWSC). John has over 44 years of experience in water and wastewater engineering. Mr. Sullivan has a degree in Civil Engineering from the University of Massachusetts in Amherst, and an MBA degree from Northeastern University, as well as a Master's degree in Emergency Management from Massachusetts Maritime Academy. Mr. Sullivan is a Registered Professional Engineer, and a Certified Operator of Drinking Water Supplies in the Commonwealth of Massachusetts. He has served on the Massachusetts Water Resources Authority (MWRA) Advisory Board since 2005, and currently serves as Commissioner on the New England Interstate Water Pollution Control Commission (NEIWPC). Mr. Sullivan currently serves as chair of the Water ISAC (Information Sharing and Analysis Center). John also serves on the Board of Directors for The National Association of Clean Water Agencies (NACWA), Association of Metropolitan Water Agencies (AMWA), and the Water Research Foundation.



Marco SCHOUTEN CEO, Vitens-Evides International,

Bio - Marco Schouten graduated from the Vrije Universiteit as a business economist in 1994. After his studies he worked for about 10 years as an international management consultant. During this period he worked and stayed for 3 years in Suriname for Ernst & Young Management Consultants, and for another 3 years in Egypt for Royal Haskoning Consulting Engineers. From 2003 to 2010 he worked at UNESCO-IHE in Delft as a senior lecturer, combining educational tasks with research,











management and consultancy activities. In 2009 Marco was awarded his PhD from the Erasmus University on the topic of strategic management and privatization in the water sector. Since April 2010, Marco is employed at Vitens-Evides International. Vitens Evides International BV (VEI, company) is an international joint venture owned by the two largest water companies in the Netherlands: Vitens (1.700 fte) and Evides (500 fte), who are equal shareholders. The water companies of Limburg, North Holland (PWN), Brabant and Groningen act as additional partners and participants in VEI and share their expertise and staff with VEI. Through VEI, the companies implement their CSR-policy to contribute to the UN Sustainable Development Goal 6 and share more than 140-years of expertise in water supply. Through cooperation with water companies in developing- and transition countries, VEI has extensive experience with improving water service provision in those countries. These collaborations have facilitated local water operators to become financially sustainable and thus able to attract investment funds for upgrading and expanding services to the poor in urban areas. VEI was established in 2005 as a (non-profit) company. The company is active in 20 countries in Asia, Africa and Latin America. It employs 70 people which are seconded from the mother companies. In addition, the company is resourced by over 200 experts from the Dutch water utilities which act as short term experts in their fields of expertise. VEI has an annual turnover of approx € 20 million and is, through its current programmes, involved with water supply to over 55 million people in Africa and Asia.



Peter RUS
Information Security Architect, VITENS

Bio - Peter Rus after a brief law study has been in the infrastructural defence since 1995 . From setting up the first internet café in Europe to deploying the first Microsoft Active Directory transatlantic in 2000 his experience in translating IT requirements combined with out of the box thinking gave many organisations the competitive edge . Some of his clientele of Critical Infrastructure: Dutch Ministery of Economic Affairs, KPMG, Dutch Ministery of Foreign Affairs, BAS-F, ING, Wintershall .His architectural interest lays in sustaining the current status quo (robust) with bringing in innovation solutions (flexible) while staying secure. In 2010 he has moved into critical infrastructure and designed defence system mechanisms within his cyber defence company Passport while the world got wakeup calls by Stuxnet, duqu and dark energy. His motto: An ounce of prevention is better than a pound of cure. Currently his role is Enterprise Architect Process Automation aiding Vitens to build an infrastructure we can always trust and build upon. That's why resilience has been chosen as a strategy by Vitens. In this the priority lays in to provide sustainable, secure and safely drink water while enhance the current capabilities of smart sensors, data analytics in a world dominated by devices made for availability and not security. How to overcome this challenge and the steps Vitens is currently taking will be highlighted.













DAVID L. JOHNSON DEPUTY GENERAL MANAGER ENGINEERING AND OPERATIONS LAS VEGAS VALLEY WATER DISTRICT / SOUTHERN NEVADA WATER AUTHORITY

Bio - David L. Johnson is the Deputy General Manager of Engineering and Operations for the Las Vegas Valley Water District and Southern Nevada Water Authority. Mr. Johnson has been with the agency since 2004, previously holding the position as director of the Water Quality & Treatment department for the Southern Nevada Water Authority. He has more than 20 years of experience in chemical manufacturing management, water treatment and water quality management. Before arriving in Nevada, he worked in New York state and has held the positions of technical engineer, production manager, treatment manager, and director. He earned a Bachelor of Science degree in chemical engineering from Purdue University and maintains Level 4 Water Treatment and Level 4 Distribution certifications from the Nevada Division of Environmental Protection. Mr. Johnson serves on the Boards of Nevada's WaterStart, Silver State Energy Association, and Muddy River Water Holdings. Additionally, he is a WateReuse Association, Nevada Section, Trustee and Las Vegas Valley Watershed Advisory Committee Member. He is a member of the American Water Works Association, Water Environment Federation, International Ozone Association, Western Coalition of Arid States, WateReuse Research Foundation, and Nevada Water Resources Association. David and his wife, Lisa, have lived in southern Nevada since 1998 and have four children, two of which are twins.



Bérengère SIXTA-DUMOULIN Head of IT and Water Loss Management Program, SEDIF

Bio - **Senior expert in Smart Water Network monitoring systems;** Urban Engineer graduated from the Engineering school of City of Paris, Bérengère SIXTA-DUMOULIN worked for public water utility services since 2004 both for Paris city hall and then for the larger area. She planned and managed works for water network inside sewer of city of Paris during 5 years. Then she took a bird eye view becoming head of control and command center at Eau de Paris. She managed the water network operation system and the team in charge of providing Paris with water 7 days a week and 24 hours a day. She now works at SEDIF, the largest public water utility in France where she is in charge of IT and water loss management program.













JEAN-PIERRE TABUCHI Prospective Advisor, SIAAP

Bio - Jean-Pierre Tabuchi has studied hydrogeology but his professional is sanitation. He starts at Seine Normandy Water Agency where he spend 25 years. He worked during almost ten years on storm water management. After that he has been in charge during 7 years of full of smart meters that tell us how much water is consumed every 15 minutes. Energy meters are recording electricity used by the water treatment works and pumping stations. Trunk Minders are recording operational data including flow, pressure, vibrations and sound over 1,000 times every second across more than a kilometre of vital trunk main. Burst Minders are doing much the same across four select DMAs, measuring and analyzing pressures more than 100 times per second, whilst Incertameters handle the flow measurement and subdivide the DMAs into smaller areas. All of these, combined with our existing network meters and energy meters, provide an enormous amount of data. This data is hugely informative, providing invaluable information for network operations and investment planning. It's a step change in awareness, and it's now a reality. But with great volumes of data comes a desperate need for modernization, and that's where data science is needed. The challenge is to get innovative thinking, problem-solving, mathematics, statistics, programming, and industry knowledge together. How to understand the systems, tools and techniques required to extract insight and value from huge amounts of data. Analytics is not just fancy dashboards but a world of complex algorithms, data mining an automation that can make operations simple.



BERNARD MICHAUX Director of Production – CILE (Liège)

Bio - From February 2010: starting as production officer to become Chief Operating Officer in a public Company in Liege (CILE). As member of the Management Committee, I am the coordinator of the different technical services linked to the production and distribution of drinkable water for more than 600.000 people. From September 2007 to January 2010: COO in a chemical Company – other subsidiary of the significant company of Liège described below - with more than 60 workers and active in the retreatment of high value materials. From January 1999 to August 2007: plant manager in a subsidiary of the same company (presence on 3 continents). My function











consists in; managing of 50 qualified workers, leader in the decisions concerning either safety (OHSAS 18001 - Seveso company), quality (ISO9000 certification) and environment (ISO14001) for the plant, either the maintenance, costs and profitability of the different production processes, leader in the conception and following of new investments, frequent trips all over the world to meet foreign customers and the other plant managers of the company, support of the commercial department for the development of new projects on customer's applications, involvement in the general strategy of the subsidiary.



ERIC ADAMSE Security Policy Officer, VITENS

Bio - Since 2006, Eric Adamse (1960) is Corporate Advisor for Business Continuity & Security at Vitens Water Utility. Vitens, established in Zwolle, is the biggest water company in the Netherlands that provides 6 million customers with excellent tap and process water. Eric is responsible for the policy and implementation of all necessary measures against terror, (cyber)crime, fraud, hijacking and all types of natural disasters (all hazards approach) and interdependencies including crisis- and consequence management. Eric studied Chemical Engineering at Amsterdam University and has a background as a manager for R&D and Investment Planning at Vitens, Hydron and WMN. Eric started his career as a quality control manager at UTD (Unilever). Eric has further professional qualifications at The Hague University (Security Management), Neijenrode Business University (Management Development), Tel Aviv University (Homeland Security), Trimension Institute (Professional Crisis Management), Control Risks (Crisis Management Training & Exercising) and IE Madrid (Executive Management for Security). Eric is married and has four children. His favorite sports and hobbies are tennis, snooker, fishing and photography. Since 2011 Eric is chairing the WSMART Taskforce Emergency Response Exercise & Training. Eric, as Chair of the Crisis Management Taskforce, and Jean-Pierre Tabuchi, change manager at SIAAP Direction Santé Environment, would like to invite you to observe a crisis management exercise organized the 3rd of December at SIAAP at Paris. As a AMWA and W-SMART observer you can help to assess and advice SIAAP during the successive Exercise Assessment & Debriefing Session.



Diane VanDe Hei

Chief Executive Officer of the Association of Metropolitan Water Agencies. AMWA











Bio - Diane VanDe Hei serves as a non profit organization based in Washington DC represents the nation's largest municipally and publicly-owned drinking water systems around the country. Diane also serves as the Executive Director of the Water Information Sharing and Analysis Center (WaterISAC). The WaterISAC was authorized by Congress in 2002 and is managed by AMWA on behalf of the water sector. Its mission is to keep water sector managers informed about potential physical and cyber threats to the nation's water infrastructure.



Avraham BEN JOSEF Vise President of Engineering & Technologies, MKOROT

Bio - Avraham Ben Josef is a engineering and water technology expert who has held multiple senior positions within Mekorot Israel's national water company. He has many years of experience in multimillion-dollar infrastructure project management within the water sector and in-depth knowledge of various water technologies and disciplines. Mekorot, Israel's national water company is a unique company that supplies water and provides solutions for Israel's water industry. Mekorot operates under the Ministry of Energy and Water Resources and the Government Authority for Water and Sewage. Mr. Avraham Ben Josef heads all seven engineering divisions of the company: Water Resource Management, Water and Environmental Quality, Desalination, Engineering Services, WaTechTM (entrepreneurship and partnership center for water technologies), Management and Control and Safety. He has full professional responsibility for all the company's engineering activities. Avraham Ben Josef earned a M.Sc. – Faculty of Environmental Engineering And B.Sc. – Faculty of Water Engineerin, Technion Israel Institute of Technology, Haifa.



VINCENT SAPIENZA

Commissioner, NYC Department of Environmental Protection (DEP)

Bio - Vincent Sapienza is the Commissioner at the New York City Department of Environmental Protection. He manages the city's water and wastewater construction programs, which deliver around US\$1 billion per year in capital improvements. Mr. Sapienza is a Columbia University graduate and a New York State licensed professional engineer. Post Sandy — Observations & Lessons Learned - New York City is a coastal municipality and some of its key water/wastewater infrastructure sits along the shoreline. During the past decade, concerns about sea-level rise have prompted the city to modify its design and construction criteria to better protect these vital assets. The impacts of Hurricane Sandy in 2012 accelerated the city's efforts to improve the











resiliency of its operating facilities. The presentation will describe the damage caused by the hurricane and the sustainability work that is underway in NYC.



Angela LICATA

Deputy Commissioner for Sustainability, NYC Department of Environmental Protection (DEP)

Bio - The range of programs under Ms. Licata's purview reflects the broad mandate of the Department. During her tenure at DEP, Ms. Licata has gained a nuanced understanding of nearly every aspect of the operations of the Department. She has put her knowledge and creativity to work identifying 21st Century solutions to the challenges faced by the city, and DEP initiatives have played prominently in citywide sustainability planning under Mayor Bloomberg's PlaNYC and Mayor de Blasio's OneNYC. Under Ms. Licata's guidance, the Department released the 2010 NYC Green Infrastructure Plan to manage storm water runoff from paved surfaces, before it enters the combined sewer system. Furthermore, Ms. Licata played a key role in guiding the City's preparation for its first Municipal Separate Storm Sewer System (MS4) permit, which presents an opportunity to achieve further water quality improvements. Ms. Licata was also instrumental in revising and modernizing the New York City Air Code in 2015, the first major overhaul since the 1970s. Ms. Licata plays a key advisory role for the Department as well. She has developed an extensive list of studies - including water rate studies, affordability analyses, consumption tracking, demand projections, and the 2013 NYC Wastewater Resiliency Plan – and has used these plans and studies as a rational basis when advocating for common-sense regulatory reforms. Deputy Commissioner Licata has dedicated her career to public service, and plays a crucial role in envisioning, developing, and implementing programs aimed at improving the health and quality of life of all New Yorkers.



Silvia TINELLI Research Associate, W-SMART

Bio -With a Bachelor and Master Degrees in Civil Engineering with major in Structural Engineering. She is currently a Research Associate with W-Smart & a PhD Student at the Department of Civil Engineer and Architecture of Pavia University (Italy) in collaboration with NYU Urban Infrastructure Institute. The activity research concerns the simulation of the bio-contamination risk propagation under real working conditions in Water Distribution Systems (WDSs). The water quality monitoring and the early detection feasibility of bio-contamination in WDSs are investigates, applying the concepts of stochastic analysis and Artificial Intelligence. Particular interest is also shown in the optimal placement of water sensors along the WDS.













Arie AMSALEM Deputy CEO, South Region, MEKOROT

Bio - Mr. Arie Amsalem has served as director of the southern district at Mekorot since 2009. He has been a member of Mekorot's management since 2007, involved in setting long term strategies and company goals and approval and implementation of the company's long and short term development plans. The Mekorot Group includes the subsidiaries - EMS Mekorot Projects, which serves as the main contractor for the Group and Mekorot Development and Enterprise, which initiates projects in the field of water, waste water and effluent internationally. In his present position, Mr. Amsalem is responsible for the company's water supply system in southern Israel, including three water supply units, the district headquarters, production, generation and supply of 400 million cubic meters per year, development of complex water plants and their maintenance with a total financial scope of \$100 million per year. He manages a team of 365 employees. Mr. Amsalem is a member of the board of directors of EMS Mekorot Projects, whose annual revenues total \$120 million. EMS Mekorot Projects is engaged in all fields of production and execution of complex water projects, including projects totaling more than \$100 million for a single project. Prior to his present position, and for his past 26 years at Mekorot, Mr. Amsalem has served in a variety of positions, including Director of the Jordan district from 2007-2009, engineer in the southern district, information systems and computers manager and electrical engineer in the southern district. All these positions have provided him with a broad understanding of drinking water, waste water and effluent systems from a production and transportation, delivery and all water quality aspects. Mr. Amsalem has a B.Sc. in electrical engineering from the Technion - Israel Institute of Technology and an MBA from Ben Gurion University. Mr. Amsalem is married with 3 children.



Yonghyo PARK, UNESCO Liaison, K-Water

Has a B.S. in Civil Engineering from Kyunghee University and a M.Sc. in Environmental Engineering (on Flotation Process) from Seoul National University. He is a seconded expert for Water for Human Settlements in IHP mid-term strategy, Water security in Africa and Asia (FIT project funded by ROK) and UNESCO Certified on Safe Water Supply. He has a total of 30 papers including domestic journals and conference proceedings.













CONCEIÇÃO ALMEIDA
Director of Maintenance Department, EPAL
W-SMART Secretary General

BIO - Conceição Almeida is Maintenance Department Director of Empresa Portuguesa das Águas Livres - EPAL, SA, the largest water supply utility in Portugal. Since 2016, her responsibilities have included the coordination of the maintenance activities related to all the infrastructures of water supply and wastewater collection and treatment systems managed by EPAL. She joined EPAL in 1989, as an engineer in charge of projects, working on the initial mathematical model and starting the geographic information system of the water distribution network. In 1997, she was appointed as Deputy Director of Water Distribution System, prior to occupying the same position within the water Production Division. In 2003, as Head of Production, she was responsible for water production system operation and maintenance, as well as customer relations with the company's municipal clients. Between 2009 and 2014, she supervised several major investments related to the design and rehabilitation of several of EPAL's main infrastructures as Head of the Project Management Division, before becoming Advisor to the Board of Directors of EPAL. Since 2012, she has been the General Secretary of W-SMART. Conceição Almeida is a Civil Engineer who graduated at the Instituto Superior Técnico (IST) of Lisbon with two post-graduate qualifications in business management.



Denis Penouel
Deputy General Manager, SIAAP

Bio - Denis Penouel has 30 years of operational responsibilities in the fields of water, waste and energy in public authorities and private company. As a civil engineer, he has a Master of Public Management of Ecole Nationale des Ponts et Chaussées and is a graduate of the Engineering School of the City of Paris, School of Urban Engineering. As Deputy General Manager in SYCTOM, he was involved in household waste management in the whole Paris area, including development and implementation of an investment policy based on diversifying household waste processing means and modernization of industrial tools, and project management of major development projects. Then for City of Paris, Head of Services for Water and Sanitation, definition and monitoring water policies of the City of Paris (blue book), operation and modernization of the sewerage network in Paris and Organizing authority of the public service of drinking water, including organization of distribution of non-potable water service. Now executive director and Deputy Director General in SIAAP, the greater Paris interdepartmental sanitation authority. SIAAP daily cleans the wastewater of almost 9 million Parisians, storm and industrial water conducts large investment projects, sanitation master plans scientific and technical expertise in-house.













JEAN-MICHEL TIBERI

VP Business Development Cities, Innovation & Markets Department, Veolia

Bio - A graduate of France's HEC business school, Jean-Michel Tiberi has been working in Veolia since 1988 period during which he developed deep international experience in managing water and electricity utilities and in launching new business under challenging conditions. His work in Veolia has led him to destinations such as Mexico, Colombia, Chile, Puerto Rico and the Caribbean area. Between 2011 and 2014, Jean-Michel Tiberi hold the position of CEO of Veolia in Morocco, heading 25/30 years PPP contracts in Rabat, Tangier and Tetouan: electricity supply, water supply, waste water collection and treatment services, customer service, asset management and construction program. In 2014, he joined the newly created Innovation & Markets Department at Veolia's headquarters, as Vice President of Business Development Cities.



PROF. ILAN JURAN Executive Director of W-SMART
Director, Urban Infrastructure Systems Graduate Program, NYU Tandon School of Engineering
Member of the Board of Experts of UNESCO-IHP

Bio - Prof. Juran's expertise covers areas related to urban infrastructure engineering and innovative technologies for upgrading infrastructure performance, lifecycle management and resiliency. He earned his Doctorate of Engineering, in 1977, and Doctorate Es Science from the University of Paris VI, in 1987. Prof. Juran is the Executive Director of W-SMART, the International Alliance of Water and Wastewater Utilities for Sustainable water Security established in the aftermath of 9/11, at the initiative of the Commissioner of NY City Department of Environmental Protection. He is presently the Secretary of the Specialists Group on Water Safety & Security Management of IWA and served as the Associate Editor of the International Journal on Water Technology & Science published by IWA. Former Head of the Civil & Environmental Engineering Department at the Polytechnic Institute of New York University, Dr. Juran's responsibilities included development of educational programs and research initiatives relevant to the urban infrastructure priority needs. As the Executive Director of the Urban Infrastructure Institute Prof. Juran's R&D projects have involved demonstration and assessment of infrastructure technology solutions in a variety of emerging fields, including: waste recycling for polymeric construction composites; seismic retrofitting; infrastructure asset management; infrastructure rehabilitation technologies; post-disaster urban recovery; water safety and security; and water infrastructure monitoring and management systems. Working with the city infrastructure agencies and utilities these projects involved field assessment and demonstration of innovative technologies for NYC underground Infrastructure rehabilitation projects. Prof. Juran served as Chair of the Civil Society Initiative, which from 2006 to 2010 was supported by the UN General Secretariat, and is currently serving as a member of the Board of experts of UNESCO-IHP.











| List of Participants | | |
|------------------------------|--|--|
| Name | Responsibility | Organisation |
| Adrián Campos Gibert | Automation & Control Engineer | Acciona Agua |
| Diane VanDe Hei | CEO | AMWA |
| John Sullivan | Chief Engineer Vice president | Boston Water & Sewerage Comm. W-SMART |
| Alain Palmans | CEO | CILE |
| Bernard Michaux | Director of Operation | CILE |
| Sabrina Di Francesco | Executive Assistant of the CEO | CILE |
| Bérengère Sixta- Dumoulin | Manager of Control Center | SEDIF |
| Alexandra Cristóvão | Director of Corp. Sustainability Division, | EPAL |
| Conceição Almeida | Director, Maintenance | EPAL |
| Dolf Kern | Representative | Water Board of Rijnland |
| Jozef van Brussel | Representative | Dutch Ministry of Infrastructure |
| Avraham Ben Yosef | Vice-President, Eng. & Technologies | MEKOROT |
| Arie Amsalem | Deputy CEO, South District | MEKOROT |
| Yoghyo Park | UNESCO Liaison | K-Water |











| Name | Responsibility | Organization |
|----------------------------|---|--|
| Vincent Sapienza | Commissioner | New York City DEP |
| Angela Licata | Deputy Commissioner for Sustainability | New York City DEP |
| Jose Martins | Director, Maintenance Department | Aguas Tejo Atlantico |
| Hugo Xambre Pereira | Member of the Board of Directors | Aguas Tejo Atlantico |
| Edward Podczerwinski | Director of Monitoring and Research | Metropolitan Water Reclamation District, Chicago |
| Dr. Francisco Cubillo | Deputy Director,R&D | Canal Isabel II |
| Richard Kamphuis | Director, Safety Office & CIO, Safety Board, | Safety Board IJsselland |
| Jean-Pierre Tabuchi | Specialist | SIAAP |
| Denis Penouel | Deputy CEO Vice President | SIAAP W-SMART |
| Amélie Saint-Germain | Specialist | SIAAP |
| Catalina Pedraza | Demo-site Project Manager | Thames Water |
| Bruno Nguyen | Senior Consultant President | UNESCO-IHP W-SMART |
| Professor Isam Shahrour | Professor | University of Lille |
| Eric Lesueur | CEO | 2EI, VEOLIA |











| Name | Responsibility | Organization |
|---------------------|---|------------------------------|
| Pierre Brunet | Vice-President Business Development Cities | VEOLIA |
| Jean-Michel Tiberi | VP Business Development Cities | VEOLIA |
| Jan Gooijer | Innovation Manager | VITENS |
| Peter Rus | Information Security Architect | VITENS |
| Eric Adamse | Security Policy Officer | VITENS |
| Marco Schouten | CEO | Vitens- Evides International |
| Silvia Tinelli | Research Associate | W-SMART |
| Parya Pasha | Lecturer | ITC, Holland |
| Prof. Ilan Juran | Executive Director | W-SMART |
| Patrick Partush | Manager, Beer Sheva Region | MEKOROT |
| David Alexander | Partner | TILLIA |
| Sandra Oude Roelink | Policy Officer | Safety Board IJsselland |
| Coen Vaarkamp | Policy Officer | Safety Board IJsselland |
| Yvonne Nijdam | Senior Policy Officer | Waternet |











| Name | Responsibility | Organization |
|-------------|--|--------------|
| Cor Lievers | Manager Transportation & Crisis Management | VITENS |
| Kees Schoon | Policy Officer Crisis Management | VITENS |
| Peter Dane | CEO European Benchmarking Cooperation | VEWIN, EBC |
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