

Ion Exchange's chemical blending factory in Bahrain

With an investment of US\$5m, Indian firm eyes the GCC market

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Ion Exchange, an Indian company with global presence in environment-solution sector, announced the opening of its new chemical-blending factory in the Kingdom.

The new factory, started with an investment of US\$5 million, is based in the Bahrain Investment Wharf and will serve as the chemical export hub for the region and North Arab states, creating around 30 jobs over the course of the next three years.

Rajesh Sharma, Chairman and Managing Director of Ion Exchange, said the launch of the new Bahrain facility was part of its wider strategy to ensure proximity to GCC and North Arab market, as Bahrain



Rajesh Sharma, CMD of Ion Exchange and Husain Rajab, Director of Manufacturing, Transport and Logistics, EDB

is located at the heart of the Gulf market with excellent logistics connections.

The company most probably will be starting its operations from today and currently

employs 10 people. He said: "Now, we are covering only Bahrain and East of Saudi Arabia, but in due course, we plan to expand our sales and services and thus will be hiring more employees."

"We have joint venture in Oman and a big team in the UAE. But all products were coming from India earlier and we will slowly start substituting them with products from Bahrain. This will help us save substantial shipping time and cost," Sharma informed. Currently, it takes a couple of weeks to import products from India.

He added that the company would be looking at further expansion depending on the success of the present project. "Bahrain facility will be producing 10,000 tons of



Rajesh Sharma

chemical on an annual basis. Raw materials will be procured locally or from Saudi."

Ion Exchange joins a number of other Indian companies that have recently expanded operations in Bahrain as a means of serving growth in the Middle East region. Bahrain Economic Development Board (EDB) played an integral part in encouraging the company to invest in the Kingdom.

Meanwhile, Husain Rajab, Director of Manufacturing, Transport and Logistics at the Bahrain Economic Development Board (EDB) expressed delight at the expansion of Ion Exchange's business in the Kingdom.

It is based in the Bahrain Investment Wharf and will serve as the chemical export hub for the region

\$5m chemicals factory opens

A \$5 MILLION chemical plant that opened in Bahrain yesterday will manufacture more than 70 different products, which are expected to be used in the GCC.

Ion Exchange, headquartered in India, opened its new facility in Hidd as part of a regional expansion that will support efforts to push forward the "Made in Bahrain" concept.

It is located at the Bahrain Investment Wharf and will create around 30 jobs over the next three years, with a possibility of further expansion in future.

"The initial investment of setting up the facility is \$5m and we are looking for further expansion depending on the reception from the market," said chairman and managing director Rajesh Sharma.

He was speaking during a Press conference at the ART Rotana Hotel, Amwaj Islands, in the presence of officials from

By SANDEEP SINGH GREWAL

the Economic Development Board (EDB).

"There will be a wide range of products used in disinfectants, paper and sugar industry and for other industries including wastewater treatment," said Mr Sharma.



■ Mr Sharma speaking at yesterday's launch

"Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region.

"It saves us shipment time of raw materials and is cost effective by setting up the facility in Hidd."

He added that water scarcity in the region was driving investment in wastewater treatment.

"For the sustainability of the world one needs water, reduced energy consumption and solid waste management," he said.

"We are expanding to meet the GCC's rising demand for water

treatment products and services."

He described Ion Exchange as one of Asia's largest environment solutions providers with more than 50 years' experience and clients across the globe.

EDB manufacturing, transport and logistics director Hussain Rajab said an increasing number of Indian companies were interested in investing in Bahrain, with trade between the two nations reaching \$674m last year.

"We are delighted to have been able to support the establishment and expansion of Ion Exchange's business here in Bahrain," he said.

"The GCC needs to invest significantly in water and wastewater treatment-related infrastructure over the coming years and Bahrain offers a strong access point to the region."

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بكلفة 5 ملايين دولار وقدرة إنتاجية تصل إلى 10 آلاف طن سنوياً «أيون إكسشينج» تدرش مصنعها الجديد في البحرين

فرصاً جيدة للدخول إلى المنطقة يمكن أن تستفيد منها الشركات الرائدة في هذا القطاع مثل «أيون إكسشينج».

وأضاف رجب أن البحرين تتمتع بعلاقات وثيقة مع جمهورية الهند، فالمملكة تعد موطناً لجالية كبيرة من المغتربين الهنود وعدد من الشركات الهندية الكبرى مثل «شركة جي بي أف»، و«كيمكو» و«ستيت بنك أوف انديا» و«آي سي آي سي أي بنك». سنواصل دورنا في استقطاب الشركات الهندية في البحرين في المستقبل.

وبذلك انضمت شركة «أيون إكسشينج» إلى عدد من الشركات الهندية الأخرى التي قامت مؤخراً بتوسيع أعمالها في مملكة البحرين في استجابة منها لتلبية الطلب المتزايد في منطقة الشرق الأوسط. ومن ضمنها شركة الصناعات التحويلية «إكتروستيل»، حيث يشكل مستودع الشركة الجديد البالغة قيمته 6.6 مليون دولار أمريكي مركزاً للمبيعات والتوزيع في المنطقة، أما شركة «سينرجيز كاستنجز» المتحدة فقد قامت ببناء مصنع لصب الألومنيوم والسبائك في مملكة البحرين يختص بصناعة العجلات.



تصوير - نور محمد:

رجب يقدم هدية تذكارية إلى شارما

وسيساهم في خلق حوالي 30 فرصة عمل على مدى الثلاث سنوات المقبلة، مضيفاً أن كلفة المرحلة الأولى من المشروع تقدر بخمسة ملايين دولار، وتصل قدرته الإنتاجية إلى 10 آلاف طن سنوياً.

كما أكد في المؤتمر مدير أول الصناعة واللواصلات والخدمات اللوجستية بمجلس التنمية الاقتصادية حسين رجب، أن دخول شركة أيون إكسشينج للاستثمار في البحرين هو تأكيد لما تتمتع به البحرين من سمعة طيبة من حيث البنية التحتية والتسهيلات الاستثمارية التي تستطيع من خلالها جذب المستثمرين من كافة دول العالم، أن البحرين توفر

وأضاف أن إطلاق المصنع الجديد في البحرين يعد جزءاً من استراتيجية الشركة التوسعية لتعزيز حضورها في منطقة الشرق الأوسط، فالبحرين تقع في قلب أسواق دول مجلس التعاون الخليجي وترابطة تماماً عن طريق الخدمات اللوجستية وخدمات النقل في جميع أنحاء المنطقة، والتي تعد أحد أسرع المناطق نمواً في العالم، لافتاً إلى أن الشركة بصدد التوسع لتلبية الطلب المتزايد في السوق الخليجية على منتجات معالجة المياه.

وذكر شارما أن مقر المصنع الجديد سيكون في مرسى البحرين للاستثمار، حيث سيشكل مركزاً لتصدير المواد الكيميائية للمنطقة،

كاظم عبدالله:

تم يوم أمس الخميس الإعلان عن تدشين شركة «أيون إكسشينج» مصنعها الجديد لمزج المواد الكيميائية في البحرين، وذلك خلال المؤتمر الصحفي الذي عقد بفندق آرت روتانا بجزر أمواج بحضور عدد من المسؤولين في مجلس التنمية الاقتصادية والشركة وبعض زبائنها في البحرين.

وتحدث في المؤتمر رئيس مجلس الإدارة والعضو المنتدب لشركة «أيون إكسشينج» راجيش شارما الذي أكد أن الشركة تسعى إلى توسعة أعمالها في منطقة الخليج من خلال افتتاح فرع البحرين، حيث سبق لها التواجد في بعض الدول الخليجية مثل عمان والإمارات، مضيفاً أن الشركة نجحت في تنفيذ العديد من المشاريع العالمية وبناء المصانع في منطقة الشرق الأوسط وأفريقيا وجنوب شرق آسيا وذلك استجابة منها لطلبات عملائها ومستشاريها والمتعاقدين معها، كما عكفت الشركة على تصدير المواد الكيميائية المستعملة في معالجة المياه إلى الولايات المتحدة الأمريكية وأوروبا.

بناء مصنع لمزج المواد الكيميائية في البحرين كمرکز إقليمي

(أيون أكسشينج) توسع أعمالها في المملكة لتلبية حاجة السوق الخليجية

معها، كما عملت الشركة على تصدير المواد الكيميائية المستعملة في معالجة المياه إلى الولايات المتحدة الأمريكية وأوروبا. ويعد إطلاق المعصن الجديد في مملكة البحرين جزءاً من إستراتيجية الشركة التوسعية لتعزيز حضورنا في منطقة الشرق الأوسط، فالبحرين تقع في قلب أسواق دول مجلس التعاون الخليجي ومرتبطة تعاماً عن طريق الخدمات اللوجستية وخدمات النقل في جميع أنحاء المنطقة، والتي تعد أحد أسرع المناطق نمواً في العالم، ونحن الآن بصدد التوسع لتلبية الطلب المتزايد في السوق الخليجية على منتجات معالجة المياه ونحن في غاية السرور للعمل بشكل وثيق مع المؤسسات الحكومية الداعمة في مملكة البحرين مثل مجلس التنمية الاقتصادية لضمان النجاح.

وتتمتع جمهورية الهند ومملكة البحرين بعلاقات اقتصادية وثيقة، حيث وصلت قيمة التبادل التجاري بين البلدين إلى ٦٧٤ مليون دولار أمريكي عام ٢٠١٥ ويعيش في مملكة البحرين حالياً أكثر من ٣٥٠ ألفاً من أبناء الجالية الهندية.

ويملك مجلس التنمية الاقتصادية البحرين مخابر في سفارة مملكة البحرين في دبي وفي قنصلية مملكة البحرين في مومباي، حيث يقدم الدعم والمعلومات للمستثمرين الراغبين في الاستثمار في منطقة جنوب آسيا.



وأضاف «تتمتع مملكة البحرين بعلاقات وثيقة مع جمهورية الهند، فالعملية تعد موطناً لجالية كبيرة من المغتربين الهنود وعدد من الشركات الهندية الكبرى مثل شركة جي بي آف، وتيمكو وسيتيك بنك أوف انديا وأي سي آي سي أي بانك. سنواصل دورنا في استقطاب الشركات الهندية إلى البحرين في المستقبل.

من جانبه، قال رئيس مجلس الإدارة والعضو المنتدب لشركة أيون أكسشينج راجيش شارما «نجحت أيون أكسشينج في تنفيذ العديد من المشاريع العالمية وبناء المعصن في منطقة الشرق الأوسط وإفريقيا وجنوب شرق آسيا وذلك استجابة منها لطلبات عملائنا ومستشاريها والمتقاعدين

مختلف أنحاء العالم ولديها مخابر في جنوب شرق آسيا وإفريقيا والشرق الأوسط وتندا والولايات المتحدة الأمريكية.

وقال مدير أول الصناعة والمواصفات والخدمات اللوجستية بمجلس التنمية الاقتصادية حسين رجب «نحن فخورون بما قدمناه من دعم لإنشاء مقر للشركة في البحرين من قبل، وبمساندتها في مشروع توسعة أعمالها اليوم. ومع توجه دول الخليج في الاستثمار في البنية التحتية المتعلقة بمعالجة المياه ومياه الصرف الصحي في السنوات القادمة، توفر البحرين فرصاً جيدة للدخول إلى المنطقة يمتد أن تستفيد منها الشركات الرائدة في هذا القطاع مثل أيون أكسشينج.

أعلنت أيون أكسشينج، الشركة الهندية العاملة في قطاع توفير الحلول البيئية عن افتتاح معصن جديد لمزج المواد الكيميائية في مملكة البحرين، حيث سعت الشركة إلى توسعة أعمالها في المملكة من أجل تعزيز المنتجات والخدمات التي تقدمها على نطاق أوسع لأسواق دول مجلس التعاون الخليجي.

وسيشكل المعصن الجديد الذي ستكون مقره في مرسى البحرين للاستثمار مركزاً لتصدير المواد الكيميائية للمنطقة، وسيخلق حوالي ٣٠ فرصة عمل على مدى الثلاث سنوات المقبلة. وقد قام مجلس التنمية الاقتصادية بدعم مشروع توسعة أعمال شركة أيون أكسشينج، حيث يقوم المجلس بتقديم خدمات المشورة والمساعدة العملية للشركات التي تقوم بتأسيس أعمالها في مملكة البحرين.

وقد خلق النمو السنائي المتسارع والإزدهار الاقتصادي في دول مجلس التعاون الخليجي في السنوات الأخيرة طلباً قوياً على تكنولوجيا وخدمات معالجة المياه، وتعتبر «أيون أكسشينج» صاحبة الخبرة التي تزيد على الخمسين عاماً شركة متكاملة ومتنوعة، حيث تقدم لعملائها مجموعة متنوعة من الخدمات التي تشمل الحلول البيئية للمصانع، والمؤسسات، والمجمعات السكنية. وتتميز الشركة بحضورها القوي عالمياً حيث تمتلك الشركة مصانع في

«أيون أكسشينغ» الهندية تتخذ البحرين مقراً لتلبية الطلب الخليجي

الشركة تعد الأكبر في آسيا بتقديم الحلول البيئية



خلال المؤتمر الصحفي للإعلان عن افتتاح الشركة

البحرين في استجابة منها لتلبية الطلب المتزايد في منطقة الشرق الأوسط. ومن ضمنها شركة الصناعات التحويلية «إكتروستيل»، حيث يشكل مستودع الشركة الجديد البالغة قيمته 6.6 مليون دولار أمريكي مركزاً للمبيعات والتوزيع في المنطقة، أما شركة «سينرجيز كاستنجر» المتحدة فقد قامت ببناء مصنع لصب الألمنيوم والسبائك في مملكة البحرين ويختص بصناعة العجلات. وتتمتع جمهورية الهند ومملكة البحرين بعلاقات اقتصادية وثيقة، حيث وصلت قيمة التبادل التجاري بين البلدين إلى 674 مليون دولار أمريكي عام 2015، ويعيش في مملكة البحرين حالياً أكثر من 350 ألف من أبناء الهندية.

الشركة التوسعية لتعزيز حضورنا في منطقة الشرق الأوسط، فالبحرين تقع في قلب أسواق دول مجلس التعاون الخليجي ومتراصة تماماً عن طريق الخدمات اللوجستية وخدمات النقل في جميع أنحاء المنطقة، والتي تعد أحد أسرع المناطق نمواً في العالم. ونحن الآن بصدد التوسع لتلبية الطلب المتزايد في السوق الخليجية على منتجات معالجة المياه ونحن في غاية السرور للعمل بشكل وثيق مع المؤسسات الحكومية الداعمة في مملكة البحرين مثل مجلس التنمية الاقتصادية لضمان النجاح.» وانضمت شركة «أيون أكسشينغ» إلى عدد من الشركات الهندية الأخرى التي قامت مؤخراً بتوسيع أعمالها في مملكة



راجيش شارما

شركة جي بي أف، و«كيمكو» و«سييت بنك أوف انديا» و«أي سي أي سي أي بانك». سنواصل دورنا في استقطاب الشركات الهندية في البحرين في المستقبل.» من جهته قال رئيس مجلس الإدارة والعضو المنتدب لشركة «أيون أكسشينغ»، راجيش شارما: «نجحت «أيون أكسشينغ» في تنفيذ العديد من شرق آسيا وذلك استجابة منها لطلبات عملائها ومستشاريها والمتعاقدين معها. كما مكنت الشركة على تصدير المواد الكيميائية المستعملة في معالجة المياه إلى الولايات المتحدة الأمريكية وأوروبا. ويعد إطلاق مصنع الجديد في مملكة البحرين جزءاً من استراتيجيتي



حسين رضا

وكندا والولايات المتحدة الأمريكية. وقال مدير أول الصناعة والمواصلات والخدمات اللوجستية بمجلس التنمية الاقتصادية، حسين رجب: «نحن فخورون بما قدمناه من دعم لإنشاء مقر للشركة في البحرين من قبل وبمسانبتها في مشروع توسعة أعمالها اليوم. ومع توجه دول الخليج في الاستثمار في البنية التحتية المتعلقة بمعالجة المياه ومياه الصرف الصحي في السنوات القادمة، توفر البحرين فرصاً جيدة للدخول إلى المنطقة يمكن أن تستفيد منها الشركات الرائدة في هذا القطاع مثل «أيون أكسشينغ.» وأضاف: «تتمتع البحرين بعلاقات وثيقة مع جمهورية الهند، فالمملكة تعد موطناً لجالية كبير من المغتربين الهنود وعدداً من الشركات الهندية الكبرى مثل «

أعلنت أمس شركة توفير الحلول البيئية الهندية «أيون أكسشينغ»، عن افتتاح مصنع جديد لمزج المواد الكيميائية في البحرين، حيث سعت الشركة إلى توسعة أعمالها في المملكة من أجل تعزيز المنتجات والخدمات التي تقدمها على نطاق أوسع لأسواق دول مجلس التعاون الخليجي.

وسيشكل المصنع الجديد الذي سيكون مقراً في مرسى البحرين للاستثمار مركزاً لتصدير المواد الكيميائية للمنطقة، وسيخلق حوالي 30 فرصة عمل على مدى الثلاث سنوات المقبلة.

وقام مجلس التنمية الاقتصادية بدعم مشروع توسعة أعمال شركة «أيون أكسشينغ» حيث يقوم المجلس بتقديم خدمات المشورة والمساعدة العملية للشركات التي تقوم بتأسيس أعمالها في البحرين.

وخلق النمو السكاني المتسارع والازدهار الاقتصادي في دول مجلس التعاون الخليجي في السنوات الأخيرة طلباً قوياً على تكنولوجيا وخدمات معالجة المياه. وتعتبر «أيون أكسشينغ» صاحبة الخبرة التي تزيد على الخمسين عاماً شركة متكاملة ومتنوعة، حيث تقدم لعملائها مجموعة متنوعة من الخدمات التي تشمل الحلول البيئية للمصانع، والمؤسسات، والمجمعات السكنية، وتتميز الشركة بحضورها القوي عالمياً حيث تمتلك الشركة مصانع في مختلف أنحاء العالم ولديها مكاتب في جنوب شرق آسيا وأفريقيا والشرق الأوسط

مقره سيكون بمرسى البحرين ويخلق 30 فرصة عمل... "أيون أكسشينج" الهندية:

افتتاح مصنع جديد يصدر المواد الكيميائية للخليج



• خلال الإعلان عن افتتاح المصنع



• حسين رجب

المنامة - مجلس التنمية الاقتصادية: أعلنت أمس الخميس "أيون أكسشينج"، الشركة الهندية المتخصصة في توفير الطول البيئية عن افتتاح مصنع جديد لمزج المواد الكيميائية في مملكة البحرين، حيث سعت الشركة إلى توسعة أعمالها في المملكة من أجل تعزيز المنتجات والخدمات التي تقدمها على نطاق أوسع لأسواق دول مجلس التعاون الخليجي. وسيشكل المصنع الجديد الذي سيكون مقره في مرسى البحرين للاستثمار مركزاً لتصدير المواد الكيميائية للمنطقة، وسيخلق حوالي 30 فرصة عمل على مدى الثلاث سنوات المقبلة.

وقام مجلس التنمية الاقتصادية بدعم مشروع توسعة أعمال شركة "أيون أكسشينج" حيث يقوم المجلس بتقديم خدمات المشورة والمساعدة العملية للشركات التي تقوم بتأسيس أعمالها في مملكة البحرين. وفي تصريح لمدير أول الصناعة والمواصلات والخدمات اللوجستية بمجلس التنمية الاقتصادية حسين رجب بهذه المناسبة قال فيه: "نحن فخورون بما قدمناه من دعم لإنشاء مقر للشركة في البحرين من قبل، وبمساندتها في مشروع توسعة أعمالها اليوم، ومع توجه دول الخليج في الاستثمار في البنية التحتية المتعلقة بمعالجة المياه ومياه الصرف الصحي في السنوات المقبلة، توفر البحرين فرصاً جيدة للدخول إلى المنطقة يمكن أن تستفيد منها الشركات الرائدة في هذا القطاع مثل "أيون أكسشينج".

الشرق الأوسط. ومن ضمنها شركة الصناعات التحويلية "إلكتروستيل"، حيث يشكل مستودع الشركة الجديد البالغة قيمته 6.6 مليون دولار مركزاً للمبيعات والتوزيع في المنطقة، أما شركة "سينر جيز كاستنج" المتحدة فقد قامت ببناء مصنع لصنع الألومنيوم والسبائك في مملكة البحرين يختص بصناعة العجلات. وتتمتع جمهورية الهند ومملكة البحرين بعلاقات اقتصادية وثيقة، حيث وصلت قيمة التبادل التجاري بين البلدين إلى 674 مليون دولار العام 2015، ويعيش في مملكة البحرين حالياً أكثر من 350 ألف من أبناء الجالية الهندية. ويمتلك مجلس التنمية الاقتصادية البحرين مكاتب في سفارة مملكة البحرين في دلجى وفي قنصلية مملكة البحرين في مومباي، حيث يقدم الدعم والمعلومات للمستثمرين الراغبين في الاستثمار في منطقة جنوب آسيا.

الولايات المتحدة الأمريكية وأوروبا، ويعد إطلاق المصنع الجديد في مملكة البحرين جزءاً من استراتيجية الشركة التوسعية لتعزيز حضورنا في منطقة الشرق الأوسط، فالبحرين تقع في قلب أسواق دول مجلس التعاون الخليجي ومرتبطة تماماً عن طريق الخدمات اللوجستية وخدمات النقل في جميع أنحاء المنطقة، والتي تعد أحد أسرع المناطق نمواً في العالم. ونحن الآن بصدد التوسع لتلبية الطلب المتزايد في السوق الخليجية على منتجات معالجة المياه ونحن في غاية السرور للعمل بشكل وثيق مع المؤسسات الحكومية الداعمة في مملكة البحرين مثل مجلس التنمية الاقتصادية لضمان النجاح". انضمت شركة "أيون أكسشينج" إلى عدد من الشركات الهندية الأخرى التي قامت مؤخراً بتوسيع أعمالها في مملكة البحرين في استجابة منها لتلبية الطلب المتزايد في منطقة

وأضاف رجب قائلاً: "تتمتع مملكة البحرين بعلاقات وثيقة مع جمهورية الهند، فالمملكة تعد موطناً لجالية كبير من المغتربين الهنود وعدد من الشركات الهندية الكبرى مثل "شركة جيببافا"، و"كيمكو" و"ستيتينكاوفانديا" و"آي سي سي أي بانك". سنواصل دورنا في استقطاب الشركات الهندية في البحرين في المستقبل". وفي تصريح لرئيس مجلس الإدارة والعضو المنتدب لشركة "أيون أكسشينج" راجيش شارما، بهذه المناسبة قال فيه: "نجحت "أيون أكسشينج" في تنفيذ العديد من المشاريع العالمية وبناء المصانع في منطقة الشرق الأوسط وإفريقيا وجنوب شرق آسيا وذلك استجابة منها لطلبات عملائها ومستشاريها والمتقاعدين معها، كما عكفت الشركة على تصدير المواد الكيميائية المستعملة في معالجة المياه إلى



المؤتمر الصحافي واللقاء مع الزبائن الذي عقدته الشركة لإعلان الممنع

شركة هندية تقيم مصنع بتروكيماويات في الحد بكلفة 5 ملايين دولار

عملت على استقطاب الشركة الهندية، حسين رجب «مع توجه دول الخليج إلى الاستثمار في البنية التحتية المتعلقة بمعالجة المياه ومياه الصرف الصحي في السنوات المقبلة. توفر البحرين فرصاً جيدة للدخول إلى المنطقة يمكن أن تستفيد منها الشركات الرائدة في هذا القطاع مثل أيوان أكستشينج».

وتطرق المسئول في بنك التنمية إلى «العلاقات الوثيقة مع الهند، فالبحرين تعد موطناً لجالية كبيرة من المغتربين الهنود، وعدد من الشركات الهندية الكبرى مثل شركة جي بي إف، وكيمكو، وستيت بنك أوف أنديا، وأي سي أي سي أي بنك».

الشرق الأوسط في البحرين التي تقع في قلب أسواق دول مجلس التعاون الخليجي ومترابطة تماماً عن طريق الخدمات اللوجستية وخدمات النقل في جميع أنحاء المنطقة، والتي تعد أسرع المناطق نمواً في العالم، ونحن الآن بصدد التوسع لتلبية الطلب المتزايد في السوق الخليجية على منتجات معالجة المياه».

وأضاف «نجحت الشركة في تنفيذ العديد من المشاريع العالمية وبناء المصانع في منطقة الشرق الأوسط وإفريقيا وجنوب شرق آسيا وذلك استجابة منها لطلبات زبائنها ومستشاريها والمتعاقدين معها».

وذكر مدير أول الصناعة والمواصلات والخدمات اللوجستية بمجلس التنمية الاقتصادية، والتي

شركته ترى فرصاً واعدة في أسواق المنطقة، حيث ستكون البحرين مركزاً إقليمياً لتصدير المنتجات إلى دول المنطقة، كما سيساعد الشركة على خدمة زبائنها من موقع قريب. ومن بين زبائن الشركة مصانع الحديد والألمنيوم إلى جانب شركة نفط البحرين (بابكو) ومحطات الطاقة غيرها من الشركات.

وأشار المسئول إلى أن الشركة تقوم بتصنيع نحو 70 منتجاً لمختلف القطاعات الصناعية، لافتاً إلى أن الشركة ستقوم بتوسيع الأعمال في مرحلة ثانية مع توسع في السوق.

وأوضح شارما «إطلاق المصنع الجديد في البحرين جزء من استراتيجية الشركة التوسعية لتعزيز حضورنا في

■ جزر أمواج - علي الفردان
□ أعلنت صباح أمس الخميس (21 إبريل/ نيسان 2016) شركة البتروكيماويات في منطقة الحد الصناعية بهدف تزويد مصانع الصلب والطاقة والمستشفيات ومعامل تكرير النفط بالمنطقة بعشرات المنتجات الخاصة بمعالجة المياه وإدارة البيئة خصوصاً.

وأبلغ رئيس مجلس إدارة شركة «أيوان أكستشينج» راجيش شارما «الوسط» أن الشركة تستثمر 5 ملايين دولار في المرافق الجديدة، إن تطلع إلى توليف قرابة ثلاثين موظفاً خلال ثلاث السنوات المقبلة وتطوير عملية الإنتاج على مراحل. وشرح المسئول الهندي، أن



solutions on wastewater treatment

**An overview on few
solutions used for the
treatment of wastewater**

Today pollution is a global problem that needs no introduction. With increasing pollution of surface and ground water sources, the problem is aggravated with each passing day. Indiscriminate industrial development and exploitation of limited water sources are compelling every industry to seriously address the problem. Availability of water itself has become a serious threat. Therefore, industries are considering various options to reduce their water usage and to recycle water to the extent possible, including selection of manufacturing technologies that use minimum water, produce less wastewater as well as other solid and liquid waste. As the cost of water increases, legislation becomes more stringent and enforcement stricter making water recycle a viable option.

Since the beginning people have had the need to treat the water they consume, and use for cooking, bathing and washing their homes and cooking utensils. They have also needed to find

ways to properly treat and dispose the water that has been fouled through the course of its use in latter centuries most commonly during industrial production activities.

When people hear the phrase "water treatment," however, the first thought that comes to mind is taking water that will be used in domestic settings and removing any impurities, in the process making it safe to drink, cook with, bathe in and wash clothes with; in other words, "municipal" water treatment. But from a broader perspective, the term water treatment can have a number of completely different meanings.

In industrial applications, for instance, water can be taken from a nearby river and used for boiler or cooling-tower make-ups. In the oilfield, water that is used or produced during the drilling and recovery process can be treated and sold to farmers for use in field-irrigation activities.

Most of the water used or produced in industrial applications contains some level of solid particles. It goes without saying that these particles should not be consumed, but particle-laden water also can't be used, for example, in a boiler that provides steam to a turbine during power generation, lest the turbine become fouled and damaged.

"Recognising the presence of particulates in water and successfully removing them, however, are two different things. Some of the particles which can be anything from bacteria and plant material to dirt or minuscule pieces of crushed stone are so small that their response to gravity is very low. They don't fall through water at a consistent rate because their mass is so small and not impacted by gravity. This means that it may take many hours, days or even weeks for the particles to settle as little as a foot. This is an unacceptable, and

unpredictable, settling rate for a water or wastewater treatment system, so the particles need some help in settling or clumping," informs Ravi Prasad, Director – Sales, PSG India.

To speed along the settling or clumping process, the water-treatment facility must turn to the introduction of a coagulant or flocculent that helps the tiny particles clump together in a mass that is called a "floc," which is easier to remove.

Following are few different types of solutions on wastewater treatment:

1. Water recycling

Wastewater recycle should take shape at the drawing board stage in contrast to the conventional treatment approach of designing the raw water and wastewater treatment plants (end of pipe solutions) separately. This will enable planning for water recycle at the design stage itself.

"Recycling benefits are many – firstly, raw water consumption reduces. The designer can therefore plan for a raw water treatment plant of lower capacity and cost. Secondly, the effluent treatment plant's capacity

is also reduced as we are treating the effluent which is not being recycled and hence the quantity of waste disposed is less, leading to further cost reduction," states Ajay Popat, President – Corporate Diversification, Corporate Marketing Group and Technology, Ion Exchange (India) Ltd.

Apart from industrial wastewater, nowadays, because of water scarcity, it is important to recycle domestic sewage where recycled water can be used for low end applications such as gardening, toilet flushing etc. Innovative and compact sewage treatment systems are available and are working efficiently at various hotels, hospitals, commercial and residential complexes. The domestic waste i.e. sewage and sullage, can be treated and recycled with the help of very innovative technologies such as membrane bio-reactors, fluidised media reactors, rotating bio-contactors, sequential batch reactors etc.

"Wastewater recycling is the only holistic solution to the water scarcity and can meet the growing demand for good quality water even as water scarcity and pollution increases," adds Popat.

2. Alum

A more economical way to say "hydrated potassium aluminium sulphate," alum has been used since Roman times to aid in the purification of drinking and industrial-process water. Alum coaxes negatively charged colloidal particles to clump together so they will be able to be more easily removed from settling basins.

3. Ferric Chloride

Another name for Iron (III) chloride, ferric chloride undergoes hydrolysis when dissolved in water, which gives it the ability to sufficiently form suspended solid particles into flocs.

While quite effective in creating flocs, the flocs that are formed by alum and ferric chloride are held together rather loosely, which means that they can break apart if agitated as they settle in the clarifier or settling basin.

Eliminating this break-up potential requires the introduction of a polymer solution that helps form more efficient flocs. The polymer takes the neutralised solid particle clumps and binds them together more tightly.

"The clumps that settle in the basin form a material that is called "sludge." The use of alum by itself leads to the generation of a large amount of sludge; the introduction of polymer helps further coagulate the sludge. However, the sludge that is produced still needs to be removed and disposed of. Accumulated sludge can be collected and sent away to someplace like a centrifuge, or just piled up on the ground outside the water-treatment facility, allowed to dry and then removed via front-end loader and dump truck," explains Prasad.

Removing the sludge from the water requires a pump that can run dry and won't be bothered by abrasive materials. In other words, a pump that has the capability to take whatever flows into it no matter its makeup and deliver it out the discharge side in that same form.

4. Mechanical Metering Pumps

Ideal for dosing alum and ferric chloride, the mechanically actuated pumps eliminate the use of contour plates on the liquid side of the diaphragm, resulting in a simple, straight-through valve and head design that allows improved flow characteristics. "Neptune 7000 Series mechanical metering pumps have been designed to handle clear liquids with viscosities ranging from water-like to 5,000 cPs, making them ideal for use in industrial water and wastewater treatment applications. The capacity of the 7000 Series pumps is manually adjustable via micrometer dial while the pump is running. This allows the pump to produce flow rates ranging from 10 gph to 450 gph (38 L/hr to 1,710 L/hr) at head pressures up to 150 psi (10 bar). The pump's liquid ends are constructed of PVC, 316 stainless steel or Kynar. Washdown-duty and explosion-proof motors, as well as variable frequency drive options, are also available. The



Wastewater recycling is the only holistic solution to the water scarcity and can meet the growing demand for good quality water even as water scarcity and pollution increases.

Ajay Popat, President – Corporate Diversification, Corporate Marketing Group and Technology, Ion Exchange (India) Ltd.



India's Water and Environmental Management Specialist Goes with the Flow

Ion Exchange (India) Limited, the country's leading total environment solutions provider for water treatment, liquid waste treatment, recycle and solid waste management, has over five decades of specialist experience to dip into. Despite India's current economic troubles, Ion Exchange, thanks to its growing international customer base, continues to shimmer, as Daniel Barnes discovered.

From providing integrated solutions to industries such as automotive, petrochemicals, power and mining to ensuring the quality of drinking water across India is safe, Ion Exchange continues to prove, time after time, that it has the value-adding minerals across the entire water circuit.

Formed in 1964, as a subsidiary of Permutit, UK, Ion Exchange became a wholly Indian company in 1985. With over 1,000 employees and manufacturing, research and development, and testing centres dotted across India, Ion Exchange operates and maintains over 12,000 industrial water and waste water treatment plants, and provides total water solutions to every market – household, institutional, commercial, industrial and public water supplies, in urban and rural areas – throughout India and beyond.

"Whilst economically it has been a very difficult year for India, as far as Ion Exchange is concerned, we have done quite well throughout the last financial year due to exports accounting for 24 per cent of our business," said Ajay Popat, President of Corporate Diversification, Corporate Marketing Group and Technology at Ion Exchange.

Over the past 12 months or so, Ion Exchange has signed a number of what Mr Popat described as "important and prestigious contracts in the overseas markets." These include a project for one of the biggest oil and gas processing firms in the Middle East and a waste water treatment package for Technip, the largest commodity trading company in the world.

"The Technip package is for sea water filtration supplied completely as a skid mounted unit to be installed on a rig," explained Mr Popat.

Ion Exchange was also awarded a turnkey contract for a total water and waste management system for a joint venture project of Cargill Foods and Arasco based in Saudi Arabia. "We were shortlisted in a global competitive commercial bidding process to supply a water and waste treatment facility. This project will be completed by the middle of 2016."

Excellent Export Growth

"We continue our export growth to all parts of the world," emphasised Mr Popat, who had the figures to back his statement. "Our export growth in the financial year ending March 2016 should reach 37 per cent."

Ion Exchange describes its water treatment offerings as '360° solutions' which encompass pre-treatment, drinking water treatment, industrial process water treatment, water conditioning,

waste water/sewage treatment, water recycle to achieve zero discharge and retrieve valuable by-products for reuse in process and recovery of energy from waste. Furthermore, a comprehensive 24/7 service support enables the company to 'deliver end benefit conveniently and economically with single-point responsibility'.

Mr Popat highlighted the work his company has carried out in zero liquid discharge projects in recent years as a particular area of Ion Exchange's success. Zero liquid discharge is an advanced waste water treatment method that includes ultra-filtration, reverse osmosis and evaporation/crystallisation that ensures all waste water is purified and recycled; therefore, leaving zero discharge at the end of the treatment cycle.

"Till date, we have completed four of these projects," he said. "One for a company in the petrochemical sector, another makes polyester fibre – one of the largest of this type of company, the third is in the wholesale cement market and the fourth is a project in the Middle East for chemical products. Furthermore, we were recently awarded a project by an automobile and car tyres company." ▽





*Ajay Popat, President of Corporate Diversification,
Corporate Marketing Group and Technology*





Addressing India's Water and Energy Deficiencies

India, said Mr Popat, is both energy and water deficient, so ensuring no water is wasted in industrial applications, goes a small way in plugging the water shortage issue.

He cited two examples where community waste is used as a resource to produce alternate sources of water and energy for industrial requirements.

"The first instance is in an industrial township, where we will collect the sewage and treat it to a level where it can replace fresh water used by the industry. It is a very good project which we believe will become a benchmark for how all the stakeholders can come together for the benefit of each other; finding an alternate source of water for drinking, whilst also showing the industry how it can use the treated sewage.

This is underway in the state of Gujarat, in an area called Kutch, where rainfall is scanty, making water scarce and precious.

The second is a recent Belgian-Indian project which is a good number of steps ahead. ▽



"We are working with a Belgian research institute, VITO, on a technology which will convert organic waste into energy, clean water and rich fertiliser. We are building a pilot project in India to demonstrate how the organic (or 'wet waste') and the municipal sludge can be combined together and converted into energy."

Indian Government Initiatives

Inside Industry last featured Ion Exchange in 2014, since then, India has seen a new government and prime minister elected into power. Mr Narendra Modi, in his time as prime minister, has introduced a number of national initiatives; amongst them: Make in India, Clean India and Clean Ganga.

Make in India is aimed at encouraging domestic and multi-national companies to manufacture their products in India. Clean India is aiming to use the 150th anniversary of Mahatma Gandhi's birth to encourage people across the country to improve cleanliness and hygiene. Meanwhile, the government has set aside a vast sum of money to make India's longest river, the Ganga, pollution-free.

Cleaning the Ganga, will be a mammoth task, said Mr Popat. "This would mean something like 150 to 200 sewage treatment plants which would be set-up across Delhi, Uttar Pradesh, Uttarakhand and Bihar in order to ensure that domestic sewage does not go into the river. Clean Ganga is an opportunity to participate in several sewage treatment plant developments that will be undertaken."

Whilst all three initiatives are in their early stages, Mr Popat is optimistic about the opportunities Ion Exchange will be getting out of managing water, waste water and solid waste over the next few years.



Zero B Kitchen Mate



Ion Exchange (India) Limited, India's largest water management company under its flagship brand ZERO B introduces Kitchen Mate, a phenomenal breakthrough world over in the reverse osmosis based home water purification with ESS (Electrolytic System Sanitizer) technology first of its kind that protect storage tank water from slime formation 24 x7. This 7 stage RO water purifier helps to remove heavy

metals, chemical impurities, micro-organisms and other contaminants from the water and gives crystal clear pure drinking water. Kitchen mate is a perfect choice for designer kitchens as it fits under the sink thereby saving valuable kitchen space. Zero B Kitchen Mate is safe as voltage cuts off if the current and voltage increase from the specified limit. With this launch Ion Exchange reiterates its commitment towards its customers by understanding and catering to their specific needs through innovation in technology.



Free Press Journal - 18/04/16

Business Standard

LAUNCH PAD

Water monitor

Mon, 11
April '16.



Water management company Ion Exchange (India) Ltd, under its flagship brand ZERO B, has launched Kitchen Mate water purifier. This seven-stage reverse osmosis water purifier helps to remove heavy metals, chemical impurities, micro-organisms and other contaminants from the water. Priced at ₹19,990, Kitchen Mate comes with hydro-pneumatic tank with storage capacity of eight litres, and provides pressurised water at a very high flow rate from the faucet.

Weblink: <http://www.ipfonline.com/news/detailnews/ion-exchange-expands-bahrain-business-to-meet-growing-gulf-market-demand/Industry%20News/6283/7259>

Ion Exchange expands Bahrain business to meet growing Gulf market demand28-Apr-2016 Useful Information| Industry News

Manama, 21 April 2016: Ion Exchange, one of India's largest environment solutions providers, today announced the launch of a new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion.



(L-R) J P Pathare, Sr VP – International Div, Rajesh Sharma, CMD of Ion Exchange and Husain Rajab, Director of Manufacturing, Transport and Logistic, Bahrain EDB

The new facility will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic Development Board (EDB), which provides advice and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception.

Rapid demographic growth and economic expansion in the GCC in recent years have created a strong demand for water treatment technologies and services. Ion Exchange has over 50 years' experience specialising in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and USA.

Rajesh Sharma, Chairman and Managing Director of Ion Exchange, also commented on the announcement: "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the Bahrain Economic Development Board to ensure our success."

India and Bahrain enjoy close economic relations with trade between the two nations reaching \$674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

Ion Exchange (India) Limited pioneered water treatment in India and today is regarded as Asia's largest environment solutions provider, with a strong global presence with offices spread across Africa, Canada,

Middle East, South East Asia and US. It is among just few companies worldwide with the entire range of technologies, processes, products and services, enabling integrated solutions for every sector – industrial, institutional, commercial, infrastructure, municipal, homes and communities, urban and rural.

Weblink: <http://news.chennaiatrika.com/post/2016/04/28/Ion-Exchange-expands-Bahrain-Business.aspx>

Chennaiatrika » News » Press Release

Ion Exchange expands Bahrain Business **April 28,2016**



In Pic: JP Pathare, Sr. VP - International Div, Rajesh Sharma, CMD of Ion Exchange and Husain Rajab, Director of Manufacturing, Transport and Logistic, Bahrain EDB

ION EXCHANGE EXPANDS BAHRAIN BUSINESS TO MEET GROWING DEMAND IN GULF MARKET

- Chemical blending facility to serve as export hub for GCC region -

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Rajesh Sharma, Chairman and Managing Director of Ion Exchange, also commented on the announcement: "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the Bahrain Economic Development Board to ensure our success."

India and Bahrain enjoy close economic relations with trade between the two nations reaching \$674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

Weblink: http://articles.economictimes.indiatimes.com/2016-04-22/news/72536484_1_ion-exchange-gcc-chemical

Ion Exchange launches chemical blending unit in Bahrain

PTI Apr 22, 2016, 03.22PM IST



NEW DELHI: Environment Solutions provider Ion Exchange today announced the launch of a chemical blending facility in Bahrain.

"The new facility will serve as the chemical export hub for the Gulf Cooperation Council (GCC) region and North Arab states," the company said in a statement.

The facility was set up with the support of the Bahrain Economic Development Board (EDB).

Weblink: <http://www.thehindubusinessline.com/companies/ion-exchange-launches-chemical-blending-unit-in-bahrain/article8508916.ece>

Ion Exchange launches chemical blending unit in Bahrain

NEW DELHI, APRIL 22:

Environment Solutions provider Ion Exchange today announced the launch of a chemical blending facility in Bahrain.

"The new facility will serve as the chemical export hub for the Gulf Cooperation Council (GCC) region and North Arab states," the company said in a statement.

The facility was set up with the support of the Bahrain Economic Development Board (EDB).

Ion Exchange is expanding its facility in Bahrain to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion, the statement added.

Ion Exchange specialises in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments.

The company has a strong global presence with plants in various parts of the world, with offices in West Asia, South East Asia, Africa, Canada and the US.

(This article was published on April 22, 2016)

12 | CORPORATE UPDATE *Textile Excellence*
- May 16-31, 2016

Ion Exchange Expands Its Chemical Blending Facility In Bahrain

Ion Exchange, one of India's largest environment solutions providers has announced the launch of its new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around US\$ 1.5 trillion. The new facility will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic

Development Board (EDB), which provides information and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception. Rajesh Sharma, Chairman and Managing Director of Ion Exchange commented on the announcement, "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the strin-

gent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the Bahrain Economic Development Board to ensure our success."

Ion Exchange has over 50 years' experience specialising in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with their units in various parts of the world and offices in the Middle East, South East Asia, Africa, Canada and USA. ■



(L-R) JP Pathare, Sr. VP- International Div. Rajesh Sharma, CMD of Ion Exchange and Husam Rajab, Director of Manufacturing, Transport and Logistic, Bahrain EDB

Weblink: <http://www.scoop.int/news-attitude?q=ION+EXCHANGE+EXPANDS+BAHRAIN+BUSINESS+TO+MEET+GROWING+DEMAND+IN+GULF+MARKET>

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ION EXCHANGE EXPANDS BAHRAIN BUSINESS TO MEET GROWING DEMAND IN GULF MARKET

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From www.scoop.int/news-attitude: 2016-04-21 11:14 AM
ION Exchange, one of India's largest environment solutions providers, today announced the launch of a new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion.

newsattitude's insight:
<http://www.scoop.int/news-attitude/2016/04/ION-EXCHANGE-EXPANDS-BAHRAIN-BUSINESS-TO-MEET-GROWING-DEMAND-IN-GULF-MARKET.html>

Weblink:
http://www.zawya.com/story/ION_exchange_expands_Bahrain_business_to_meet_growing_demand_in_gulf_market-ZAWYA20160421112552/

ION Exchange expands Bahrain business to meet growing demand in gulf market



one of Asia's largest environment solutions providers
chemical blending facility to serve as export hub for GCC region

Manama, 21 April 2016

Ion Exchange, a leading Indian company and one of Asia's largest environment solutions providers, today announced the launch of a new chemical blending facility in Bahrain. The company, has sought to expand its facility in Bahrain in order to improve the products and services it offers the wider GCC region.

The new facility, based in the Bahrain Investment Wharf, will serve as the chemical export hub for the region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic Development Board (EDB), which provides advice and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception.

Rapid demographic growth and economic expansion in the GCC in recent years have created a strong demand for water treatment technologies and services. Ion Exchange is a specialist for over 50 years and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and USA.

Husain Rajab, Director of Manufacturing, Transport and Logistics at the Bahrain Economic Development Board (EDB) said: "We are delighted to have been able to support the establishment and expansion of Ion Exchange's business here in Bahrain. The GCC needs to invest significantly in water and wastewater treatment related infrastructure over the coming years, and Bahrain offers a strong access point to the region for global sector-leaders like Ion Exchange.

"Bahrain has a strong relationship with India, being home to a large expatriate community and with a number of successful Indian firms such as JBF Industries, Chemco and the State Bank of India, and ICICI Bank. We expect to continue to attract many more Indian firms to Bahrain in the future."

Rajesh Sharma, Chairman and Managing Director of Ion Exchange, also commented on the announcement: "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the EDB to ensure our success."

Ion Exchange joins a number of other Indian companies that have recently expanded operations in Bahrain as a means of serving growth in the Middle East region. These include manufacturing firm Electrosteel, whose new US\$6.6 million warehouse will act as the sales and distributions hub for the region, and Synergies Castings Limited, who are establishing an aluminium casting and specialty alloy wheel manufacturing facility in Bahrain. India and Bahrain enjoy close economic relations with trade between the two nations reaching \$674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

The Bahrain EDB has offices based at the Bahrain Embassy in Delhi and the Bahrain Consulate in Mumbai that provide information and support to interested investors in the South Asia region.

Investors looking for more information about Bahrain can visit www.bahrain.com or contact Ms Dharmi Magdani, the EDB 's Regional Director in India, on dharmi.magdani@bahrainedb.com.

-Ends-

About Bahrain Economic Development Board (EDB)

The Bahrain EDB is a dynamic public agency with overall responsibility for attracting investment into the Kingdom and supporting initiatives that enhance the investment climate.

The EDB works with the government and both current and prospective investors to ensure that Bahrain's investment climate is attractive, to communicate the key strengths, and to identify where opportunities exist for further economic growth through investment.

The EDB focuses on several economic sectors that capitalise on Bahrain's competitive advantages. These sectors include financial services, manufacturing, ICT, tourism, logistics and transport.

For more information on the Bahrain EDB visit www.bahrainedb.com; for information about Bahrain visit www.bahrain.com.

Contact:

May Taher, Bahrain Economic Development Board

Tel: +973 17 589 972

Email: internationalmedia@bahrainedb.com

About Ion Exchange (India) Limited

Ion Exchange (India) Limited pioneered water treatment in India and today is regarded as Asia's largest environment solutions provider, with a strong global presence with offices spread across Africa, Canada, Middle East, South East Asia and US. It is among just few companies worldwide with the entire range of technologies, processes, products and services, enabling integrated solutions for every sector - industrial, institutional, commercial, infrastructure, municipal, homes and communities, urban and rural.

Specialists in water and waste water treatment for over 50 years, the company's total water management solutions span the entire water cycle - drinking water purification, pre-treatment, process water, waste water/sewage treatment and recycle with point-of-use, packaged, pre-engineered and custom-built plants; a wide range of drinking water purifiers and water conditioners for the household and institutional segments. The company also manufactures ion exchange and speciality resins, membranes, polyelectrolytes, boiler/cooling water & fireside chemicals and process chemicals for sugar and paper production. Ion Exchange also offers technologies in liquid waste treatment, solid waste management and waste-to-energy thus providing a complete portfolio of advanced environmental solutions.

It has more than 1,00,000 plants worldwide including over 1,000 major installations at core sectors such as thermal & nuclear, fertiliser and refineries, as well as chemical, automobile, electronics, paper, food & beverage, pharmaceutical and textile industries.

Ion Exchange has state-of-the-art units spread across India and in UAE, committed to built-in quality achieved by quality assurance systems (9001, 14001 and 18001) and advanced manufacturing processes. The UAE plant manufactures reverse osmosis as well as packaged sewage treatment plants and serves as a manufacturing hub for export to countries in the Middle East and North Africa. Our list of EPC contractors include Kawasaki Heavy Industries - Japan, Mitsubishi Heavy Industries - Japan, Technip - France, Alstom - UK, Marubeni Power Systems - Japan, etc.

The company has in-house R&D, product application and testing centres with numerous patents to their credit and over a hundred products commercialized. The company also provides comprehensive technical services including pilot plant & feasibility studies, operator training, upgrading & automation, AMC, O&M, BOO/T options, and consultancy.

50 years of proven expertise has earned the company a reputation for customer satisfaction, innovative, value-adding solutions, superior quality, absolute dependability & total service support.

Contact:

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Regional Manager - Bahrain

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E-mail: rajesh.john@ionexchangeglobal.com; iei.bahrain@ionexchangeglobal.com

Website: www.ionindia.com

Weblink: <http://indiatoday.intoday.in/story/ion-exchange-launches-chemical-blending-unit-in-bahrain/1/648923.html>

Ion Exchange launches chemical blending unit in Bahrain

April 22, 2016 | UPDATED 15:15 IST

New Delhi, Apr 22 (PTI) Environment Solutions provider Ion Exchange today announced the launch of a chemical blending facility in Bahrain.

"The new facility will serve as the chemical export hub for the Gulf Cooperation Council (GCC) region and North Arab states," the company said in a statement.

The facility was set up with the support of the Bahrain Economic Development Board (EDB).

Ion Exchange is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around USD 1.5 trillion, the statement added.

Ion Exchange specialises in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and the US. PTI LUX ANU

Weblink: <http://www.indiafinancenews.com/ion-exchange-launches-chemical-blending-unit-in-bahrain/>

Ion Exchange launches chemical blending unit in Bahrain

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(This article was published on April 22, 2016)

Weblink: <http://www.mumbaithisweek.com/ion-exchange-expands-bahrain-business-to-meet-growing-demand-in-gulf-market/>

ION EXCHANGE EXPANDS BAHRAIN BUSINESS TO MEET GROWING DEMAND IN GULF MARKET

By ADMIN - Fri Apr 29, 5:08 pm

Chemical blending facility to serve as export hub for GCC region



JP Pathare, Sr. VP – International Div, Rajesh Sharma, CMD of Ion Exchange and Husain Rajab, Director of Manufacturing, Transport and Logistic, Bahrain EDB

Mumbai, 28 April 2016: Ion Exchange, one of India's largest environment solutions providers, today announced the launch of a new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion.

The new facility will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic Development Board (EDB), which provides advice and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception.

Rapid demographic growth and economic expansion in the GCC in recent years have created a strong demand for water treatment technologies and services. Ion Exchange has over 50 years' experience specialising in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong

global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and USA.

Rajesh Sharma, Chairman and Managing Director of Ion Exchange, also commented on the announcement: "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the Bahrain Economic Development Board to ensure our success."

India and Bahrain enjoy close economic relations with trade between the two nations reaching \$674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

Weblink: http://www.business-standard.com/article/pti-stories/ion-exchange-launches-chemical-blending-unit-in-bahrain-116042200610_1.html

Ion Exchange launches chemical blending unit in Bahrain

Press Trust of India | New Delhi April 22, 2016 Last Updated at 15:07 IST

Environment Solutions provider [Ion Exchange](#) today announced the launch of a chemical blending facility in Bahrain.

"The new facility will serve as the chemical export hub for the [Gulf](#) Cooperation Council (GCC) region and North Arab states," the company said in a statement.

The facility was set up with the support of the [Bahrain](#) Economic Development Board (EDB).

Ion Exchange is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around USD 1.5 trillion, the statement added.

Ion Exchange specialises in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments.

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Weblink: http://www.afternoonc.in/business/business-briefs/article_165654

Ion Exchange Launches Chemical Blending Unit In Bahrain

Environment Solutions provider Ion Exchange yesterday announced the launch of a chemical blending facility in Bahrain. "The new facility will serve as the chemical export hub for the Gulf Cooperation Council (GCC) region and North Arab states," the company said in a statement. The facility was set up with the support of the Bahrain Economic Development Board (EDB). Ion Exchange is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around USD 1.5 trillion, the statement added.

Media Resource

AURUM

AURUM MEDIA

Date	April 23, 2016
Publication	Afternoon D&C
Edition/ City	Mumbai
Page No.	14
Supplement/ segment	

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Media Resource



AURUM MEDIA

Date	April 23, 2016
Publication	Loksatta
Edition/ City	Mumbai
Page No.	10
Supplement/ segment	

‘आयन एक्स्चेंज’चा बहारीनमध्ये विस्तार

मुंबई : जलप्रक्रिया तंत्रज्ञान आणि पर्यावरणीय साधने पुरविणारी भारतीय कंपनी ‘आयन एक्स्चेंज’ने बहारीनमध्ये नवीन रासायनिक संमिश्रण प्रकल्प सुरू करित असल्याची नुकतीच घोषणा केली. आयन एक्स्चेंज बहारीन येथे कारखान्याचा विस्तार करत असून त्याद्वारे आखातात कंपनी पुरवीत असलेली उत्पादने आणि सेवामध्ये सुधारणा करण्यात येणार आहे. ही बाजारपेठ साधारण १.५ लाख कोटी डॉलरची असून बहारीन इकॉनॉमिक बोर्ड (इडीबी)ने आयन एक्स्चेंजला कंपनीची स्थापना करण्यात आणि इतर व्यावसायिक गरजांसाठी मदत केली आहे. आखातासह दक्षिण-पूर्व आशिया, आफ्रिका, कॅनडा आणि अमेरिका या ठिकाणी कारखाने असलेली आयन एक्स्चेंज जागतिक पातळीवर कार्यरत आहे.

Date	April 25, 2016
Publication	Navshakti
Edition/ City	Mumbai
Page No.	8
Supplement/ segment	

'आयन एक्स्चेंज' चा बहारीनमध्ये विस्तार

मुंबई, रविवार (वृत्तसंस्था) - पर्यावरण साधने पुरविणारी भारतीय कंपनी 'आयन एक्स्चेंज' ने बहारीनमध्ये नवीन रासायनिक ब्लेन्डींग कारखाना सुरू करण्याची नुकतीच घोषणा केली. 'आयन एक्स्चेंज' बहारीन येथे कारखान्याचा विस्तार करत असून त्याद्वारे गल्फ कॉर्पोरेशन कौन्सिलमध्ये कंपनी पुरवित असलेली उत्पादने आणि सेवांमध्ये सुधारणा करण्यात येणार आहे.

ही बाजारपेठ साधारण १.५ ट्रीलियन डॉलरची असून बहारीन इकॉनॉमिक बोर्डने आयन एक्स्चेंजला कंपनीची स्थापना

करण्यात आणि इतर व्यावसायिक गरजांसाठी मदत केली आहे.

अलीकडच्या काही वर्षांमध्ये कंपनीने जीसीसीमध्ये केलेली गतिमान भौगोलिक वृद्धी आणि आर्थिक विस्ताराचा परिणाम जलप्रक्रिया तंत्रज्ञान आणि सेवांमध्ये भक्कम मागणी निर्माण करण्यात झाला आहे. आयन एक्स्चेंजला जलप्रक्रिया क्षेत्रात ५० हूनही अधिक वर्षांचा अनुभव आहे. औद्योगिक, संस्थात्मक, निवासी, गृह, ग्रामीण आणि नागरी विकासाच्या क्षेत्रात आधुनिक पर्यावरणीय साधनाचा एक परिपूर्ण असा पोर्टफोलिओ उपलब्ध करून

देण्याचे काम आयन एक्स्चेंज करते. मध्य-पूर्व, दक्षिण-पूर्व आशिया, आफ्रिका, कॅनडा आणि अमेरिका या ठिकाणी कारखाने असलेली आयन एक्स्चेंज जागतिक पातळीवर कार्यरत आहे.

बहारीन इकॉनॉमिक बोर्डच्या वाहतूक आणि लॉजीस्टीक विभागाच्या निर्मिती विभागाचे संचालक हुसेन रजाब म्हणाले, बहारीनमध्ये आयन एक्स्चेंजच्या व्यवसाय स्थापना आणि विस्ताराला हातभार लावत असल्याचा आम्हाला आनंद आहे. पुढील काही वर्षांमध्ये जल आणि सांडपाणी प्रक्रियासंबंधित पायाभूत

सुविधांमध्ये फार मोठ्या प्रमाणावर जीसीसीला गुंतवणूक करणे गरजेचे आहे. बहारीनचे भारताबरोबर दृढ संबंध असून आगामी काळात भारतीय उद्योगांना आकर्षित करण्याची उत्सुकता त्यांनी बोलून दाखवली.

या दोन देशांमधील व्यापार २०१५ पर्यंत ६७४ दशलक्ष अमेरिकन डॉलरपर्यंत पोहोचला आहे. सध्या ३.५० लाख भारतीय बहारीनमध्ये राहत आहेत. बहारीन 'इडीबी'ची कार्यालये दिल्ली येथील बहारीन दुतावासात आणि मुंबई येथील बहारीन वकिलातीत आहेत.

MCF shutdown to impact urea availability across state

Shortage Will Be Felt During Kharif Season

TIMES NEWS NETWORK

Mangaluru: A prolonged shutdown since May 7 of Mangalore Chemicals & Fertilizers (MCF) Ltd, which has a market share of around 30-40% in Karnataka, could have a bearing on the availability of urea in the state.

The MCF, state's only fertilizer plant, produces around 3.8 lakh tonnes of urea per annum. The shutdown due to water scarcity, which may not have an immediate



Eight months of production stock across the state is consumed in four months during Kharif season

impact on urea availability, could turn in to a crisis once offtake of urea starts with Kharif season.

K Prabhakar Rao, director, MCF, in a chat with reporters on the sidelines of a meeting convened by deputy commissioner A B Ibrahim to discuss alternative water sources to industry, said past experience suggests that

eight months of production stock, presently in warehouses across the state, is consumed in four months of kharif season. "The shutdown if it prolongs will have a bearing on ability of the company to be ahead of the demand supply chain," he said.

Noting that the water-intensive industry now is idle, Rao said the company supplies urea to markets in southern states of Karnataka, Kerala, Andhra Pradesh and Maharashtra as well. "Since fertilizer is an essential commodity as per the Essential Commodities Act, the ministry of chemicals and fertilizers decides on movement plan of our product," he said. The ministry also factors the possible shortfall in produc-

tion while deciding on imports, he said.

With India producing around 21 million tonnes of its fertilizer requirement annually against a total demand of 30 million tonnes, Rao said the ministry takes production details from fertilizer companies before coming up with an import plan under government account. Fertilizer is normally sourced from countries such as China and those in the Middle East, he said, adding all production details, shortfall, if any due to various reasons, are factored in the import plan.

The MCF has a contract with the Mangaluru City Corporation to get 2 million gallon per day water from Nethravathi river.

DK to study water needs of industries

TIMES NEWS NETWORK

Mangaluru: A meeting convened by deputy commissioner A B Ibrahim to explore the possibility of industry exclusively using desalinated water for their use has decided to carry out a study of industrial requirement of water over the next 30-35 years.

The meeting entrusted Gokuldas Nayak, joint director, district industries centre, to conduct the study while at the same time exploring means to set up a special purpose vehicle that could take forward the idea of setting up a desalination plant.

K Prabhakar Rao, director, Mangalore Chemicals and Fertilizers (MCF) Limited, said desalination of sea/river/brackish water is a proven global technology. It is time for industries to adopt the same, given that the availability of water for industrial use is under cloud with growth in human population and the first priority always given to meet human need. The company internally has embraced the technology that has ensured it has become a zero liquid discharge unit, utilizing every available drop used by it.

The MCF, which initially utilized 4 million gallon per day of water provided by Mangalore City Corporation (MCC), has since reduced it to 1.8 mgd, he said. While using sewage treated water is the best and cost effective solution, if one takes in to account the capital intensive nature of setting up sewage



treatment plants, it makes sense to go in for using desalinated water, he said. With the civic body inclined to stop giving water to industry due to perennial shortage, such al-

ternatives should be explored, he added.

Sridhar, representative from Mumbai-based Ion Exchange (India) Ltd, a company with expertise in setting up desalination plants in the country, said the operating cost of producing a kilo litre (KL) of water works out to around Rs 40.

Now, the MCC is providing water for industrial use at Rs 60/KL. If one takes both variable and fixed costs, the cost will come to around Rs 50/KL, he said, adding it makes sense for industries to go in for desalination plants in the long run.

Total Water Management Solutions

- Industry, Homes and Communities

Ion Exchange (India) Limited, pioneer of water treatment in India since 1964, has emerged as Asia's largest environment solutions provider with a strong global presence. The company has emerged as the largest exporter in its category, exporting to countries like USA, the Middle East, Africa, ASEAN, Europe, etc.

It is the largest producer of ion exchange resins for a variety of water and non-water (purification, catalyst, pharmaceutical excipient, adsorbents, etc.) applications, water treatment chemicals (boiler and cooling water, effluent treatment, reverse osmosis and antiscalants), membranes, polyelectrolytes and speciality process chemicals used in pharmaceutical, oil field chemicals, paper, mining and metallurgy.

Ion Exchange has supplied more than 1,00,000 water & waste water treatment plants and process separation & purification systems worldwide. Over 1,000 of these installations are in the core sectors such as thermal and nuclear power stations, steel, fertiliser and refineries, as well as diverse industries such as food & beverage, pharma and many more.

Ion Exchange also pioneered the concept of desalination in 1996 with a vision to develop alternate source of water. It has supplied more than 50 effluent recycle systems to various industries. Recently it has installed five zero liquid discharge systems to treat complex effluents and recover more than 95 percent water from textile, refinery, cement and synthetic rubber industries. Realising that sewage can also be an alternate source of water, it is executing two large projects that convert sewage into treated water. One is for a power utility in Maharashtra (capacity of 117 MLD) and another is a 30 MLD plant for a cluster of industries in Gujarat.



In the consumer and community drinking water space, the company's flagship brand 'Zero B' has been providing pure and safe drinking water since 1985. The brand offers a wide range of technologies and products from Zero B Suraksha (tap attachment) to Zero B eco RO (recovers 80 percent water). It has partnered with IRCTC to set-up bottled water plants and to manufacture Rail Neer brand of packaged drinking water. It has also installed water vending machines at railways stations in Chennai and the same project is extended to Delhi.

For the rural community, the company has developed cost-effective, easy-to-use hand pump and electric/solar powered tube well attachments for treating ground water contaminants such as iron, fluoride, arsenic, nitrate, etc. Solar powered reverse osmosis units with remote monitoring systems have also been specially developed for the rural market.

The company's products are manufactured in ISO and OHSAS certified units and the company has the largest service network employing 1500 service technicians. Ion Exchange's comprehensive 24/7 service support ensures high performance continuity.

As a public listed company, it has a record of uninterrupted dividends paid and continues to invest its surplus in government recognised R&D. Through its vision which is 'To be the leader in our business which is so vital to people's lives and the environment', today, in its 53rd year, Ion Exchange reiterates its pledge to continue serving the needs of industry, homes and communities with cost-effective, innovative and sustainable water & environment solutions.

www.ionindia.com

HYDRO THERM ENGINEERS

Authorised Ion Exchange Customer Care Center



Water Today - March 2016

PRODUCT AND SERVICES

Our range of products includes water, waste water treatment and recycling plants using various physico - chemical processes for settling, clarification, filtration, disinfection, membranes and ion exchange technology, ion exchange resins; polymers and polyelectrolyte's for water and non-water processes; boiler cooling water and fireside treatment chemicals.

We also offer technical services for water and waste water treatment project management at site, Design, Erection and Commissioning, Operation & Maintenance of plant, Annual Maintenance Contract and supply of spares.

Our Products Include **GENUINE SPARES** of ION EXCHANGE

- All kind of INDION Resins
 - INDION 220 NA& 225 NA
 - INDION 225 H
 - INDION FFIP
 - INDION NIP
 - MBSR Refill Pack
- FRP Vessels – All kind of FRP Vessel (Ion Exchange make)
- Membrane
 - HYDRAMEM 8040
 - HYDRAMEM 4040
- Antiscalant
 - RO plant and UF
 - Cooling Tower
 - Evaporator Chemical
- Cartridges (Micron Filter)
- De-scaling chemicals, Sercon
- Online DO, BOD analyser
- Water quality products – Test kit for Boiler water, Cooling tower water and E-coli

HYDRO THERM ENGINEERS

No. 42 Srinagar, Hope College, Peelamedu, Coimbatore – 641 004
Mobile: 9600401004/9677700479, Email: htecebe@gmail.com

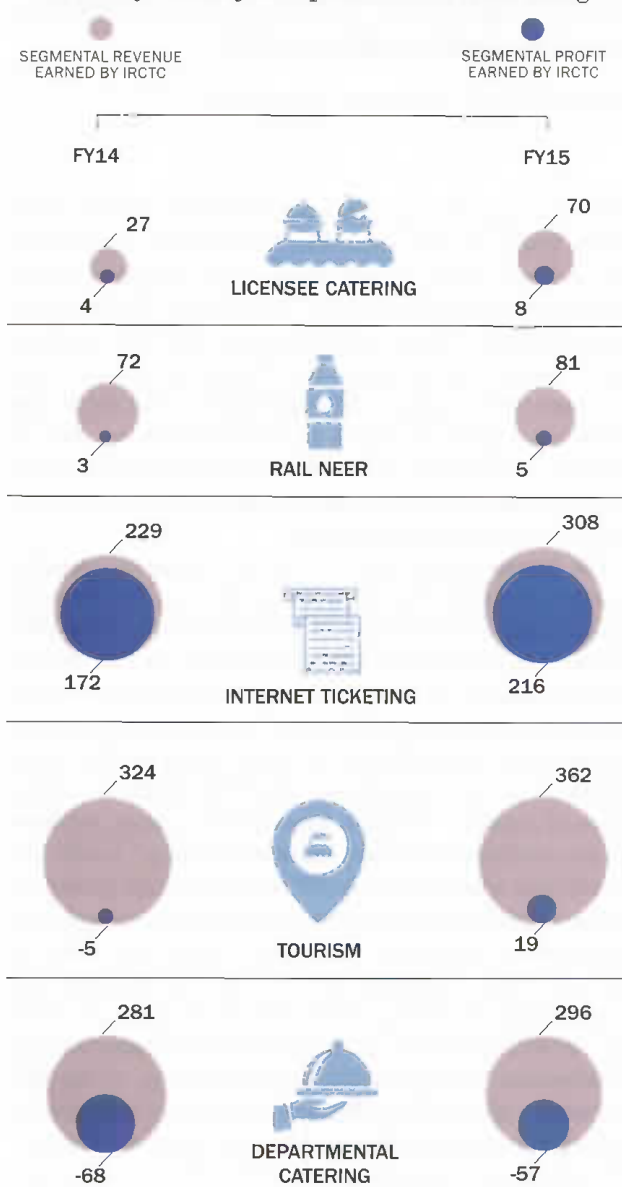
65% of its revenue from air ticketing, while standalone hotels bring in 25%. Meanwhile, MakeMyTrip has increased its revenue from hotels and packages to 50%, reducing its dependence on air tickets. Rail ticketing, where Cleartrip has had a presence for a decade, accounts for 5%, with an equal proportion coming from travel-related insurance. Of course, IRCTC does have one key growth area — bottled water brand Rail Neer.

WATERING IT UP

Rajesh Sharma's midtown office in Mumbai offers an incredible view of the sprawling, 225-acre Mahalaxmi

Virtual route

Tourism and internet ticketing continue to be the biggest drivers of revenue for the public service undertaking



(in ₹ crore)

Source: IRCTC annual report

Racecourse. “Even as we speak, there are 1 crore people travelling on our train networks. Even if 25% of them consume Rail Neer, think of the market opportunity,” he says. Sharma is CMD of the ₹870-crore Ion Exchange, and his company’s relationship with IRCTC goes all the way back to 2003, when Rail Neer only existed as a concept. Starting off handling the operations and maintenance work of Rail Neer’s plants, it was only early this year that Ion Exchange inked a public private partnership (PPP) with IRCTC to set up a plant in Amethi, UP. “We churn out 72,000 litre of Rail Neer each day from this plant. Our next PPP plant at Ambala should be ready in a year’s time,” says Sharma. Priced at ₹15 for a 1 litre bottle, this product directly competes with well-known brands such as Bisleri and Aquafina. The arrangement is simple: the land is given by IRCTC and Ion Exchange sets up the plant, which entails a ₹10-crore investment. “Quality is our responsibility and we sell the water at cost+margin to IRCTC. It in turn adopts the same formula to finally sell the bottles at ₹15 apiece,” explains Sharma. Under a 10-year agreement, Ion Exchange supplies the technology, while being assured of a captive market.

So far, IRCTC has set up five plants to manufacture Rail Neer and the plan is to set up six more by 2017. While the initial approach was to own the plants, the PPP model means that the third party is responsible for quality, while IRCTC will use its distribution strength across railways stations to sell the final product. In fact, Rail Neer has a monopoly in many parts of Mumbai, a city with a large local train network. In January 2016, the Bombay high court even pulled up Indian Railways about the same. The potential game changer, though, could be IRCTC’s vending machine project, which is still



“ IRCTC SHOULD TAKE THE ALLIANCE ROUTE FOR GROWTH. SCALING UP SUCH [DIVERSE] BUSINESSES WON'T BE EASY AND WILL REQUIRE A LOT OF FOCUS

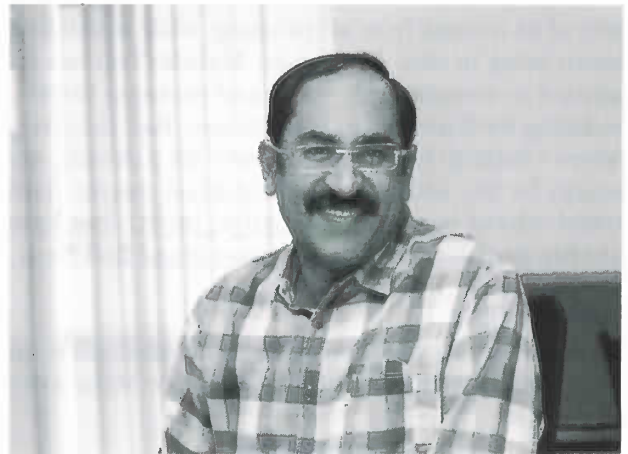
—Deep Kalra, founder, MakeMyTrip

SOUMIK KAR



“THERE ARE 1 CRORE PEOPLE TRAVELLING ON OUR TRAIN NETWORKS. EVEN IF 25% OF THEM CONSUME RAIL NEER, THINK OF THE MARKET OPPORTUNITY

—Rajesh Sharma, CMD, Ion Exchange



“IRCTC IS A PREMIUM SITE AND WORKS FROM THE VISIBILITY PERSPECTIVE [THANKS TO ITS DAILY TRAFFIC]. IT OFFERS BRANDS A WIDE AUDIENCE

—Naresh Gupta, managing partner, Bang In The Middle

at a relatively early stage. Under this programme, 1 litre of water will be sold at ₹8 in a container and at ₹5 if users have their own containers. Ion Exchange has so far installed 14 such vending machines, all in Chennai, with plans to put up another 176. “We manufacture the machines and are responsible for their maintenance as well,” says Sharma. By his own admission, IRCTC contributes much less than 1% of Ion Exchange’s turnover. “The potential is huge and the big advantage for us is the visibility for our products,” he insists. On a revenue of ₹81 crore, Rail Neer brought in a modest profit of ₹5.4 crore for IRCTC last year.

Besides Rail Neer, advertising is another revenue driver that IRCTC can build on. Naresh Gupta, managing partner of creative design agency Bang In The Middle, estimates that IRCTC can easily make ₹70 crore-80 crore each year in ad revenue from its daily traffic. “IRCTC is a premium site and works from the visibility perspective. It offers brands a wide audience,” he says. It is precisely for this reason that IRCTC and Amazon India got into a co-branded marketplace model for two years. Here, the total annual guarantee for FY15 was ₹18 crore.

IRCTC HAS SET UP FIVE PLANTS TO MANUFACTURE RAIL NEER IN COLLABORATION WITH ION EXCHANGE AND THE PLAN IS TO SET UP SIX MORE BY 2017

How this opportunity plays out, however, remains to be seen. There are also those like OYO Rooms, which truly see value in tying up with IRCTC. The company claims that bookings through IRCTC make up its fastest growing channels. “These are customers who may not have ever booked hotels online. For them, the choice is not between other online travel aggregators and IRCTC but between a physical search and online booking. For instance, we get a lot of bookings for our Katra property from people who book tickets to the pilgrimage spot via IRCTC,” says Kavikrut of OYO.

For Manocha and IRCTC, this is a time of transformation and learning. The agency also has the option of monetising and licensing its treasure trove of traveller data. “IRCTC has very strong heuristics on how Indian travellers book, at what price, and from where to where. It can use and offer that data,” says Kavikrut. IRCTC is currently conducting a detailed study in this space through private consultants. However, Manocha adds a note of caution. “Being a government agency, we have to be cautious; we cannot share everything.” Looks like it will be a while before IRCTC realises its true potential, once it finishes experimenting with all its verticals and partners. It currently earns low revenue per ticket of around ₹990 compared with ₹13,464 for MakeMyTrip and ₹10,956 for Yatra. And while he is raring to build up IRCTC, Manocha is cognisant of the undertaking’s limitations. “Being a public sector company, we are governed by rules and regulations. Besides, we also need to change our work culture and become more aggressive.” If that doesn’t happen soon, IRCTC’s dream of being a travel behemoth runs the risk of being waitlisted. ●

POLLUTION CONTROL MEASURES IN REFINERY AND DOWNSTREAM PETROCHEMICAL PLANTS

We all are aware that pollution is a global problem that needs no introduction. With increasing population and pollution of surface & ground water sources, the problem is aggravated with each passing day. Indiscriminate industrial development and exploitation of limited water sources are compelling every industry to seriously address the problem. Availability of water itself has become a serious threat. Therefore, industries are considering various options to reduce their water usage and to recycle water to the extent possible, including selection of manufacturing technologies that use minimum water, produce less waste water as well as other solid and liquid waste. As the cost of water increases, legislation becomes more stringent and enforcement stricter making water recycle a viable option. This article discusses the recycle, zero liquid discharge and solid waste management philosophies and explores their various technologies.

Prevention is better than cure. This also applies to pollution. Prevention or minimisation of pollution at source is the best control method. Hence, before going into the methods of effluent treatment, we should look at the possibilities of preventing or minimising effluent generation. Pollution prevention is defined as the use of materials, processes or practices that reduce or eliminate the generation of pollutants or wastes at the source. Also known as reduction at source, pollution prevention includes practices that reduce the use of hazardous and non-hazardous materials, energy, water or other natural resources. Pollution prevention in the manufacturing industry can be achieved by changing production processes to reduce or eliminate the generation of waste at the source. As it applies to industry, the environmental management hierarchy stipulates that when possible:

- Pollution should be reduced at the source
- Pollution products that cannot be reduced should be recycled in an environmentally safe manner
- Disposal into the environment should be used only as a last resort and should be conducted in an environmentally safe manner

Recycle of Waste Water and Study of its Application in Various Industries

Waste water recycle should take shape at the drawing board stage in contrast to the conventional treatment approach of designing the raw water and waste water treatment plants (end of pipe solutions) separately. This will enable planning for water recycle at the design stage itself. The benefits are many.

Firstly, because water is recycled, raw water consumption reduces. The designer can therefore plan for a raw water treatment plant of lower capacity

and cost. Secondly, the effluent treatment plant's capacity is also reduced as we are treating the effluent which is not being recycled and hence the quantity of waste disposed is less, leading to further cost reduction.

Investment is certainly required for product recovery, water recycle plants and advanced technologies to handle even higher concentrations of contaminants. However, the life cycle and return on investment is quite attractive.

Pollution is not just abated but prevented; pollutants are separated not destroyed; energy is saved and the total cost of water and waste water treatment is reduced.

Hence, we can use this experience of on/offsite recycle and integrated solutions for water and waste water treatment in large industries to achieve the goal of 'Total Water Management' at the design stage.

We need to only apply these approaches in a complex industry in multiple ways.

Guidelines for Selection of Recycle Scheme

1. Study the manufacturing process thoroughly and identify areas where reduction of water consumption is possible.
2. Identify the process where reduction of pollution load is possible by changing raw material or adopting cleaner manufacturing process.
3. Proper analysis of various streams especially targeting the contaminants which are process specific.
4. Identify streams that can be segregated and treated economically. For example, in electroplating, the rinsed water can be segregated and treated for recovery of plating metal. This not only reduces the overall

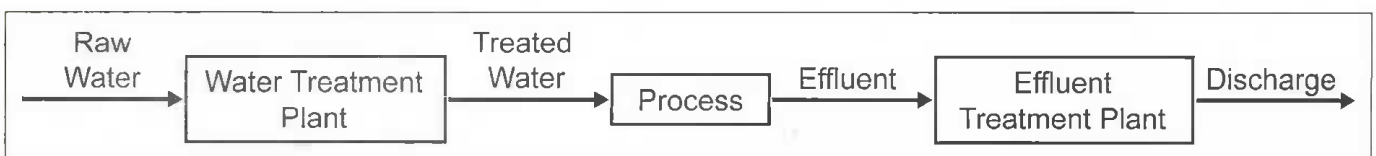


Figure 1: Conventional Treatment

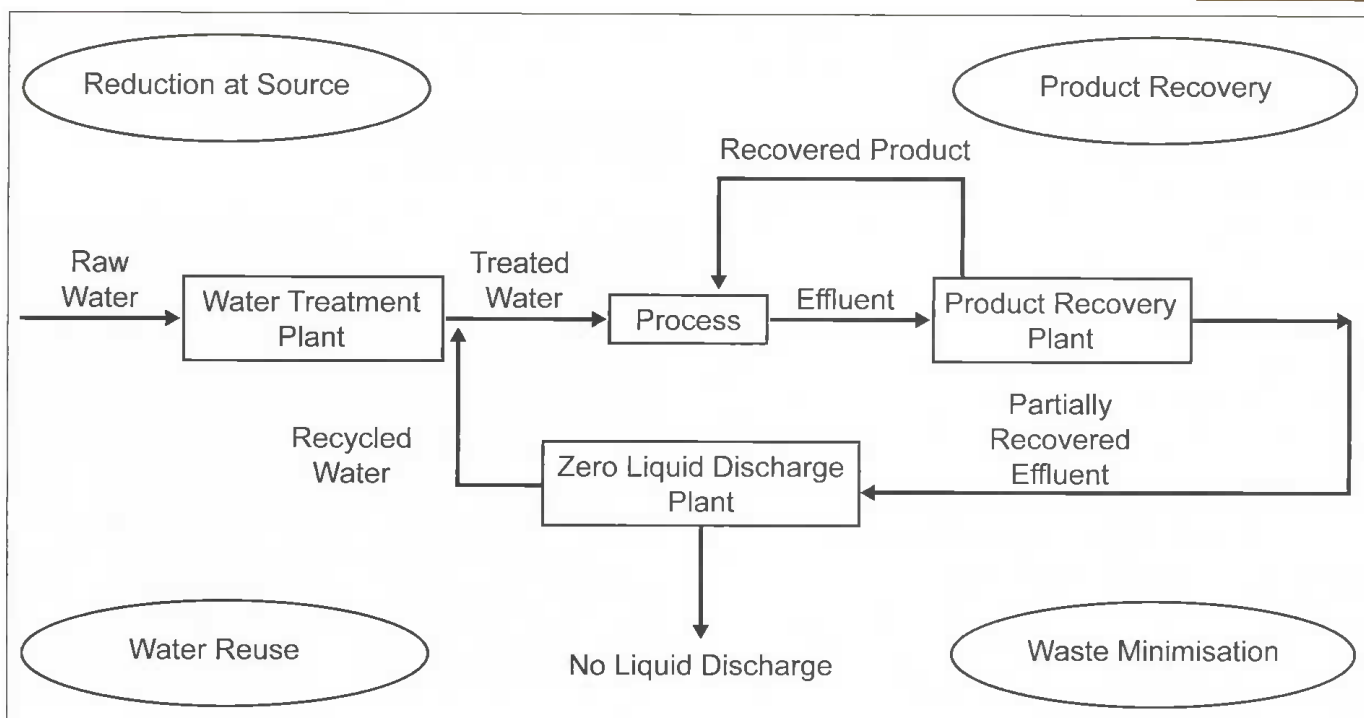


Figure 2: Modern Integrated Solution

cost of recycle but also facilitates the recovery of valuable products from the waste water stream.

5. Identify effluents which are relatively clean and can be treated with simple processes so that they can be recycled internally without letting the water out into an effluent treatment plant.
6. Identify the quality of water required at various manufacturing stages. For instance, steam generation may require high quality water and washing or cooling water make up may not require high quality water. It is always economical to design a recycle system to produce water suitable for lower end usage.
7. Select a technology that is easy to implement, operate, maintain & service.
8. Look for the availability of spare parts that may be needed in the future.
9. Reliability of performance in the long run is extremely important.
10. Low in operating cost.
11. Good service network of the plant supplier.

Recycle Technologies

Any waste water recycling plant requires three stages of treatment as follows:

1. Effluent treatment
2. Tertiary treatment
3. Advanced tertiary treatment
4. Zero liquid discharge

Effluent Treatment

For a good effluent recycle system, a good effluent treatment is a pre-requisite. Unless we remove the easily removable pollutants with cost-effective methods, it would be difficult to recycle the effluents economically. Usually effluent treatment plants (ETPs) are designed to meet statutory requirements for disposal. When recycling is considered, the ETP should also be designed considering overall requirements of treatment. For example, in India, disposal

Effluent Treatment Technologies (Primary and Secondary)	
Pollutant	Treatment Technology
Floating matter	Manual bar screens, mechanically cleaned screens, drum screens, etc.
Grit	Manual grit chambers, aerated grit chambers, deaerator, etc.
Oil & grease	Oil & grease traps, API oil separators, TPI oil separators, dissolved air floatation (DAF) systems, tubular ultra filtration, etc.
Acidity/alkalinity	Neutralisation using acid/alkali dosing
Suspended solids	Clarifiers, clariflocculators, high rate solid contact clarifiers (HRSCC), lamella clarifiers, tube settlers, DAF, ultra high rate clarifiers, pulsating clarifiers, etc.
BOD/COD/NH4/TKN/TP/Phenol/CN/SCN	Biological systems such as activated sludge process, trickling filters, sequential batch reactors (SBRs), membrane bio-reactors (MBRs), etc.
Heavy metals	Precipitation using solid contact clarifiers, ion exchange processes, membrane systems for metal recovery, etc.
Toxic substances	Different treatment technologies are adopted based on the nature and concentration of toxic substances. For example, phenols can be removed with biological systems at low concentrations whereas chemical oxidation may be required for higher concentrations.
Recalcitrant compounds/COD	Photo-chemical oxidation is used to remove or break recalcitrant and complex organics such as phenols, benzene, pesticides, etc.

FEATURES

standards do not require complete removal of nutrients and dissolved salts. But, when we are installing a downstream reverse osmosis system, it is better to remove nutrients and dissolved salts in the biological system of the ETP. This will help reduce fouling of the reverse osmosis system.

There are different technologies available for effluent treatment to remove different pollutants. The table below lists some generic technologies applied in effluent treatment.

Tertiary Treatment

Treatment beyond disposal norms for reusing effluents for low end usages is called tertiary treatment. It acts as pretreatment to advanced treatment for complete recycle of effluents. Following table enlists some generic technologies applied in tertiary treatment.

Tertiary Treatment Technologies	
Pollutant	Treatment Technology
Turbidity	Gravity sand filters, pressure sand filters, dual media filters, multi media filters, continuous sand filters, auto valveless filters, etc.
Bacteria	Chlorine dioxide, chlorination, ozonation, ultraviolet sterilisation, mixed oxidant systems, etc.
Colour	Oxidation, precipitation, adsorption, nanofiltration, etc.
Residual chlorine	Activated carbon filtration, dosing of reducing agents, ultraviolet treatment, etc.

Advanced Tertiary Treatment

Further treatment of secondary treated effluents is required for conforming to the requirements of high end usages (boiler feed, process, etc.) of treated water. Following are some of the technologies available to remove various pollutants in advanced treatment:

Advanced Treatment Technologies	
Pollutant	Treatment Technology
Hardness	Chemical precipitation, ion exchange softeners, nanofiltration, etc.
Silica	Chemical precipitation, ion exchange processes, reverse osmosis, etc.
Turbidity, SDI	Sand or multimedia filtration, ultra filtration, microfiltration, etc.
Dissolved solids	Reverse osmosis systems, ion exchange processes, electrodialysis, etc.

There are various other technologies which are contaminant and end use specific such as fluoride removal.

Zero Liquid Discharge Treatment

(Evaporation and recovery of waste water containing highly soluble salts)

The highly concentrated reject from the process is further treated in multi effect evaporator (MEE) system generally after reducing dissolved salts by RO processes and the advanced tertiary treatment.

The MEE process uses either mechanical or thermal vapour compression using forced circulation evaporators, falling film evaporators or in combination. Thus, evaporation is increasingly considered for the treatment of refinery

and downstream petrochemical waste water to recover more than 95% of water, or as a part of the zero liquid discharge (ZLD) process.

WATER MANAGEMENT IN REFINERY - CASE STUDIES

Reliance Industries Limited



Effluent Treatment Plant at Reliance Industries Ltd., Jamnagar, Gujarat

Reliance Industries Limited (RIL) has enhanced the capacity of the Jamnagar Refinery to 12,00,000 barrels per stream per day (1200 K BPSD) with the commissioning of the Jamnagar Export Refinery Project (JERP) in Gujarat.

Waste water treatment is carried out in a dedicated state-of-the-art completely automated and PLC – operated effluent treatment plant supplied by Ion Exchange. The effluent treatment area is designed to contain and treat all internal process/utility waste water and storm/fire water, with the objective of zero discharge from the new refinery complex. The treated water is recycled back as cooling tower make-up and partially used as process water after reverse osmosis treatment to the high total dissolved solids treatment train or guard tanks, as required.

Effluents are segregated into four identical waste water streams designed for a treatment capacity of 500 m³/h each and maximisation of reuse.

The scope of treatment also includes three by-product streams generated during the treatment of refinery waste water (skimmed or slop oils, oily sludge and biological sludge). Skimmed oil is chemical and heat treated, with recovered oils transferred back to the refinery for reprocessing.

Each of the above streams employs identical equipment for treating effluents, namely:

- Free oil removal facilities including pre-deoiler and API separators with continuous oil skimming and sludge removal facilities
- Dissolved air floatation (DAF) unit
- Two stage biological treatment
- Clarification
- Dual media filtration
- Activated carbon adsorption
- Disinfection – with chlorine and chlorine dioxide

“For a good effluent recycle system, a good effluent treatment is a pre-requisite. Unless we remove the easily removable pollutants with cost-effective methods, it would be difficult to recycle the effluents economically.”

The effluent treatment plant is treating 100 per cent effluent generated by the refinery since its commissioning in December 2008 and consistently produces treated effluent (pH 6 - 8.5, sulphide < 0.5 ppm, COD < 50 ppm, oil and grease < 5 ppm, phenol < 0.35 ppm) meeting guaranteed parameters for reuse for various applications mentioned earlier.

Chennai Petroleum Corporation Limited

The ZLD plant for the expansion at Chennai Petroleum Corporation Limited (CPCL) uses advanced membrane processes to reuse water for its process requirement.

CPCL, during its expansion, increased the crude refining capacity at Manali by 3 million metric tonnes per annum. As part of this 3 MMTA expansion project, a new effluent treatment plant (ETP-III) treats effluents generated from the refinery project to meet the MINAS standard. With a view to conserving water, a new zero discharge plant (ZDP) was designed and constructed by Ion Exchange. This plant treats the treated water from ETP-III to enable use of the treated water as make up to the demineralisation plant. The capacity of the ZDP is 200 m³/h. The plant was commissioned in 2005 and is operated and maintained by Ion Exchange.

Indian Synthetic Rubber Limited



ISRL - Downstream petrochemical

Another such example of ZLD is for Indian Synthetic Rubber Limited (ISRL). Three streams containing 3000 m³/d process effluent along with 360 m³/d cooling tower blow down and 240 m³/d DM plant effluent are being treated through primary, secondary, tertiary and advanced tertiary treatments. The final reject (from RO) is being treated in thermal MEE, thereby achieving the objective of > 95 per cent water recovery and ZLD.

Conclusion

Waste water recycle and ZLD is mandatory for many industries because of water scarcity, legislation, rising water costs, unreliable water supplies, environmental requirements from buyers in case of exporters, etc. ZLD also gives enormous importance to sludge management (which is not discussed in this paper and which needs separate attention). Apart from these reasons, industries now identify recycle and ZLD as their social responsibility for environmental friendly manufacturing of goods.

Many technologies are now available for managing industrial waste water and other waste. It is of utmost importance to involve environment management specialists right from the planning stage of the project so that the best optimum solutions can be developed. Priority should always be given to source reduction and product recovery rather than end of pipe waste water treatment and expensive methods of ZLD. Right technologies should be adopted for recovery and recycle of water from waste water. Final effluents which cannot be recycled should be treated and disposed of in an environmental friendly way.

Ion Exchange provides range of cost effective technologies. These match the oil and downstream petrochemical's needs for efficient liquid waste treatment, recycle of treated water and zero liquid discharge objectives through tailor made solutions. Ion Exchange can provide advice on the right technology solution through water audit of the project/plant. ●



Ajay Popat

President - Technology, Corporate
Marketing and Corporate Diversification
Ion Exchange (India) Limited

Ho.commun

From: Ho.commun [ho.commun@ionexchange.co.in]
Sent: Friday, June 24, 2016 3:47 PM
To: ho.commun@ionexchange.co.in
Subject: Ion Exchange Fluoride Removal Unit on NDTV
Attachments: image001.jpg; image003.jpg; image005.jpg; image002.jpg; image004.jpg; image006.jpg

Dear All:

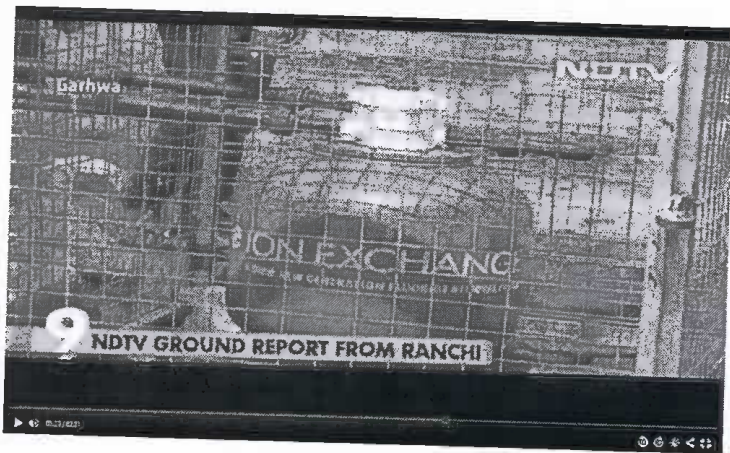
We are glad to inform you that Ion Exchange Fluoride removal hand pump attachment has been publicized on NDTV News Channel in their 8 am news slot on June 20. NDTV is one of the leading English news channels in India with millions of viewership.

The news coverage lays emphasis on the plight of people living in villages of Jharkhand where ground water is affected by Fluoride contamination. It also gives a glimpse of our Fluoride removal hand pump attachment which is treating the ground water in the affected area. Our company and brand name 'INDION' is clearly visible in the video.

This clipping shows Ion Exchange in a positive light. It can be shared with our stakeholders to further promote our brand.

Watch the published news on NDTV website - <http://www.ndtv.com/video/news/news/36-dead-in-jharkhand-village-of-skeletal-fluorosis-420595>

Below are some screenshots from the video.



Regards,
Hutoxi Batliwala



Please consider the environment before printing this E-mail

Ion Exchange Expands Bahrain Business to Meet Growing Demand

June 15, 2016



New Delhi:

India: Ion Exchange, one of India's largest environment solutions providers, has announced the launch of a new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion.

The new facility will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic Development Board (EDB), which provides advice and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception.

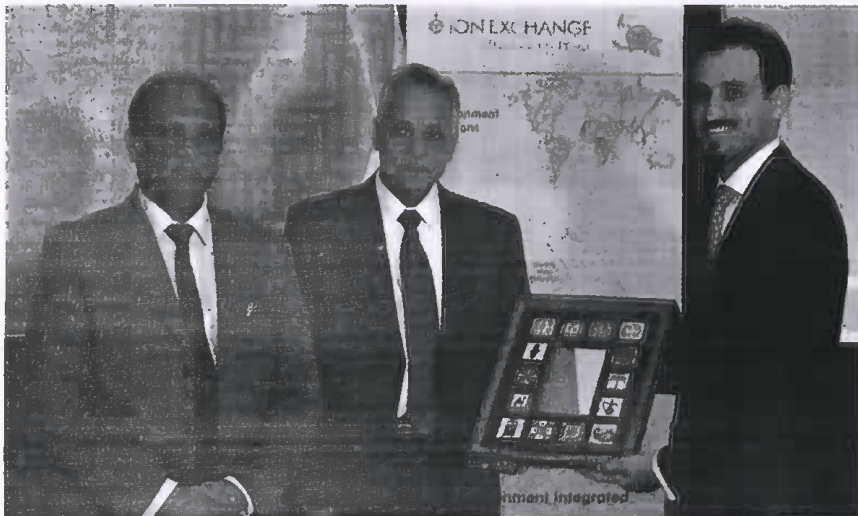
Rapid demographic growth and economic expansion in the GCC in recent years have created a strong demand for water treatment technologies and services. Ion Exchange has over 50 years' experience specializing in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and USA.

Rajesh Sharma, Chairman and Managing Director of Ion Exchange, also commented on the announcement: "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the USA with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's

rising demand for water treatment products and services and are excited to work closely with organizations like the Bahrain Economic Development Board to ensure our success."

India and Bahrain enjoy close economic relations with trade between the two nations reaching \$674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

ION EXCHANGE EXPANDS BAHRAIN BUSINESS



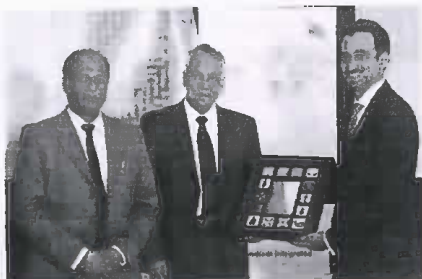
Ion Exchange, one of India's largest environment solutions providers, recently announced the launch of a new chemical blending facility in Bahrain. The company is expanding its facility in Bahrain in order to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion. The new facility will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years.

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Chemical Weekly
- June 2016

Ion Exchange launches chemical blending unit in Bahrain

Environment solutions provider Ion Exchange has announced the launch of a chemical blending facility in Bahrain. "The new facility will serve as the chemical export hub for the Gulf Co-operation Council (GCC) region and North Arab states," the company said in a statement. The facility was set up



with the support of the Bahrain Economic Development Board (EDB).

Ion Exchange is expanding its facility in Bahrain to improve the products and services it offers the wider GCC region, a market currently worth around \$1.5 trillion, the statement added. Ion Exchange specialises in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments.

ION EXCHANGE EYES GCC
REGION FOR GROWTH
OF WATER TREATMENT
SOLUTIONS

ION EXCHANGE
INDIA LTD
Total Environment Solutions

The company opens chemical blending facility in Bahrain that will serve as export hub for the GCC region

Ion Exchange, an environment solutions providing company, has expanded its production set up in Bahrain with the launch of a new chemical blending facility, in order to improve the products and services offerings in the GCC region, a market currently worth around \$1.5 trillion.

The new facility, inaugurated on April 21, 2016, will serve as the chemical export hub for the GCC region and North Arab states, creating around 30 jobs over the course of the next three years. The Bahrain Economic Development Board (EDB), which provides advice and practical help to companies establishing operations in Bahrain, assisted Ion Exchange with company set up and other business requirements in order to ensure the company's successful inception.

Rapid demographic growth and economic expansion in the GCC

in recent years have created a strong demand for water treatment technologies and services. Ion Exchange has over 50 years' experience specialising in water treatment and provides a complete portfolio of advanced environmental solutions to industrial, institutional, residential, home, rural and urban developments. The company has a strong global presence with plants in various parts of the world, with offices in the Middle East, South East Asia, Africa, Canada and USA.

Rajesh Sharma, chairman and managing director of Ion Exchange, commented, "Ion Exchange has successfully executed globally tendered projects and exported plants to the Middle East, Africa and South East Asia, to the stringent requirements of customers, consultants and EPC contractors. It has made its presence felt in Europe and the US with export of resins and water treatment chemicals. The launch of the new Bahrain facility is part of our wider strategy to ensure proximity to our GCC and North Arab market. Bahrain is located at the heart of the Gulf market with excellent transport and logistics connections throughout the region. We are expanding to meet the GCC's rising demand for water treatment products and services and are excited to work closely with organisations like the Bahrain Economic Development Board to ensure our success."

India and Bahrain enjoy close economic relations with trade between the two nations reaching \$ 674 million in 2015. More than 350,000 Indian nationals are currently living in Bahrain.

