



Water Security Management
Assessment, Research & Technology



Specialist Group on
Water Security & Safety Management



United Nations
Educational, Scientific and
Cultural Organization



International
Hydrological
Programme

“Urban Resilience & Crisis Management”

Experience Sharing Workshop

on

*Resilience Challenges in Urban Centers – Customers Awareness Initiatives –
Crisis Management Capacity Building – Innovative Technology Solutions &
Smart Network Monitoring for Sustainable Water Systems*

Co-organized by

UNESCO-IHP – W-SMART – IWA-SGW2SM – City of Sydney

October 14 & 15, 2016, City of Sydney

The Barnet Long Room, Customs House

31 Alfred Street, Circular Quay, Sydney NSW 2000, Australia

WORKSHOP OBJECTIVES

Purpose - Provide an international forum for experience sharing among drinking water and wastewater utilities, local governments, R&D institutions, international organizations and other stakeholders on disaster resiliency challenges facing metropolitan governments and their impacts on current utility management practices and capacity building strategies. Discussion sessions will focus on lessons learned from recent case studies and Interactive assessment of:

- Current practices of service resilience improvement,
- Customer awareness initiatives,
- Crisis management capacity building strategies, as well as
- Deployment of state-of-the-art technology solutions and smart network monitoring systems

Organization - Within the context of **IWA World Water Congress, Brisbane, 9 - 14 October, 2016**, the workshop is organized at the initiative of the W-SMART Association with the collaboration of UNESCO-IHP, IWA Specialists Group on Water Security and Safety Management and the City of Sydney as its host.



From Water Stress to Flood Disaster, Sydney 2012



WORKSHOP PROGRAMME

Friday, October 14

12:00 midday

Location: City of Sydney

Registration and Lunch (Customs House – Barnet Long Room)

1:00 - 3:00 pm

Crisis Management Exercise (CME) – organized by the City of Sydney with W-SMART Delegates as Expert-Observers.
Flooding in a high density urban environment (Description below)

3:00 - 3:15 pm

Introduction - Welcome & Agenda

3:15 - 4:45 pm

Session 1: Crisis Management – Assessment and Experience Sharing
CME Manager & Panel of Expert-Observers

4:45 - 5:00 pm

Coffee Break

5:00 – 6:30 pm

Session 2: Disaster Preparedness & Customer Awareness Initiatives –Inter-agency Coordination; Media Debriefing; Public Education; Consumers Involvement in CMEs; Experience Sharing on Current Initiatives (Sydney; Europe; Israel)

7:30 pm

Dinner/Reception hosted by the City of Sydney - UNESCO - W-SMART (Customs House – Barnet Long Room)

Saturday, October 15

8:30 – 8:45 am

Location: City of Sydney

Introductory Comments (Customs House – Barnet Long Room)

8:45 – 10:00 am

Session 3: Urban Resilience – Challenges and Practice: Physical Infrastructure; Corporate Capacity Building; Economic Resilience; Business continuity; Lessons Learned from Recent Case Studies (e.g. Eco-Disasters; Terrorism; Industrial Disasters)

10:00 – 11:15 am

Session 4: Eco-Resilience Case Studies – Experience Impact on Current Management Practice of Water and Wastewater Utilities – Governance & Utility’s Challenges; COP 21 implementation strategies in Industrialized and Developing Countries; Case Studies (Australia; UNESCO-IHP; European Countries)

11:15 – 11:30 am

Coffee Break

11:30 – 1:00 pm

Session 5: Smart Water Network Strategies for Resilient Cities
Experience Sharing - From Innovation to Practice

1:00 pm – 5:00 pm

Technical Tour: Sydney Park water reuse facility, Green Square Town Precinct & Central Park Water treatment facility. Includes take away lunch. Pickup and return to Customs House by Bus.



TECHNICAL PROGRAMME

1:00 - 3:00 pm	<p>Crisis Management Exercise (CME) organized by the City of Sydney, Facilitated by David Parsons with W-SMART Delegates as Expert -Observers. Flooding in a high density urban environment (Description below)</p>
3:00 - 3:15 pm	<p>Introduction - Welcome & Agenda Amit Chanan, Director, City Projects, City of Sydney Bruno Nguyen, UNESCO-IHP Expert, President, W-SMART Prof. Ilan Juran, Executive Director, W-SMART</p>
3:15 - 4:45 pm	<p>Session 1: Crisis Management – Assessment and Experience Sharing CME Manager & Panel of Expert-Observers Flooding in a high density urban environment (Description below)</p> <p>Chair: David Parsons, Adjunct Professor QUT Centre for Disaster Mgmt. Keynote: David Parsons, Executive Summary of the Exercise. Panelists: Expert-Observers Experience Sharing: Didier Gaujous, CEO, SUEZ/Caledonienne des Eaux, NC Bernard Michaux, Director of Operation, CILE Sheila Aboulouard, Direction of Health & Environment, SIAAP David Donahue, Commander, NSW Police Prof. Ilan Juran: W-SMART Perspectives Q&A</p>
5:00 – 6:30 pm	<p>Session 2: Disaster Preparedness & Customer Awareness Initiatives – covering issues such as Inter-agency Coordination; Media Debriefing; Public Education; Consumers Involvement in Crisis Management Exercises; Experience Sharing on Current Initiatives (e.g. Europe; Israel; Australia)</p> <p>Chair: Ann Hoban, Director City Life, City of Sydney Keynote: Mick Fuller, Assistant Commissioner NSW Police (TBC) Panelists: Jaya Kandasamy, Associate Professor, UTS Bernard Michaux, Director of Operation, CILE Didier Gaujous, CEO, Caledonienne des Eaux Bruno Nguyen, UNESCO-IHP, Expert-Consultant Q&A</p>
7:30 pm	<p>Dinner/Reception hosted by the City of Sydney - UNESCO - W-SMART (Customs House – Barnet Long Room)</p>
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Saturday, October 15	Location: City of Sydney (Customs House – Barnet Long Room)
8:00 – 8:30 am	Registration
8:30 – 8:45 am	Introductory Comments



8:45 – 10:00 am

Session 3: Urban Resilience – Challenges and Practice: covering issues such as Physical Infrastructure Resilience; Corporate Capacity Building; Economic Resilience; Business Continuity; Lessons Learned from Recent Case Studies (e.g. Eco-Disasters; Terrorism; Industrial Disasters)

Chair: Stephen Farrelly, CEO Mount Isa Water Board

Keynote: Atsushi Masuko, President TSS – Tokyo Water Corporation

Panelists:

Alain Palmans, President, CILE

Adrian Langdon, Executive Manager System Operations, Water NSW

José Martins, Director, Wastewater Operation, EPAL

Q&A

10:00 – 11:15 am

Session 4: Eco-Resilience Case Studies – Experience Impact on Current Management Practice of Water and Wastewater Utilities – covering issues such as Governance & Utility Challenges; COP 21 implementation strategies in Industrialized and Developing Countries; Case Studies (Australia; UNESCO-IHP; Japan; European Countries);

Chair: Stuart White, Director ISF

Keynote: Bruno Nguyen, Program Expert, UNESCO-IHP

Panelists

Jean-Michel Seillier, General Manager Veolia Water for Victoria /Tasmania,

Sheila Aboulouard, Expert, Direction of Health & Environment, SIAAP

Chris Derksema, Sustainability Director, City of Sydney

Q&A

11:15 – 11:30 pm

Coffee Break

11:30 – 13:00 pm

Session 5: Smart Water Network Strategies for Resilient Cities Experience Sharing - From Innovation to Practice

Chair: Rob Carr, Chief Executive e-Water

Keynote:

Taiwhan Kim, Manager of Water Network Operations Center, K-Water

Panelists:

Dr. Francisco Cubillo, Deputy Director, Research, Canal Isabel II

Dr. Catalina Pedraza, Specialist Project Manager, Thames Water

Prof. Ilan Juran, Executive director, W-SMART

Q&A

1:00 pm – 5:00 pm

Technical Tour

Includes take away lunch. Pickup and return to Customs House with Bus.

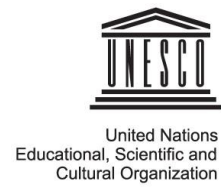
4:45 – 5:00 pm

Closing Remarks

Amit Chanan, City of Sydney

Bruno Nguyen, UNESCO-IHP

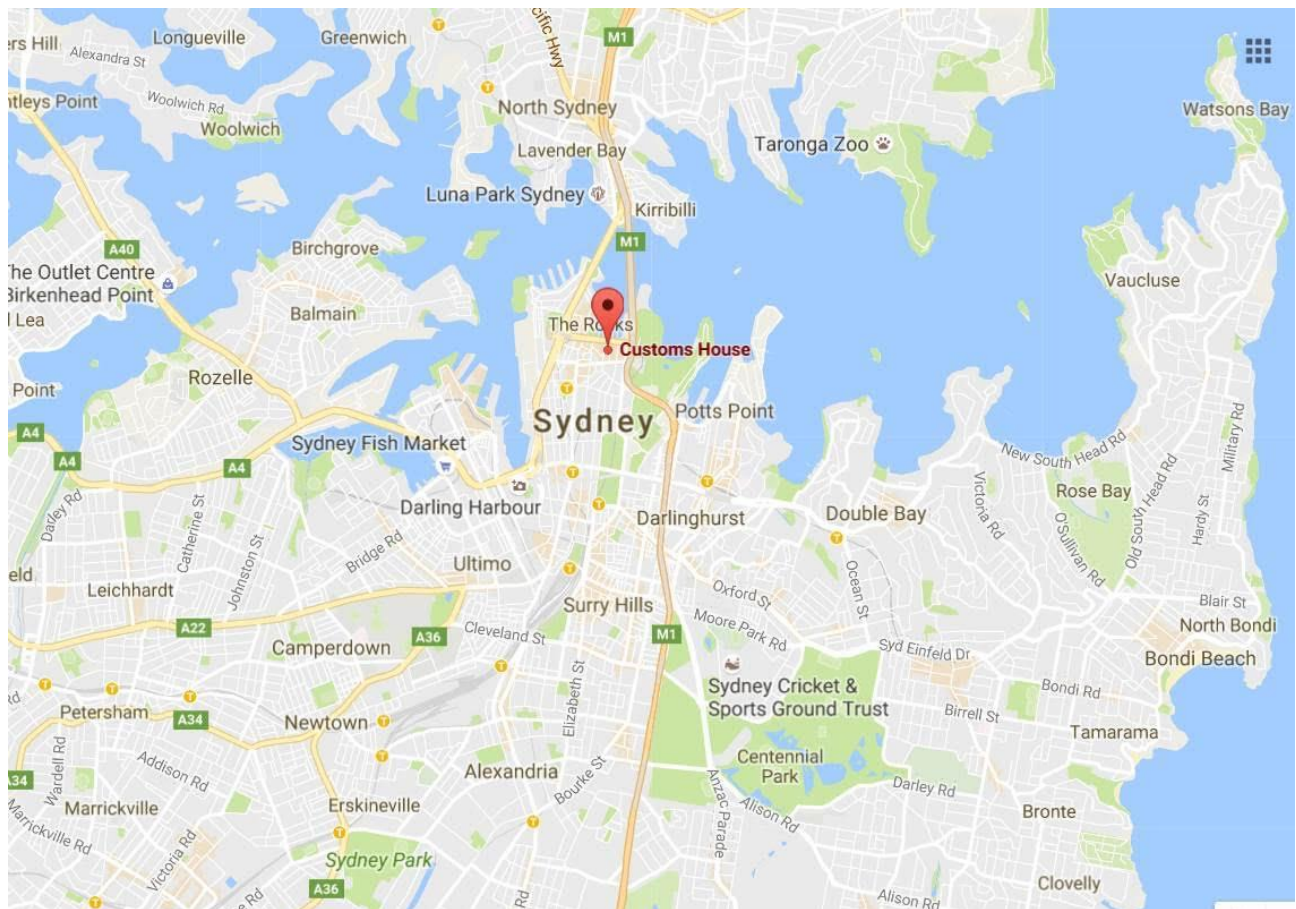
Prof. Ilan Juran, W-SMART



SITE PLAN

Site Map
City of Sydney

Venue Location
Customs House, 31 Alfred Street, Circular Quay, Sydney NSW 2000.
Web-site link: <http://www.sydneycustomhouse.com.au/>



Source: Google Map

CRISES MANAGEMENT EXERCISE

Australia is a country of droughts and flooding rains. This exercise will explore the structures and systems used in NSW to manage the consequences associated with flooding in a high density urban environment. The focus will be on the roles of agencies involved in emergency response and recovery operations.



TECHNICAL TOUR

SYDNEY PARK WATER REUSE: CITY'S LARGEST WATER HARVESTING INFRASTRUCTURE



This project's main objective is to deliver the City's largest water harvesting infrastructure to date, making a significant contribution to the realization of the Sustainable Sydney 2030 targets for local water capture and reuse. This project will be the first major contributor to a larger suite of initiatives formulated under the City of Sydney Decentralized Water Master

Plan. The project consists of a diversion sump located in the base of the existing Munni Channel with capacity to harvest a yield of up to 845 mega liter (ML) per year of storm water. This water is delivered to a treatment train composed of a gross pollutant trap, bio-filtration wet gardens and the parks existing wetland system. This project also improves the recreation amenity, ecology and environmental sustainability of the park's open space.

GREEN SQUARE PRECINCT



This project harvests a consistent dry weather flow of 10-20 liters per second from the storm water culvert that drains 220 hectare area of Sheas Creek sub-catchment and offsetting an estimated volume of 275 ML/year mains water that would otherwise be used for non-potable water demand. The harvested base flow will be treated through a gross pollutant trap then pumped to a

treatment plant containing ultrafiltration and reverse osmosis to bring the water quality to the required standard. This project will deliver water harvesting infrastructure to service the largest urban renewal project in the south hemisphere, making a significant contribution to the realization of the Sustainable Sydney 2030 targets for local water capture and reuse. For more information on the commercial supplier Green Square Water, refer to website <http://greensquarewater.com.au/>.

YouTube link: <https://www.youtube.com/watch?v=XvalN9cH4z4>

CENTRAL PARK: FLOW'S SUSTAINABLE WATER CENTER AT CENTRAL PARK



Flow's sustainable water center at Central Park, is the world's biggest recycled water facility in the basement of a residential building. It provides one million liters of recycled water a day - meeting 40 per cent of daily needs of the community. Every drop of wastewater in the Central Park precinct including all apartments and buildings goes directly to the sustainable water center

where it undergoes 8 filtration processes producing the highest quality recycled water for air cooling, toilet flushing, washing machines and irrigation. The Central Park center will save one million liters of precious drinking water daily and allowing Central Park to be water self-sufficient.

You tube Link: <https://youtu.be/RCaAy5tqYxA>



SPEAKERS PRESENTATIONS

SESSION 1



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.



STEPHEN FARRELLY
Chief Executive,
Mount Isa Water Board

Bio - Stephen is the Chief Executive of Mount Isa Water Board, in Queensland. Stephen is an experience water management professional. Prior to joining the Mount Isa Water Board, Stephen was the Risk & Resilience Manager with the former State Water Corporation in NSW. Stephen has extensive experience in managing infrastructure assets for the water industry from both private as well as the NSW Department of Land and Water Conservation. Jaya now leads University of Technology Sydney’s research programs in water resources, hydraulics, floodplain management, and water quality and pollution transport processes public sector perspective.



PROF. ILAN JURAN Executive Director of W-SMART
Executive Director, Urban Infrastructure Institute, NYU
Former Head of the Civil & Environmental Engineering Department at NYU- Poly,
Co-Chair of the Infrastructure Advisory University Council of New York City
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.

SESSION 2



BRUNO NGUYEN
W-SMART President

Bio - Bruno is since 2015 Senior Consultant at UNESCO-IHP (International Hydrological Programme), Water Sciences Division, based in Paris HQ where he is 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.



DIDIER GAUJOUS
CEO of Calédonienne des Eaux and Aqua Nord

Bio - Didier Gaujous is CEO of Calédonienne des Eaux and Aqua Nord, the subsidiaries of SUEZ serving as water and wastewater utilities for 180000 inhabitants of New Caledonia (75% of the population) and service provider to the major industries of the island (nickel). Prior to joining New Caledonia, Gaujous served as Investment Director for SUEZ Water France. In that capacity, his division provided support and guidance to the company’s asset managers in charge of capital works program (€ 400 million per year). Gaujous has 35 years experience in all aspects of water and wastewater system operations as well as customer service, business development, government relations and financing. His international experience includes management of water supply and sanitation systems in France (Paris, Lille), the United States, the Philippines (Manila) and Brazil. Gaujous began his career in 1981 as an engineer and project manager with SUEZ in Libya and Cameroon. He graduated from the Ecole Polytechnique Universitaire de Montpellier (Polytec) with a degree in water



engineering.

SESSION 3



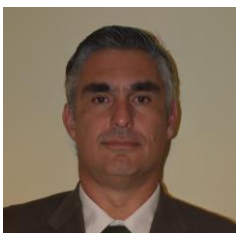
ATSUSHI MASUKO
President TSS Tokyo Water Co., Ltd., Japan

Bio - Up until 2013, Dr. Atsushi Masuko served as the Director General, Bureau of Waterworks, Tokyo Metropolitan Government, and for over 30 years, he made significant contributions to the Bureau in the areas of both of engineering and management, on the field of potable water and industrial water supply in Tokyo. In 2012, Dr. Masuko was awarded the title of "Doctor of Engineering" based on his research on energy reduction in water supply system. Specialized area: Technology and management for non-revenue water reduction, including leakage control and pipe network management, water meter management, and billing system of consumption control; Energy reduction and high quality potable water supply by direct water supply system without receiving reservoirs and advanced water supply system; Advanced water treatment with ozone contact and biological activated carbon treatment for high quality potable water supply in highly populated area like Tokyo.



ALAIN PALMANS
CEO - CILE (Liège, Belgium) Natural Disasters, Pollution and Terrorism

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.



JOSÉ MARTINS
EPAL – Wastewater Operations Director

Bio - José Martins, MSc Chemical Engineering – EPAL – Wastewater Operations Director. The company serves 3,5 million inhabitants (1/3 of Portugal population). EPAL operates, from July 2015, the systems operated before by 8 companies. 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.

Abstract - Water Cycle Safety Plan – Lisbon Case Study”

From the standard and common approach used in drinking water related to Water Safety Plans the project aimed to extend the approach to the other water cycle components, namely, wastewater and rain water. In the Lisbon case, each of the components was operated by a different utility (EPAL, SimTejo and Lisbon Municipality) increasing the importance of the approach in order to integrate all the operators. Each utility should create a System Safety Plan that would originate a Water Cycle Safety Plan. The project was focused also on the climate changes, so the main scenarios were related to this issue (sea level rising and rain patterns). The participation of different Lisbon stakeholders was another important aspect of the project.

SESSION 4



PROFESSOR STUART WHITE
Director of the Institute for Sustainable Futures

Bio - Professor Stuart White is Director of the Institute for Sustainable Futures where he leads a team of researchers who create change towards sustainable futures through independent, project-based research. With over twenty years’ experience in sustainability research, Professor White’s work focuses on achieving sustainability outcomes at least cost for a range of government, industry and community clients across Australia and internationally. This includes both the design and evaluation of programs for improving resource use efficiency and an assessment of their impact. Professor White has written and presented widely on sustainable futures and is a regular commentator on sustainability issues in the media.

SESSION 5



DR ROBERT CARR (5)
Chief Executive,
eWater Solutions

Bio - Robert is the Chief Executive of eWater Solutions. Robert is an experienced executive management and technical leader, hydrologist and hydraulics expert with 30 years of expert review, project, software development and management experience. Robert is a researcher, trainer and practitioner in the water science-to-technology field particularly in the field of simulation tools for integrated water management in the rural and urban sectors in Australia and internationally. He has undertaken water management projects including real-time warning, planning and operational models for river, flooding, water supply and wastewater systems. He has managed projects involving data collection, hydraulic and hydrological analysis in IWRM, flood management, groundwater/surface water interaction and wet weather wastewater analysis and decision support (DSS) tools.



CATALINA PEDRAZA
Specialist Project Manager, Thames Water Utilities Ltd

Bio - Catalina is a Project Manager at Thames Water, in charge of the contractual, conceptual, financial and administrative management of the UK demosite. 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.



AMIT CHANAN
Director, Infrastructure, City of Sydney

Bio - Dr. Amit Chanan is the Director of City Projects and Property at the City of Sydney, Australia. In this role Amit is responsible for providing executive leadership to the City of Sydney's infrastructure delivery program, including several initiatives under the City's Decentralized Water Master Plan. He is also responsible for ensuring sustainable performance of City's own multi-billion dollar property portfolio. Prior to this role, Amit was the Chief Operating Officer with the New South Wales State Water Corporation, in Australia. In this role, he was responsible for managing \$3.8 billion worth of water infrastructure assets including 20 large dams and 300 weirs. Amit led the transformation following the merger of State Water Corporation and the former Sydney Catchment Authority to form Australia's largest bulk water supply entity the Water NSW. Amit has held various other positions within the NSW Public sector including at the Kogarah City Council, the Sydney Catchment Authority and the Hawkesbury Nepean Catchment Management Trust. Amit is a recipient of the Churchill Fellowship (2013) to study flood operations in dams. He is a Fellow of the Australian Institute of Engineers. Amit has maintained a strong interest in academia, and is currently a Visiting Fellow and a Member of the Professional Advisory Board at the University of Technology Sydney. In addition, he is the Vice Chairman of the International Water Association's Specialist Group on Water Security and Safety Management, and a member of the editorial board of UK's Institute of Civil Engineers' Journal of Municipal Engineering.



FRANCISCO CUBILLO
Deputy Director, Research, Canal Isabel II

Bio - He 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. 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.



TAIWHAN KIM (5)

Manager of Water Network Operations Center, K- WATER

Bio - Holds a MSc in Water Supply Engineering, UNESCO IHE Delft and Bachelor in Civil Engineering, Handong Global University, 2005. Manager / Water Supply Operation & Maintenance Engineer, Pohang Regional Office (from July 2005 to September 2011). The main tasks were to operate and maintain water utilities including conventional water treatment plant and bulk water supply system in Pohang City. I made annual O&M plan for water utilities and conducted water audit including NRW management every month based on the annual plan. Preventive and corrective maintenance for water networks were also performed. In addition, I also held the charge of a Project Director for various construction and rehabilitation works related water utilities such as drinking water supply system, industrial water supply system and sewage services. Deputy Project Manager, Construction Project of Asembo Water Treatment Plant, Kenya (from September 2008 to October 2008). The main duty was managing water treatment plant construction for the Asembo Bay-Ndori Water Supply Project (Capacity : 00 cubic meters) funded by KOICA (Korea International Cooperation Agency).



PARTICIPANTS

W-SMART / International Experts:

CILE –	Alain Palmans, President Bernard Michaux, Director of Operation
EPAL –	José Martins, Director, Wastewater Operation, EPAL
Canal Isabel 2nd Madrid –	Dr. Francisco Cubillo, Deputy Director, Research and Innovation.
SUEZ/Caledonienne des Eaux –	Didier Gaujous, CEO
SIAAP-	Sheila Aboulouard, Expert, Direction of Health & Environment
VEOLIA	Jean-Michel Seillier, General Manager, Veolia Water, Victoria/Tasmania,
TOKYO Water Corporation	Atsushi Masuko, President TSS
K-WATER	Taiwhan Kim, Manager of Water Network Operations Center
THAMES WATER	Dr. Catalina Pedraza, Specialist Project Manager
UNESCO-IHP	Bruno Nguyen, Expert
W-SMART	Prof. Ilan Juran, Executive Director Director, Urban Infrastructure Institute, NYU Tandon School of Eng.

Australian Utilities and City Officials

E-Water	Rob Carr, Chief Executive Officer
Water NSW	Adrian Langdon, Executive Manager System Operations
Mount Isa Water Board	Stephen Farrelly, Chief Executive Officer
QUT Centre for Disaster Mgt	David Parsons, Adjunct A/Professor
University of Technology Sydney	Jaya Kandasamy, Assoc. Professor, School of Civil & Environmental Eng.
University of Technology Sydney	Dr Shoshana Fogelman, Strategic Partnership Team
City of Sydney	Amit Chanan, Director City Projects & Property
City of Sydney	Ann Hoban, Director City Life
City of Sydney	David Cornett, Manager Security & Emergency Management
City of Sydney	Beck Dawson, Chief Resilience Officer (invited)
City of Sydney	Chris Derksema, Sustainability Director
City of Sydney	Damon La'Rance, Project Manager Open Space
City of Sydney	Lisa Currie, Manager Water Strategy (invited)
City of Sydney	Chris Collins, Manager Green Infrastructure Implementation
City of Sydney	Ebony Heslop, Precinct Engineer Green Infrastructure
NSW Police	David Donahue, Local Area Commander
NSW Police	Karen McCarthy, Superintendent (invited)
NSW Police	Mick Fuller, Assistant Commissioner
State Emergency Services	Delegate to be confirmed
Sydney Water	Delegate to be confirmed
NSW Health	Delegate to be confirmed
Institute for Sustainable Futures	Stuart White, Director
Flow Systems	Andrew Horton Executive Manager Operations
Flow Systems	Candice Suttor Executive Manager Retail
Flow Systems	Lisa McLean Executive Manager Corporate Affairs and Marketing
CME Committee	Various members to be confirmed