

# NEWS @ SEVERN

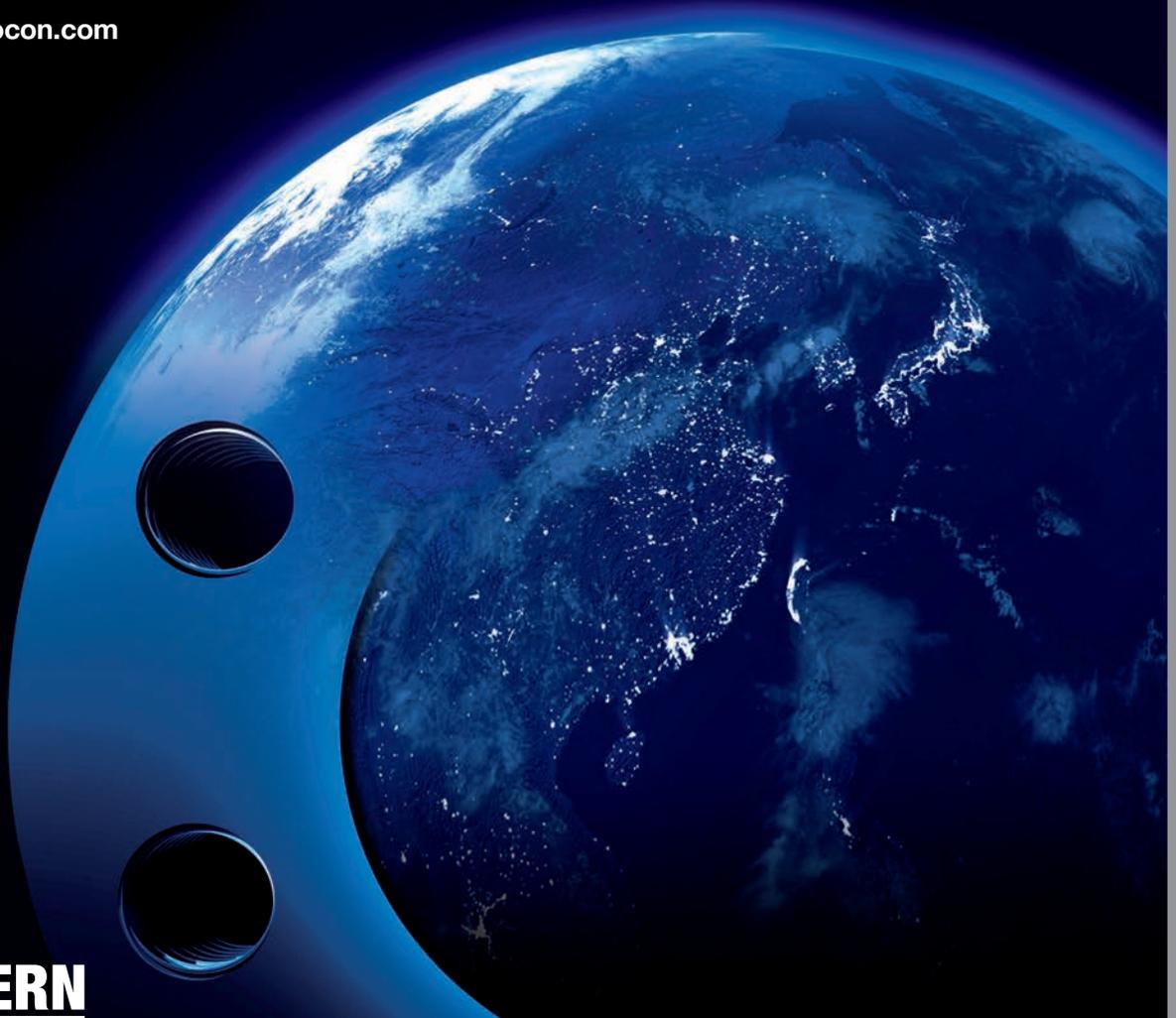
Global valve news from the Severn Glocon Group

Issue 15

## POWERING ON...

During 2015 Severn Glocon Group will take new strides into the global power generation industry. Keep up to date with our progress via the Group's LinkedIn page and

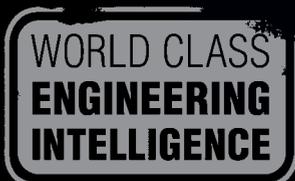
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05 – 06 Middle East progression

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## A Word from the Chief Executive

“ We’ve spent 50 years designing and manufacturing highly-engineered valves that enhance safety and profitability through reliability and efficiency... and this is just the beginning. ”

**Maurice Critchley** | Chief Executive | Severn Glocon Group

The term ‘Innovation’ gets bandied about a lot in manufacturing and engineering circles. However, sometimes it’s important to stop and remind ourselves what it really means.

At Severn Glocon Group, innovation is about pushing the boundaries of what’s been done before to deliver more effective ways of working. Sometimes, that leads us to transform processes and unlock new opportunities.

It manifests itself in products such as our sophisticated multi-labyrinth trim and custom engineered valves for extreme applications. It’s also evident in our strategies to deliver ongoing valve performance improvements for established plant. However, most of all, you can see it in our people. The attitude and aptitude of our global team fosters innovation at all levels of the business.

This is the secret to our enduring success in core markets such as upstream oil and gas. It’s also been the lynchpin to our exponential export growth over the past decade.

Today, our R&D teams are focused on identifying technology gaps hindering productivity. When production challenges look set to cause a deadlock, we find innovative ways to enable progression. In this issue, you can read about recent topside and subsea valve advancements, as well as an exciting development for our environmental engineering business Ionex SG.



# 200

## Valves for Yamal LNG

A joint-venture between Technip, JGC Corporation and Chiyoda Corporation has commissioned Severn Glocon to provide 200 valves for the Yamal LNG project in the Russian Arctic.

This ground-breaking project is located in the estuary of the Ob River which is ice-bound for nine months of the year. It will require high-performance technologies to cope with the rigorous demands of LNG production in extremely cold conditions.

In time, Yamal LNG is expected to involve more than 200 wells and three LNG trains, each with a capacity of 5.5 million tons per year. The valves ordered from Severn Glocon to date will be designed, manufactured and tested at the Group’s Gloucester and Chennai factories.

Yamal LNG is a joint-venture company owned by Novatek (60%) Total (20%) and CNPC (20%). Novatek is Russia’s second-largest independent natural gas producer and Total is leading the project.

## QTRCO joint venture

A joint venture between Severn Glocon and Texas-based actuator specialist QTRCO has been established. QTRCO SG will drive global sales of QTRCO actuators and user support. Actuator packages will be assembled at the Group's Dubai facility.



## Puerto La Cruz selects Severn

Severn Glocon Brazil has secured a landmark 800 product order, including butterfly and severe service control valves, for Venezuela's Puerto La Cruz refinery upgrade.

Innovation played a key role in the contract win, since the refinery improvements face significant technical challenges associated with the heavy, thick nature of the oil. The Brazil team, headed by Luis Becker, is collaborating with Hyundai E&C on the project.

This contract is expected to further strengthen the Group's presence in Latin America. Valves will be designed in the UK then manufactured at the Group's Chennai factory, enabling lead times to be kept to a minimum.



Valves will be manufactured at the Group's Chennai factory

## Raising standards

In recent months the Group has strengthened its portfolio of industry qualifications and has ambitious plans to take this further.

Successful PR2 qualification testing has been conducted on Severn Glocon valves destined for a plant in the Middle East. This rigorous reliability benchmark tests components that will be commissioned in remote and hostile environments. It involves heating and cooling valves to extreme temperatures as well as cycling them. The process provides assurance of components' integrity and ability to withstand arduous conditions.

Severn Glocon has also been awarded ISO TS 29001, a new standard demonstrating strong policies and procedures associated with quality management systems in the petroleum, petrochemical and natural gas industries. QHSE Manager Chris King says: "This marks another milestone in our journey to continually improve and develop integrated management systems in line with industry requirements and customers' specific needs."

LB Bentley recently completed the transition from NQA ISO certification to the BSI model, in line with the Group, following its acquisition. The small bore subsea valve business has achieved certification in quality management standard ISO 9001:2008 and ISO 14001:2004 for environmental management systems. LB Bentley also renewed its PED (Pressure Equipment Directive) certification following a recent audit with Zurich Insurance.



Activity is now underway for the Brighthouse and Chennai facilities to achieve the API monogram for choke valves. A new product currently in R&D at the Valve Innovation Centre is being developed to extremely high technical standards, with the stringent API requirements in mind. It's expected that the valve will undergo the PR2 testing procedure in early 2015.





## Saudi Aramco validates emergency sealant system

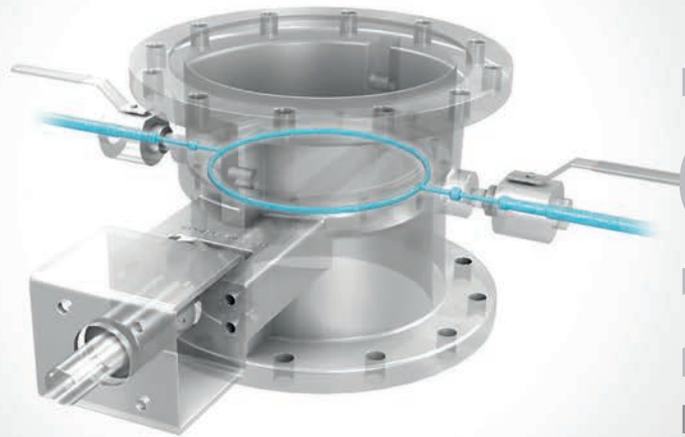
Severn Leeds has developed an innovative butterfly valve incorporating a secondary sealant system as a fundamental design feature. It recently underwent successful validation testing with Saudi Aramco.

SPIRES® (Sealant Pressure Injection Reserve Endurance System) offers an emergency back-up sealant method when butterfly valve seat damage prevents bubble-tight shut off. The solution comprises a runner system behind the disc into which a secondary sealant can be injected to compensate for any seat leakage when the valve is set to 'closed' position.

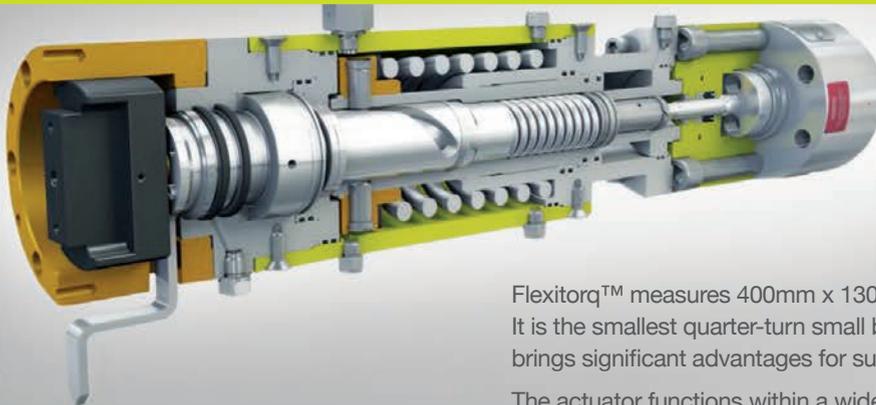
Saudi Aramco is the first end-user to test this in situ emergency sealant technology. The validation process verified that once a heavy sealant is pumped into the runner system a 100 per cent seal is achieved, even if the seat is badly damaged.

Mark Breese explains: "This ground-breaking technology enables damaged butterfly valves to be resealed without removal from the line. The benefits for operators are huge since leaking valves no longer have to result in unplanned downtime if they are fitted with the system. Once the sealant is deployed, the valve can remain operational until the next period of scheduled maintenance."

A full write up of Saudi Aramco's validation test has been published in the November 2014 issue of Hydrocarbon Engineering.



NEW TECHNOLOGIES



## Breakthrough for compact XMT design

A pioneering actuator that significantly reduces the space envelope of small bore quarter-turn valves for subsea XMTs has been developed by LB Bentley.

Flexitorq™ measures 400mm x 130mm and weighs approximately 30kg. It is the smallest quarter-turn small bore valve actuator in the industry. This brings significant advantages for subsea XMTs where space is at a premium.

The actuator functions within a wide pressure range of 1,500 – 5,000psi. Its unique helical design has a variable angle of obliquity, enabling a controlled and constant rotational speed to deliver smooth actuation. Additional features include a bespoke clutch design which provides a true indication of valve position, in both hydraulic and manual operating modes. It also shows whether the hydraulic system is engaged or disengaged.

Robert Walker, Head of Sales and Marketing for LB Bentley, says "This niche technology will play a vital role in next generation XMTs. It offers exceptional performance, versatility and reliability, all within a very tight space envelope. We will begin using it on our own small bore subsea valves from 2015. In due course we will market the actuator to other manufacturers as well as exploring adaptations for surface applications."

## Ionex SG cleans up California's drinking water

Severn Glocon Group's environmental engineering business Ionex SG has designed, built and installed California's first near-zero waste drinking water treatment system to remove Hexavalent Chromium (Cr6).

From 1 July 2014, California regulated Cr6 contamination to less than 10ppb in drinking water, resulting in 400 wells needing treatment.

The new Ionex SG system, IX-C™, captures and neutralises Cr6, optimising the efficiencies of ion exchange water treatment and producing near-zero waste. This vastly reduces waste-disposal complexities and related expenses, as well as offering a more complete treatment solution for water districts.

Ionex SG recently achieved California State Water Resources Control Board drinking water permits for Cr6 and nitrate after four years of intensive pilot testing and investment in understanding the complexity of groundwater contamination.

Phil Chandler, MD of Ionex SG, says the landmark achievement with Cr6 underlines the efficacy of the firm's innovative near-zero waste technologies.

"Our new IX-C system is the product of deep collaboration between in-house technologists and water treatment experts. When we set out to build a solution for Cr6 and nitrate groundwater treatment, we found that adoption of the most robust technique, ion exchange, was low. Prohibitive waste-disposal costs simply made it impractical for ion exchange to address this application. Deployment of IX-C and its near-zero waste performance substantially mitigates costs, giving customers a powerful, complete solution with strong economic advantages."

[www.ionexsg.com](http://www.ionexsg.com)



“ Deployment of IX-C and its near-zero waste performance substantially mitigates costs, giving customers a powerful, complete solution with strong economic advantages. ”

Phil Chandler | Managing Director | Ionex SG

## Oceanus 2 Wave Power Device

Severn Subsea Technologies (SST) has developed an integrated telemetry and control system for wave power company Seatricity's Oceanus 2 wave device, now moored at the Cornish Wave Hub. The SST system will enable researchers to correlate wave movement with power generated to optimise power generating conditions offshore.

Seatricity wave energy generation is based on a float tethered to the seabed via a pump. Wave action pumps water at high pressure back to either the shore or a local hub, where a turbine converts the energy to electricity. The Oceanus 2 development device will use a control valve to simulate the turbine load.

SST has designed and manufactured the valve gear, control, power and communications systems mounted on the buoy, at a shore-based location at the St Ives Coast Watch Facility and at SST's Redruth headquarters. Mechanically, the telemetry and control system comprises an electrically actuated control valve that can be modulated to vary the pumped water pressure as the wave height changes.

Power for valve actuation, data acquisition and communications is provided by an array of PV solar cells and sealed lead acid batteries, allowing 24 hour telemetry, mounted on the top surface of Oceanus 2. Communication with the shore is via a UHF radio modem link. SST has also equipped the Oceanus 2 with a WiFi interface allowing some system parameters to be changed from a boat close to the buoy.

Control will be carried out using a pair of programmable logic controllers (PLCs) located on the Oceanus 2 and ashore.

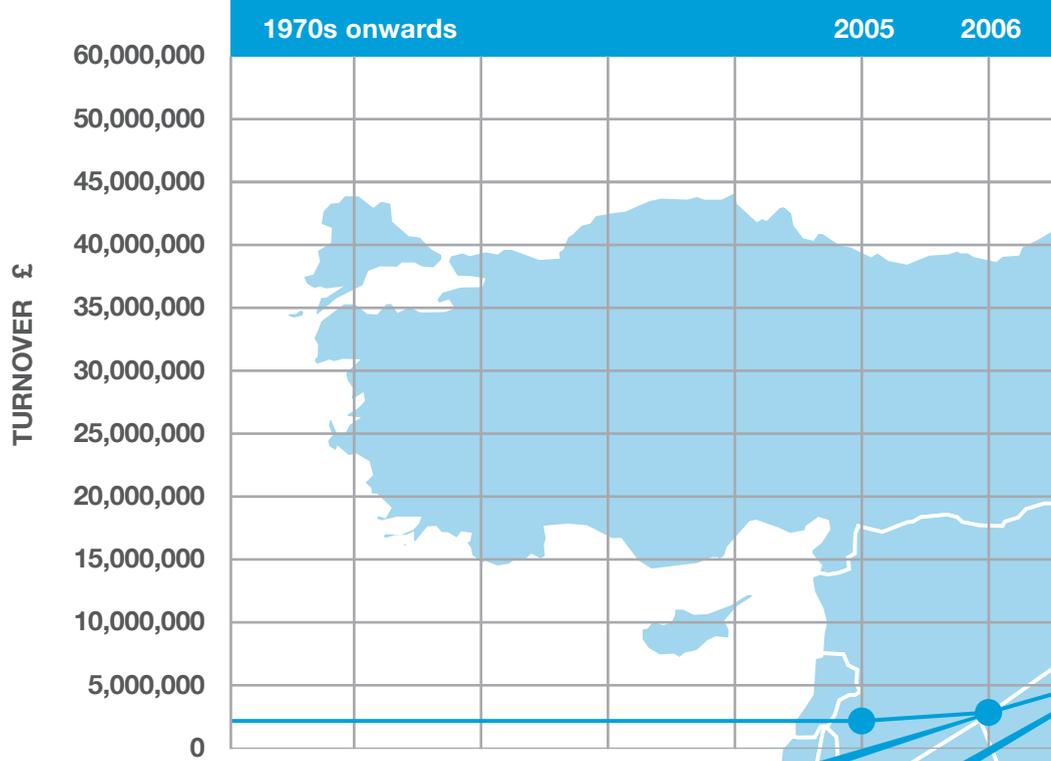


## TECHNICAL INNOVATION =

### Middle East turnover

#### In the early days

Middle East export began in the 1970s. Serck Glocon was the first UK valve manufacturer to supply Saudi Aramco and ADNOC, laying strong foundations for future trade. Serck Glocon was acquired by Severn Instrument Controls in 1996, and Severn Glocon was formed thereafter.



#### 2006

In-country offices opened and dedicated Middle East sales engineers appointed.

#### 2007

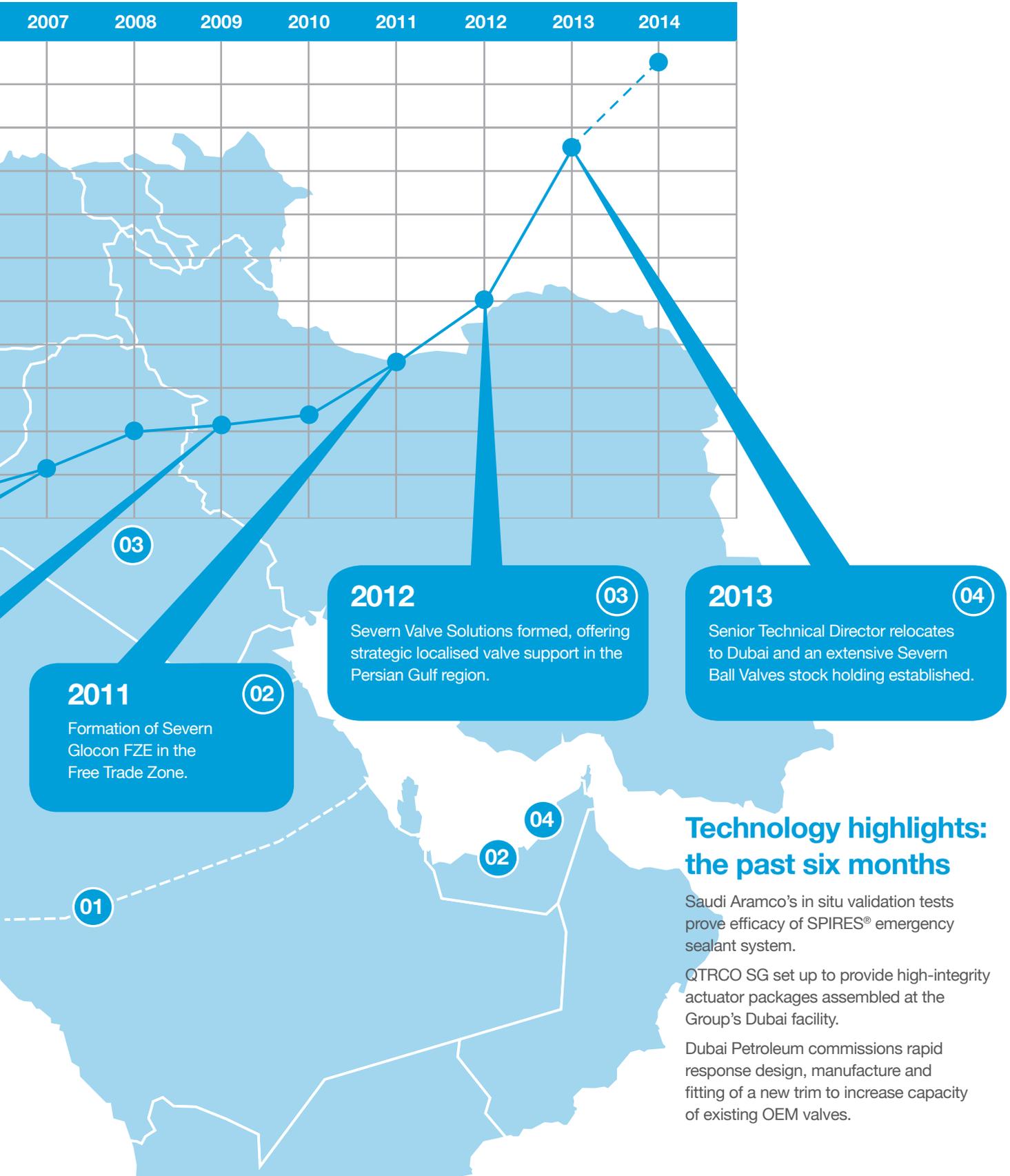
Chennai factory established, enabling more cost-effective supply of standardised products.

#### 2009

Landmark order: 50 severe service control valves for Saudi Aramco's Master Gas pipeline.

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# EXPONENTIAL GROWTH



## Growth accelerates in Australia

Severn Glocon Australia has relocated to new 715m<sup>2</sup> premises to accommodate its growing business. Foundations have also been laid for a dedicated valve workshop.

“ New projects will continue to play a vital role in our business, but we’ll also be channelling more of the Group’s aftermarket expertise into the region ”

Mark Goode  
General Manager  
Severn Glocon Australia

Success in the region has been underpinned by the Group’s reputation for highly-engineered severe and critical service valves that perform reliably in adverse conditions.

Advanced valve engineering capabilities helped secure important contracts for Western Australia’s Gorgon and Ichthys LNG processing plants. Each of these megaprojects involved complex requirements surrounding compressor anti-surge, blowdown, gas to flare, low shear and flow control applications. Orders included cryogenic valves up to 42 inches bore and 20 tonnes in weight, as well as some manufactured in solid Inconel alloy and others with pressure ratings of up to 2,500 ANSI.



## Ball valve developments

Severn Ball Valves has extended its range of isolation valve stock in an agreement with SERN Ball Valves. The deal positions Severn Ball Valves as the sole third party supplier of SERN’s trunnion mounted ball valves. Stock will be held at each of Severn Ball Valves’ facilities, in Aberdeen, Perth and Dubai.

In addition, Severn Glocon Group’s Mars Valves UK business has signed a mutual distribution agreement with the Smart Actuator Company (SACO). The two firms will collaborate to offer industry-leading actuated ball valve solutions. One such collaboration saw the development of a bespoke valve control system for the Seatricity Oceanus 2 project outlined on p4.



Mark Goode, General Manager of Severn Glocon Australia, says: “As Gorgon and Ichthys get closer to commissioning we are gearing up for a new phase of activity in Western Australia. New projects will continue to play a vital role in our business, but we’ll also be channelling more of the Group’s aftermarket expertise into the region.”

Once complete, the workshop will be able to service control valves of up to 20 inches bore class 600#. It will also provide assembly and actuation for ball valves up to 14 inches bore class 1500# and butterfly valves up to 30 inches. From 2015 the facility will be equipped to provide local assembly and testing of control valves.

Workshop capabilities have been enhanced with hydraulic torque equipment, a 15Kw air compressor, a Calder test rig, a dedicated clean area for instrument servicing, a four-tonne overhead mobile gantry crane and well-equipped service and assembly benches.

Extensive stocks of API approved gate, globe, check and ball valves are also housed at the facility. And the business has invested in additional equipment for onsite valve repair and servicing.



## Strategic global agreement with PetroChina



**PetroChina**

High performance products and pipeline application intelligence have helped secure a global strategic agreement for Severn Glocon with the procurement firm operating on behalf of PetroChina China Pipeline Bureau (CPP).

CPP is one of the world’s largest pipeline engineering companies, and Severn Glocon’s contract is with CPPMEC, its engineering, procurement and construction contractor. Severn Glocon has a strong track record in the successful provision of valves for CPP pipeline projects. Relative competitive advantages mean quality products and essential technical support can be provided at a fair price.

The CPPMEC agreement is rooted in the principle of ‘strategic corporation, mutual benefit and common development’ to establish the optimal supply chain.

Separately, Severn Glocon is now one of three qualified control valve providers working directly with CPP on bids for worldwide pipeline projects. This early, speculative collaboration will result in valve orders being automatically awarded to Severn Glocon when CPP’s project bids are successful.



## BRAZIL, PRA CARAMBA!



### Royal recognition for inventor

Safety Knife inventor Bill Ireland has been awarded an MBE for Services to Innovation in the Queen's Birthday Honours List. Severn Glocon Group CEO Maurice Critchley is a director and shareholder of Safety Knife, and the firm operates from the Group's headquarters.

Bill devised the 'Fish' Safety Knife 20 years ago to safely cut the strings on hay bales. Today, the business has a healthy export market, employs 20 people and has six patents.

ENGINEERING  
GLOBAL SALES

# Q & A



### Farewell, Jack

It is with great sadness that we report the death of our colleague Jack Stell, one of the Group's finest sales engineers. He will be missed.

Operations in Brazil are going from strength to strength under the leadership of area manager Luis Fernando Becker. Success is being driven by local application of Severn Glocon's engineering intelligence to overcome extreme challenges such as those associated with pre-salt, HIPPS and FPSOs.

Topside projects will continue to form an important part of the Group's activity in Brazil. However, future growth will also involve two niche areas of Group expertise: advanced engineering for mature offshore valves and innovative subsea technologies.

#### Mature wells

The Group's North Sea aftermarket expertise is being overlaid with production challenges on Brazil's mature offshore oilfields. This transference of proven skills and knowledge from advanced technical services division Severn Unival will enable intelligent retrofit and replacement of valves to deliver performance improvements.

Severn Unival has operated a Repair Intelligence™ process for more than 25 years. Understanding what makes valves fail, and why, enables high integrity valve engineering that optimises performance in the most adverse conditions. The application of operational intelligence from the North Sea to Brazil's mature platforms is set to strengthen the Group's foothold in Latin America.

#### Deep waters

Industry experts predict that subsea production will become an increasingly important part of Brazil's energy portfolio over the next five years. Currently Petrobras and Severn Glocon Group's small bore subsea valve business LB Bentley are collaborating on the development of new XMTs that can cope with pre-salt challenges. LB Bentley's Key Account Manager – Brazil, Leonardo Gonzalez, is on a long term secondment in the UK where he has spent several months on site at LB Bentley project managing the development of small bore chemical injection valves for the Brazil market.

We asked natural born salesman Ron Baker what it takes to mastermind global sales for complex industrial markets across six continents.

#### Q Tell us about what you do

A I head up global field sales for all the Group's international offices and look after inside sales for Severn Glocon. It's important for me to spend time on the ground in each of our territories, which means I travel a great deal. Forecasting is a big part of my role, so I study the market continually. I keep up-to-date with emerging industry trends and opportunities by networking with industry influencers and decision makers, as well as through resources from organisations like the Energy Industries Council.

#### Q The Group has grown exponentially since you joined in 2007. How do you cope with your ever increasing remit?

A I'm fortunate to have a loyal and talented sales team. They are keen, self-motivated individuals and I actively encourage anyone with an entrepreneurial streak. My role is to act as a facilitator – I provide the market intelligence, strategic guidance and personal encouragement to help them reach their full potential.

#### Q What's the secret to selling valves and valve technologies?

A We don't sell in the traditional sense of the word. Instead, we work collaboratively to resolve production challenges and identify the best valve solutions for customers' needs.

Everyone in our sales team has a technical background, enabling them to become trusted advisors to end users. I began my own career as an apprentice and then working on an offshore platform.

But putting technical expertise aside, success depends upon your ability to seize opportunities. I don't procrastinate and never leave until tomorrow what could be done today. If I think I need to be somewhere, I'll be on the next flight out there. I encourage all of my guys to do the same: follow their instincts and work proactively.

#### Q You travel a lot – where do you spend most of your time?

A In recent years I've spent a lot of time in the APAC region due to the significant LNG opportunities in Australia and Japan. But I'm often in Europe and South America too.

The Middle East remains a core market and we continue to build on our very strong reputation there with end users.

#### Q Tell us more about developments in the Middle East

A Severn Glocon has a long history trading with the Middle East. The brand is well known there and recognised for its superior valve design, particularly when it comes to overcoming technical challenges. We've recently completed a complex project involving 84 sophisticated compressor anti-surge valves. Our Saudi facility is doing well too, and is currently processing its first orders for Saudi Aramco's Jazan Refinery.

#### Q What's the next big thing?

A The global power industry is firmly on my radar. I'm expecting the Group to make significant inroads to this sector over the next 12-18 months.

#### Q What's the highlight of your career so far?

A In July 2014 I met HM The Queen and Prince Phillip at a reception for Severn Glocon Group's second Queen's Award win. I've been working in the valve industry for more than 40 years, and I never would have predicted that it would get me into Buckingham Palace.



# MANUFACTURING AWARDS

Severn Glocon Group received special recognition for manufacturing excellence at the 2014 Sunday Times HSBC International Track 200 awards ceremony.

The annual International Track 200 lists the UK's private companies with the fastest growing overseas sales. This year, special awards were presented to four of the 200 organisations. Categories included manufacturing excellence, transformational growth, emerging international brand and fastest-growing company.

Severn Glocon Group was singled out for the manufacturing excellence category following exceptional export growth which has seen international sales double in two years.

Separately, the Group has been shortlisted for the export category of The Manufacturer Awards.

## EXHIBITIONS – COME TO SEE US



ADIPEC  
10-13 November 2014 Abu Dhabi



Australasian Oil & Gas  
11-13 March 2015 Perth



Subsea Expo  
11-13 February 2015 Aberdeen



All Energy  
6-7 May 2015 Glasgow



Offshore Europe  
8-11 September 2015 Aberdeen

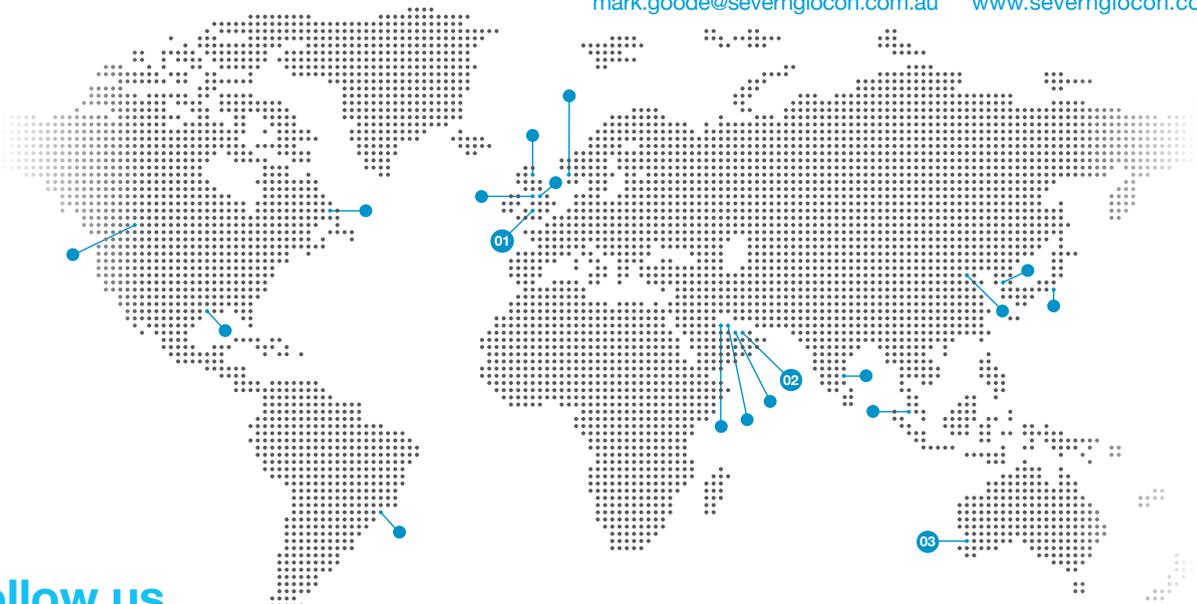
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