

THE CLUB



for the World's
**PREMIER
WATER SERVICES**



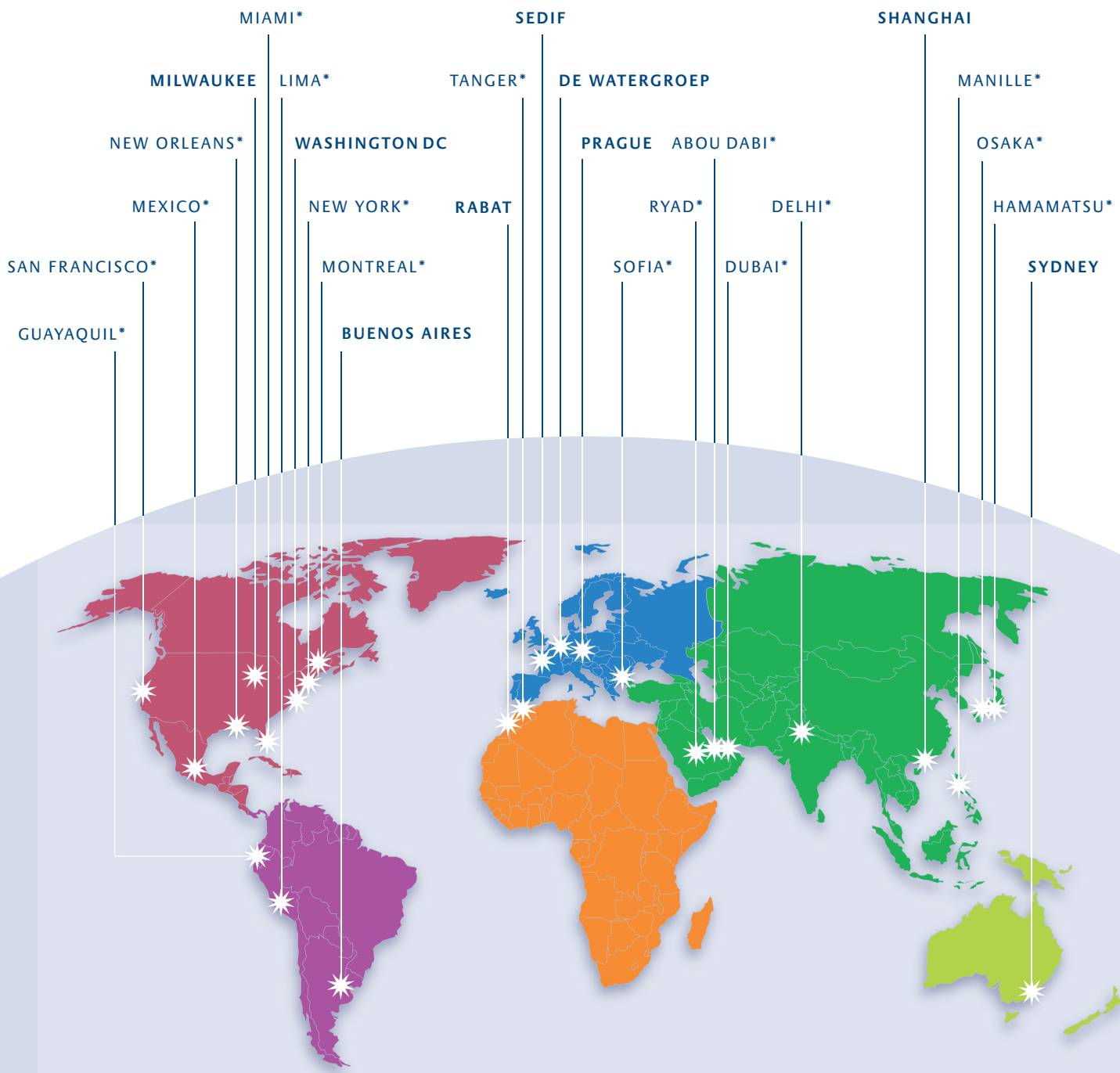
A MAJOR FORUM
FOR INTERNATIONAL DISCUSSION



SYNDICAT
DES EAUX
D'ÎLE DE
FRANCE

SEDIF

SERVICE PUBLIC DE L'EAU



* Full membership pending

THE CLUB



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Later management in the major cities of the world presents many challenges, particularly in a context of urbanization and development of the services they have to deliver to their inhabitants. Infrastructures and utilities adapt and modernize to meet the expectations of the population.

Global and shared issues require constantly changing services, which have to be open to the outside world in order to become enhanced and be inspired by initiatives in their field from other countries.

France's leading public drinking water utility, the Syndicat des Eaux d'Ile-de-France has been supporting this open and collaborative approach with the world's major cities. Our desire led to the creation in 2011 of **the Club for the world's premier water services**.

Our ambition within this structure is to infuse a spirit of exchange, dialogue, sharing of experiences between cities facing a major challenge to distribute quality water in a context of mega-cities.

The Club for the world's premier water services would never have materialized if SEDIF and its leading partners had not had a great degree of confidence. The many topics discussed, the wealth of exchanges and what we learned from these strengthened us in our approach and encouraged us to continue, convinced that it would lead us to better anticipate the issues of water in major cities all over the world.

The sharing of common reflections allowed us to give a true legitimacy to the structure and encourages us to further intensify our collaboration and exchanges.

André Santini

President of Syndicat des Eaux d'Ile-de-France
Former Minister
Mayor of Issy-les-Moulineaux
Vice-president of Grand Paris





A MAJOR FORUM FOR INTERNATIONAL DISCUSSION

In 2007, the Syndicat des Eaux d'Ile-de-France (SEDIF) began maintaining regular contact with major cities around the world. The objective was to get to know the best international practices. In 2011, this initiative reached a major milestone with the foundation of the club for the world's premier water services. The mission of this highly flexible organization is to bring together major centers worldwide who want to share information and expertise on current and future water management concerns.

Water is one of the major issues of our era, in particular for the cities of the 21st century in which infrastructures and public services need to meet the growing expectations of increasingly demanding populations.

Conservation of the resource, safety of distributed water in terms of health, modernization of customer relations, consideration of the poorest in society, transparency and governance, crisis management, and more: today's water authorities are facing constantly changing problems under the watchful eyes of informed consumers. In response to these challenges, some operators have developed technical solutions which could be used by others or serve as inspiration for new approaches.

**The club
for the world's
premier water services
is a partnership on the global
stage taking the form of
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The club for the world's premier water services is a partnership on the global stage taking the form of regular meetings, tours of facilities and collaborative discussions. When a new member joins the club, a cooperation agreement is signed on a few priority themes relating to specific issues.

FROM HIGH-LEVEL DISCUSSIONS TO PRACTICAL WORK

The club for the world's premier water services explores a broad range of issues, arranges exchanges between organization officials and implementation of new services, holds regular meetings and conducts studies with the goal of ensuring that all members benefit from the pooling of their individual experience.

These types of discussions reflect the increasing globalization of large-scale environmental issues; water has for years been recognized as a resource of global importance influencing the development of many countries, giving rise to conflicts and geopolitical tension, a challenge which mobilizes experts and associations and shapes policies.

The Club's approach is deliberately practical and operational, with discussions focusing on solutions that each community has developed or wishes to deal with for its own issues.



TOPICS AND ISSUES

Urban development is a major determinant of our era. It brings with it new requirements for environmental services and water management, in terms of both quantity and quality, which include:

- **Continuity of supplies** for increasingly numerous and more concentrated populations, and in increasingly complex conditions,
- **Sanitary quality**, which must be ensured, despite the emergence of new pollutants generated by urban, industrial and agricultural consumption modes,
- **Conservation of resources**, often jeopardized by new diffuse and increasing pollution, on the one hand, and increasingly large sampling sizes, on the other, raising the problem of the natural renewal of water resources,
- **Modernization of relationships between the public service and its users/customers**, taking their satisfaction into consideration in order to steer improvements in the service provided,
- **Management of crisis situations**, in other words, maintaining water supplies for populations, or vital services in exceptional circumstances which jeopardize the continuity of the water service,
- **Consideration of disadvantaged populations**, either when deploying new systems associated with urban renovation operations (reducing shanty towns) or as part of a socially responsible operation targeted at the most disadvantaged users.





TIMELINE

- DÉCEMBER 2018 —● Signing of a cooperation agreement between SEDIF and Aguas Bonaerenses ("ABSA"), the Buenos Aires province water authority, on the topics of water quality, customer relations and computerizing claims, the application of new technologies, strategy and planning, water networks, and information and control systems.
- 9 AND 10 NOVEMBER 2016 —● The second meeting of the Club for the world's premier water services is held in Paris.
- JULY 2015 —● Signing of a cooperation agreement between SEDIF and the Shanghai Water Authority on the topics of customer relations and managing the resource.
- JUNE 2014 —● Signing of a cooperation agreement between SEDIF and Washington DC Water on the topics of crisis management and customer relations.
- 12 AND 13 DÉCEMBER 2013 —● The first meeting of the Club for the world's premier water services is held in Paris. A partnership agreement is signed with De Watergroep at the meeting on the topics of water quality, emerging parameters and customer relations.
- JANUARY 2013 —● Signing of a cooperation agreement between SEDIF and Sydney Water on the topics of communicating networks, customer relations, operational efficiency, investment management and economic footprint.
- JUNE 2012 —● Third meeting between SEDIF and the Milwaukee Water Council to launch a debate on a joint study on emerging pollutants and pharmaceuticals.
- OCTOBER 2011 —● A partnership is signed between SEDIF and the city of Prague on protection against floods, risk prevention and crisis management.
- MAY 2011 —● Joint visit to Laos by SEDIF and the Milwaukee Water Council as part of Water Solidarity.
- MARCH 2011 —● First meeting with the city of Rabat resulting in the signing of a cooperation agreement on the service to users and access to water.
- OCTOBER 2010 —● First partnership agreement between SEDIF and the Milwaukee Water Council on the carbon footprint and the traceability of new pollutants.

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FIRST MEETING

OF THE CLUB FOR THE WORLD'S
PREMIER WATER SERVICE

The Syndicat des Eaux d'Ile-de-France (water authority for the Ile-de-France region), a founding member of the Club, hosted the first meeting with all of the partners in Paris on 12 and 13 December 2013.



As a natural continuation of the first bilateral contacts, for the first time SEDIF, the Milwaukee Water Council and the water services of Sydney, Rabat and Prague met as a group. Each member was able to present its characteristics to its counterparts, review the state of progress of the discussions in the Club over the past 3 years and envisage new forms of partnership. This meeting initiated a genuine multilateral approach.

These two days were an opportunity to consolidate the collaboration process and make an initial assessment of the discussions that have taken place since the first cooperation protocols were signed.

The contributions of eminent individuals representing these major international cities' water services were a privileged opportunity to reflect on the proposed themes during 6 roundtables: emerging parameters, consumer relations management, operating efficiency, risk management, decentralised cooperation and access to potable water for everyone.

The variety of the topics discussed, the wealth of exchanges, the search for excellence and professionalism and the quality of participants and what we learned from them strengthened participants in their approach and encouraged them

to continue, convinced that it would lead them to better anticipate water issues in major cities around the world.

On the occasion of this launch, the Club welcomed a 6th member, De Watergroep, one of the leading water services in Belgium, with whom a cooperation agreement has been signed concerning the pollution of resources by agricultural products, emerging parameters and customer relations.

Representatives of Shanghai Pudong and Washington DC were also present in order to prepare their future membership in the Club in the coming months. The preparations for this first meeting were also an occasion to initiate contacts with potential partners, like the cities of San Francisco (already met with in 2013), Delhi, Shenzhen, Mexico and Lima.

The Club will meet again in 2015, at the invitation of Milwaukee. On this occasion the projects carried out since the Club's official launch can be assessed.

Finally, during this event the Club inaugurated new tools like the collaboration web portal to facilitate exchanges between members and the special leaflet, conceived with the aim of promoting the Club during bilateral meetings that take place between members and the water services of major cities likely to be interested in the Club.



Complete accounts
of the 6 roundtables are available at
www.worldpremierwaterservices.com

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SECOND MEETING

OF THE CLUB FOR THE WORLD'S
PREMIER WATER SERVICE



Le Syndicat des Eaux
d'Ile-de-France hosted
a meeting of the Club
in Paris for the second time
on November 9 and 10, 2016

Three years after the Club's first meeting, the representatives of SEDIF, the Milwaukee Water Council, the Shanghai Water Authority, De Watergroep and DC Water, together with the water authorities of the cities of Rabat and Prague, met for a plenary session for the second time in Paris. Members of the Delhi Jal Board were also present, as well as many experts who came to make their own specific contributions to the discussions.

The general theme chosen for the meeting was innovation serving resilient cities. A variety of subjects were covered relating to this theme, including the small water cycle, the digital city, water quality, the effects of climate change, customer relations and crisis management. In particular, the presence of a representative of SIAAP (the regional authority responsible for wastewater services in the Paris conurbation) made it possible to enlarge the discussions to all aspects of the small water cycle.

The two days gave an opportunity to consolidate the spirit of collaboration and to exchange impressions about the progress made in relation to certain projects launched in 2013, such as the study of emerging parameters jointly directed by SEDIF and the Milwaukee Water Council.

The presence of a delegation from the Delhi Jal Board proves the interest shown by emerging countries in taking part in the Club's discussions. The application for membership made by the city of Delhi's water authority could be completed during a bilateral meeting with SEDIF to be held in the coming months.

The preparation of this meeting made it possible to strengthen ties with a number of other cities that may wish to join the Club in the future. The water services concerned were those of Dubai, Windhoek (Namibia), Lima, Mexico City, Montreal, New Orleans, New York, Miami, San Francisco, Sofia and Osaka.

The Club also has a collaborative Internet portal on which members may pursue their discussions. The "kiosk" section offers a particularly important opportunity for publishing or viewing documents produced by each member. The minutes of the Club's second meeting may be viewed and downloaded here.



Complete accounts
of the meeting are available at
www.worldpremierwaterservices.com

**SEDIF**

SERVICE PUBLIC DE L'EAU

**Key figures**

Member since 2011

4.6 million users spread over
150 municipalities3 main drinking water
production facilities770,000 m³ of drinking water
distributed daily

8.683 kilometers of pipelines

Largest public water utility in France

SYNDICAT DES EAUX D'ILE-DE-FRANCE

Formed in 1923, the Syndicat des Eaux d'Ile-de-France (SEDIF) supplies drinking water to 149 municipalities spread over 7 départements in Ile-de-France, Paris excepted, i.e. more than 4.3 million users.

With close to 750,000 m³ distributed every day, it is the largest water supply utility in France and one of the largest in Europe. Nearly 240 billion liters were consumed in 2013 via a 8,275 km network of pipes.

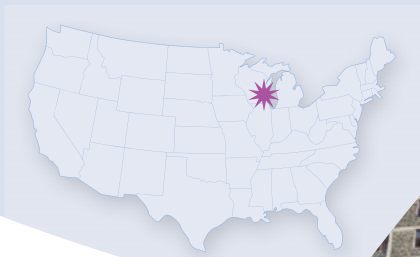
It manages a budget of €420 million and develops production and distribution techniques at the leading edge of technology, at three of the world's most efficient plants, located on the major water courses through the Paris region (Seine, Marne, Oise).

Investing about €130 million each year in its continuously monitored facilities, it ensures safe water and perfect quality to meet the needs of subscribers, even under exceptional weather conditions.

The sanitary quality of SEDIF's water is evidenced by more than 300,000 analyzes made all along the course of the water, up to the consumer's tap.

SEDIF is chaired by André Santini, a former Minister. It is run by locally elected officials representing the member municipalities. SEDIF has the responsibilities of an organizing authority (fixing prices and service quality, choice of management mode) and of managing the investments. The operation of the service has been delegated to Veolia Eau d'Ile-de-France since 1 January 2011 for a period of 12 years, based on ambitious performance targets.

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MILWAUKEE WATER COUNCIL

Key figures

Member since 2011

More than 200 companies
specialized in water

100 researchers

Global Water Technology Center
recognized by the United Nations
program since 2009

MILWAUKEE WATER COUNCIL

The greater Milwaukee metropolitan area (including the cities of Racine and Waukesha) has a population of approximately 2 million. It is located on the shores of Lake Michigan, one of the Great Lakes.

Milwaukee was the city where SEDIF officials launched their initiative in 2010 to form an international club for the world's premier water services. The central issue driving Milwaukee's discussions with SEDIF is sustainable development, which the municipality has identified as its main objective.

Located on Lake Michigan, which serves as both resource and outfall, the traditionally industrial city of Milwaukee with its population of 600,000 has adopted a strategic stance in relation to water. The Great Lakes supply drinking water to more than 10 million people. The resource is collectively administered by the various adjacent states and Canadian provinces.

The Milwaukee Water Council brings together representatives of associations and from the institutional, economic, and academic communities with the mission to position the Great Lakes region as one of the world's main water hubs. Its steering committee is made up of various stakeholders in the sector, including businesses, public agencies, associations, research centers and investment groups.

COOPERATION AREAS

Numerous meetings have been held with Milwaukee Water Council representatives leading to the signature of a cooperation agreement covering:

- the water footprint,
- water traceability,
- new pollutants,
- integrated management of the resource.



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Key figures

Member since 2011

1.95 million users spread over
14 municipalities

Electricity service provided
to more than 2 million

CITY OF RABAT

The city of Rabat has a population of 620,000 (metropolitan area: 1.8 million). In 2011, Morocco's capital became the second member of the club for the world's premier water services.

For Rabat, discussions were also oriented towards user services and universal water access. SEDIF has also raised issues with the municipal authorities such as public utility governance and the responsibilities of contracting authorities.

While water service is a major challenge for the country, Rabat is unique in that this major urban center has a dependable water supply and faces fewer issues in terms of access to the resource than other cities in the country's south or interior.

Contrasts remain, however, between the city and its outskirts, between the urban and rural environments. The main question concerning water supply here is whether it will be visible (fountain, standpipe, well, spring) or invisible (in areas served by household connections).

The main issues that this utility has to face include the improvement of system performance, providing universal access to drinking water, wastewater services and electricity services for low-income populations, and the depollution of the Bou Regreg and the Atlantic coastline.

COOPERATION AREAS

The cooperation agreement signed in 2011 covers the following areas:

- **Customer relations** (subscriber satisfaction survey, adapting offerings to consumers)
- **Governance** (roles of the community and the delegated service provider)
- **Social innovation** (social connection program, communication with the general public)
- **Environment** (rationalization of domestic consumption and public equipment).





Key figures

Member since 2011

1.24 million users

Water service subscribers: 87,000

330,000 m³ of drinking water distributed daily

CITY OF PRAGUE

The city of Prague has a population of 1.2 million. Since 2011, the Czech capital has, through its mayor and the general manager of its local water supply service, been fully embracing the objectives of the club for the world's premier water services, working together to enhance water management and to share the benefits of its own progress with its partners.

In Prague, continuity of service, particularly in crisis situations, is discussed regularly with SEDIF within the framework of the club for the world's premier water services.

In 2002 the Czech Republic was subjected to extreme flooding. The Elbe River, with its watershed area of 144,000 km², rose very rapidly, jeopardizing the safety of people and property as well as the continuity of basic services.

Throughout these floods, however, water distribution was never disrupted in Prague, due notably to the fast response of local crews, diversification of the water supply sources and the fact that emergency stocks of reagents and water reserves had been set up.

The city of Prague delegates its water and wastewater services to the Veolia Eau subsidiary PVK (Pražské vodovody a kanalizace). PVK is responsible for the production and distribution of drinking water and for wastewater collection and treatment.

COOPERATION AREAS

Numerous meetings have been held with representatives of the city of Prague, leading to the signature of a cooperation agreement covering:

- flood protection through the design and operation of waterworks, to ensure the safety of the general population, property and facilities,
- water system security,
- crisis management.



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Key figures

Member since 2013

1.4 million m³ of drinking water distributed daily

9 dam water filtration plants

1 seawater desalination plant

22,000 kilometers of pipelines

SYDNEY WATER

Sydney is Australia's largest city, with a population of 4.4 million and an area of nearly 12,150 km². It is also the capital of the state of New South Wales. The main issue affecting Sydney's water supply is the alternating periods of heavy flood and severe drought.

Sydney joined the club for the world's premier water services in January 2013.

Following an exceptionally harsh drought affecting Australia during the first decade of the 21st century, Sydney Water, the city's water supplier, adopted a water-saving strategy centered on rational water use, leak management and recycling.

A state-owned corporation, Sydney Water is the largest water utility in Australia and has a monopoly on water services in Sydney. It provides water supply, wastewater treatment and rainwater harvesting services.

COOPERATION AREAS

Preliminary discussions took place on multiple topics, including liveable cities, contractual innovation, operational effectiveness, information systems, water supply security, climate change and communication.

This first meeting led to the signing of a cooperation agreement covering the following areas:

- Communicating networks,
- Customer relations,
- Operational effectiveness,
- Investment management,
- Economic footprint.





Key figures

Member since 2013

More than 3 million users spread over 180 municipalities

57 underground catchment areas and 5 surface catchment areas

32,000 kilometres of pipelines

Largest distributor of potable water in Flanders

DE WATERGROEP

Bordering the North Sea in the West, Flanders is located between the Netherlands and France. It forms the northern part of Belgium. De Watergroep is the largest water distribution company in Flanders.

An autonomous Flemish company, De Watergroep offers services related to the entire water cycle: potable water production and distribution, wastewater treatment and recycling (treatment and reuse of industrial process and storm water).

De Watergroep was created in 1913 under the name NMDW (National water distribution company). In 1983 NMDW was split into SWDE (Walloon water company) and VMW (Flemish water distribution company). A public company, De Watergroep's shareholders are the Flemish region and the provincial governments of East Flanders, West Flanders, Flemish Brabant and Limburg plus the municipalities affiliated with these provinces.

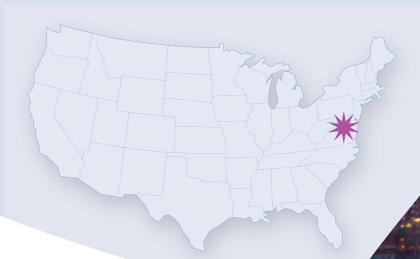
De Watergroep has a main division that operates centrally and four regional departments that distribute potable water to consumers in four Flemish provinces. For the past several years, De Watergroep has developed new solutions for industry, especially via its Industry & Services entity specialised in the major corporations sector. In addition, there is a RioPACT entity, which offers services concerning municipalities' sewer system management.

COOPERATION AREAS

Numerous meetings have been held with representatives of De Watergroep. These meetings resulted in the signing of a cooperation agreement on 13 December 2013 covering:

- pollution of resources by agricultural products (pesticides and nitrates),
- emerging parameters, and
- customer relations.





Key figures

Member since 2014

Drinking water: 672,000 residents
Waste water: 1.6 million residents

4 pumping stations
9,500 fire hydrants

2,100 kilometers of pipelines

DC WATER

DC Water (District of Columbia Water and Sewer Authority) distributes drinking water and collects and treats wastewater for more than 672,000 residents of the District of Columbia in the United States. It also provides wastewater treatment services to 1.6 million residents of Montgomery and Prince George counties in Maryland and Fairfax and Loudoun counties in Virginia.

DC Water's current status dates back to 1996 when the District of Columbia reorganized it as an independent entity.

It was in 1808 that the first pump system was installed in Washington, the political capital of the United States. The Potomac River has been the city's principal water resource since 1850. For drinking water production, the US Army Corps of Engineers pumps approximately 400,000 m³ of water per day. Covering 60 hectares on the banks of the Potomac River at the southernmost tip of the District of Columbia, Blue Plains is one of the largest advanced water treatment facilities in the world.

Given the US capital's strategic and political location, DC Water has developed a solid risk management plan to prevent any disruption of service continuity and avert the risk of terrorism. Washington DC has a command center that covers all strategic infrastructures. Threats of every kind are taken into consideration, from terrorist attacks to environmental risk, as was the case at the time of Hurricane Sandy.

COOPERATION AREAS

Numerous meetings have been held with representatives of DC Water. These meetings resulted in the signing of a cooperation agreement on June 11, 2014 covering:

- The impact of smart networks on customer relations (new services, smart metering, quality monitoring),
- Risk management and control.



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上海浦东威立雅自来水有限公司
Shanghai Pudong Veolia Water Corporation Limited

Key figures

Shanghai

24 million inhabitants
Member since 2015

Pudong district

4 million people supplied
4,500 kilometers of pipelines
1.6 million cubic meters
produced every day
5 drinking water production plants



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CITY OF SHANGHAI

The Pudong district is separated from Shanghai's historical center by the Huangpu River. In the early 1990s, the government decided to develop a special economic zone, which went on to become a business district that symbolized China's booming economy and transformed Shanghai into the country's leading financial hub.

To ensure the new district's water supply, Shanghai's officials entered into a partnership with Veolia in the form of a 50:50 joint venture. Since 2002, the Shanghai Pudong Water joint venture has seen its business and resources grow in spectacular fashion, with a twofold increase in the number of meters opened in its territory, rising from 570,000 at the time of its creation to 1.2 million today. Such strong growth has been supported by the development of an array of modern tools to deliver the best possible service to customers. Among these tools, the GIS centric integrated platform helps to meet the ever-changing operational challenges. This geo-depending software, accessible through internet, can be used by all staff from virtually all operational locations. Seamless data integration from different systems separates this software from the rest of its class, and forms the backbone for superiority over other systems.

Multi-purpose, this WEBGIS is continuously fed with updated information i.e. customer complaints, water quality data, information on network intervention, pipeline material, etc., so that forecast can become more accurate which in turn would further improve the system on a day-to-day basis.

COOPERATION AREAS

In light of the specific challenges facing the Shanghai Pudong water utility, the following cooperation focus areas have been identified:

- Oversight of the utility's key functions
- Network management
- Customer relations

Discussions and facility visits will be organized for these topics, as well as studies carried out in liaison with SEDIF, which will be funded through specific agreements.

Shanghai Water Authority's adhesion to the Club for the world's premier water services was formalized on July 9, 2015, during a visit by a SEDIF delegation to Shanghai Pudong Water's offices.



Key Figures

Member since 2018
2 million users

79 sites in the Province
of Buenos Aires
22 potabilization infrastructures
72 wastewater treatment plants
1,295 boreholes in service

ABSAs

Aguas Bonaerenses S.A., which is known as "ABSAs", is one of the leading operators in the water and wastewater services sector in Argentina. It operates across 79 sites in the Province of Buenos Aires.

ABSAs started operating in March 2002 in an extremely challenging economic environment. In the face of these difficulties, the Government of the Province of Buenos Aires played an active role and took the initiative of setting up a limited liability company in Buenos Aires.

With its 16 years of experience, ABSAs is responsible for the catchment, treatment, transportation and distribution of drinking water, and also collects, treats and finally disposes of wastewater across a large part of the territory of the province. At present, the company provides these services to nearly two million people.

ABSAs aims to achieve optimum drinking water supply levels and wastewater service levels across the territory in which it operates with a view to becoming a company providing essential public services that is known for its management efficiency and social commitment to the community.

COOPERATION AREAS

The initial discussions with SEDIF related to a number of various subjects: customers, new technologies, the digitalization of information, etc. These meetings give rise to the signing of a cooperation agreement on December 5, 2018 covering the following areas:

- water quality
- customer relations and the computerization of complaints
- the application of new technologies
- strategy and planning
- water systems
- information and control systems.



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