Industrial Water Services & Chemicals: Managing water needs through outsourced operations

Description: The management of water and wastewater in industry is becoming increasingly challenging for end-users across the globe. With regulations relating to wastewater treatment and discharge growing ever-more stringent and the cost of sourcing water continually rising, operators of industrial plants are seeking full water management services to provide cost-effective solutions that maximise water and energy efficiency, allowing them to focus on their core production businesses. Industrial Water Services & Chemicals: Managing water needs through outsourced operations provides you with the necessary insight to target those industrial market sectors in which these solutions are most in demand.

Market Drivers

- Corporate specialisation: Water is often perceived as a secondary importance, with end-users increasingly wanting to focus solely on their own core business. This is driving a move away from internal water personnel towards external service experts to take control of water aspects.

- Low-quality feedwater sources: Water scarcity, and higher competition for freshwater resources, is significantly reducing water availability for industrial use. End-users are subsequently adopting alternative water sources that are typically of lower quality and are thus more challenging to manage and require additional treatment.

- Risk management: In line with more difficult feedwater and progressively more stringent regulations, the financial and environmental risks associated with a failure of water systems have increased substantially for end-users. Any mistakes can have significant negative consequences for their business, driving the demand for outsourcing contracts.

- Increasing demand for full water solutions: End-users are increasingly seeking full solutions in which equipment, as well as chemicals, operations and management services are included within one complete package. This approach reduces the number of third-parties involved with the water system and decreases the associated level of risk.

- Water reuse and recycling: Industrial plant operators are becoming ever-more concerned with environmental sustainability as a result of tightening wastewater discharge regulations and water scarcity difficulties. Consequently, water reuse and recycling is becoming more commonplace and requires greater water expertise to achieve this.

Opportunities

- Demand for wastewater treatment and recycling expertise: The drive towards water reuse and recycling in industrial applications is placing higher importance on wastewater streams. As it is more difficult to treat to a level suitable for reuse, it requires greater chemical usage as well as more advanced expertise, driving the demand for third-party involvement.

- Water Management Prospects: As industrial production continues to grow in emerging countries, the rise in associated water requirements often expand beyond the end-users' capacity to deal with water systems internally. Therefore the need for water management in these regions provides real prospects for water service companies and chemical providers who are active either on a global or even a local-scale.

- Temporary water treatment systems, outsourcing and chemical treatment: Power generation, refining and petrochemicals are the largest industrial markets driving the demand for mobile solutions, outsourcing contracts and chemical treatment. Therefore, there are significant opportunities for many different types of companies to gain involvement in these sectors.

- Full Solutions Providers: Industrial end-users currently work with several third-parties to meet their water management needs and this can often cause logistical and contractual difficulties for the client. There is therefore a growing demand for companies which can provide full water solutions that cover water treatment, chemicals and management services.
Industrial Wastewater Services: Opportunities in industrial wastewater also relate to the end-users’ typical view that it is an inconvenient waste product. This stream is not usually a priority for end-users because it does not directly impact their production operations, therefore they are keener to outsource this externally and pass control to third-parties. This report will reveal why there are good opportunities for services companies that can extract value from wastewater.

Key Features

This report covers a range of vital water services that are essential to industrial users:

1. Water treatment chemicals – including a forecast breakdown of operating expenditure on different chemical types by applications such as boiler water, cooling water, process water and wastewater, as well as by industry, to identify where the highest demand for chemicals in industry lie.
2. Consumable services – exploring spending on replacement parts, regenerating services and cleaning services for membranes, ion exchange resins, and activated carbon.
3. Outsourcing contracts and mobile solutions – find out how prevalent outsourcing in industry really is, what is driving end-users to adopt BOT/BOO and DBO/O&M contracts, and understand the major trends behind mobile water solution demands in industry.
4. Industrial utilities – identify opportunities in major regions, including China, the Middle East, Europe and North America.
5. Oil & Gas Water Management Services – understand the unique demands for water solutions in the oil & gas sector, including sourcing of water and treatment for water floods and fracturing, produced water transport, produced water treatment and water disposal services.

Who should buy this report?

- Operators and full solution providers – industrial clients are continually looking for third-party operators to take full control of their water systems. Discover in which industries demand for complete solutions is being driven, and where opportunities exist for temporary solutions such as mobile treatment.
- Chemical suppliers -discover how regulatory trends and end-user initiatives are impacting chemical usage, and which industries or water applications provide the greatest opportunities for your chemical solutions.
- Oilfield service companies – find out the trends behind the different elements of the oil & gas sector to identify how to position your business and take advantage of such developments.

Contents:

1. Industrial water services: an introduction
   1.1 Spending on industrial water operations
   Figure 1.1 Global industrial water operations spending and outsourcing market, 2015
   Figure 1.2 Global industrial operations spending by industry, 2015 and 2025
   Figure 1.3 Global industrial operations spending by region, 2015 and 2025
   1.2 The menu of services
   1.3 Market drivers
   1.4 Market participants
   Figure 1.4 Major players in the water services sector
   Figure 1.5 Icon key: Industries
   Figure 1.6 Icon key: Chemicals
   Figure 1.7 Icon key: Applications
   1.5 Market forecast
   Figure 1.8 Global industrial water operations and outsourcing market breakdown, 2015
   Figure 1.9 Global industrial water outsourcing market by contract type, 2013–2020
   Figure 1.10 Market forecast data, 2013-2025
   1.5.1 Forecast methodology
   1.5.1.1 Chemicals and related services
   1.5.1.2 Parts, consumables and related services
   1.5.1.3 BOT, BOO and operations contracts
   1.5.1.4 Mobile water services
   1.5.1.5 Industrial utilities
   1.5.1.6 Oil & gas water management

2. Chemicals and consumable services
   2.1 Industrial water treatment chemicals: Market overview
   2.2 Types of water treatment chemicals
Figure 2.1 Global spending on industrial water treatment chemicals by type, 2015
Figure 2.2 Chemicals by industry and application
2.2.1 Commodity chemicals
Figure 2.3 Outline of main commodity chemicals used in industrial water treatment
2.2.1.1 Coagulants/flocculants
2.2.1.2 pH adjusters
2.2.1.3 Oxidising biocides
2.2.1.4 Chelating agents
2.2.1.5 Market forecast
Figure 2.4 Global spending on commodity chemicals by chemical type, 2013–2020
2.2.2 Specialty chemicals
Figure 2.5 Outline of main specialty chemical types
2.2.2.1 Coagulants/flocculants
2.2.2.2 Scale inhibitors
2.2.2.3 Corrosion inhibitors
2.2.2.4 Antifoams/defoamers
2.2.2.5 Non-oxidising biocides
2.2.2.6 Dust suppression
2.2.2.7 Market forecast
Figure 2.6 Global spending on specialty chemicals by chemical type, 2013–2020
Figure 2.7 Global spending on commodity and specialty chemicals, 2013–2020
2.3 Industrial water applications
Figure 2.8 Global spending on industrial water treatment chemicals market by application, 2015
2.3.1 Process water
2.3.1.1 Outline of chemical requirements
2.3.1.2 Trends in process water chemical requirements
2.3.1.3 Market forecast
Figure 2.9 Global spending on process water chemicals by chemical type, 2013–2020
Figure 2.10 Global spending on process water chemicals by industry, 2013–2020
Figure 2.11 Global spending on process water chemicals by region, 2013–2020
2.3.2 Boiler water
2.3.2.1 Chemical requirements
Figure 2.12 Chemical water treatment of a boiler steam cycle
Phosphate-based treatment programme
All-volatile treatment (AVT) programme
2.3.2.2 Trends in boiler water chemical requirements
2.3.2.3 Market forecast
Figure 2.13 Global spending on boiler system chemicals by chemical type, 2013–2020
Figure 2.14 Global spending on boiler system chemicals by industry, 2013–2020
Figure 2.15 Global spending on boiler system chemicals by region, 2013–2020
2.3.3 Cooling water
2.3.3.1 Chemical requirements
Figure 2.16 Chemical treatment of an open-recirculating cooling system
2.3.3.2 Trends in cooling water chemical requirements
2.3.3.3 Market forecast
Figure 2.17 Global spending on cooling system chemicals by chemical type, 2013–2020
Figure 2.18 Global spending on cooling system chemicals by industry, 2013–2020
Figure 2.19 Global spending on cooling system chemicals by region, 2013–2020
2.3.4 Process wastewater
2.3.4.1 Chemical requirements
2.3.4.2 Trends in process wastewater chemical requirements
2.3.4.3 Market forecast
Figure 2.20 Global spending on process wastewater chemicals by chemical type, 2013–2020
Figure 2.21 Global spending on process wastewater chemicals by industry, 2013–2020
Figure 2.22 Global spending on process wastewater chemicals by region, 2013–2020
2.4 Main industrial sectors
Figure 2.23 Global spending on industrial water treatment chemicals by industry
2.4.1 Power
2.4.1.1 Main chemicals
2.4.1.2 Specific industry trends
2.4.1.3 Market forecast
Figure 2.24 Global spending on water treatment chemicals in the power generation industry, 2013–2020
2.4.2 Refining & petrochemicals
2.4.2.1 Main chemicals
2.4.2.2 Specific industry trends
2.4.2.3 Market forecast
Figure 2.25 Global spending on water treatment chemicals in the refining & petrochemicals industry, 2013–2020
2.4.3 Food & beverage
2.4.3.1 Main chemicals
2.4.3.2 Industry-specific trends
2.4.3.3 Market forecast
Figure 2.26 Global spending on water treatment chemicals in the food & beverage industry, 2013–2020
2.4.4 Mining
2.4.4.1 Main chemicals
2.4.4.2 Industry-specific trends
2.4.4.3 Market forecast
Figure 2.27 Global spending on water treatment chemicals in the mining industry, 2013–2020
2.4.5 Pulp & paper
2.4.5.1 Main chemicals
2.4.5.2 Industry-specific trends
2.4.5.3 Market forecast
Figure 2.28 Global spending on water treatment chemicals in the pulp & paper industry, 2013–2020
2.4.6 Commercial & institutional
2.4.6.1 Main chemicals
2.4.6.2 Industry-specific trends
2.4.6.3 Market forecast
Figure 2.29 Global spending on water treatment chemicals in the commercial & institutional industry, 2013–2020
2.4.7 Upstream oil & gas
2.4.7.1 Main chemicals
2.4.7.2 Key trends
2.4.7.3 Market forecast
Figure 2.30 Global spending on water treatment chemicals in the upstream oil & gas industry, 2013–2020
2.5 Procurement of industrial water treatment chemicals
2.5.1 Supply chain
Figure 2.31 Supply chain for water treatment chemicals in industry
2.5.2 Service companies
2.5.2.1 Key service companies in industry
2.5.3 Chemical suppliers
2.5.3.1 Key chemical suppliers in industry
2.5.4 Commercial & institutional sector: supply of water treatment chemical solutions
Figure 2.32 Supply chain for water treatment chemicals and services in the commercial & institutional sector
2.5.5 Trends in the supply of chemicals for the industrial market
2.6 Consumable services
2.6.1 Membrane cleaning services
2.6.1.1 Overview
2.6.1.2 Services
Cleaning chemicals
Figure 2.33 Membrane cleaning chemistries
On-site services and analytical tools
Autopsies and other off-site services
2.6.1.3 Procurement and contracts
2.6.1.4 Market dynamics
Figure 2.34 Selected company chemical products
2.6.1.5 Industrial needs
2.6.1.6 Market trends
2.6.1.7 Market opportunities
2.6.2 Ion exchange
2.6.2.1 Overview
2.6.2.2 Services
2.6.2.3 Market dynamics
2.6.3 Activated carbon
2.6.3.1 Market dynamics
2.6.4 Filters
2.6.4.1 Cartridge filtration
2.6.4.2 Media filtration
2.6.5 Market forecast
Figure 2.35 Forecast of spending on services related to parts and consumables, 2013–2025

3. Outsourced operations and mobile treatment
3.1 Outsourcing contracts
Figure 3.1 Global market for outsourcing services by contract type, 2015
3.1.1 Asset ownership contracts
Figure 3.2 Classic large-scale BOT contract structure
Figure 3.3 Small-scale BOT project structure
3.1.1.1 Contract trends: from BOT to BoT
3.1.2 Operations contracts
3.1.2.1 Structure and length of operating contracts
3.1.3 Outsourcing drivers and restraints
3.1.3.1 Market drivers for operating contracts
3.1.3.2 Market drivers for asset ownership models
Figure 3.4 Risk sharing by contract structure
3.1.3.3 Finance and returns
Figure 3.5 Typical equity returns from industrial BOT in Europe and North America
3.1.3.4 The secondary market for industrial water assets
3.1.3.5 The addressable market for asset ownership and outsourced operations
Figure 3.6 Asset ownership and outsourced operations: addressable market penetration over time
3.1.3.6 Overview of industrial and regional markets
3.2 Mobile water services
3.2.1 Uses of mobile water treatment
3.2.2 Drivers
3.2.3 Applications for mobile water treatment units
Figure 3.7 Main process water treatment technologies
3.2.3.1 Technology trends for process water treatment applications
3.2.3.2 Technology trends for wastewater treatment applications
Figure 3.8 Main wastewater treatment technologies
3.2.4 Industrial use of mobile water solutions
Figure 3.9 Breakdown of the global mobile market by industrial user
3.2.5 Procurement process for mobile water services
3.2.6 Cost of the service
3.2.7 Market players
Figure 3.10 Overview of major players in the mobile water treatment market
Figure 3.11 Mobile water market players by technology provided in process water applications
Figure 3.12 Mobile water market players by technology provided in wastewater applications
3.2.8 Accessing the market
3.3 Outsourcing contracts based on mobile assets
3.3.1 Regional markets: Mobile water services and outsourcing contracts
3.3.1.1 United States
3.3.1.2 Europe
3.3.1.3 Asia Pacific
3.3.1.4 MENA
3.4 Mobile water economics
3.5 The addressable market for mobile water
Figure 3.13 Penetration of the addressable market for mobile water
3.6 Market forecast
Figure 3.14 Spending on industrial outsourced services, 2013–2025
Figure 3.15 Capital and operating expenditure under BOT/BOO contracts, 2013–2025
Figure 3.16 Spending on mobile water services by region, 2013–2025
Figure 3.17 Spending on mobile water services by industry, 2013–2025
Figure 3.18 Spending on mobile water services by contract duration, 2013–2025
3.7 Outsourcing by region
3.7.1 China
Figure 3.19 Examples of joint venture projects in the refining & petrochemical industry in China
Figure 3.20 Examples of outsourcing in the coal-to-chemicals industry in China
Figure 3.21 Selected major O&M contracts won by Beijing Water Business Doctor
3.7.2 Outsourcing for individual industrial users in India
Figure 3.22 Selected upcoming BOO/BOOT projects for individual industrials in India
Figure 3.23 Selected upcoming operations outsourcing projects for individual industrials in India
3.7.3 North America
3.7.3.1 Market overview
3.7.3.2 Market opportunities
3.7.3.3 Market players
3.7.4 Europe
3.7.4.1 Market overview
3.7.4.2 Market opportunities
3.7.4.3 Market players
3.7.5 Japan and South Korea
3.7.5.1 Japan
Market players
Procurement and accessing the market
Market outlook
3.7.5.2 South Korea
Market players
Figure 3.24 Industrial outsourcing contracts in South Korea
Procurement and accessing the market
3.7.6 Retail water services in Great Britain
3.7.6.1 Overview
3.7.6.2 Services
Figure 3.25 Roles of retailers and wholesalers in the British market
3.7.6.3 Market landscape
Figure 3.26 International operators in the Scottish retail water services market
3.7.6.4 DBO/O&M contracts
Figure 3.27 Selected outsourcing contracts in the United Kingdom
3.7.6.5 Future market directions
3.7.7 Middle East
3.7.7.1 Industrial BOTs/BOOs
3.7.8 Latin America
3.7.8.1 Market overview
3.7.8.2 Market opportunities
3.7.8.3 Market players
4. Industrial utilities
4.1 Market forecast
Figure 4.1 Forecast of spending on industrial utility services by region, 2013–2025
4.2 Industrial parks in China
4.2.1 General utility outsourcing
Figure 4.2 Selected examples of complete utility outsourcing in Chinese industrial parks
4.2.2 Outsourcing of wastewater treatment
Figure 4.3 Implementation date for newly published discharge standards
Figure 4.4 Comparison of old and new standards for the refining and petrochemical industry
Figure 4.5 Selected examples of wastewater treatment outsourcing in Chinese industrial parks
4.3 Industrial parks/clusters in India
4.3.1 Market overview
4.3.2 Management of CETPs
4.3.3 Drivers for outsourcing
Figure 4.6 Map of water stress in India outlining numbers of existing and planned CETPs per state
4.3.4 Outsourcing CETPs
Figure 4.7 Current and historic funding schemes for CETPs
Figure 4.8 Table of existing BOOs/BOTs
4.3.5 Outsourcing water supply facilities
Figure 4.9 Table of water supply projects
4.3.6 Integrated utility contracts
4.3.7 Opportunities in the industrial corridors
Figure 4.10 Status of industrial corridors
4.3.7.1 Delhi-Mumbai Industrial Corridor
Figure 4.11 Water and wastewater demand in selected DMIC projects
4.3.8 Upcoming projects
Figure 4.12 Upcoming tracker projects
4.4 Industrial parks in Europe
4.4.1 Overview
4.4.2 Water and wastewater infrastructure in industrial parks
4.4.3 Market opportunities
4.4.4 Market strategies
4.4.5 Market players
4.4.5.1 Market players in the industrial water utilities market in Europe
4.5 Middle East
4.5.1 Saudi Arabia
4.5.1.1 Modon
Figure 4.13 Water and wastewater tariffs in Modon's industrial cities ($/m³)
Figure 4.14 Water and wastewater treatment plant BOTs in Modon-controlled cities
4.5.1.2 Marafiq
4.5.2 Oman
4.5.2.1 Majis Industrial Services SAOC
Figure 4.15 Majis in figures, 2015
Figure 4.16 Majis contracts with the private sector at Sohar Industrial Port
4.5.2.2 Duqm SEZ
4.6 Other regions

5. Oil & gas water management services
5.1 Outline
5.1.1 Industry trends/challenges
5.1.2 Types of water management
Figure 5.1 Water management in the unconventional industry
5.1.3 Industry players
Figure 5.2 Supply chain for water management services in the US unconventional industry
5.1.4 Major US plays
Figure 5.3 Major shale plays in the US
Figure 5.4 Outline of key water management challenges in the major US shale plays
5.2 Chemicals for upstream oil & gas
5.2.1 Chemical types
5.2.1.1 Completion chemicals
Figure 5.5 Typical composition of hydraulic fracturing fluid for US shale plays
5.2.1.2 Production chemicals
Figure 5.6 Types of chemical additives in fracturing fluid
5.2.1.3 Specialty chemicals
Figure 5.7 Selected chemicals used to enhance oil and gas production
5.2.2 Procurement/key players
5.2.3 Trends/drivers
5.3 Water sourcing
Figure 5.8 Average water usage for fracturing an oil and gas well in the US
Figure 5.9 Water management economics
5.3.1 Procurement of water sourcing
5.3.2 Water rights/regulations
Figure 5.10 Water sourcing regulations
5.4 Water transport
5.4.1 Freshwater/brackish water
5.4.2 Flowback and produced water
5.4.2.1 Contract structure
5.5 Water storage
5.6 Water treatment
5.6.1 Produced water treatment
5.6.1.1 Drivers
5.6.1.2 Treatment trends
Figure 5.11 Centralised produced water treatment facility operating contracts in the US
5.6.2 Water treatment for hydraulic fracturing
5.7 Water disposal
5.8 Market dynamics
5.8.1 Water service providers
5.8.2 Water treatment services
5.9 Market forecast
Figure 5.12 Forecast of crude oil production in North America by resource, 2000–2030
Figure 5.13 Forecast of natural gas production in North America by resource, 2000–2030
Figure 5.14 Forecast of produced water volumes in North America, 2000–2030
Figure 5.15 Forecast of spending on water management services in North America, 2013–2020
Ordering:

Order Online - [http://www.researchandmarkets.com/reports/3493713/](http://www.researchandmarkets.com/reports/3493713/)

Order by Fax - using the form below

Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit

http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct and select the format(s) you require.

Product Name: Industrial Water Services & Chemicals: Managing water needs through outsourced operations
Web Address: http://www.researchandmarkets.com/reports/3493713/
Office Code: SC

Product Formats
Please select the product formats and quantity you require:

<table>
<thead>
<tr>
<th>Format</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic (PDF) - Single User:</td>
<td></td>
<td>USD 2956</td>
</tr>
<tr>
<td>Electronic (PDF) - Enterprisewide:</td>
<td></td>
<td>USD 11822</td>
</tr>
</tbody>
</table>

* The price quoted above is only valid for 30 days. Please submit your order within that time frame to avail of this price as all prices are subject to change.

Contact Information
Please enter all the information below in BLOCK CAPITALS

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title:</td>
<td>Mr ☐ Mrs ☐ Dr ☐ Miss ☐ Ms ☐ Prof ☐</td>
</tr>
<tr>
<td>First Name:</td>
<td></td>
</tr>
<tr>
<td>Last Name:</td>
<td></td>
</tr>
<tr>
<td>Email Address:</td>
<td>*</td>
</tr>
<tr>
<td>Job Title:</td>
<td></td>
</tr>
<tr>
<td>Organisation:</td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td></td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td></td>
</tr>
<tr>
<td>Phone Number:</td>
<td></td>
</tr>
<tr>
<td>Fax Number:</td>
<td></td>
</tr>
</tbody>
</table>

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ________________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World