

Entire seawater desalination range on show in the USA for the first time at IDA World Congress

### **LANXESS showcases membrane technology for water treatment in drought-ridden California**

**Cologne** – At this year’s IDA (International Desalination Association) World Congress taking place in San Diego from August 30 to September 4, 2015, specialty chemicals company LANXESS is presenting the membrane elements in its Lewabrane series. “Our entire seawater desalination range will be on show in the United States for the first time,” says Alexander Scheffler, who is responsible for global membrane business at LANXESS. He is expecting large visitor numbers and a high level of interest, including from the local water industry. “In addition to the usual international membrane experts traveling to the IDA, there will also be a great many American visitors from the water sector interested in finding out more at this year’s trade congress. Issues relating to seawater desalination will generate particular interest,” continues Scheffler. This is because many regions on the American continent are suffering from a prolonged dry spell. Indeed, California, where this year’s IDA is being held, has been experiencing extreme drought conditions for the past three years.

Many regions across the globe depend on the desalination of seawater or brackish water to produce usable water. Examples include the Arabian peninsula, northern Africa, and parts of the United States and Australia. This is where efficient reverse osmosis (RO) technology comes in – a process that involves forcing water through a semi-permeable membrane at high pressure. This is structured in such a way as to block certain ions, thereby removing salt but also other unwanted substances such as borates, nitrates, arsenates and silicates from the water.

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The high-performance membrane elements of the Liquid Purification Technologies (LPT) business unit consist of spirally wound thin-film composite membranes that were developed specifically for industrial water treatment. Depending on the intensity of use, these elements can produce virtually salt-free water for a period of many years. The membrane chemistry and the form of the components ensure optimized, cost-efficient operation in downstream process stages, for example in single or mixed-bed filter circuits. Full details are provided in the LANXESS product brochure about Lewabrane membrane elements for reverse osmosis, which is available to download online: [Brochure Lewabrane.pdf](#).

LANXESS' RO membrane elements are already a success in various applications in 25 countries worldwide. An Egyptian hotel complex in Lazorde Bay west of Alexandria demonstrates the high performance levels of the company's seawater membranes. The plant installed by the AL-Eman Engineering Co. based in Mansoura, Egypt, has a capacity of more than 750 cubic meters per day. It converts water from the Mediterranean Sea, which has a salt content (TDS) of 36,000 ppm (equivalent to 36,000 mg/l), into water of potable quality. The plant uses 48 Lewabrane S400 HR elements. As Ahmed Ismail, CEO of the Egyptian plant engineering company, reports: "Although the resort's water treatment plant was designed for 750 cubic meters per day, it is running currently with 900 cubic meters per day. That is a great result." In addition to hotel complexes, cattle farms and municipal facilities, Lewabrane is also used in mobile installations. A plant with two Lewabrane S400 HR membranes has been installed on a large yacht. With a daily capacity of nearly 50 cubic meters, it covers the water requirements of the boat's crew and passengers.

### **LANXESS meets challenges associated with megatrend of water**

According to the German Foreign Office, around a billion people across the globe still do not have access to clean drinking water – and this situation will continue to worsen. The rising global population, environmental pollution, climate change and wells drying

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up will make this precious resource even more valuable. For this reason, water treatment products are gaining in significance. Intelligent solutions from the chemical industry are needed to meet the challenges associated with the megatrend of water.

LANXESS makes the membrane elements for reverse osmosis (RO) – which comply with the highest German and international production and quality standards – at the company's site in Bitterfeld, Germany. "We are developing increasingly efficient elements to further reduce fouling, blocked conduits and pressure losses, for example by improving the spacers on the membranes' untreated water side," explains Scheffler. "We are currently testing our new models, which contain optimized feed spacers and will be available on the market soon," he reveals.

### **LANXESS congress participation**

The Liquid Purification Technologies business unit will be showing the trade its latest findings in two poster presentations at the IDA World Congress. Application engineer Julien Ogier, part of the Lewabrane Technical Marketing team at LPT, will be giving a presentation entitled "Evaluation of transport process and projection studies of highly-crosslinked seawater reverse osmosis membranes." This will explain the positive impact of Lewabrane membrane chemistry on the rejection of critical ions such as nitrate and borates.

The presentation of Alan Sharpe, Lewabrane Marketing Manager at LPT, is entitled "Simplified calculation approach for realistic estimation of economics of reverse osmosis desalination projects." He will outline how LANXESS' own LewaPlus software calculates the capital and operating expenditure for a desalination plant and the resulting water prices.

This user-friendly computer tool, which is unique on the market, supports the simulation and design of both reverse osmosis (RO) and ion exchange (IEX) processes. LewaPlus combines the design of

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complex water treatment plants with direct comparisons between calculations for RO and IEX processes.

The software offers various energy recovery processes, above all for seawater treatment, for costing purposes – and over 10,000 configuration alternatives, including split partial pass and hybrid configurations, which are used in particular in seawater desalination plants.

The latest version 1.9 now also includes normalization software. This enables existing plants to be checked to see whether they are still operating appropriately for their size. Users can evaluate fluctuations in the process correctly and promptly initiate appropriate remedial measures if necessary.

Detailed information about LANXESS products can be obtained online at [www.lewabrane.com](http://www.lewabrane.com). Brochures and the LewaPlus software can also be downloaded from this website free of charge.

LANXESS is a leading specialty chemicals company with sales of EUR 8.0 billion in 2014 and about 16,300 employees in 29 countries. The company is currently represented at 52 production sites worldwide. The core business of LANXESS is the development, manufacturing and marketing of plastics, rubber, intermediates and specialty chemicals. LANXESS is a member of the leading sustainability indices Dow Jones Sustainability Index (DJSI World and DJSI Europe) and FTSE4Good.

Cologne, August 28, 2015  
kaw (2015-00042e)

### **Forward-Looking Statements.**

This news release may contain forward-looking statements based on current assumptions and forecasts made by LANXESS AG management. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. The company assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

### **Information for editors:**

All LANXESS news releases and their accompanying photos can be found at <http://press.lanxess.com>. Recent photos of the Board of Management and other

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You can find further information concerning LANXESS chemistry in our WebMagazine at <http://webmagazine.lanxess.com>.

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