

11<sup>th</sup> Issue



# ACWUA

الجمعية العربية لمرافق المياه  
Arab Countries Water Utilities Association

GLOBAL CENTER OF EXCELLENCE

## ACWUA Newsletter

June, 2019



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/ ACWUA

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## Introduction

Welcome to our *11th edition* all of which we hope have helped to keep you updated on our latest news and provide you with vital information pertaining the water sector in the Arab countries.

In order to sustain knowledge sharing with our esteemed members and partners, we trust this newsletter *\_the first in 2019\_* be useful to you and your organization in comprehensively projecting the latest regional and international development in the water sector, and presenting ACWUA's activities and news.

**Sincerely Yours,**

**Eng. Khaldon H. Khashman**  
**ACWUA Secretary General**

## ACWUA Policy

ACWUA, as a global center of excellence, will work in partnership with water and wastewater utilities in the Arab countries, on building capacities within the utilities, and on instituting best practices within a high quality level.

Quality is herein defined as conforming to the requirements and specifications in all matters of training, technical Support (projects management, research & studies) and events management in the field of water and wastewater. Thus ACWUA is committed to meet ISO9001:2015, ISO14001:2015, OHSAS 18001:2007 standards requirements. In addition to, environmental protection, preservation of injuries and other legal requirements. We committed to achieve this through continual improvement by planning and implementing specified and measurable quality objectives and activities to achieve members and other interested parties' satisfaction.

We also recognize the importance of the entire company working within this policy and will ensure all aspects of this policy are communicated to our employee's on a regular basis and the measurable objectives are regularly communicated and updated.

**Eng. Khaldon H. Khashman**

**ACWUA Secretary General**

# ACWUA Vision and Mission

## Vision

ACWUA, as a global center of excellence, will work in partnership with water and wastewater utilities in the Arab countries, on building capacities within the utilities, and on instituting best practices, in order for the utilities to achieve their objectives.

## Mission

ACWUA provides its services to its members in the Arab region relying on its own resources and on the competencies inherent within the member utilities, with the objective of providing them with technical support to develop their performance in managing and producing and supplying water and wastewater services, taking into consideration their technical and professional needs—all this through:

1. Operating as a regional platform and expanding internationally, to exchange knowledge between members and experts in the water and wastewater sector.
2. Developing resources and implementing training programs and professional O&M licensing and accreditation programs to support the members in carrying out their missions and tasks in a professional reliable manner with the least costs possible.
3. Developing and applying specifications and standards in the areas of water governance, utilities management and O&M in water and wastewater utilities.
4. Responding to the technical needs of the members through providing advisory services in various aspects that are related to the operations of the utilities through developing a data bank for technical expertise available in the Arab region, and engaging working groups composed from those utilities for this purpose.
5. Developing and publishing documents, guides, reports and scientific content that is responsive to the needs of the members and sector experts, all the while considering the regional context and challenges that are faced by the utilities.



**Latest ACWUA  
News**

## Latest ACWUA News

### Fifth Arab Water Week Conference and Exhibition 2019:



ACWUA in partnership with Jordanian Ministry of Water and Irrigation (MWI) and League of Arab States-Arab Ministerial Water Council (LAS- AMWC) were completion organize the 5th Arab Water Week Conference and Exhibition and 1st Trenchless Arabia 2019 in King Hussein Bin Talal Convention Centre from 3 to 7 Mar 2019. [Click here](#) to visit fifth Arab water week website



635 participants attended the from approximately 45 countries. Numerous of ACWUA's members joined, which are consisting of 500 individual members along with more than 100 water and wastewater utilities from 18 Arab Countries, namely; Algeria, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen. In addition to international participation from around other ten countries, such as: Turkey, Germany, Kingdom of Great Britain, United States of America, Canada, Switzerland, China and others.



More than 200 speakers divided on 41 sessions presented their researches and paper in different topics in water and wastewater. [Click here](#) to know more about speakers and sessions

37 exhibitors showed their state-of-the-art technology to more than 600 participants coming from the region and the World. More than 200 speakers divided on 41 sessions introduced the newest technologies and researches in water and wastewater.

[Click here](#) to know more about exhibition.

## Latest ACWUA News

### ACWUA Board Director Election (2019 – 2021):



In March 2019 plenary meeting of the general assembly in King Hussein Bin Talal Convention Centre, Dead sea, Jordan for election ACWUA board of directors in upcoming two years. After completed election, Tunisia country will be representative of water and wastewater utilities as a **Chairman** of the board of directors for the years 2019-2021, and Oman country will be representative of water and wastewater utilities through **Vice Chairman** of board of directors and Palestine country will be representative of water and wastewater utilities as a **Treasurer**.

The following members have been elected to serve two years terms starting in March 2019:

1. **H.E Dr. Hazim El-Naser**, President of the General Assembly
2. **Eng. Mosbah Helali**, Chairman of the board of director and Tunisia representative of water and wastewater utilities
3. **Dr. Eng. Kassim Al Jabiri**, Vice chairman of the board of director and Oman representative of water and wastewater utilities
4. **Eng. Khaldon Khashman**, Secretary general of ACWUA
5. **Eng. Imad Masri**, Treasurer of ACWUA and Palestine representative of water and wastewater utilities
6. **Dr. Eng. Khair Al Hadidi**, Jordan representative of water and wastewater utilities
7. **Dr. Eng. Ibrahim Khalid**, Egypt representative of water and wastewater utilities
8. **Mr. Khaled Obeid**, Lebanon representative of water and wastewater utilities
9. **Eng. Tawfeeq Al Sharjabi**, Yemen representative of water and wastewater utilities
10. **Eng. Mohammed Boshehri**, Kuwait representative of water and wastewater utilities
11. **Dr. Walid Abderrahman**, the Kingdom of Saudi Arabia representative of water and wastewater utilities
12. **Dr. Asma Elkasmi**, the Kingdom of Morocco representative of water and wastewater utilities
13. **Eng. Ziad Al-Khayat**, International organizations and academic and research centers representative
14. **Eng. Mohammad Al Hmaid**, Regulatory water and wastewater utilities representative
15. **H.E. Dr. Abdelkawi Khalifa**, Individuals representative on ACWUA
16. **Eng. Jihad Abu Jamous**, Private Sector representative on ACWUA



## Latest ACWUA News

### **ACWUA received its second surveillance audit during 17-18 April, 2019:**

In collaboration with the SGS-Jordan, ACWUA received its second surveillance audit during 17-18 April, 2019. The outcome of this audit was very encouraging and demonstrated ACWUA's commitment to excellence. Bearing in mind that ACWUA attained the Integrated Management System Certificates, which includes ISO:9001, ISO:14001 and OHSAS 18001, in February 2017.



### **ACWUA signed MoU with the MEW Fat Amman, Jordan:**



**MEWF**  
Towards Regional Water  
Security & Public Awareness



Arab Countries Water Utilities Association (ACWUA) represented by Eng. Khaldon khashman, ACWUA secretary general signed Memorandum of Understanding (MoU) with the Middle East Water Forum (MEWF)-an Online Interactive Forum ([www.mewf.de](http://www.mewf.de)) represented by H.E Hazim El-Naser, MEWF Chairman and Founder in the area of technical services.

This MoU aims of building the trend of cooperation in place between MEWF and ACWUA. For the coming years and hereby to enhance the level of the said cooperation and reflect fruitful cooperation and benefits for booth MEWF and ACWUA. Bothe entities are complementing each other to service the Arab Region with the professional studies, water technological-edge, information dissemination, public awareness and capacity building. Also, the purpose of this MoU is to increase the capabilities and technical expertise of the various parties and will utilize this collaboration to allow more effective and efficient sharing of ideas and information between the two entities to achieve their common goals.



**ACWUA**  
**Training**

## ACWUA Certified Training



ACWUA conducted five certified training programs in the first half of year 2019. The number of trainees reach to more than 65 trainee from different utilities and countries, like: Miyahna - Jordan, Lebanon Water Establishment - Lebanon, Aqaba Water Company - Jordan and WAJ - Jordan.

ACWUA offered more than one program in this time period like:

1. Operator One – water distribution
2. Operator One - Water Treatment
3. Operator One – Wastewater treatment operator

**All programs funded by either DAI- Lebanon or WMI.**

## ACWUA Certified Training

### 1. Operator One - Water Distribution (Funded by DAI - Lebanon):

This program conducted in Lebanon country from 12 to 22 Mar 2019. This program delivered to 13 trainees working in Lebanon Water Establishment.



### 2. Operator One - Water Treatment (Funded by WMI):

This program conducted in Jordan country from 24 Mar to 3 Apr 2019. This program delivered to 14 trainees working in Jordan Water Company - Miyahuna.



## ACWUA Certified Training

### 3. Operator One – Wastewater Treatment Operator (Funded by WMI):

This program conducted in Jordan country from 7 to 17 Apr 2019. This program delivered to 15 trainees working in Jordan Water Company - Miyahuna and WAJ.



### 4. Operator One – Wastewater Treatment Operator (Funded by WMI):

This program conducted in Jordan country from 27 Apr to 4 May 2019. This program delivered to 14 trainees working in Aqaba Water Company.



## ACWUA Certified Training

### 5. Operator One – Wastewater Treatment Operator (Funded by WMI):

This program conducted in Jordan country from 10 to 20 Jun 2019. This program delivered to 9 trainees working in WAJ.





# **Members and Partners Advertisements**

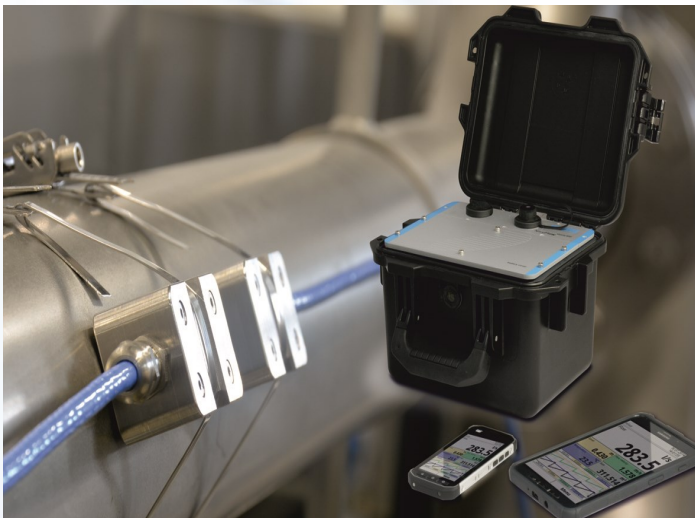
## Members and Partners Advertisements



**NIVUS GmbH - Germany**

### **Self-sufficient and contactless Flow Metering**

**NIVUS GmbH present transit time transmitter for continuous long-term measurements operated via Smartphone**



The new mobile NivuFlow Mobile 600 flow transmitter has been developed particularly for long-term measurements in full pipelines. Very high endurance is achieved thanks to energy-efficient algorithms, performance-optimised sensors and high-capacity rechargeable batteries. Utilising a five-minute-cycle for measuring and recording, it is possible to measure up to one year without battery replacement. Featuring 182.000 storage cycles, the internal data memory is conceived for even longer measurement periods. Contactless clamp-on sensors and pipe sensors for direct measurement in the medium are available. Both sensor types share quick and easy mounting

without the need to shut down running processes. The clamp-on sensors do not have any medium contact and are clamped onto the pipe outside.

Thanks to the high protection rating of sensors and transmitter (IP68) it is possible to operate the measurement system even under harsh ambient conditions. For example, batteries can be replaced by the operator even during heavy rain. This ensures uninterrupted measurements even for long-term projects.



## Members and Partners Advertisements



### **NIVUS GmbH - Germany**

#### **Self-sufficient and contactless Flow Metering**

#### **NIVUS GmbH present transit time transmitter for continuous long-term measurements operated via Smartphone**

The transmitter is controlled on site by using smart terminal devices such as smartphones, tablets or notebooks. Connection is set up using a WLAN created by the transmitter itself. No plug-ins or apps need to be installed to operate the system. During poor weather conditions, in strong sunlight or in case of limited access to the measurement site it is hence possible to operate the instrument from protected areas such as service vehicles etc.

Typical NivuFlow Mobile 600 applications are: leakage detection, heat quantity measurement, pump verification, water supply monitoring, monitoring of inlets and outlets conducting cooling water or circulation systems as well as monitoring of process water and service water.

#### **About NIVUS**

The NIVUS group is a German-based leading developer, manufacturer and supplier of measurement instruments for water industry. Since 1967 the company has been pointing the way ahead by setting new standards and by continuously developing high quality products and solutions.

The company head office is located in Eppingen/Germany. With 9 international subsidiaries and more than 40 distributing partners worldwide the company acts on a global base.

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## Members and Partners Advertisements



### **IDA's 2019 World Congress: Forging New Crossroads to Sustainability**

*For the past forty years, the International Desalination Association's World Congress has specialized in showcasing cutting-edge technical papers on water treatment solutions. But this year, the Congress is exploring new pathways.*

IDA's World Congress is widely recognized as the premier event on advanced water treatment solutions, specifically desalination and water reuse. One of the industry's signature events, the World Congress began in 1985 in Bermuda. Since then, the Congress has taken place consistently every other year, allowing IDA to enact its mission of connecting people and ideas to water solutions.

But the world has changed since 1985, and the water reuse industry is changing with it. We live at a time when experts predict that seawater desalination will actively grow at the highest rate since the late 2000s. Since 2010, the global contracted reuse capacity has almost doubled (from 59.7 million m<sup>3</sup>/d in 2009 to 118 million m<sup>3</sup>/d in 2017). Sustainable, financially viable water solutions are now more needed than ever, and organizations involved in desalination must quickly adapt to this rapid growth in their field.

According to IDA Secretary General, Shannon McCarthy, the 2019 World Congress will do just that. Held in the Dubai World Trade Center, "The IDA World Congress provides an ideal opportunity to take advantage of the forecasted growth... We've designed this event as a venue not only to gain knowledge, but also to exchange perspectives, network, and make valuable connections, with several new features that encourage dialogue and interaction."

These new features include a two-day Leaders Summit and a series of IDA-Affiliate Majlis Forums. Running parallel to the Technical Program, the Leaders Summit provides a platform for some of the world's foremost individuals across industries to interact, exchange perspectives, and engage in much-needed dialogue about the issues facing the globe today. The Summit opens with a *Leaders with Community* session, to which all conference delegates are welcome to attend, and the Summit concludes with a *Leaders with Leaders* session, an invite-only exclusive program for executives and industry leaders.

## Members and Partners Advertisements



### **IDA's 2019 World Congress: Forging New Crossroads to Sustainability**

*For the past forty years, the International Desalination Association's World Congress has specialized in showcasing cutting-edge technical papers on water treatment solutions. But this year, the Congress is exploring new pathways.*

The IDA-Affiliate Majlis Forums will take place throughout the Congress and are open to all registered delegates. Inspired by the Middle-Eastern concept of “majlis”—or literally, “a place to sit and discuss”—these forums will give IDA's affiliates an opportunity to trade insights and developments from the water sector in their home regions. These forums are meant to forge new relationships in the industry. Affiliates are asked to showcase innovative projects, policies and technologies that have produced positive results in their region, so that by the end of the Forums, attendees will have a comprehensive picture of where the water industry is today.

The World Congress also promises ample time to network with colleagues. The event's kick-off activity is “Crossroads to the Greens,” a Corporate Golf Day on the championship Majlis course at the world-famous Emirates Golf Club. And the Congress itself is hosted by the Dubai Electricity & Water Authority at the Dubai World Trade Center.

Appropriately enough, IDA's 2019 World Congress is named “Crossroads to Sustainability.” The introduction of the Leaders Summit and IDA-Affiliate Forums, combined with the Technical Program, Exhibition Hall, and thousand delegate attendees, highlight the increasing need for a cooperative and interdisciplinary approach to sustainable water practices—an approach that will make the industry more connected and more successful than ever before.

**For more information about the 2019 World Congress and to register, visit [wc.idadesal.org](http://wc.idadesal.org). To reserve space in the exhibition, email [exhibits@idadesal.org](mailto:exhibits@idadesal.org) and to learn more about “Crossroads to the Greens,” as well as sponsorship packages, contact [sponsorships@idadesal.org](mailto:sponsorships@idadesal.org).**

## Members and Partners Advertisements



### **ANDRITZ's energy-efficient pumps secure water supply in Amman, Jordan**

International technology Group ANDRITZ supplied 12 multi-stage axial split case and high-pressure ring section pumps to the Water Authority of Jordan last year. These energy-efficient pumps secure the water supply of the capital city Amman. With approximately 92 percent of the country being desert and desert-like landscape and a rapidly growing population, securing and optimizing water supply has become of utmost importance for Jordan.

The Jordanian water supply system consumes around 15 percent of the energy the country produces, which is approximately 2,000 GWh per year. Much of this energy is needed to pump water. Due to its proven, highly energy-efficient pumps and worldwide reference portfolio, ANDRITZ was selected to refurbish the two key pumping stations Lib and Wala for the water supply to Amman.

Six ANDRITZ multi-stage axial split case pumps from the ASPM series were installed to increase the total capacity of the Lib pumping station to 2,500 cubic meters per hour. These hydraulic machines have achieved excellent results since being put into operation. The scope of supply also included six high-pressure ring section pumps from the HP43 series for the water distribution to the Madaba region. Both pump models have particularly high efficiency and, therefore, very low energy consumption. The new system should lead to energy savings of up to 20 percent.



**ANDRITZ supplied 12 energy-efficient pumps for the water supply in Jordan.**

## Members and Partners Advertisements



### **ANDRITZ’s energy-efficient pumps secure water supply in Amman, Jordan**

#### **PRESS RELEASE AND PHOTO AVAILABLE FOR DOWNLOAD**

Press release and photo are available for download at [andritz.com/news](http://andritz.com/news). The photo may be published free of charge if the source is stated: “Photo: ANDRITZ”.

#### **FOR FURTHER INFORMATION, PLEASE CONTACT**

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[andritz.com](http://andritz.com)

#### **ANDRITZ GROUP**

ANDRITZ is an international technology group providing plants, systems, equipment, and services for various industries. The company is one of the technology and global market leaders in the hydropower business, the pulp and paper industry, the metal working and steel industries, and in solid/liquid separation in the municipal and industrial segments. Other important fields of business are animal feed and biomass pelleting, as well as automation, where ANDRITZ offers a wide range of innovative products and services in the IIoT (Industrial Internet of Things) sector under the brand name of Metris. In addition, the company is active in power generation (steam boiler plants, biomass power plants, recovery boilers, and gasification plants) and environmental technology (flue gas and exhaust gas cleaning plants) and offers equipment for the production of nonwovens, dissolving pulp, and panelboard, as well as recycling plants.

ANDRITZ stands for passion, partnership, perspectives and versatility – core values to which the company is committed. The listed Group is headquartered in Graz, Austria. With almost 170 years of experience, over 29,000 employees, and more than 280 locations in over 40 countries worldwide, ANDRITZ is a reliable and competent partner and helps its customers to achieve their corporate and sustainability goals.

## Members and Partners Advertisements



### AL-AZAM C.C.



**Al-Azam Contracting Co.** is a Jordanian company working in the field of construction for more than Ten years, where the company has implemented a wide range of different projects in the areas of infrastructure and construction, buildings, water distribution, sewage networks, telecommunications, optical fiber cables and electrical network.

### Horizontal Directional Drilling, Our Latest Technology.

**Al-Azam Contracting Co.** is pleased to provide turnkey trenchless routing projects for infrastructural networks, installation of conduits to carry electric and fiber optic cable, pipelines carrying water, sewage, fuel and other products.

Due to the versatility of the system the installation can be carried out under roads, buildings, runways, pipeline corridors and waterways and through even the most difficult soil conditions, cobblestone and pure rock.



# Members and Partners Advertisements



## Secure a reliable new source of clean water: *from your existing customers*

Arab thirsty cities face an agonizing choice. To meet a 55% increase in demand for water by 2030, some depend on large infrastructure. Others may impose rations, rate hikes or restrictions. Each poses massive costs, risks, uncertainty & inequity.








**Happily, a safe new path to urban water security has emerged.** Your city can now generate more potable water by offering families or firms cash, to seek, find capture ‘new’ water – already circulating within the existing system. Through targeted engagement with metered accounts, AquaShares lets you ‘buy back’ water from clients that had been lost or leaked. **‘Crowd-source’ water you need, when you need it, with a responsive voluntary price that you control.** The result? Loyal customers, high earnings, zero impacts, low risk, deep resilience.

## THE ONLINE PLATFORM THAT TURNS CONSUMERS INTO PRODUCERS

AquaShares.com has developed an online platform to help utilities unlock an untapped alternative water supply source: end user efficiency. We empower ‘consumers’ to become ‘producers’ who own and trade water they save! **”It’s like Uber or Airbnb...for water.”**

AquaShares creates an urban ‘sharing economy’ that allows consumers to earn and own water credits based on savings below past consumption levels. Utilities can then encourage, track and recover this affordable new ‘reservoir’ from its own customer base using existing infrastructure.

The image shows a horizontal row of icons and text boxes. On the left, a dark blue box contains three icons: a puzzle, a lifebuoy, and two hands shaking. Each icon has a corresponding text box below it. To the right, a white box contains four yellow circular icons: a bar chart, a padlock, a star, and a dollar sign. Each icon has a corresponding text box below it.

 Build community <b>trust</b> in utility goals through our transparent <b>market design</b> process.	 Define <b>equitable</b> shares of metered water-saving credits through our proven <b>allocation</b> system.	 Create voluntary market <b>incentives</b> to align private interest with public targets to <b>replenish</b> .	 Earn AquaCredits When You Save	 Discover Best Ways to Save Water	 Compare Your Savings to Others Like You	 Value Your Credits: Own, Sell, or Donate
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## Contact:

[info@aquashares.com](mailto:info@aquashares.com)

[www.aquashares.com](http://www.aquashares.com)

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**Solarwasser**

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Solarwasser is pure H<sub>2</sub>O without minerals and bacteria. A spring in your garden - so to speak.

Application of pure H<sub>2</sub>O is possible in hightech, hygiene, medicine, food, baby food, household and of course as drinking water. If you are interested in this technology please we expect glad your email and we send to you our standard documentation for Information and discuss.

Albin Zupancic

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## Members and Partners Advertisements



# WEFTEC 2019

Conference: Sept. 21 – 25, 2019  
Exhibition: Sept. 23 - 25, 2019  
McCormick Place  
Chicago, Illinois USA

WEFTEC®, is the largest event of its kind in North America, offers water quality professionals the best in water quality education and training. The Water Environment Federation (WEF) is a not-for-profit technical and educational organization of 35,000 individual members and 75 affiliated Member Associations representing water quality professionals around the world. Since 1928, WEF and its members have protected public health and the environment. As a global water sector leader, our mission is to connect water professionals; enrich the expertise of water professionals; increase the awareness of the impact and value of water; and provide a platform for water sector innovation.

#### Registration Fee:

- USD \$500 for only one person participating from one firm.
- USD \$400 for each if two people register from the same company.
- USD \$300 for each if three or more delegates register from the same entity.



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1,000 exhibitors

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# Members and Partners Advertisements



## Permanent Steel Manufacturing Co.,Ltd

Our company is a professional manufacturer of **Seamless Steel Pipe** with over 20 years of experience. All the products are strictly manufactured according to standard of API 5L, ASTM, DIN, etc. .

Following are our SMLS Steel Pipe products with good condition for your reference:

### Product Detail

Specifications	Outside Diameter	Wall Thickness	Length
	1/4inch - 28inch	12.5mm-50mm	3m-18m
Standard	API5L,ASTM A53,ASTM-106,ASTMA500, ASTM A501, ASTM A519,JIS G3441-1994, JIS G3444-1994, BS EN10210-1, EN10216, ASTM A106, ASTM A179& A192		
Application	Infrastructure, civil construction, Oil & gas, pipeline, water treatment, heat exchanger, cold condenser		

### Product Imange



### Quality Assurance

On **Quality Control**, Mill test certificate provided after the production. PMC applied **100% flaw detection, ultrasonic test, X-ray, pressure test** on piping to maintain the quality of delivery.

### RUSTY or Handling Issue

PMC offer best shipment quality and we do high quality packing in order to prevent rusty during long shipment duration. Your goods are handled with care to maintain the best forming. Shipment can be arrange in Loose cargo, Cargo, and Air Freight.

### Contact Details

M: +86 15292209820 T: +86 731 8878-7784 E: [stella@permanentsteel.com](mailto:stella@permanentsteel.com) W: [www.permanentsteel.com](http://www.permanentsteel.com)

# Members and Partners Advertisements



## WATER MANAGEMENT INITIATIVE (WMI)

**WMI's Goal: Measurable improvement and greater sustainability of Jordan water sector is achieved**

Updated: April 2019

### Yarmouk Water Company (YWC):



WMI supported the implementation of the **R12 Oracle Enterprise Resource Planning System (ERP)** at YWC via numerous system upgrades and capacity-building efforts.



WMI worked closely with YWC to implement numerous **customer service improvements**. Since implementation, YWC has seen a **30% decrease in customer objections**, reflecting improved billing accuracy. Additionally, **revenues increased by 2.9 million JDs**, showing substantial improvement in billing coverage. WMI's improvements included:



Implementing the ERP system takes YWC's financial and administrative operations from ISOLATION to INTEGRATION.

- The planning and launch of **X7, a customer information system**, harmonizing with other major utilities in Jordan
- The development of a **Customer Service Control Unit (CSCU)** to ensure YWC's capacity to monitor, evaluate, and plan all functions related to customer service at the water utility
- The implementation of a **debt collection campaign** reaching 285,000 individuals to enhance the utility's cash flow by improving its capacity to collect unpaid bills



### Zarqa Water Authority (ZWA):

A key-factor that negatively affects non-revenue water (NRW) is the billing percentage. WMI worked closely with ZWA and its customer service department to conduct daily follow up with customers who were not being billed for long periods of time. An agreement between WMI and ZWA to incentivize bill readers through overtime compensation also helped to increase the billing percentage.



WMI's work directly contributed to a 7.7% increase in billing percentage in Zarqa between January 2017 and August 2017.

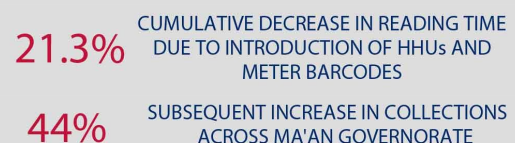
By reducing non-revenue water, 2,027 million cubic meters (MCM) of physical water losses were saved.

### Ma'an Water Administration (MWA):

WMI has engaged in numerous activities supporting Ma'an Water Administration's operational performance and service delivery. These activities include:

- APRIL 2017**
  - Deployment of handheld units (HHUs) for easy measurement of water meters
- JULY 2017**
  - Shoubak campaign launched to encourage bill payment and more efficient water consumption
- OCTOBER 2017**
  - Debt collection campaign launched
  - Barcodes distributed to speed up water meter reading
  - Advanced HHUs deployed
  - Water Meter Readers (Jabis) trained

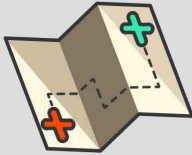
Since their introduction in 2017, the complete automation of meter reading and door-step billing have resulted in the following improvements:



WMI's improvements are now institutionalized at MWA, and will be sustainable for years to come.

# Members and Partners Advertisements

## Water Supply Protection:



Using advanced remote sensing technology, WMI is conducting a comprehensive analysis of illegal groundwater abstraction in Jordan. So far, WMI has completed the remote sensing analysis for 27 identified hotspots.

6.6  
MCM

water saved

Supported by WMI, WAJ's corrective actions based on the remote sensing analysis have resulted in groundwater savings of about **six point six million cubic meters** so far.

## Water Demand Management:

4,500

Number of students trained from Irbid, Amman, and Aqaba on water use efficiency practices



15,379

Number of adoptions of water saving technologies and techniques

420

Number of water saving devices installed across 33 schools in Aqaba

## Water Safety:



Three water safety plans were completed to ensure a safe supply of drinking water for consumers. These plans cover the distribution systems of Wadi Esir, Abu Alanada, and Mujib.

## King Abdullah Canal (KAC) Water Losses Measurement:

Almost **1,000** measurements taken with cutting-edge technology

**38.1 %** Proportion of KAC water estimated by WMI to be lost

- 14.5% seepage
- 23.0% unmetered/illegal
- 0.6% evaporation

**11.5 MILLION CUBIC METERS**

Were saved during 2018 due to JVA's response to the identification of the critical locations of illegal uses and high leakage sections by WMI.



## Training :



**3,236**

TRAINEES EMPOWERED WITH SECTOR-RELEVANT SKILLS IN FISCAL YEAR 2018 ALONE



Almost 1,080 women from across Jordan reached so far through WMI's training, including working professionals and students of all ages



78 interns (including 39 women) hosted in Jordan's most important water institutions to date, empowering the next generation of leaders in the water sector



35+ stakeholders engaged, ranging from governmental entities to development practitioners to schools and hotels

## Policies and Action Plans:

**3** Legal instruments drafted, proposed, or adopted to promote gender equality or non-discrimination

including a Gender Road Map for the Water Sector

**6** Action plans implemented for water security, integrated resource management, and/or water source protection

including a Result-Based Action Plan to reduce water losses and meet IMF commitments

**9** Policies, regulations, and administrative procedures relating to water and natural resources in development, passed, or being implemented

including a rainwater harvesting guide, two technical standards, and numerous utility and sector policies

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**ACWUA's Participation  
in Regional and  
International Events**

## ACWUA's Participation in Regional and International Events

- ◇ ACWUA, participated in the **8<sup>th</sup> International Conference on Water Resources and Arid Environment 2019 - ICWRAE 8, in Riyadh, Saudi Arabia from 22<sup>nd</sup> till 24<sup>th</sup> of January, 2019**. H.E. Eng. Khaldon Khashman participated as a keynote speaker, his speech about “Challenges in Water Resources, Institutional, Legislation and Financing”. International Conference on Water Resources and Arid Environment (ICWRAE) is an internationally refereed scientific conference addressing water-related problems and environmental concerns in arid and semi-arid regions of the world. Conference objectives are to exchange knowledge and share information about water resources and desert-related issues, to explore the use of new technologies in the study of arid and semi-arid environments and their natural resources and to provide an opportunity for decision makers, experts, and scientists to share their expertise in order to find integrative and comprehensive solutions for water resource problems.
- ◇ ACWUA, participated in the **1<sup>st</sup> GWOPA Expert Group Meeting on Water Utilities in Water Scarce Cities in Abu Dhabi, UAE on 17<sup>th</sup> January 2019**. H.E. Eng. Khaldon Khashman participated in a panel discussion about Regional initiatives ended with questions and answers about the subject. This meeting audience was renown experts from various relevant institutions, utilities, institutions from the MENA region and beyond impacted by water scarcity. The objectives of the Expert Group Meeting (EGM) is to formulate expert recommendations for urban water utilities in water scarce cities in arid regions, in line with SDGs and the New Urban Agenda led by UN-Habitat, to be presented at WUF10 in Abu Dhabi in 2020 and, to identify knowledgeable mentor and mentee water utilities to engage in new Water Operators' Partnerships themed around water scarcity, energy efficiency and resilience to climate change.

## ACWUA's Participation in Regional and International Events

- ◇ 5<sup>th</sup> February 2019, in Cairo, Egypt, ACWUA participated in the **1<sup>st</sup> Egyptian-GWP-Day 2019 about "Sustainable and efficient solutions for the Egyptian water sector"**. This meeting was convened by German Water Partnership in collaboration with ACWUA, Holding Company for Water and Wastewater and German- Arab Chamber of Industry and Commerce. The panel discussion and presentations of this day was Wastewater management, Cost-effective and efficient water systems (energy efficiency, sludge to energy and automation/AI) and Wastewater reuse and desalination.
- ◇ ACWUA, participated in **the 81<sup>st</sup> AFWA' Scientific and Technical Council, held from 1<sup>st</sup> to 5<sup>th</sup> April 2019 in Rabat, Morocco**, under the patronage of the Office National de l'Electricité et de l'Eau Potable (ONEE). More than 200 experts in charge from the water, drinking water and sanitation sector participated and talking about "Financing, Cooperation and Capacity Building, Powerful Levers to Improve Access to Drinking Water and Sanitation Services in Africa".



## ACWUA's Participation in Regional and International Events

- ◇ 26<sup>th</sup> April, 2019, participated **SONEDE International celebration of the 50<sup>th</sup> National Company for Water Exploitation and Distribution**, which inaugurated an international symposium entitled "National Company for the Exploitation and Distribution of Water on the Path of Digital Transformation, Energy Transition and Major Water Systems". SONEDE International is a consulting company specialized in the water sector, created in October 20<sup>th</sup> , 2009, by the funding Tunisian National Water Utility SONED.



# Utility and NGO's Members



## Holding Company for Water & Waste Water



Greater Cairo Water Company



Assiut Water and Wastewater Company



Alexandria Water Company



Menya Water and Sanitation Company



Fayoum Drinking Water and Sanitation Company



Giza Drinking Water & Wastewater Company



Dakahlia Potable Water and Sanitary Drainage Company



Cairo Water Company



Luxor Water & Wastewater Company



Greater Cairo Sanitary Drainage Company



Beheira Water & Wastewater Company



Sharkia Water & Wastewater Company



Red Sea Water and Wastewater Company



Qena Water & Wastewater Company



Gharbia Water and Sanitation Company



Damietta Water & Wastewater Company



Alexandria Sanitary Drainage Company



Aswan Water & Wastewater Company



Matrouh Water & Wastewater Company



North and South Sinai Company for Water and Wastewater



Sohag Water and Wastewater Company



Benisuef Water and Sanitation Company



Menoufia Company for Water and Wastewater



Kafr ElShikh for Water & Wastewater Company



Anabta Municipality



Coastal Municipalities  
Water Utility –CMWU



Hebron Municipality



Jericho Municipality



Joint Service Council  
for Water - Jenin



Nablus Municipality



Palestinian Water  
Authority (PWA)



Sier Municipality



Water Supply and Sewerage  
Authority Bethlehem



Water and Electricity Au-  
thority, Abu Dhabi



Abu Dhabi Distribution  
Company



Abu Dhabi Sewerage  
Services



Abu Dhabi Transmission  
and Despatch



شركة العين للتوزيع  
Al Ain Distribution Company

الهيئة الاتحادية للكهرباء و الماء  
Federal Electricity & Water Authority



[Federal Authority for Water  
and Electricity / UAE](#)



هيئة كهرباء ومياه الشارقة  
Sharjah Electricity & Water Authority

Water and Electricity  
Authority Sharjah

هيئة كهرباء ومياه دبي  
Dubai Electricity & Water Authority



Water and Electricity  
Authority, Dubai



Centre National Des Re-  
sources en Eau (S.N.D.E) -  
Mauritania



وزارة الأشغال العامة  
MINISTRY OF PUBLIC WORKS

Ministry of Public Works



Algerienne des Eaux - ADE  
Algeria



Egyptian Water and Wastewater Regula-  
tory Agency (EWRA)



Office National de l'Assainisse-  
ment - Algeria



Ministère Délégué auprès du Ministère  
de l'Energie, des Mines de l'Eau  
et de l'Environnement Chargé de l'Eau

Ministère Délégué Charge de  
l'Eau



Ministry of Municipalities and Public Works (MMPW) - Iraq



Lebanon Eco Movement

المكتب الوطني للكهرباء و الماء الصالح للشرب

Office National de l'Electricité et de l'Eau Potable

ONEE- Morocco



SONEDE – Tunisia



ONAS - Tunisia



مؤسسة مياه بيروت وجبل لبنان  
Establishment of The Water of Beirut & Mount Lebanon

Beirut & Mount Lebanon Water Establishment

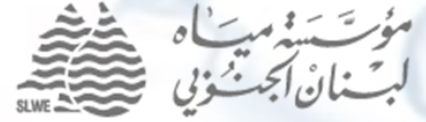


North Lebanon Water Establishment

North Lebanon Water Es-



Bekaa Water Establishment



South Lebanon Water Establishment



Ministry of Works - Bahrain



Aqaba Water Company – AWC



Jordan Water Company, Miyahuna LLC.

Hashemite Kingdom of Jordan



Ministry of Water and Irrigation MWI

Hashemite Kingdom of Jordan



Jordan Valley Authority



Sanaa Water and Sanitation Local Corporation SWS



Yarmouk Water Company

Yemen

Hodeidah Water and Sanitation Local Corporation

Hashemite Kingdom of Jordan



Water Authority of Jordan

Yemen

Al Baydha Water and Sanitation Local Corporation



Local Water and Sanitation Corporation Amran

Yemen

Local Water and Sanitation Corporation Al Mokha

Yemen

As-shihr Water Utility

Yemen

Hajjah Water Supply & Sanitation Local Corporation

Yemen

Al Mahweet Water Supply and

Yemen

Water Supply & Sanitation Local Corporation Dhamar

Yemen

Local Water and Sanitation Corporation Aden

# Yemen

General Administration of Water and Sanitation and the Ministry of Environment

# Yemen

Sadah Water Supply and Sanitation Local Corporation

# Yemen

Bajil Water and Sanitation LLC

# Yemen

Abyan Local Corporation

# Yemen

Bait Al-faqih Water and Sanitation Local Corporation

# Yemen

Seiyun Local Corporation

# Yemen

Ibb Water and Sanitation

Local corporation



University of Sana'a



National Water and Sanitation Authority



Local Water and Sanitation Corporation Ta'az

# Yemen

Central Authority for Rural areas - Yemen

# Yemen

Zabid Water and Sanitation Local Corporation - Yemen



Galmudug Foundation  
For Water  
Development  
(Gfwd)



مجلس تنظيم قطاع المياه  
WATER SECTOR REGULATORY COUNCIL



## Private Sector Members



Xylem Water Solutions



Public Authority for Electricity and Water – Oman



Emirates Sembcorp Water and Power Company - UAE



World Engineering and Technology



S.W.M  
Smart Water Metering - Canada



Nivus GmbH - German



Salalah Sanitary Drainage Services Company – Oman



Maalouf Trading & Contracting s.a.l



Wilco SE International Co-operation –German



Chemonics International, Inc – USA





Khost Aqua Consult

**DISI**

DAOM - Disi Amman  
Operation and Maintenance



Water Management  
and Irrigation Institute -  
Sri Lanka



Arabtech Jardaneh Water  
and Environment



Madinaty Electromechanic Power  
Company



Itron Dubai



RadiuSenaat Piping and  
Fittings LLC- USA



RSA Electronics – Canada



**S.W.M**

Smart Water  
Metering - Canada



Reetaj Technology &  
Technical Services RTTS



Allied Law & Arbitration



Joint Efforts Group  
- ALJHOOD



Water Management Initiative Project  
(WMI)