ARA
Asociația Română a Apei

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Tendințe actuale privind gestionarea pierderilor de apă - sinteza lucrărilor Conferinței Water Loss 2024

TADECO TECHNOLOGY

UTCB
Universitatea Tehnică de Construcții București

WaterLoss 2024

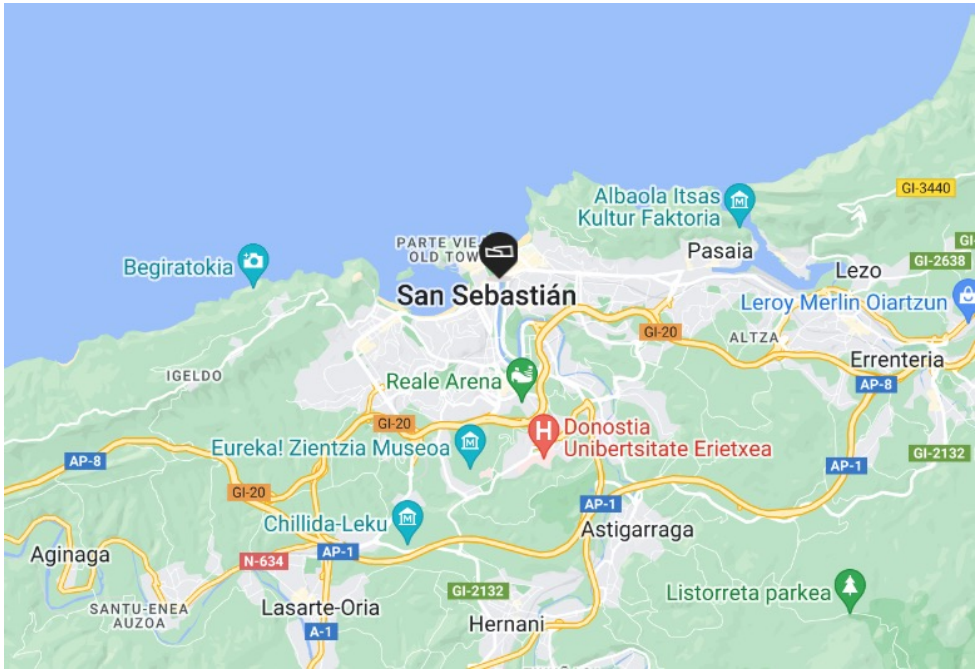
sursa : *https://www.waterloss2024.org/*

WaterLoss 2024

Asociația Română a Apei

Conferința : Kursaal Congress Centre

Locație : San Sebastian, *Spania*



Organizator

IWA WATER LOSS SPECIALIST GROUP
the international water association

DONOSTIA SAN SEBASTIÁN

sursa : *https://www.waterloss2024.org/*

WaterLoss 2024
Program

Asociația Română a Apei

Ziua 1 : Ateliere de lucru pre-conferință

Water Loss 2024
April 14-17, 2024 San Sebastián

FINAL PROGRAMME

Sunday, 14th April, 2024

IWA WATER LOSS SPECIALIST GROUP
the international water association

	WORKSHOPS	DESCRIPTION
11:00 to 12:30	**WORKSHOP 1** **DEVELOPING A PATHWAY TO A DIGITAL FUTURE** **Cor Merks, Francisco Arregui De-La-Cruz, Thorkil Bartholdy Neergaard**	Static water meters provide a large amount of useful data. The use of this meter data to its fullest extent allows water operators to develop and operate a digital value chain. Frontrunner operators worldwide did already create added value for the utility and their customers and stakeholders. Other water operators are at the start of their digitalization journey. These water operators might be inspired by successful residential static water meter implementation projects or are hesitant when considering an unknown impact on their organisation. The workshop will provide the participants the full range of insights gained in a variety of countries so far. The panelists together with the participants will examine the opportunities and challenges that are related with the value creation process that is part of the implementation of static meters and the use of water meter data.
13:30 to 15:00	**WORKSHOP 2** **COMPARING LEVELS OF WATER LOSS INTERNATIONALLY** **Stuart Trow, David Pearson, Alan Wyatt, Joerg Koelbl**	The aim of the workshop is to discuss the level of water loss in water supply organisations around the world and the measures used to assess and compare those levels. The presenters have been meeting regularly for several months on an initiative to collect water loss data from around the world and to consider the various indicators for making comparisons. As interest in water loss management grows, and targets are being set in many countries often based on comparative KPIs, it is important that water suppliers, consultants, and especially regulators and governments understand the relative merits of each measure. It is also necessary to have a better assessment of water loss levels internationally at a time when there is increased focus on this precious resource.
15:30 to 17:00	**WORKSHOP 3** **UNLOCKING CLIMATE FINANCE FOR WATER LOSS REDUCTION** **David Ehrhardt, Steve Cavanaugh, Gregory Kpegli**	Billions of dollars of climate finance are available. Water loss reduction mitigates greenhouse gas emissions while boosting resilience to climate change. How can water loss reduction projects benefit from climate finance? To answer that question, we will explore the centrality of robust measurement in making a credible case for climate finance and review the various types of climate finance on offer, providing you with practical information with which to craft strategies to finance your loss-reduction projects.
20:00	**WELCOME COCKTAIL** **at KURSAAL**	(www.waterloss2024.org/social-events.htm)

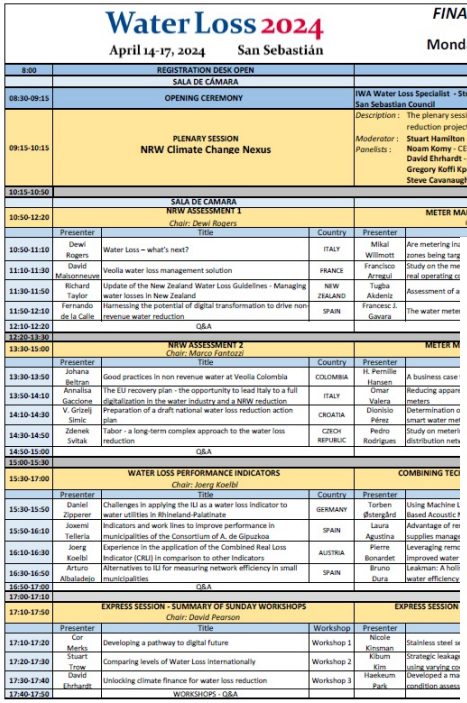
sursa : *https://www.waterloss2024.org/*

WaterLoss 2024

Program

Asociația Română a Apei

Zilele 2 – 4 : Lucrări conferință



Water Loss 2024
April 14-17, 2024 San Sebastián

FINAL PROGRAMME
Monday, 15th April, 2024

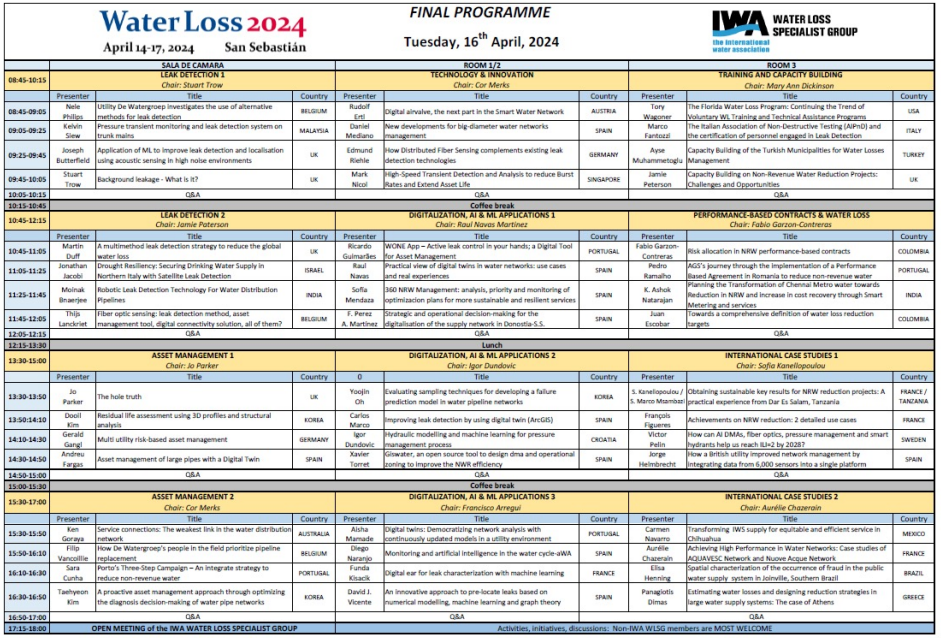
IWA WATER LOSS SPECIALIST GROUP
the International water association

8:00	REGISTRATION DESK OPEN										
	SALA DE CÁMARA				DESCRIPTION						
08:30-09:15	OPENING CEREMONY				IWA Water Loss Specialist - Stuart Hamilton, Chair IWA WLSG San Sebastian Council						
09:15-10:15	PLENARY SESSION NRW Climate Change Nexus				Description : The plenary session will feature a panel discussion from industry experts who will share ideas, concepts, case studies, and the latest findings on how water loss reduction projects can effectively leverage climate finance and contribute to climate resilience and mitigation efforts Moderator : Stuart Hamilton - Climate Change Advocate, Chair IWA WLSG, Senior VP CWWA Panelists : Noam Lotan - CEO Miya, over 1M tonnes of Global NRW Carbon savings on Projects executed David Ehrhardt - CEO and Owner of Castalia Gregory Koffi Kpegli - Water Supply and Sanitation Specialist, International Finance Corporation Steve Cavanaugh, P.E. - President/CEO Cavanaugh, Chair Leakage Emissions Initiative, IWA Water Loss Specialist Group						
10:15-10:50	Coffee Break										
	SALA DE CAMARA				ROOM 1/2				ROOM 3		
10:50-12:20	NRW ASSESSMENT 1 Chair: Dewi Rogers				METER MANAGEMENT & APPARENT LOSSES 1 Chair: Francisco Arregui				FINANCING & ECONOMICS Chair: Steve Cavanaugh		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
10:50-11:10	Dewi Rogers	Water Loss – what's next?	ITALY		Mikal Willmott	Are metering inz zones being targ					
11:10-11:30	David Malsonneuve	Veolia water loss management solution	FRANCE		Francisco Arregui	Study on the me real operating c					
11:30-11:50	Richard Taylor	Update of the New Zealand Water Loss Guidelines - Managing water losses in New Zealand	NEW ZEALAND		Tugba Akdeniz	Assessment of a					
11:50-12:10	Fernando de la Calle	Harnessing the potential of digital transformation to drive non-revenue water reduction	SPAIN		Francesc J. Gavara	The water meter					
12:10-12:20	Q&A										
12:20-13:30											
13:30-15:00	NRW ASSESSMENT 2 Chair: Marco Fantozzi				METER M						
	Presenter	Title	Country		Presenter						
13:30-13:50	Johana Beltran	Good practices in non revenue water at Veolia Colombia	COLOMBIA		H. Pernille Hansen	A business case					
13:50-14:10	Annalisa Gaccione	The EU recovery plan - the opportunity to lead Italy to a full digitalization in the water industry and a NRW reduction	ITALY		Omar Valera	Reducing appare meters					
14:10-14:30	V. Grizelj Simic	Preparation of a draft national water loss reduction action plan	CROATIA		Dionisio Pérez	Determination o smart water met					
14:30-14:50	Zdenek Svitak	Tabor - a long-term complex approach to the water loss reduction	CZECH REPUBLIC		Pedro Rodrigues	Study on meteri distribution netv					
14:50-15:00	Q&A										
15:00-15:30											
15:30-17:00	WATER LOSS PERFORMANCE INDICATORS Chair: Joerg Koelbl				COMBINING TEC						
	Presenter	Title	Country		Presenter						
15:30-15:50	Daniel Zipperer	Challenges in applying the ILI as a water loss indicator to water utilities in Rhineland-Palatinate	GERMANY		Torben Østergård	Using Machine L Based Acoustic ?					
15:50-16:10	Joxemi Telleria	Indicators and work lines to improve performance in municipalities of the Consortium of A. de Gipuzkoa	SPAIN		Laura Agustina	Advantage of re supplies manage					
16:10-16:30	Joerg Koelbl	Experience in the application of the Combined Real Loss Indicator (CRLI) in comparison to other Indicators	AUSTRIA		Pierre Bonardet	Leveraging remc improved water					
16:30-16:50	Arturo Albaladejo	Alternatives to ILI for measuring network efficiency in small municipalities	SPAIN		Bruno Dura	Leakman: A holi water efficiency					
16:50-17:00	Q&A										
17:00-17:10											
17:10-17:50	EXPRESS SESSION - SUMMARY OF SUNDAY WORKSHOPS Chair: David Pearson				EXPRESS SESSION						
	Presenter	Title	Workshop		Presenter						
17:10-17:20	Cor Merks	Developing a pathway to digital future	Workshop 1		Nicole Kinsman	Stainless steel s					
17:20-17:30	Stuart Trow	Comparing levels of Water Loss Internationally	Workshop 2		Kibum Kim	Strategic leakag using varying co					
17:30-17:40	David Ehrhardt	Unlocking climate finance for water loss reduction	Workshop 3		Haekeum Park	Developed a ma condition assess					
17:40-17:50	WORKSHOPS - Q&A										

Water Loss 2024
April 14-17, 2024 San Sebastián

FINAL PROGRAI
Wednesday, 17th Ap

	SALA DE CAMARA				ROOM 1/2						
08:45-10:15	DMA DESIGN & MANAGEMENT Chair: David Pearson				SMART WATER NETWOR Chair: Richard Taylor						
	Presenter	Title	Country		Presenter	Title	Country				
08:45-09:05	Kim Belmans	Smart DMA-design with sub-dividing plan : Case Study	BELGIUM		Lai Kah Cheong	PUB's Smart Water Analytics Platform – En Operational Efficiency via Reliable Digital T Analytics					
09:05-09:25	Cecilia S. Chantada	Evolution of Management by DMA – Slow but convinced – From the Pilot to the Strategic Plan	ARGENTINA		Mutahar Ali Abdullah	Implementing a WN Management System t from Empirical Operation to Data-Driven D					
09:25-09:45	Tomislav Vitovski	Virtual DMA – Implementation and leak detection in It	CROATIA		Jan Van Cappellen	Permanent non-DMA based leak localizatio integrated sensors in smart watermeters					
09:45-10:05	Carlos Calatayud	Active management of drinking water supply systems through multi-agen systems (MAS)	SPAIN		Ramon Dolz	NRW control and DMA management throu integration with SCADA					
10:05-10:15	Q&A				Q&A				Q&A		
10:15-10:50	Coffee break										
10:50-12:20	PRESSURE MANAGEMENT 1 Chair: Kate Stanton-Davies				SMART WATER NETWORKS 2 Chair: Mikal Willmott				WATER LOSS MANAGEMENT 2 Chair: Joseph Butterfield		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
10:50-11:10	Kate Stanton-Davies	The Power of N1	UK		Yaron Geller	AMR and water Utilities - technology leads change in management	ISRAEL		Adolfo Cuesta	Efficiency in the water cycle through Asset management systems	SPAIN
11:10-11:30	Alexandru Aldea	A case study of pressure management in over-pressured supply system – evolution of performance indicators	ROMANIA		Ruben M. Pereña	Reduction of NRW with smart metering in Canal de Isabel II	SPAIN		Andres Ortega	Control valves for NRW reduction and hydraulic network protection	SPAIN
11:30-11:50	David Sánchez	Optimizing Pressure Management in Intermittent Water Supply Systems	MEXICO		José Delgado	Business Intelligence as a driver of digital transformation for ANC reduction	COSTA RICA		Zhou Sha	Feature study of leak-induced vibration	CHINA
11:50-12:10	Eva Martínez	Pressure transient management: Global trends, business case and introduction to a new global partnership program	SPAIN		Andross Pérez	Valencia Case Study: advanced water efficiency management through technology.	SPAIN		Ambrose Muhu	Thorough assessment of NRW for an effective, data driven campaign against water lossess	KENYA
12:10-12:20	Q&A				Q&A				Q&A		
12:20-13:30	Lunch										
13:30-15:00	PRESSURE MANAGEMENT 2 Chair: Stuart Stapely				SMART WATER NETWORKS 3 Chair: Milene Aguiar				LEAKAGE MANAGEMENT Chair: Andy Blackhall		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
13:30-13:50	Stuart Stapely	The Difficulties of Pressure Management and How to Overcome Them	AUSTRALIA		Jinseok Hyung	Development of optimal WDNs design method using genetic algorithm and reliability analysis	KOREA		Andy Blackhall	Towards an Ethical Level of Leakage	UK
13:50-14:10	Eduardo Bulhoes	Evaluating the best pressure efficiency point	BRAZIL		Arsenio Mate	Experience in reducing commercial losses in the water supply system of Maputo Metropolitan regions	MOZAMBIQUE		José Antonio Iglesias	Digitisation of water leakage detection: Success stories from Spain and UK	SPAIN
14:10-14:30	Giuliano Ceseri	An innovative approach for quick leakage detection and real-time adaptive pressure control in a PMZ	ITALY		M. Clemente Lloscos	GO Smart Meter Networks Evolution Since 2006	SPAIN		Olgierd Wargowski	How the technology is helping to improve leak detection process	POLAND
14:30-14:50	Carmen Sánchez	Networks 2.0: sensorization, advanced pressure regulation and energy efficiency in the city of Valencia	SPAIN		Luiz R. Gravina	Improving the operational management of water supply systems through GIS integrated with hydraulic modeling	BRAZIL		Uri Gutermann	Europe is finally deploying the necessary funds to act on high water loss rates	GERMANY
14:50-15:00	Q&A				Q&A				Q&A		
15:00-15:30	Coffee break										
15:30-16:30	CLOSING CEREMONY Stuart Hamilton & Gary Wyeth										
20:00	ROLAND LIEMBERGER GALA DINNER AND AWARDS at PALACIO MIRAMAR				(www.waterloss2024.org/social-events.htm)						



Water Loss 2024
April 14-17, 2024 San Sebastián

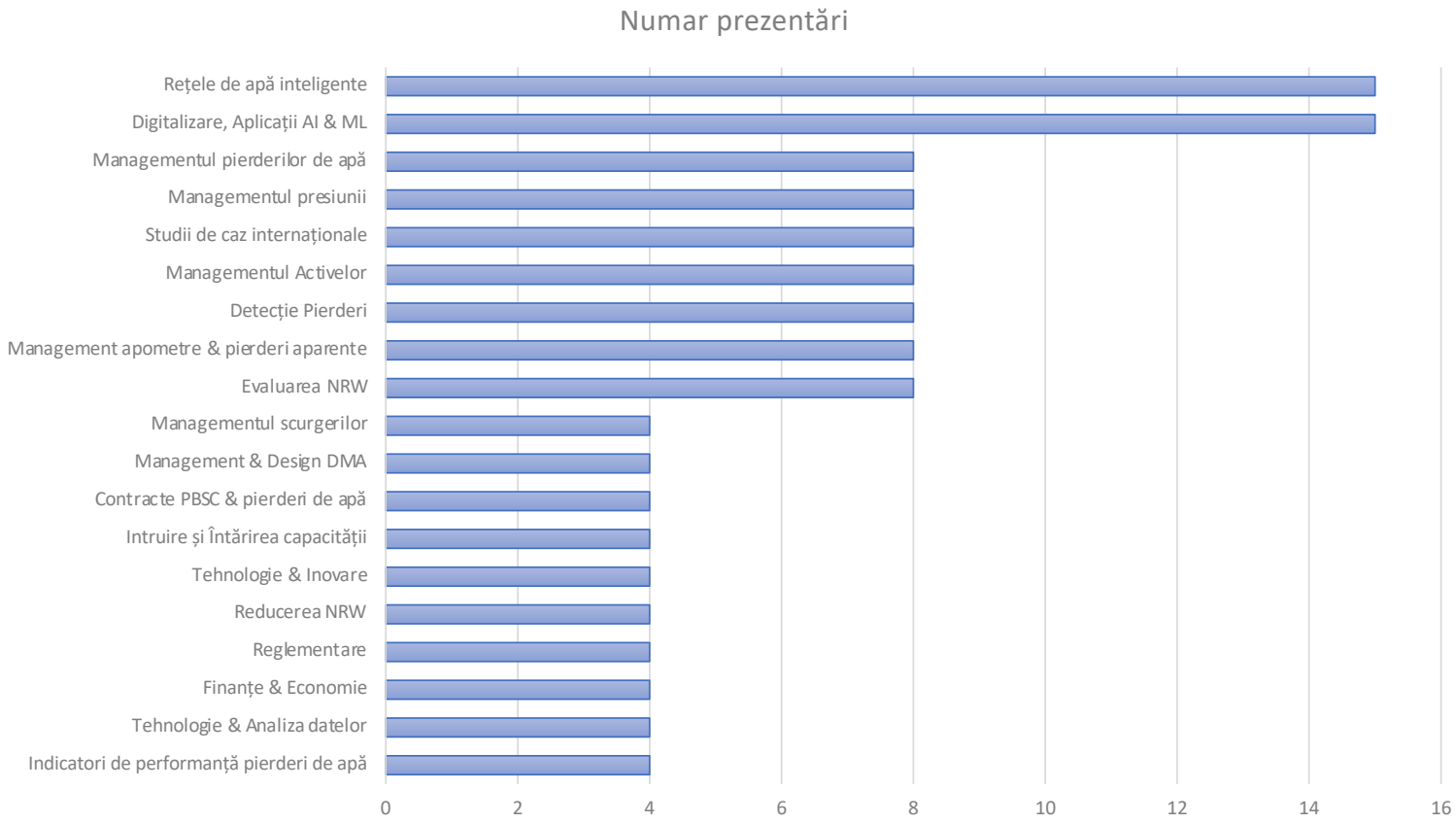
FINAL PROGRAMME
Tuesday, 16th April, 2024

IWA WATER LOSS SPECIALIST GROUP
the International water association

	SALA DE CAMARA				ROOM 1/2				ROOM 3		
08:45-10:15	LEAK DETECTION 1 Chair: Stuart Trow				TECHNOLOGY & INNOVATION Chair: Cor Merks				TRAINING AND CAPACITY BUILDING Chair: Mary Ann Dickinson		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
08:45-09:05	Nele Philips	Utility De Watergroep Investigates the use of alternative methods for leak detection	BELGIUM		Rudolf Ertl	Digital airvalve, the next part In the Smart Water Network	AUSTRIA		Tony Wagoner	The Florida Water Loss Program: Continuing the Trend of Voluntary WL Training and Technical Assistance Programs	USA
09:05-09:25	Kelvin Siew	Pressure transient monitoring and leak detection system on trunk mains	MALAYSIA		Daniel Mediano	New developments for big-diameter water networks management	SPAIN		Marco Fantozzi	The Italian Association of Non-Destructive Testing (AIPnD) and the certification of personnel engaged in Leak Detection	ITALY
09:25-09:45	Joseph Butterfield	Application of ML to improve leak detection and localisation using acoustic sensing in high noise environments	UK		Edmund Riehle	How Distributed Fiber Sensing complements existing leak detection technologies	GERMANY		Ayse Muhammetoglu	Capacity Building of the Turkish Municipalities for Water Losses Management	TURKEY
09:45-10:05	Stuart Trow	Background leakage - What is It?	UK		Mark Nicol	High-Speed Transient Detection and Analysis to reduce Burst Rates and Extend Asset Life	SINGAPORE		Jamie Peterson	Capacity Building on Non-Revenue Water Reduction Projects: Challenges and Opportunities	UK
10:05-10:15	Q&A				Q&A				Q&A		
10:15-10:45	Coffee break										
10:45-12:15	LEAK DETECTION 2 Chair: Jamie Paterson				DIGITALIZATION, AI & ML APPLICATIONS 1 Chair: Raul Naves Martinez				PERFORMANCE-BASED CONTRACTS & WATER LOSS Chair: Fabio Garzon-Contreras		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
10:45-11:05	Martin Duff	A multimethod leak detection strategy to reduce the global water loss	UK		Ricardo Guimarães	WONE App – Active leak control in your hands; a Digital Tool for Asset Management	PORTUGAL		Fabio Garzon-Contreras	Risk allocation in NRW performance-based contracts	COLOMBIA
11:05-11:25	Jonathan Jacobi	Drought Resiliency: Securing Drinking Water Supply In Northern Italy with Satellite Leak Detection	ISRAEL		Raul Navas	Practical view of digital twins in water networks: use cases and real experiences	SPAIN		Pedro Ramalho	AGS's journey through the Implementation of a Performance Based Agreement in Romania to reduce non-revenue water	PORTUGAL
11:25-11:45	Moinak Bnaerjee	Robotic Leak Detection Technology For Water Distribution Pipelines	INDIA		Sofia Mendaza	360 NRW Management: analysis, priority and monitoring of optimizacion plans for more sustainable and resilient services	SPAIN		K. Ashok Natarajan	Planning the Transformation of Chennai Metro water towards Reduction in NRW and Increase in cost recovery through Smart Metering and services	INDIA
11:45-12:05	Thijs Lanckriet	Fiber optic sensing: leak detection method, asset management tool, digital connectivity solution, all of them?	BELGIUM		F. Perez A. Martinez	Strategic and operational decision-making for the digitalisation of the supply network in Donostia-S.S.	SPAIN		Juan Escobar	Towards a comprehensive definition of water loss reduction targets	COLOMBIA
12:05-12:15	Q&A				Q&A				Q&A		
12:15-13:30	Lunch										
13:30-15:00	ASSET MANAGEMENT 1 Chair: Jo Parker				DIGITALIZATION, AI & ML APPLICATIONS 2 Chair: Igor Dundovic				INTERNATIONAL CASE STUDIES 1 Chair: Sofia Kanelopoulou		
	Presenter	Title	Country		0	Title	Country		Presenter	Title	Country
13:30-13:50	Jo Parker	The hole truth	UK		Yoojin Oh	Evaluating sampling techniques for developing a failure prediction model in water pipeline networks	KOREA		S. Kanelopoulou / S. Marco Msambazi	Obtaining sustainable key results for NRW reduction projects: A practical experience from Dar Es Salam, Tanzania	FRANCE / TANZANIA
13:50-14:10	Dooil Kim	Residual life assessment using 3D profiles and structural analysis	KOREA		Carlos Marco	Improving leak detection by using digital twin (ArcGIS)	SPAIN		François Figueres	Achievements on NRW reduction: 2 detailed use cases	FRANCE
14:10-14:30	Gerald Gangl	Multi utility risk-based asset management	GERMANY		Igor Dundovic	Hydraulic modelling and machine learning for pressure management process	CROATIA		Victor Pelin	How can AI DMAs, fiber optics, pressure management and smart hydrants help us reach ILI=2 by 2028?	SWEDEN
14:30-14:50	Andreu Fargas	Asset management of large pipes with a Digital Twin	SPAIN		Xavier Torret	Glowater, an open source tool to design dma and operational zoning to improve the NWR efficiency	SPAIN		Jorge Helmbrecht	How a British utility improved network management by integrating data from 6,000 sensors into a single platform	SPAIN
14:50-15:00	Q&A				Q&A				Q&A		
15:00-15:30	Coffee break										
15:30-17:00	ASSET MANAGEMENT 2 Chair: Cor Merks				DIGITALIZATION, AI & ML APPLICATIONS 3 Chair: Francisco Arregui				INTERNATIONAL CASE STUDIES 2 Chair: Aurélie Chazerain		
	Presenter	Title	Country		Presenter	Title	Country		Presenter	Title	Country
15:30-15:50	Ken Goraya	Service connections: The weakest link in the water distribution network	AUSTRALIA		Aisha Mamade	Digital twins: Democratizing network analysis with continuously updated models in a utility environment	PORTUGAL		Carmen Navarro	Transforming IWS supply for equitable and efficient service in Chihuahua	MEXICO
15:50-16:10	Filip Vancoillie	How De Watergroep's people in the field prioritize pipeline replacement	BELGIUM		Diego Naranjo	Monitoring and artificial Intelligence in the water cycle-aWA	SPAIN		Aurélie Chazerain	Achieving High Performance In Water Networks: Case studies of AQUAVESC Network and Nuove Acque Network	FRANCE
16:10-16:30	Sara Cunha	Porto's Three-Step Campaign – An integrate strategy to reduce non-revenue water	PORTUGAL		Funda Kisacik	Digital ear for leak characterization with machine learning	FRANCE		Elisa Henning	Spatial characterization of the occurrence of fraud in the public water supply system in Joinville, Southern Brazil	BRAZIL
16:30-16:50	Taehyeon Kim	A proactive asset management approach through optimizing the diagnosis decision-making of water pipe networks	KOREA		David J. Vicente	An innovative approach to pre-locate leaks based on numerical modelling, machine learning and graph theory	SPAIN		Panagiotis Dimas	Estimating water losses and designing reduction strategies in large water supply systems: The case of Athens	GREECE
16:50-17:00	Q&A				Q&A				Q&A		
17:15-18:00	OPEN MEETING of the IWA WATER LOSS SPECIALIST GROUP				Activities, initiatives, discussions: Non-IWA WLSG members are MOST WELCOME						

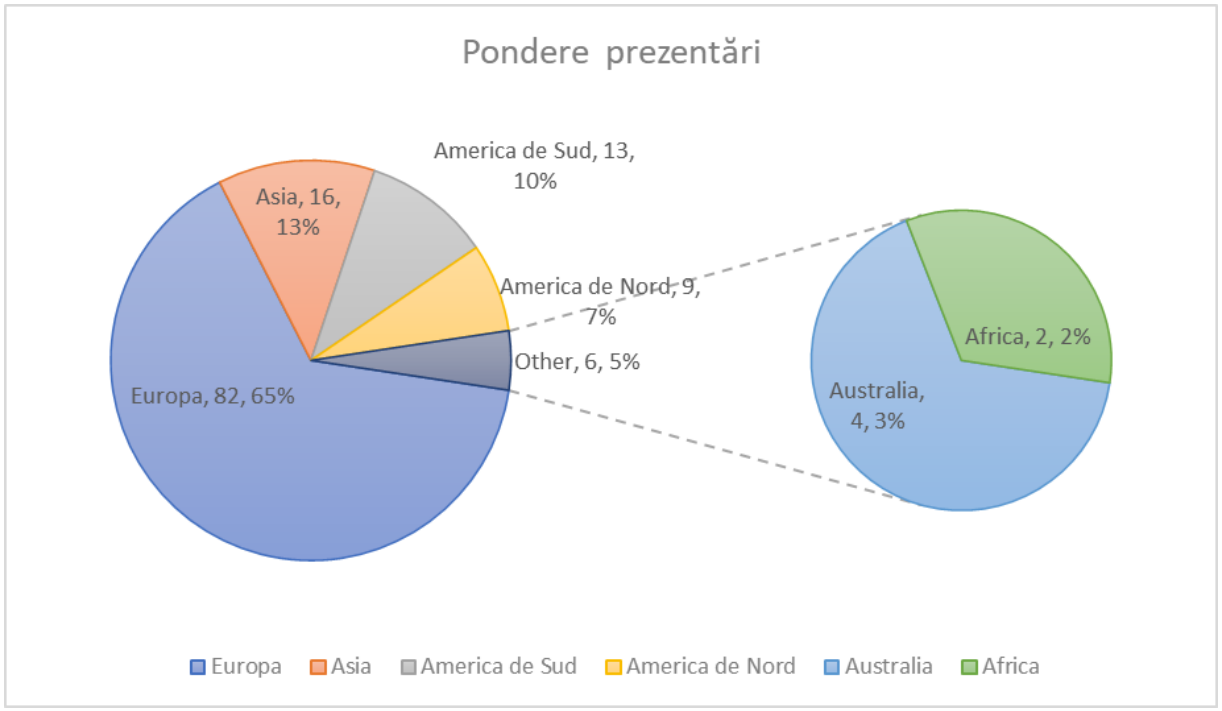
sursa : *https://www.waterloss2024.org/*

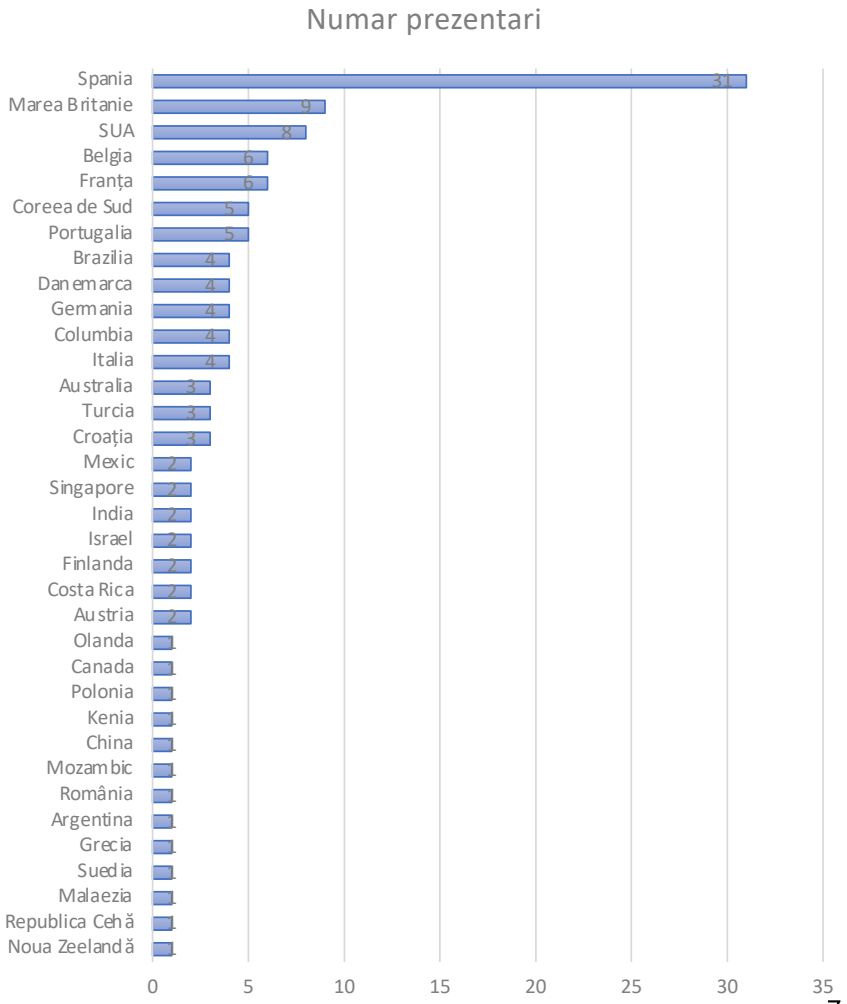
Ponderea subiectelor abordate (sesiuni normale și expres)



WaterLoss 2024
Prezentări

Prezentări repartizate pe țări / continente





WaterLoss 2024

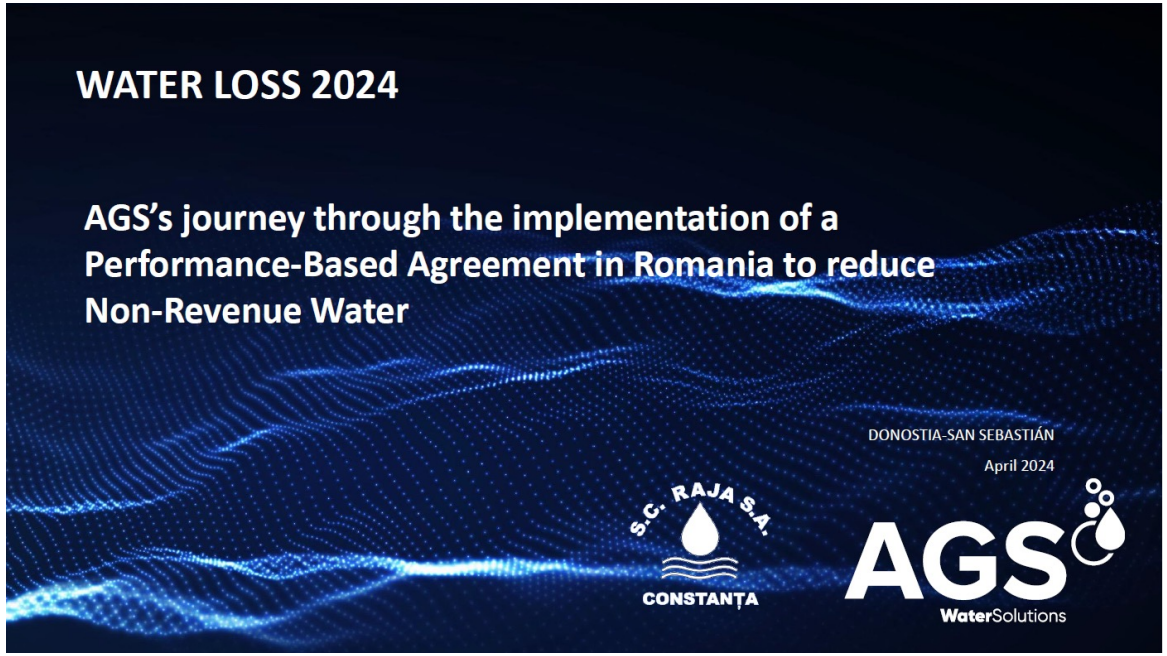
România în cadrul conferintei

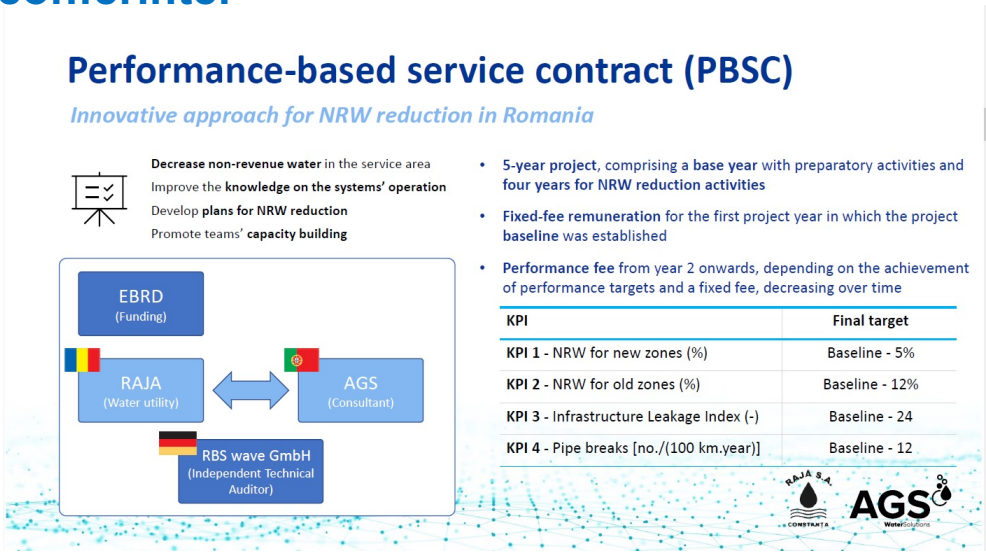
AGS's journey through the implementation of a Performance Based Agreement in Romania to reduce non-revenue water

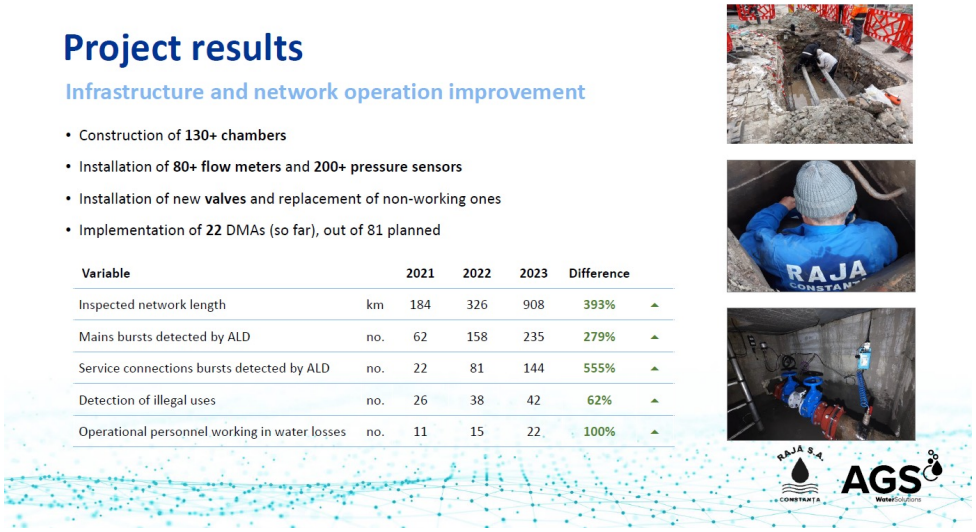
Marți, 16 aprilie, secțiunea *PERFORMANCE-BASED CONTRACTS & WATER LOSS*

Autori : AGS & RAJA Constanța

Speaker : Pedro Ramalho







WaterLoss 2024

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WaterLoss 2024

România în cadrul conferinței

A case study of pressure management in over-pressured supply system – evolution of performance indicators

Miercuri, 14 aprilie, secțiunea *PRESSURE MANAGEMENT 1*

Autori : A. Aldea, T.A. Florea, S. Perju

Speaker : Alexandru Aldea

Water Loss 2024

April 14-17, 2024 San Sebastián

A CASE STUDY OF PRESSURE MANAGEMENT IN OVER-PRESSURED SUPPLY SYSTEM – EVOLUTION OF PERFORMANCE INDICATORS

A. Aldea*, T. A. Florea**, S. Perju***

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TADECO TECHNOLOGY

RAJA S.A. CONSTANȚA

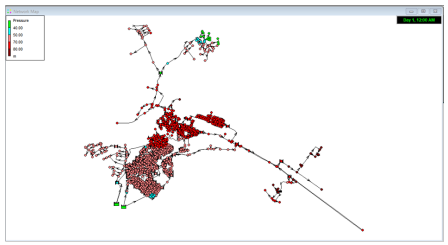
UTCB Universitatea Tehnică de Construcții București

DMAs

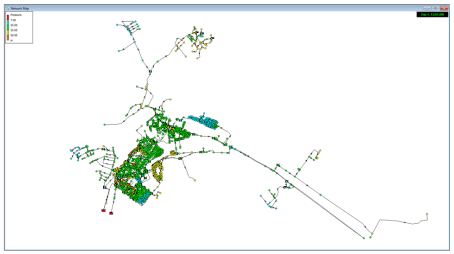
Initial situation – 2 supply zones

Proposed situation – 19 DMAs, 15 small metering zones
Finishing implementation in April 2024

Hydraulic simulations



Initial situation – over pressurized system



Proposed situation – presuure at much lower levels

WaterLoss 2024

România în cadrul conferinței

A case study of pressure management in over-pressured supply system – evolution of performance indicators

Miercuri, 14 aprilie, secțiunea *PRESSURE MANAGEMENT 1*

Autori : A. Aldea, T.A. Florea, S. Perju

Speaker : Alexandru Aldea

WaterLoss 2024

Ateliere de lucru

DEVELOPING A PATHWAY TO A DIGITAL FUTURE

Duminică, 14 aprilie, 11:00 – 12:30, WORKSHOP 1

Autori : Cor Merks, Francisco Arregui De-La-Cruz, Thorkil Bartholdy Neergaard

Apometrele statice oferă o cantitate mare de date utile. Utilizarea la maximum a acestor date ale contoarelor permite operatorilor de apă să dezvolte și să opereze un lanț valoric digital. Operatorii de date din întreaga lume au creat deja valoare adăugată pentru utilități și pentru clienții și părțile interesate ale acestora.

Alți operatori de apă sunt la începutul călătoriei lor de digitalizare. Acești operatori de apă ar putea fi inspirați de proiectele de succes de implementare a contoarelor de apă statice rezidențiale sau ezită atunci când iau în considerare un impact necunoscut asupra organizației lor.

Atelierul va oferi participanților întreaga gamă de informații dobândite până acum într-o varietate de țări. Panelиștii împreună cu participanții vor examina oportunitățile și provocările legate de procesul de creare a valorii care face parte din implementarea contoarelor statice și utilizarea datelor contoarelor de apă.

WaterLoss 2024

Ateliere de lucru

Asociația Română a Apei

DEVELOPING A PATHWAY TO A DIGITAL FUTURE

Duminică, 14 aprilie, 11:00 – 12:30, WORKSHOP 1

WaterLoss 2024

Ateliere de lucru

COMPARING LEVELS OF WATER LOSS INTERNATIONALLY

Duminică, 14 aprilie, 13:30 – 15:00, WORKSHOP 2

Autori : Stuart Trow, David Pearson, Alan Wyatt, Joerg Koelbl

The purpose of the workshop

- The global data collection initiative
  - Commenced June 2023
  - How do we collect, report and compare data on water loss ?
  - How do we track progress on water loss reduction ?
- New Directives, Frameworks, Regulations etc
  - EU Water Framework Directive (WFD) and Taxonomy Regulations
  - Emerging water loss regulation in other countries
- Which KPI ?- an issue as old as the WLSG itself

Cu acordul lui *David Pearson*

COMPARING LEVELS OF WATER LOSS INTERNATIONALLY

Duminică, 14 aprilie, 13:30 – 15:00, WORKSHOP 2

Workshop Program

Session 1: Stuart Trow - Use of Key Performance Indicators for Water Loss

The presentation covered the range of Key Performance Indicators used to assess Water Loss and NRW together with a quick summary of their relative merits

Session 2: David Pearson - The WLSG Global KPI Initiative

The presentation set out the status of the data collection initiative commenced in June 2023

Session 3: Alan Wyatt - Experiences of using new KPI measures

Recent experience of using the CRLI measure for real loss and options for reporting NRW

Session 4: Joerg Koelbl - Data Sources, Quality and Audit Procedures

Examples of the sources of data on water loss available from a range of countries around the world

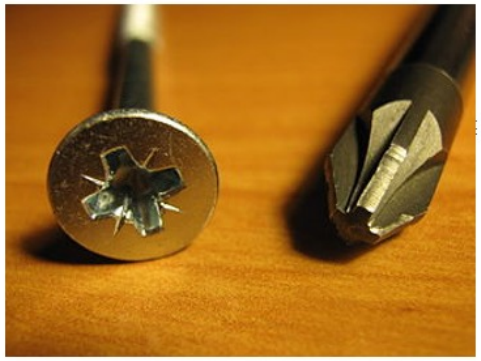
IWA WATER LOSS SPECIALIST GROUP
the international water association

Workshop 2
Comparing Levels of Water Loss Internationally

Water Loss 2024
April 14-17, 2024 San Sebastián

Cu acordul lui *David Pearson*

KPIs – The right tool for the job



Benchmarks

Reference levels

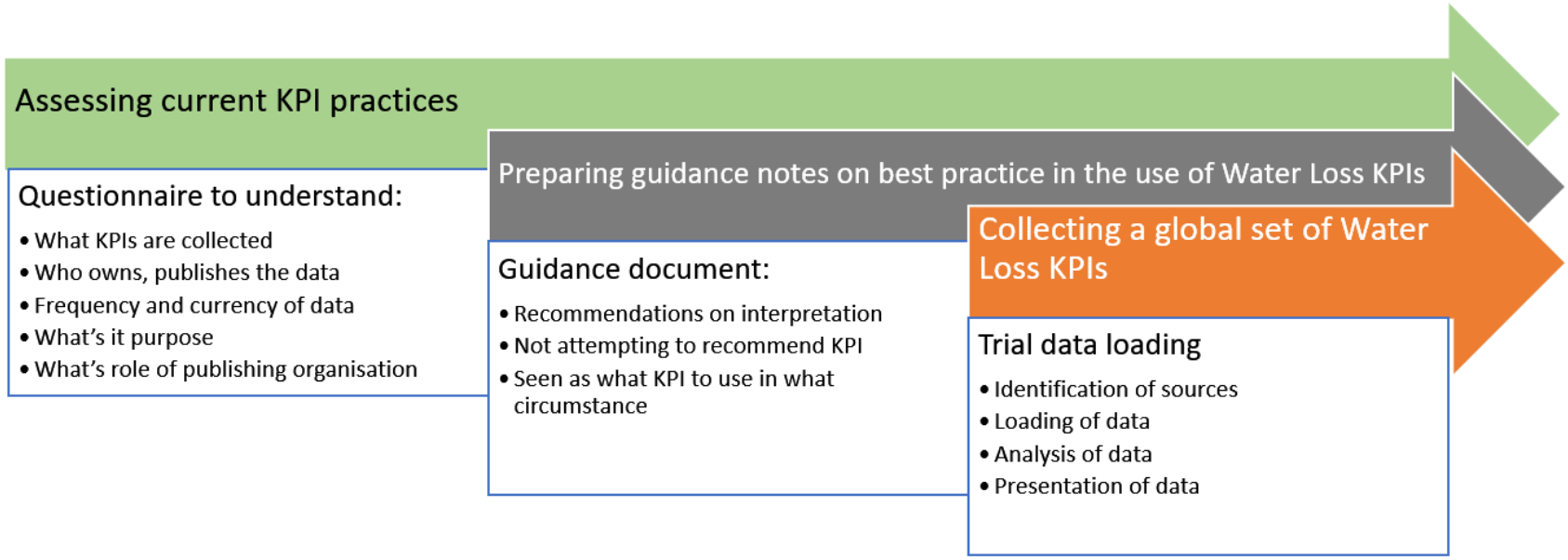
Targets

We need a suite of indicators
There is no single indicator suitable for all purposes

- We must make the distinction between NRW, Apparent Loss and Real Loss and have appropriate KPIs for each
- How do we influence the EU regarding the Water Framework Directive and Taxonomy Regulations ?
- What can we learn from regulations in other countries.

Cu acordul lui *David Pearson*

The scope of the initiative



Cu acordul lui *David Pearson*

Possible Solution for reporting real loss
CRLI – developed in 2018

The Combined Real Loss Indicator (CRLI) is an indicator of leakage flow rate in Liters/Day, scaled to the Size of the Distribution Network

CRLI = (Liters/Connection/Day * Liters/meter of mains/day) $^{1/2}$

= Liters per Day / (Connections * meter of mains)$^{1/2}$

= Liters per Day / "Size of the Distribution Network"

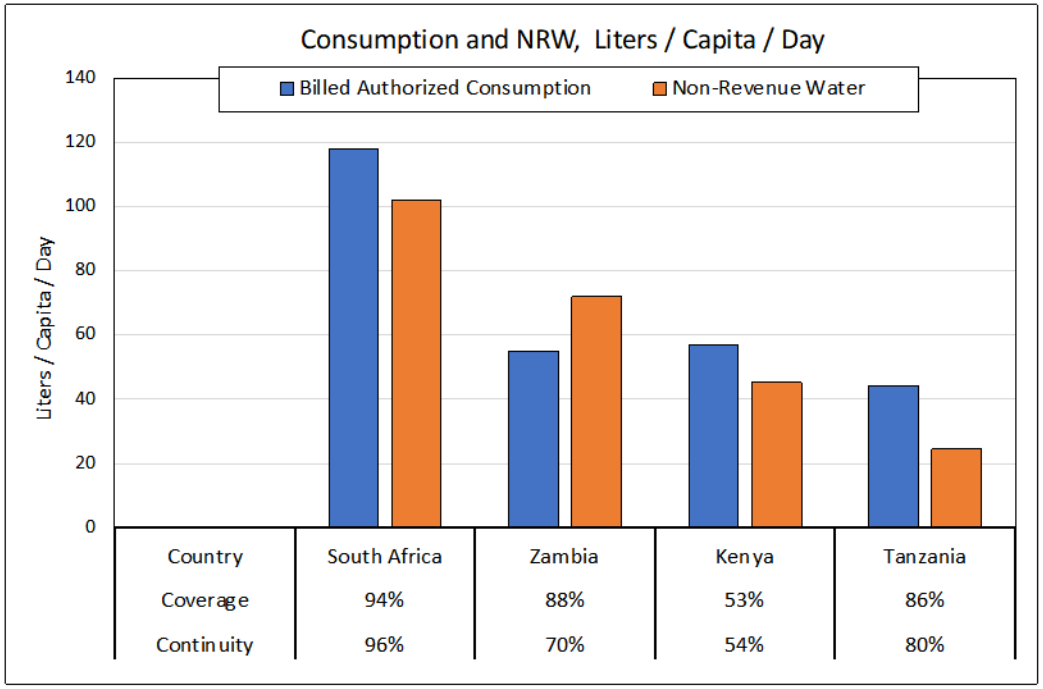
Note: Liters/meter of mains/day = m^3/km of mains/day

WLSG Webinar from 2020 on YouTube

Pressure not needed to calculate CRLI

Cu acordul lui *David Pearson*

Per Capita Consumption and NRW in Africa



In South Africa, NRW can be seen as a major problem – especially since it is a dry country. But in Zambia, or especially in Kenya, NRW can be seen as an opportunity – to improve consumption, service continuity and service coverage.

Cu acordul lui *David Pearson*

The way forward

- Look out for the notice re the survey in the "Friday Emailer"
  - Issued on Friday 24th May, Closing date 20th June
- We have extended group supporting the initiative
  - Alex is a member of the extended group
  - Will discuss the results of the survey
- Working on a standard data template for collection of data
- Working on a critique of CRLI for discussion within WLSG

Cu acordul lui *David Pearson*

UNLOCKING CLIMATE FINANCE FOR WATER LOSS REDUCTION

Duminică, 14 aprilie, 15:30 – 17:00, WORKSHOP 3

Autori : David Ehrhardt, Steve Cavanaugh, Gregory Kpegli

UNLOCKING CLIMATE FINANCE FOR WATER LOSS REDUCTION

Duminică, 14 aprilie, 15:30 – 17:00, WORKSHOP 3

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Overview

Water is climate mitigation
Because:
- The water sector produces 10% of global emissions
- This equals to the emissions from road transport and from residential buildings

Water loss reduction is climate resilience
Because:
- Cities globally have been approaching Day Zero one after another
- Reducing water losses increases the days of water storage in a city and the chance of surviving a drought

Climate finance is available
Three sources:
- Carbon markets
- Multilateral climate funds
- Development bank lending based on NDCs

CASTALIA

2

UNLOCKING CLIMATE FINANCE FOR WATER LOSS REDUCTION

Duminică, 14 aprilie, 15:30 – 17:00, WORKSHOP 3

Autori : David Ehrhardt, Steve Cavanaugh, Gregory Kpegli

Water is Climate Mitigation

Intervention	Global footprint ($MtCO_2e$)	Reduction potential ($MtCO_2e$)
Reducing water losses in piped systems	92	52
Pumping efficiency and distributed renewable energy for piped water and sewage services	838	418
Demand-side management for piped water supply	389	100
Maximum potential reduction from all grid electricity reduction measures		**340**
Reducing methane emission from wastewater treatment and discharge	55	3
Reducing methane emission from on-site sanitation value chain	310	102
Potential emissions reduction from the interventions	**892**	**445**

Source: Castalia (2023). "Estimating the Potential for Voluntary Carbon Market in Water"

1 m^3
of water requires

1.8 kwh
of energy, which will produce

0.6 kg
of CO2

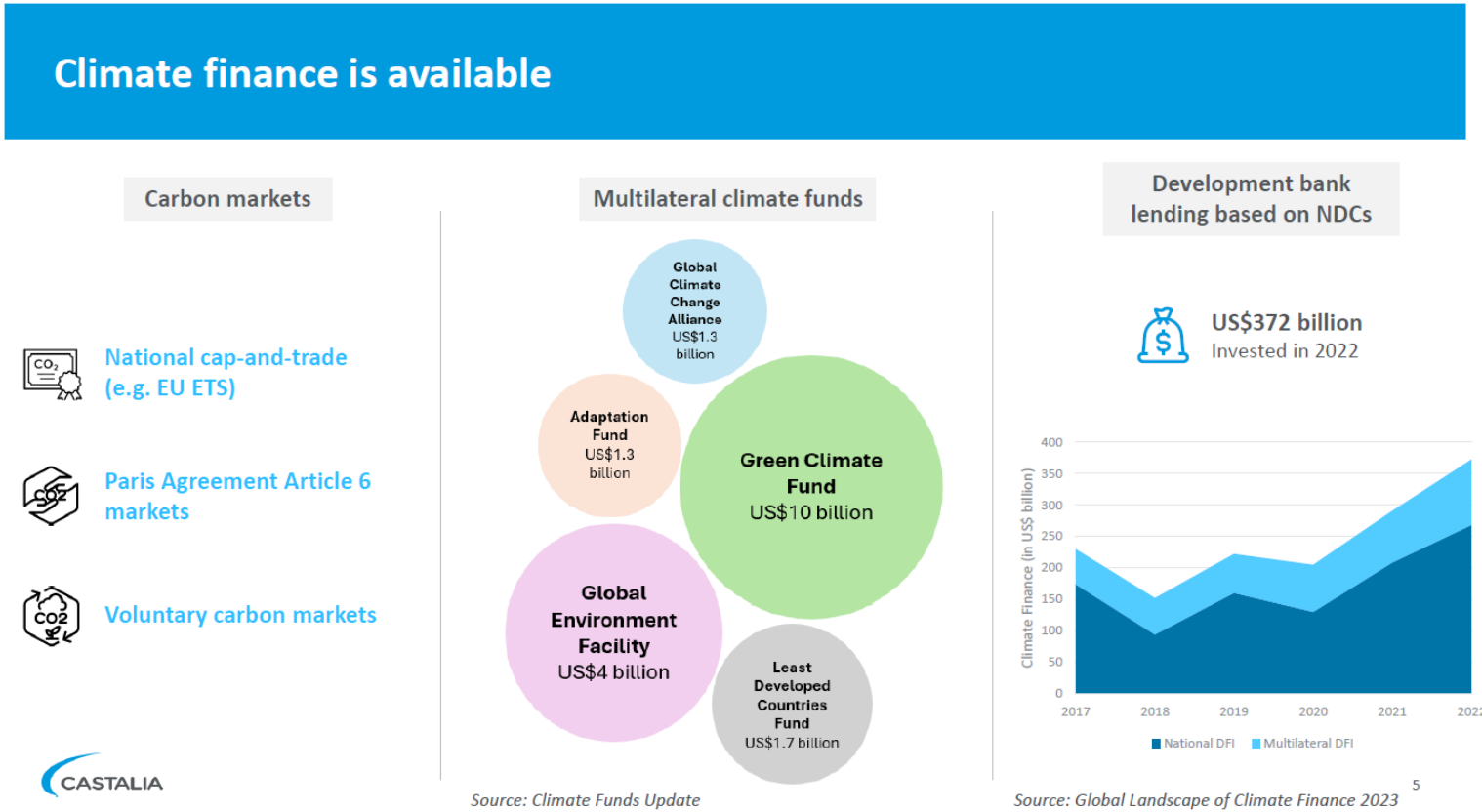
We can save 1 ton of CO2 emission per 850m^3 water loss reduction

3

UNLOCKING CLIMATE FINANCE FOR WATER LOSS REDUCTION

Duminică, 14 aprilie, 15:30 – 17:00, WORKSHOP 3

Autori : David Ehrhardt, Steve Cavanaugh, Gregory Kpegli



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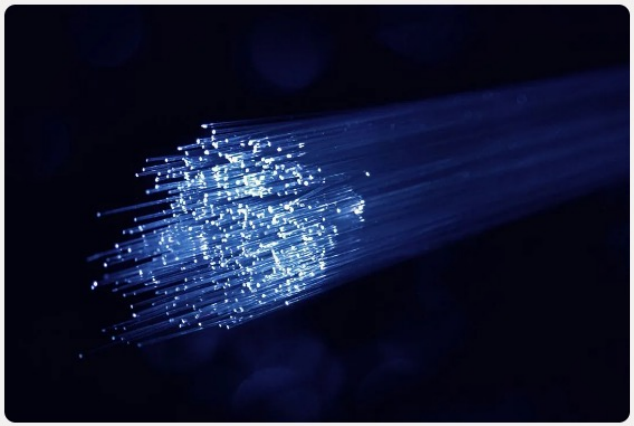
Fluves

DALI

Asociația Română a Apei

DALI is a revolutionary fiber optic monitoring system for every pipeline



Fiber optic cable is inserted in the pipeline

A fiber optic cable is installed inside the pipeline, acting as a string of thousands of acoustic sensors along the length of the pipeline.

What can DALI monitor?

All pipeline types

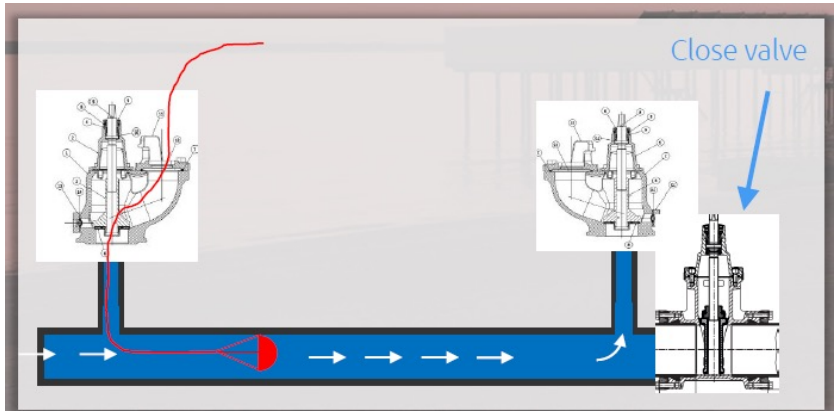
- Water mains
- Water distribution
- Pressurized sewage pipes
- Industrial pipelines
- District heating networks

Any pipe material

- Concrete
- Steel
- Plastic (PE, PP, PVC)
- Cast iron
- ...

Any pipe diameter

- Diameter 90 mm - 1400 mm: standard installation toolkit
- Diameter larger than 1400 mm: custom installation



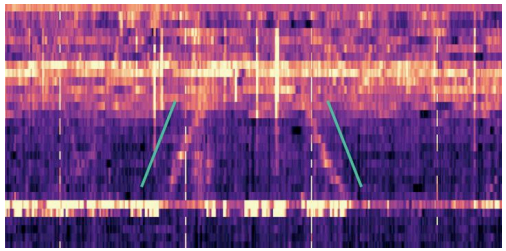
Locate leaks with 5 m accuracy

DALI delivers precision. It automatically pinpoints leaks and intrusions in your pipelines with a resolution of 5 m.

24/7 monitoring and automatic alerts

Swift installation

DALI is installed without interrupting pipeline service. It's also specifically designed for easy entry and exit of pipelines and bypassing valves.

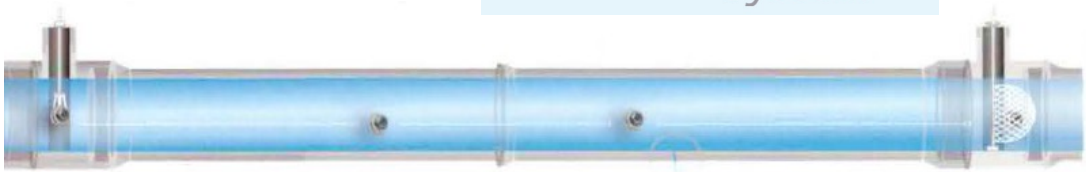


aganova

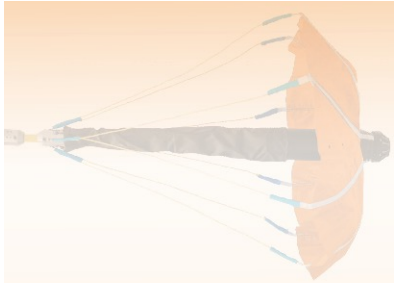
Asociația Română a Apei

- **In-line** navigation
- **Neutral buoyancy** system
- **Locates leaks** with precision (<1m)
- Travels up to **35 kilometers daily**
- Compatible with **all materials**
- Works in **very low flow rates**
- **No service** interruption

Nautilus System



The system consists of a sphere that is introduced in the pipe without interrupting the service at any time. Pushed by the flowing water, the sphere travels freely, recording acoustic information along the entire network being inspected. Upon extraction, the data is analyzed and allows identifying any leaks starting at 0.005 liters per second, as well as air pockets and anomalies and their exact location.



Jabega System

CCTV in-line for the analysis and diagnosis on points of interest of the network in real time

- **Identification** of anomalies
- **Live** visualization
- **Tracking** from the exterior
- **Easy** maneuverability
- **Cartographic** study of the section
- For **large diameter** pipes
- **Uninterrupted** supply

INIȚIATIVE

Leakage Emissions Initiative	-	Steve Cavanaugh
Global KPI Initiative	-	Dave Pearson
Interpreting and using DMA Data	-	Stuart Trow
Service Pipe Leakage	-	Joe Butterfield
Technology	-	Milene Aguiar

Dacă cineva este interesat să înțeleagă mai multe despre aceste inițiative sau să se alăture echipelor de dezvoltare, atunci vă rugăm să contactați gwyeth@wyethwater.com . De asemenea, vom trimite mai multe detalii despre fiecare inițiativă, în e-mailurile săptămânale, în următoarele câteva săptămâni.

INIȚIATIVE

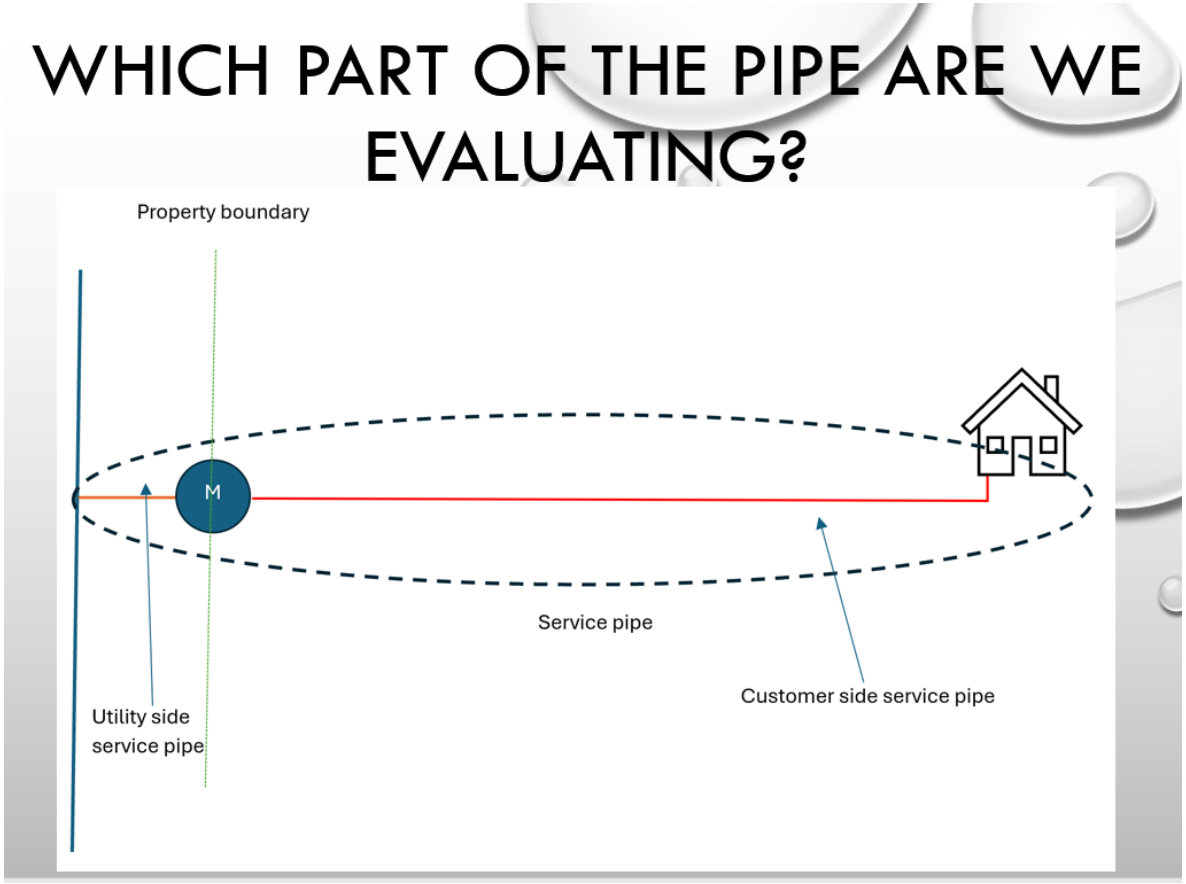
Global KPI Initiative - Dave Pearson

Chestionarul poate fi consultat la adresa:
https://www.survio.com/survey/d/P6E2G9E1G4C0T6T7E
sau puteți scana codul QR de mai jos:

Vă rugăm să răspundeți la chestionar până pe **20 iunie**.

INIȚIATIVE

Service Pipe Leakage - Joe Butterfield



Cu acordul lui *Joe Butterfield*

INIȚIATIVE

AIMS/QUESTIONS OF THE STUDY

Service pipes: water loss

1. What is the typical level of service pipe leakage?
2. Does metering make a difference?
3. Do some pipe materials leak more than others?
4. How can we compare service pipe leakage internationally?
5. Do different ownership models result in lower leakage levels/faster repair?
6. What is the typical lifespan before failure?

Service pipes: technology

1. Are some technologies more reliable for leak detection on services?
2. What are the technologies for repair?
3. How should we interpret meter data for leakage?
4. Tech for renewal (e.g. no dig), reline.

Cu acordul lui *Joe Butterfield*

Asociația Română a Apei

AIMS/QUESTIONS OF THE STUDY

Service pipes: water loss

1. Develop and understanding of the level of service pipe leakage and benchmark countries.
2. Understand how different management approaches influence service pipe leakage.
3. Understand how increased metering adoption and smart metering influence leakage levels/economic aspects of service pipe leakage.

Service pipes: technology

Cu acordul lui *Joe Butterfield*

SERVICE PIPE LEAKAGE: TECHNOLOGY

Service pipe leakage: detection

Invasive:
- Gas tracer
- Camera inspection
- Resistance measurement

Non-invasive:
- Accelerometers
- Ground mic
- GPR
- Metering
- Visual

Service pipe leakage: repair

- Repair clamp
- Reline
- Renew

Cu acordul lui *Joe Butterfield*

INIȚIATIVE

Interpreting and using DMA Data - Stuart Trow

IWA Water Loss Specialist group: Guidance Notes

Interpreting and using DMA flow data

Proposed Contents

Introduction

- Ref to the updated DMA Manual and why these separate Notes are required
- The purpose of the guidance notes

Part 1: Collecting and interpreting DMA flow data

Part 2: Estimating DMA leakage levels

Part 3: Interpreting DMA leakage data

Part 4: Using DMA data to plan leakage reduction activity

Cu acordul lui *Stuart Trow*

INIȚIATIVE / RESURSE

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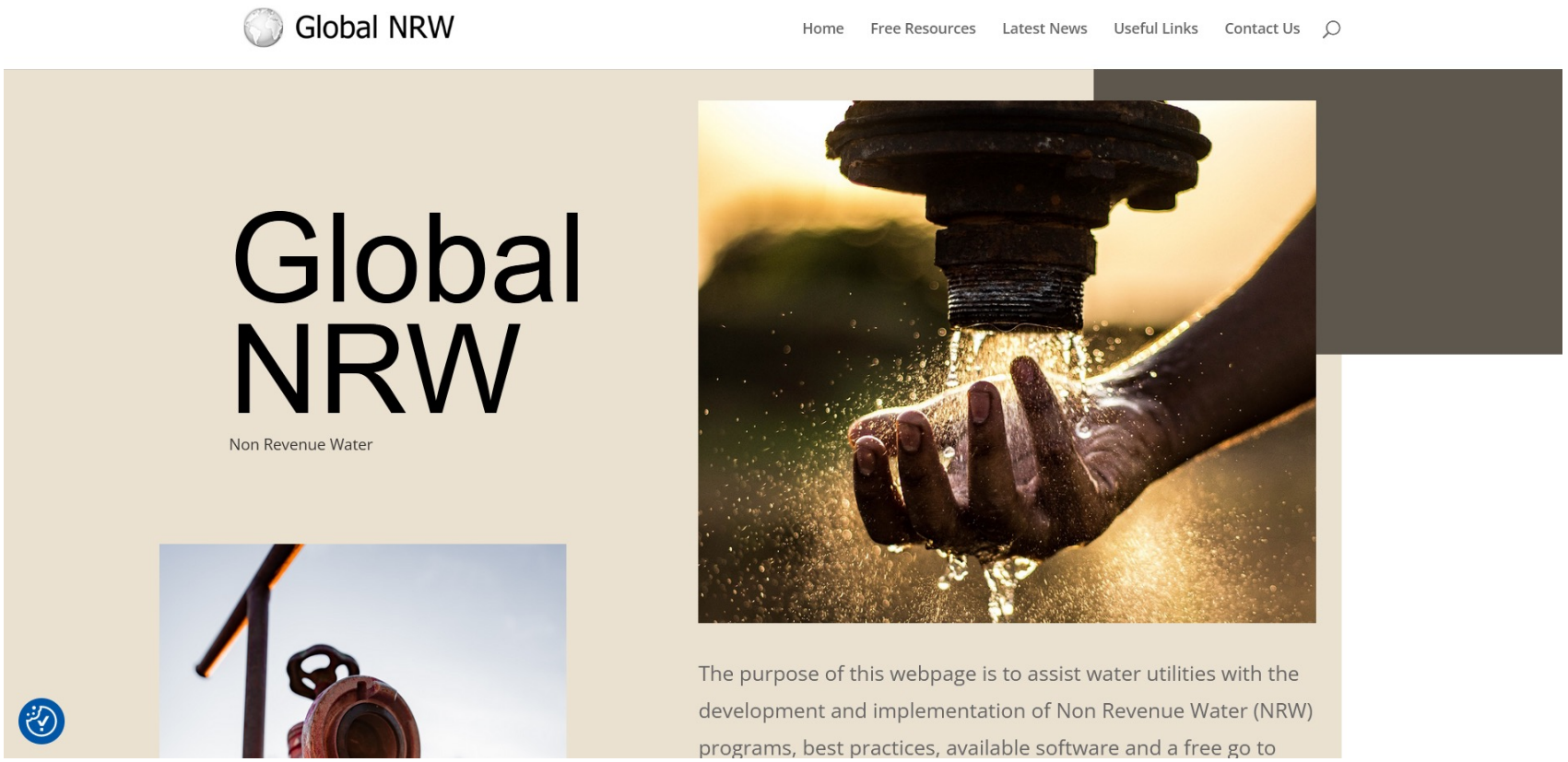
https://globalnrw.com/



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https://www.leigroup.org/

Leakage Emissions Initiative

Improving our air by preserving our water

IWA WATER LOSS SPECIALIST GROUP
the international water association

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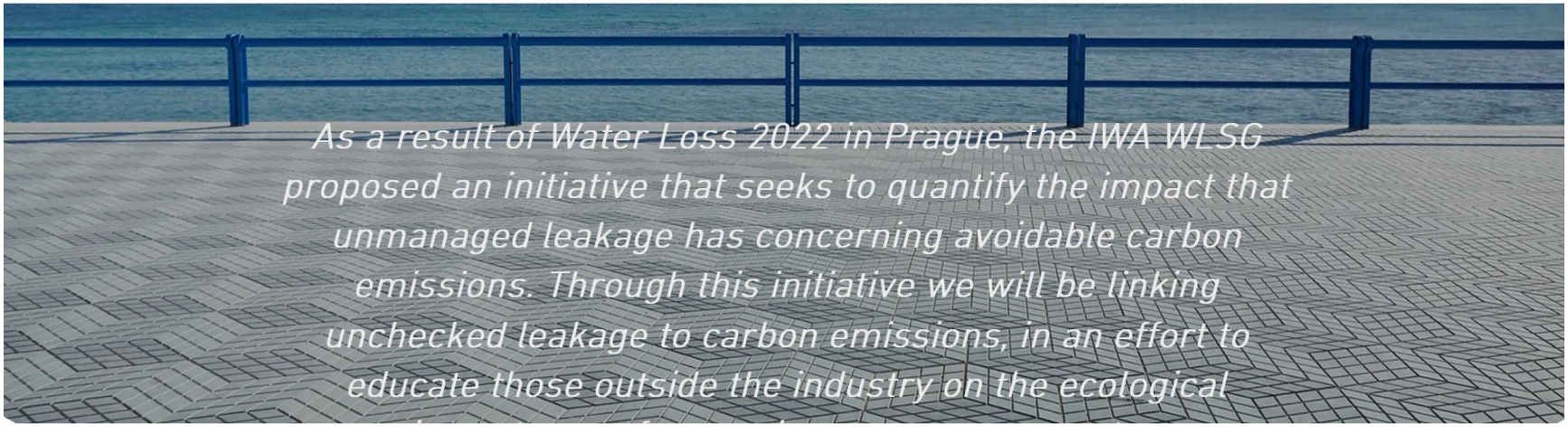

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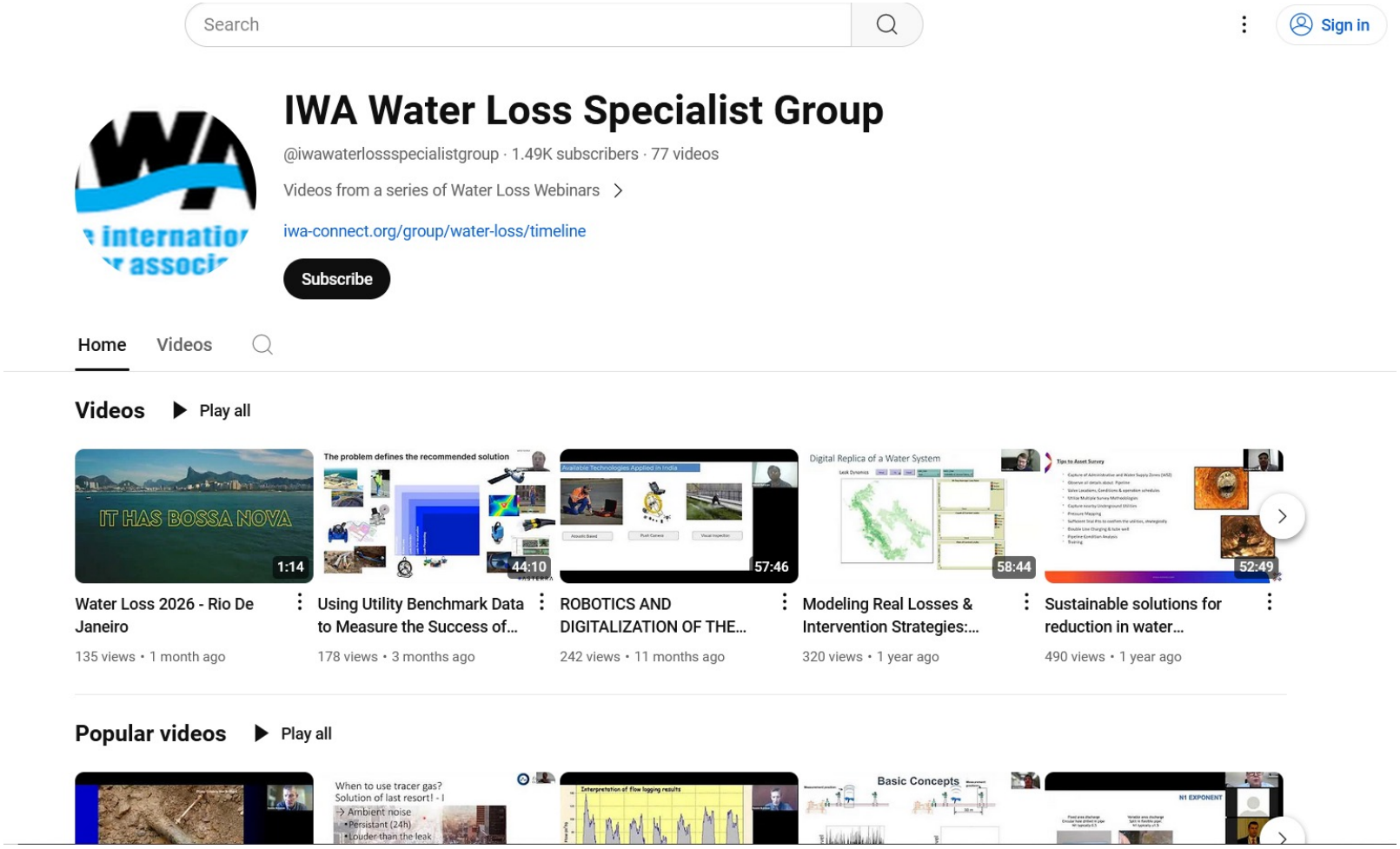

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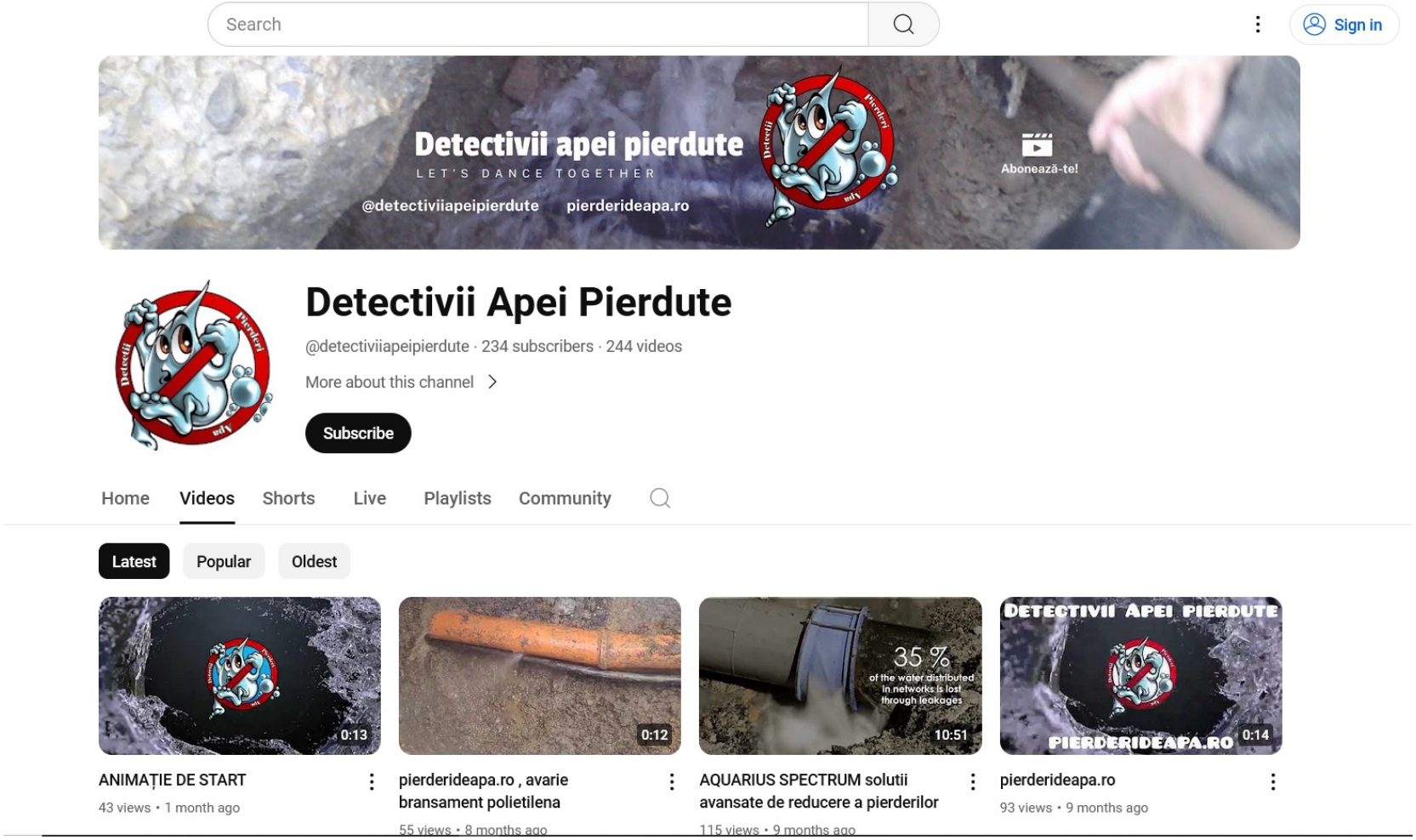
https://www.youtube.com/@detectiviiapeipierdute/featured



WaterLoss 2026

Rio de Janeiro, Brazilia

MULȚUMESC

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