

Solvay and Suez join forces in water treatment for industry in China

- Alliance agreement to deploy advanced technologies
- First contract for the chemical industry park in Yantai

Brussels, November 16th, 2017 --- Solvay and Suez have won the contract to treat brine from reverse osmosis desalination at Wanhua Chemical Industry Park in Yantai (Shandong Province). This contract is part of the Alliance between Solvay and Suez which was formed to jointly develop and market Advanced Oxidation processes (AOP's) within China to meet stringent environmental standards.

Located in the coastal city of Yantai, the industry park of Wanhua Chemical, a global chemical company, is supplied with water by a reverse osmosis desalination plant¹. The contract won by Solvay and Suez provides a treatment line for the brine produced by the desalination process. With a capacity of 24 000 m³/day, this line will treat brine to achieve a quality discharge into the sea, in accordance with the most recent standards of the chemical industry, requiring in particular a total TN content of less than 15 mg/L, TOC ≤ 20 mg/l, BOD ≤ 10 mg/l, SS ≤ 10 mg/l, TP ≤ 0,5 mg/l², etc. This treatment line will be equipped with Suez's patented technologies ([Densadeg](#), [Biofor DN](#), [Oxyblue](#), [Flopac](#), [Ozonix® XF](#)) as well as the Advanced Oxidation Process (AOP) jointly developed by Solvay and Suez to achieve the optimum treatment of brine and optimize the operational costs. It will start operation in October, 2018.

It is the first contract won within the Alliance between Solvay and Suez in China this year to combine their expertise and technologies to provide innovative industrial effluent treatment solutions based on Advanced Oxidation Processes (AOP)³. These technologies are effective on a broader spectrum of molecules⁴ and are sustainable, environmental-friendly solutions as they neither transfer pollutants from one phase to the other nor produce large amounts of hazardous sludge. This Alliance delivers a tailor-made treatment model to meet the demands of each industrial player, ranging from process design and installation to the supply of full-treatment services. The R&D centres of both companies, in China and Zurich, provide the necessary technical support, supplemented by a pilot plant equipment allowing on-site trials in order to optimise both efficiency and cost of treatment for specific effluents.

Steve Clark, CEO of Suez Asia says "This contract proves the relevance of the Alliance with Solvay. Tighter Chinese regulations require the deployment of more and more advanced treatments involving cutting-edge technologies that combines the expertise of several players. The innovative

¹ Reverse osmosis consists of passing water through semi-permeable membranes using pulse pressure. This process reduces seawater salinity by more than 98.5% and does not require the use of chemicals.

² Total Nitrogen (TN), Total Organic Carbon (TOC), Biochemical Oxygen Demand (BOD), Suspended Solid (SS), Total Phosphorus (TP)

³ Including systems such as Ozone/Hydrogen Peroxide and UV/Hydrogen Peroxide

⁴ Particularly for hard COD containing effluents

technologies and business model offered by Suez and Solvay represent a flexible and cost effective solution to ensure the treatment of complex effluents from all industrial sectors.”

“The Alliance with Suez allows both partners to combine their leading technologies and expertise to offer very effective water treatment solutions for our customers in China, fully optimized to meet their specific needs” says Andrew Cumming, the Asia Pacific President of Solvay Peroxides GBU. “I am very pleased that the Alliance has secured the Wanhua Yantai project as it demonstrates the value that Solvay and Suez together can offer to our customers.”



Contract Signing between Solvay-Suez Alliance and Wanhua Chemical



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Solvay Peroxides is a worldwide market and technology leader in Hydrogen Peroxide. Providing functional qualities such as bleaching, oxidation or disinfection, it delivers innovative products and tailored services to the pulp, chemicals, aquaculture, food, mining, waste water treatment, home care and textile industries. SOLVAY PEROXIDES operates 19 plants in North and South America, Europe & Middle East, Asia and Australia. It runs the world's biggest Hydrogen Peroxide plant in Map Ta Phut (Thailand). With its JV partner Peróxidos do Brasil, Solvay Peroxides is developing a new plant concept, myH₂O₂®, especially designed for installation at customer sites in remote locations. Innovation capacity and agility are two of GBU Peroxides' strengths.

Solvay is a multi-specialty chemical company, committed to developing chemistry that addresses key societal challenges. Solvay innovates and partners with customers in diverse global end markets. Its products and solutions are used in planes, cars, smart and medical devices, batteries, in mineral and oil extraction, among many other applications promoting sustainability. Its lightweighting materials enhance cleaner mobility, its formulations optimize the use of resources and its performance chemicals improve air and water quality. Solvay is headquartered in Brussels with around 27,000 employees in 58 countries. Net sales were € 10.9 billion in 2016, with 90% from activities where Solvay ranks among the world's top 3 leaders. Solvay SA ([SOLB.BE](#)) is listed on Euronext Brussels and Paris (Bloomberg: [SOLB.BB](#) - Reuters: [SOLB.BR](#)) and in the United States its shares (SOLVY) are traded through a level-1 ADR program.

About Suez

With 90 000 people on the five continents, SUEZ is a world leader in smart and sustainable resource management. We provide water and waste management solutions that enable cities and industries optimize their resource management and strengthen their environmental and economic performances, in line with regulatory standards. To meet increasing demands to overcome resource quality and scarcity challenges, SUEZ is fully engaged in the resource revolution. With the full potential of digital technologies and innovative solutions, the Group recovers 17 million tons of waste a year, produces 3.9 million tons of secondary raw materials and 7 TWh of local renewable energy. It also secures water resources, delivering wastewater treatment services to 58 million people and reusing 882 million m³ of wastewater. SUEZ generated total revenues of 15.3 billion euros in 2016.

SUEZ is one of the global leaders in the world for manufacturing and supply of ozone generators and systems through the ozonia® product line. SUEZ ozonia® brand ozone generators (ozonia M and XF range) use proprietary patented technologies such as very robust ceramic dielectrics with "Intelligent Gap System (IGS™)" technology providing the lowest energy consumption on the market, and the ozonia® smartO3™ automation platform providing a suite of new advanced features designed to optimize system performance and to reduce operations and maintenance costs.

About Wanhua Chemical

Wanhua Chemical is a global company producing new chemical materials. Based on its innovative core technologies, industry-scale manufacturing and effective operating model, it provides competitive products and solutions to the customers.

The main business of Wanhua Chemical is the production and sales of PU series products, like isocyanate and polyol; the series petrochemical products, like PO/AE; the functioning materials of water-based coatings and the specialty chemicals. Wanhua Group is one of the most competitive MDI producers in the world and the biggest TDI supplier in Europe.

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