

# AIMM

2016 - CLIENT MAGAZINE OF STORK

**Fluor acquires Stork:  
A combination positioned for growth**

**Teaming up for success in Utah**

**Broadening capabilities in Australia & New Zealand**

**Innovative valve maintenance**

**Reducing downtime in Oman**



*A Fluor Company*



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# POSITIONED FOR GROWTH

MAINTAINING A COMPETITIVE ADVANTAGE IS MOST IMPORTANT IN TODAY'S CHALLENGING MARKET. WITH THE COMBINATION OF STORK AND FLUOR'S OPERATIONS & MAINTENANCE (O&M) ORGANIZATION, WE ARE IN THE BEST POSITION TO SUPPORT OUR CLIENTS IN ACHIEVING THIS. THIS EDITION OF AIM EXPLAINS HOW.

Since we announced Fluor's acquisition of Stork in March of this year, we are well underway in combining the businesses of Stork and Fluor O&M. This creates a true world leader in maintenance, modification and asset integrity (MM&AI). And with Fluor's engineering, procurement, fabrication and construction capabilities available, we now offer a complete package of services that covers -and extends- the life cycle of our Clients' assets.

The acquisition by Fluor will accelerate our growth in geographies like North America and the Middle East. In Continental Europe, we see good opportunities to pursue projects together by leveraging each other's Client relationships. It also gives us the opportunity to introduce Stork innovations and solutions to new Clients and markets, as we did recently at two of the biggest Oil & Gas events (read more on page 29).

In Australia, the acquisition of Giovenco Industries was another highlight in the past year. On page 22, you can learn first-hand about our enhanced capabilities in the growing Australian LNG market from Paul Giovenco, responsible for our business in the Asia-Pacific region. On the other side of the Pacific, new colleagues from Fluor's O&M organization

demonstrate their added value on page 16, as they significantly reduced operating costs at a copper mine in Utah, USA.

Innovation is at the heart of Stork. We recently partnered with the Dutch Technical University of Delft, sponsoring its solar boat initiative (see page 10). This led to a company-wide employee program identifying improvement areas that contribute to better performance for our Clients, for Stork and the environment we operate in.

Thinking ahead, always searching for ways to improve, is what makes organizations sustainable. With Fluor, we can make the difference and are positioned for growth. We address emerging business challenges by aligning people with processes and driving operational excellence with technology solutions for our Clients. Because that's our role in the markets we serve, helping our Clients to improve their results.

Enjoy this edition of AIM from Stork - a Fluor company.

**Arnold Steenbakker**  
CEO Stork





Fluor completes the acquisition of Stork

# BUILDING ON OUR STRENGTHS TOGETHER

ON MARCH 1 OF THIS YEAR, FLUOR CORPORATION COMPLETED THE ACQUISITION OF STORK. COMBINING STORK WITH THE OPERATIONS & MAINTENANCE (O&M) BUSINESS FROM FLUOR CREATES A GLOBAL PROVIDER OF KNOWLEDGE-BASED MAINTENANCE, MODIFICATION AND ASSET INTEGRITY PRODUCTS AND SERVICES.

Arnold Steenbakker, CEO of Stork, comments: "We are excited to bring a service portfolio to the market that better serves our Clients through an extended range of O&M capabilities. We are now able to provide truly integrated solutions to support Clients across the full asset life cycle. With the aim to reduce risk, assure safety and improve asset performance."



COMBINATION OF FLUOR OPERATIONS & MAINTENANCE AND STORK IN NUMBERS



In more than  
**100  
COUNTRIES**

.....  
servicing more than  
**4,000  
CLIENTS**



### FULL LIFE CYCLE SOLUTIONS

"With Fluor's engineering, procurement and construction capabilities and Stork's maintenance, modification and asset integrity (MM&AI) services, we are uniquely positioned to optimize design, fabrication, construction and maintenance of assets. We can maximize operational performance through the shared expertise of Stork and Fluor. This strengthens our Clients' competitiveness, since we can realize greater capital efficiencies. The combination of Fluor and Stork reduces the requirement for multiple contractors and interfaces. One organization, providing the full range of services for an operating plant's entire life cycle," explains Steenbakker.

### DESIGN WITH MAINTAINABILITY IN MIND

The added value of combining services already begins at the design phase of an asset. "Stork's maintenance expertise can be applied at the conceptual stage, and throughout project design and construction. This will improve the levels of asset and operational performance, while reducing maintenance costs. On site, we can provide a seamless turnover from construction to supporting commissioning and start-up, and also provide regular maintenance. That allows for continuous presence as one organization."

### WIDER GEOGRAPHIC FOOTPRINT

The combination of Stork with Fluor O&M results in an organization of approximately 19,000 employees, serving more than 4,000 Clients in 100 countries across 6 continents. According to Steenbakker, Stork will partner with Clients worldwide to help them achieve their business goals. "Through our combined global footprint, we have expanded our geographies where we can provide full asset life cycle services," he says.

**“***We will keep delivering complex projects at the highest standards, without compromising on safety and quality.”*



*Arnold Steenbakker, CEO van Stork (left) and Peter Oosterveer, COO of Fluor (right) during the announcement of the acquisition.*

### REDUCING PRODUCTION COSTS

Stork remains committed to finding new and improved ways of delivering its MM&AI services to produce tangible benefits for Clients. "Now that we are part of Fluor, we can accelerate innovation by sharing knowledge on maintenance more broadly, but also by gaining new insights from best practices from the capex phase of an asset life cycle," Steenbakker says. "Through our collective knowledge and by learning from our Clients, we can improve asset performance and extend the asset lifetime. This will eventually reduce Clients' overall production costs."

### NO COMPROMISE ON SAFETY AND QUALITY

Both Stork and Fluor are recognized for their commitment to safety, a core value along with integrity, teamwork and operational excellence. A focus on cost reduction will not impact these commitments, says Steenbakker. "We will keep delivering complex projects at the highest standards, without compromising on safety and quality."



# CELEBRATING OUR REACH BEYOND ZERO LEADERS & HSSEQ SUCCESS

**Employee recognition is an important tool that can help make employees feel valued, foster a positive work environment, and improve engagement and motivation. Many organizations practice informal recognition for a job well done, such as the metaphorical – or literal – pat on the back, a few kind words or some extra money in the pocket.**

However, recognition programs are most effective when they consist of both formal and informal components. Stork prides itself on formally recognizing the efforts of its employees who go above and beyond the call of duty for HSSEQ. This recognition comes in the form of the REACH Beyond Zero Annual Awards.

The Annual Awards initiative was launched across the business in 2013. It puts a positive spotlight on employees who demonstrate HSSEQ excellence, which is linked to key organizational values and goals. This has helped increase engagement in HSSEQ and improve the company culture and performance.

Stork's initiative offers all employees, whether on-site or in the office, the opportunity to nominate or be nominated in five categories (see page opposite) for their outstanding HSSEQ performance. This year, the Awards have been extended to the Fluor O&M group, which joined the Stork organization post-acquisition in March 2016. That means a total of six high-profile, regional award ceremonies will take place on September 28.

Ann McGregor, VP Corporate HSSEQ, says:

"We see true value in our Annual Awards initiative. It is a highlight in the calendar of employees and Clients alike. These events provide a high-profile opportunity to reinforce the key behaviors promoted across our business, to demonstrate our values and to drive lasting HSSEQ performance improvement."

**"***"Recognition for outstanding HSSEQ contributions is highly visible, the manner in which this is rewarded is truly authentic. Leadership is demonstrated and rewarded at all levels in our company. Understanding of best practice behaviors and actions are shared and impactful."*

"Engagement is achieved both internally and externally, across the globe, from our worksites to our offices, as we showcase the key drivers behind our HSSEQ culture journey. Fluor O&M's adoption of the Annual Awards initiative is testament to its success in recent years and the importance we place on it as part of our formal recognition of employees."

Clients who are interested in attending a regional awards ceremony or finding out more about the initiative can contact [reachbeyondzero@stork.com](mailto:reachbeyondzero@stork.com).



# HERE'S WHAT SOME OF THE 2015 REACH BEYOND ZERO ANNUAL AWARDS WINNERS HAD TO SAY...

**"I feel very proud that I've been nominated for an award and that my hard work was seen by Stork."**

Vishnu Dhanroy, Global winner of REACH Beyond Zero VALUE Champion Award



**"I felt really honoured to be nominated so to win would be unbelievable."**

Stacey Henderson, winner of the UK REACH Beyond Zero VALUE Champion Award



**"The recognition for what we achieved is fantastic. For the team, this award is truly great."**

GLT-PLUS NORG Project Team, winner of the CE Best Team Award



## ANNUAL AWARD CATEGORIES

### *Award for HSSEQ Improvement*

For an individual or team who has developed and introduced a new technology, system or work practice that has improved individual, plant or operational HSSEQ.

### *Award for REACH Beyond Zero VALUE Champion*

For an individual who consistently and proactively demonstrates the five key REACH Beyond Zero VALUE behaviors – Visibility, Authenticity, Leadership, Understanding, Engagement.

### *Award for Incident Prevention*

For a proactive individual who challenged an unsafe situation and successfully intervened to prevent a potential incident.

### *Award for HSSEQ Rising Star*

For a promising individual who has shown personal commitment, ownership and responsibility to improving HSSEQ in his or her work area.

### *Award for Best Team*

For a team who has achieved excellent health, safety, security, environment or quality results.



# STORK HELPS TU DELFT SOLAR BOAT FLY

THIS YEAR, THE STORK LOGO FEATURES PROMINENTLY ON THE HULL OF ONE VERY SPECIAL VEHICLE: THE SOLAR BOAT OF THE TECHNICAL UNIVERSITY OF DELFT (NL). THE STUDENTS HAVE THEIR SIGHTS SET ON SUCCES IN THE DUTCH SOLAR CHALLENGE: THE UNOFFICIAL SOLAR BOAT WORLD CUP, WHICH TAKES PLACE IN THE NETHERLANDS THIS SUMMER. FROM THERE, IT WAS ON TO MONACO, WHERE THE TEAM INTENDED TO FINISH A PARTICULARLY HIGH-TECH SEASON - AND ONE IN WHICH STORK HAS PLAYED A KEY ROLE - IN STYLE.

## PRECISION WORK

"It's true - this was no ordinary project," admits Sybren Reinsma, Site Manager at Stork Turbo Blading in Sneek. The project he refers to involved producing lightweight wings for the TU Delft's solar boat. "We're used to precision work here. But were regularly asked what on earth we were doing throughout this project," explains Reinsma, referring to the computerized preparatory phase.

"The TU Delft provided us with the CAD design for the wings. The longest wing exceeded 1.2 meters (3.9 feet), but ended up being no thicker than half a millimeter (0.019 inches). It took some brainpower to figure out how to get there."

The solution finally came in the form of a phased production process. Once the first half had been milled, the space created was filled with an epoxy resin.

This allowed the shape to be retained, while the other half was being machine-processed.



*Stork technician prepares wing production based on CAD drawings*



**“**We’re looking for optimal hydrodynamic properties without compromising on strength. Stork is synonymous with customization and quality. In this project, even the slightest defect would result in loss of capacity. They know exactly how to avoid that happening here.”

Luuk van Litsenburg, Aerospace Engineering student at the TU Delft

#### 10% FASTER

Luuk van Litsenburg, Aerospace Engineering student at the TU Delft, was responsible for the wings’ design, and kept a close eye on the production process in Sneek. “The wings were made using aluminum, which is also used in the aerospace industry. We anticipate that the new design will enable the boat to travel up to 55 kilometers an hour (34 miles an hour): 10% faster than before.” Van Litsenburg is pleased to have Stork expertise on hand to transform this valuable material into a strong wing. “We’re looking for optimal hydrodynamic properties without compromising on strength. Stork is synonymous with customization and quality. In this project, even the slightest defect would result in loss of capacity. They know exactly how to avoid that happening here.”

#### DUTCH SOLAR CHALLENGE

How is the new design expected to fare? Van Litsenburg: “Her first launch was successful. Races in the Netherlands and Belgium highlighted areas for improvement, helping us on the way to achieving our goal of winning the Dutch Solar Challenge in Amsterdam.” Ultimately, the team finished second which is a promising result towards the 2017 season.



Finished wing

#### STORK’S SUSTAINOVATION CHALLENGE

One thing about the Dutch Solar Challenge was certain: the team was cheered on from the shoreline by a special delegation from Stork. The partnership with the TU Delft was the inspiration behind the company’s Sustainovation Challenge: an initiative designed to stimulate sustainable innovation within the business. All 19,000 maintenance, modifications & asset integrity staff employed by Stork and Fluor were invited to submit ideas for improvement around Client services, working methods on-site and impact on the local area and environment. The Challenge has resulted in a good number of feasible ideas, which Stork is reviewing for potential implementation. The winning team was invited to witness the start of the Dutch Solar Challenge in Amsterdam.



# STORK OPENS SAFETY & SKILLS CENTER, THE NEXT STEP IN REACH BEYOND ZERO

STORK'S MOST IMPORTANT CORE VALUE IS SAFETY. TOGETHER, WE MUST ALL ENSURE THAT AT THE END OF EACH WORKDAY, EVERYONE GETS HOME SAFELY AND IN GOOD HEALTH. TO THAT END, AN ESSENTIAL ASPECT OF REACH BEYOND ZERO, STORK'S SAFETY PLATFORM, IS TO TEACH AND DEVELOP EMPLOYEES IN THE AREA OF SAFETY. IT IS WITH GOOD REASON THAT ONE OF THE KEY ELEMENTS OF STORK'S POLICY IS: 'EVERY NEW EMPLOYEE IS GIVEN A COMPREHENSIVE INTRODUCTION TO STORK'S SAFETY PROGRAM AND, IF NEEDED, ADDITIONAL GUIDANCE.'

With the opening of the new Stork Safety & Skills Center in Botlek, Rotterdam, Stork has taken another step towards REACH Beyond Zero. Before being granted access to a Client site, both internal and contracted employees are selected and trained in the field of safety and professional competence at the Skills & Safety Center. To provide further guarantee of the safety and quality of Stork employees, eventually all internal and contracted Stork employees will undergo a selection and training program. Potential new employees will also be tested



in the Safety & Skills Center at the Botlek site. This will include both theory and practical tests, for different fields and disciplines, including: flange technician, fitter, welder and (E&I) mechanic & technician.



Already during the selection process, potential new employees are assessed on their level of safety awareness. Using a range of different test set-ups, each based on the most common safety incidents, every potential new employee's safety skills and ethics related to work safety are tested. If the selection process is completed successfully, the new employee will go through an introductory program at the Safety & Skills Center directly afterwards.

Depending on the future role of the new employee, he or she will receive various kinds of training. For instance, this could include safety instruction, a specific Client introduction, and/or training in gases. The first pilot projects are already well underway, and are showing promising results.

# DSM: INNOVATIVE PERFORMANCE CONTRACT FOR DRYER MAINTENANCE

STAKEHOLDERS IN THE MAINTENANCE INDUSTRY HAVE BEEN TALKING ABOUT PERFORMANCE CONTRACTS FOR SOME TIME NOW. BUT PRACTICAL EXAMPLES ARE STILL NOT READILY AVAILABLE. WITH THIS IN MIND, DSM IN THE NETHERLANDS, TOGETHER WITH STORK, HAS DEVELOPED AN APPROACH WITH THE GOAL OF EXTENDING THE LIFESPAN OF ITS 40-YEAR-OLD DRYERS. THE APPROACH IS A GOOD PRACTICAL EXAMPLE FOR THE INDUSTRY.

The three DSM Engineering Plastics factories at the Emmtec industrial site in Emmen produce, among other things, highly innovative polymers. The development of these polymers has been so successful for, in particular, the electronic industry, the medical field and organic LED production, that the aim is to increase production. This presents a challenge for the 29 drying systems that make it possible to package and transport the polymers as a dry granulate. So, when a dryer jammed recently, DSM Maintenance & Engineering Manager Paul Casteleijn was immediately triggered to investigate the exact physical condition of the other dryers. The results were clear: the 40-year-old dryers were nearing the end of their technical lifespan. Casteleijn seized the opportunity to join forces with DSM Sourcing, Stork (its maintenance partner) and Tebodin to put together a long-term plan to extend the lifespan of the dryers. With a commitment to achieving the highest overall equipment effectiveness (OEE) possible.

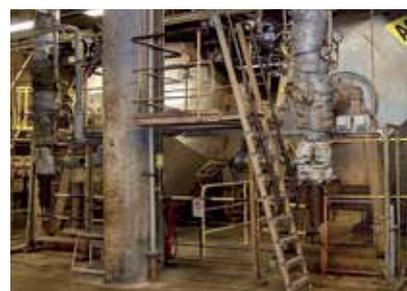
## PERFORMANCE CONTRACT

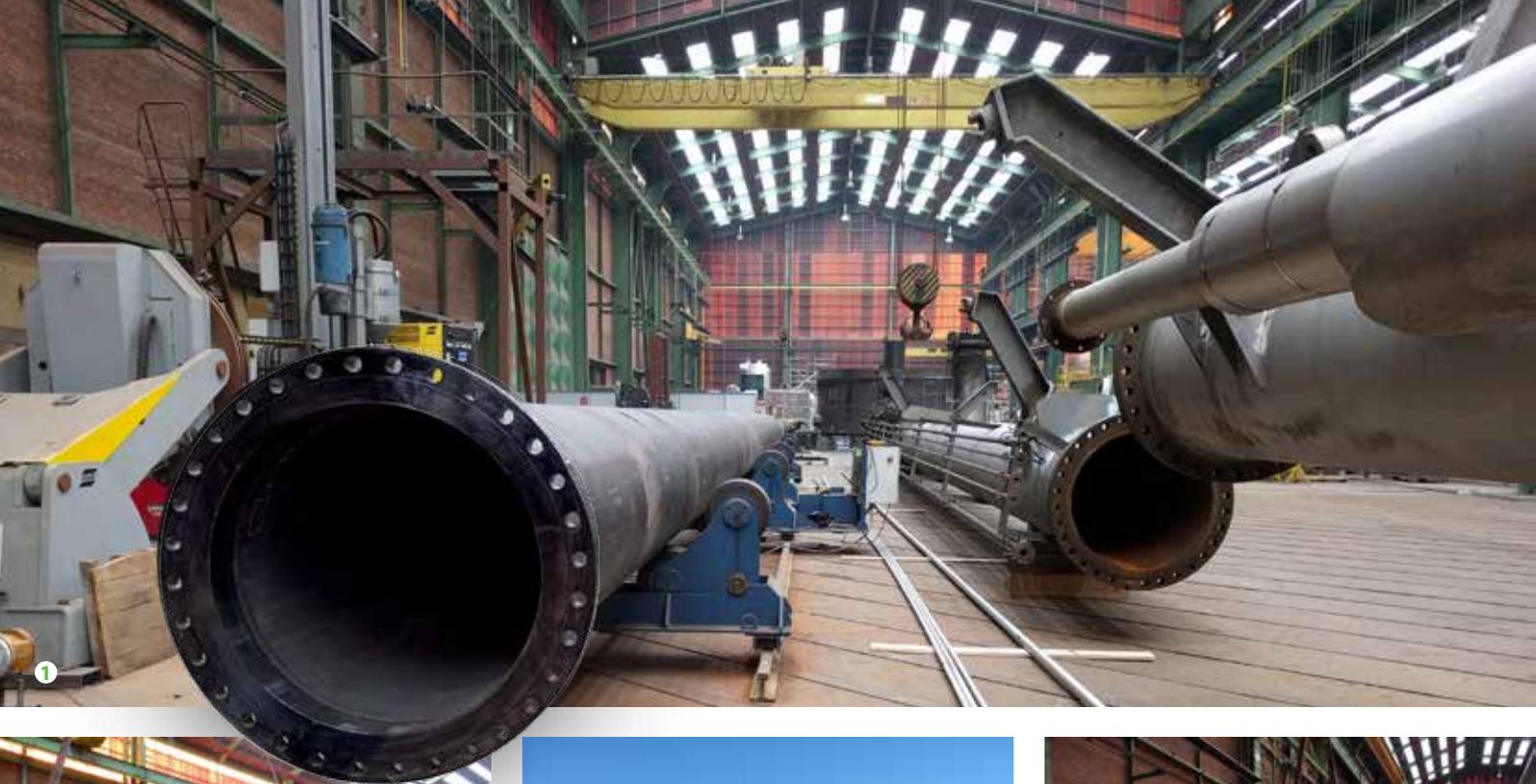
The planned overhaul work is very labor-intensive. A complete overhaul of one dryer can take up to ten weeks. However, the advantage is that many activities are repeated during the process. "The expectation is that experience will

increase with each dryer overhauled, so we anticipate that the price per overhaul will actually decrease," Casteleijn says. As such, the performance contract with Stork allows for a cost-price reduction. This does not mean that Stork will not be rewarded if it performs better than expected. DSM Category Manager John van Wijk has a clear vision where this is concerned. "The KPIs formulated are primarily output-oriented. It is important to us that the project is implemented quickly and safely, but a performance contract does not only address hard, quantifiable aspects. The greatest gains are often possible to achieve on 'soft' aspects: the development of trust and collaboration with production. Bearing this in mind, a number of KPIs are designed to promote innovation and ground-breaking initiatives."

## RECOGNITION

The collaborative approach adopted by DSM, Stork and Tebodin has not gone unnoticed by management at DSM, either. Each year, this international life & material sciences company organizes a Key Supply Management (KSM) competition, in which Stork also took part. Van Wijk: "The high contract value, clear cost savings and link with the maintenance maturity model is a great example for the market. It's now possible to immediately measure performance. And, the contractor is given the scope to proactively contribute his or her thoughts on process optimization. We are transitioning from a reactive maintenance organization to a preventative knowledge-driven organization, in which the supplier has a direct link with asset performance. It goes without saying that we were very honored to achieve second place standing in the KSM Awards. An award like this strengthens our belief in the new approach. We see it as recognition of what we have achieved."





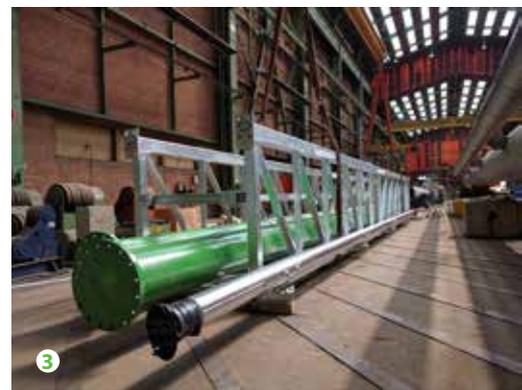
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# STORK ANTWERP SHOWS MULTI-DISCIPLINARY EXCELLENCE

Thanks to its well-equipped construction halls, central location in the harbor of Antwerp, and access to the docks, the Stork Antwerp location is ideally suited for efficiently carrying out both small- and large-scale construction projects. The concentration of various disciplines, from mechanical & piping, electrical & instrumentation to non-destructive testing and heat treatment, makes Stork Antwerp highly suitable for multi-disciplinary construction works. Such as skids and other constructions. Many exciting projects have already been completed on the site this year.

## 1. NEW FLARE FOR A CLIENT IN OIL & GAS

Supporting Fluor in their activities for a Client in the Oil & Gas sector, Stork is carrying out all the work for the replacement of the flare installation. The scope of the complete project consists of disassembling and lowering the flare components on site, constructing a new flare. This includes the support foundation – in Antwerp, and assembling the flare component in the tower on site.

## 2. FURNACE RING FOR A CLIENT IN GHENT

This concerns a 15 metric ton colossus, comprising two rings for a roasting furnace, which will be receiving a capacity increase. Due to its weight and dimensions [22.9 feet] (7 meters in diameter x 4 meters [13.1 feet] in height), transport of the furnace ring took place by inland shipping barge. Stork also acts as project leader for the overall on-site expansion of the furnace.

## 3. PIPE RACKS FOR A CLIENT IN PHARMACEUTICAL

Stork constructed six pipe racks, in order to expand a cooling installation for a Client in the pharmaceutical industry. The racks are 25 meters (82 feet) long and weigh 15 metric tons each. They were hoisted into position at the Client's site, and our staff performed the final assembly. To ensure on-site installation was carried out as efficiently as possible, the pipe racks were delivered completely flanged and as finished as possible including insulation and tracing. This reduces the number of on-site actions required, and improves safety during execution.

## COMPLEMENTING OUR VALVES SERVICES

**Acquiring the activities of Valve Reconditioning Services (VRS) in the port of Rotterdam area, enables Stork to strengthen its leading valve overhaul business in the Netherlands.**

VRS specializes in the reconditioning and repair of all types and brands of valves, including safety valves, control valves and shut-off valves. VRS was established in 2000 and offers a complete service range in the field of valve reconditioning and repair. The VRS quality system is ISO certified. What's more, VRS holds the Dutch quality label of Recognized Overhaul Company RToD T0103. This means VRS is allowed to independently authorize test reports of reconditioned safety valves, which fall under legal inspection, on behalf of Lloyd's.

Roy Janssen, Business Line Director Specialized Services for Stork: "The activities of VRS seamlessly fit in with our own vision to extend the lifespan of production facilities through high-quality maintenance. We will be expanding the current range of services offered by VRS with, among other things, diagnostic solutions and digital reporting. This will enable us to even better serve both our existing and new Clients in the future."

## STORK: FIRST CERTIFIED SERVICE CENTER FOR BC SHUT-OFF VALVES OUTSIDE DENMARK

**Brdr. Christensen ApS (BC) is a leading manufacturer of the plug shut-off valves that are used in gas, oil, water and heating systems, and for installations in the chemical and petrochemical industries. It is the biggest manufacturer of plug shut-off valves in Europe, known worldwide for the strength and reliability of its valves. Based on its high-quality service, Stork was chosen to be BC's first service center outside of Denmark.**

Another factor in the decision was Stork's position as an integrated player in the Benelux, parts of Germany and important offshore sectors in the North Sea, both from the Netherlands and the United Kingdom. For Clients with BC shut-off valves, Stork is able to offer:

- emergency support with 24/7 service and spare parts from stock;
- direct access to support for BC shut-off valves;
- information exchange regarding the history of existing valves;
- support from the maintenance and support service, trained by BC;
- short response times, quick arrival on site;
- a local presence, with workshops in Farmsum and Elslloo, the Netherlands.

## ISTIMEWA ELEKTRO CONTRIBUTES TO POWER SUPPLY FROM WIND ENERGY FOR 160,000 DUTCH HOUSEHOLDS

IN THE WATERS OF THE IJSSELMEER, ALONG THE DYKES OF THE NOORDOOSTPOLDER IN ONE OF THE WINDIEST LOCATIONS IN THE NETHERLANDS, THE WESTERMEERWIND WIND FARM HAS BEEN BUILT.

This new Dutch wind farm consists of 48 wind turbines, each with a capacity of 3 MW - set out in two rows along the Westermeer dyke, and one row along the Noordermeer dyke - as well as a transformer substation on land. The wind farm produces enough wind energy to power 160,000 households. Istimewa Elektro started the work on this large project in

January 2015. Istimewa Elektro contributed to the electrical installations of the concrete platforms of the turbines' foundation piles, which are positioned in the water of the IJsselmeer.

All 160,000 households are now already being supplied with green energy from the Westermeerwind wind farm.



# TEAMING UP FOR SUCCESS

MORE THAN 15 YEARS AGO, FLUOR BEGAN PROVIDING OPERATIONS & MAINTENANCE (O&M) SERVICES FOR THE RIO TINTO KENNECOTT MINE IN MAGNA, UTAH. THE THIRD-PARTY MAINTENANCE CONTRACT HAS NOW EVOLVED INTO A TEAM-DRIVEN RELATIONSHIP WITH A COMMON GOAL: TO MAINTAIN THE BEST, SAFEST, MOST EFFICIENT OPERATION POSSIBLE. TO THAT END, FLUOR HAS USED THEIR VALUE AWARENESS PROGRAM TO HELP RIO TINTO REALIZE MORE THAN \$4 MILLION IN COST SAVINGS IN JUST TWO YEARS.

## WORKING WITH THE BEST

Rio Tinto Kennecott (RTKC) is a fully integrated mining operation, and one of the world's largest open pit mines. RTKC's annual production includes around 300,000 tons of refined copper, and smaller quantities of other precious metals and minerals. Accounting for 17% of the country's copper, RTKC is the second largest copper producer in the United States.



## BEYOND THE CONTRACT

The Fluor team, 17 staff and 80 craft employees, was contracted for O&M activities on RTKC's Garfield Smelter. In total, Fluor's crafts employees average at least 500 job completions per week. They ensure the long lasting, efficient operation of the Smelter's equipment. But their goal is the safest, most efficient operation possible. So they also examine how shift change turnover, worker productivity and equipment performance can be improved. "The mine operates 24 hours a day, seven days a week," explains Roger Vachon, Fluor's O&M Site Manager at RTKC. "Every minute needs to be as productive as possible. Even delays of 10 minutes can have an impact. They add up over time."

## CONTINUOUS PRESENCE

At RTKC, Fluor offers 'continuous site presence'. Fluor representatives are always on-site, to immediately address any maintenance issues that may arise. "Every minute is essential when operations go down, and the longer we wait to address an issue, the worse it can become," Vachon explains. "Continuous site presence ensures the fastest response times possible." Vachon emphasizes that the safety of every employee is always a top priority. As of September 2015, Fluor has clocked 3.4 million safety hours without a Loss Time Injury.



*"In the first four months of 2016, the Fluor O&M team already expects more than \$800,000 in additional savings."*

### VALUE AWARENESS

Fluor further expanded their efficiency activities in 2014. Using their Value Awareness program, workers and staff at every level are encouraged to offer suggestions for improved efficiency or cost savings at RTKC. In the first two years, the program saved \$4 million. In the first four months of 2016, the team already expects more than \$800,000 in additional savings. Partially due to a reduction in the number of motor replacements in the Smelter's excavators.

Vachon explains: "Regular, diligent maintenance is extending the life of the motors, so they only need to be replaced once per year instead of twice."

### COMMUNICATION IS KEY

Vachon indicates that Fluor's work is not done in a vacuum. "It's a real team effort," he says. "We have daily meetings with operations and maintenance teams, and regular updates with management to make sure the lines of communication are always open. We address any issues immediately, and also acknowledge the successes we achieve together. RTKC and the other external contractors are a crucial part of that."

### SHARING KNOWLEDGE, GAINING RECOGNITION

The Fluor O&M team at RTKC has been asked to work with other maintenance teams of the mine, to share their expertise. And they are sharing their success to help other Fluor teams apply the same principles for their Clients. But for Vachon, the simplest recognitions often mean the most. "Recently, we helped RTKC reach an efficiency and production goal. When they bought lunch for their crew as a 'thank you', they invited the Fluor team, too. It was a great feeling."



# EOG HELIDECK FABRICATION AND INSTALLATION



THIS YEAR, STORK TRINIDAD SUCCESSFULLY WON THE BID TO CARRY OUT THE FABRICATION AND INSTALLATION OF THE EOG HELIDECK LOCATED ON THE KISSKIDEE PLATFORM.



Due to corrosion and rigorous offshore conditions, this helideck was in dire need of replacement. The scope of this job included the construction of a wider superstructure and sub-structure to accommodate a larger chopper, in accordance with the Civil Aviation Authority 437 Standard.

All scheduled jobs were completed according to plan, with outstanding results and no effect to person, assets or environment:

- Fabrication completed one week before schedule;
- Installation completed eight days before schedule.

Safety remained a top priority during this project, with a total of 13,000 man hours worked with no loss time or injuries.

## STORK NOW SERVICES JA-KE GEARBOXES

STORK HAS BECOME THE SOLELY AUTHORIZED SERVICE COMPANY FOR JAHNEL-KESTERMANN (JA-KE) GEARBOXES AS OF THIS YEAR. AN AGREEMENT HAS BEEN REACHED TO MOVE THE MAINTENANCE AND SUPPLY OF JA-KE SPARE PARTS TO STORK GEARS & SERVICES.

After Ja-Ke's closing, the agreement guarantees the continued international delivery of original parts, as well as the maintenance of Ja-Ke gearboxes. Part of the agreement also involves the access to most of Ja-Ke's intellectual property, and the vast majority of original Ja-Ke drawings for the design, reproduction and installation of identical, newly constructed gearboxes.



# A COLLECTIVE COMMITMENT TO SAFETY AT SHELL

SHELL'S 10TH GLOBAL SAFETY DAY TOOK PLACE IN APRIL. THE EVENT FULLY ENCOURAGED EMPLOYEES AND CONTRACTORS ALIKE TO COME TOGETHER AND ENGAGE, SHARE IDEAS AND GOOD PRACTICES, WORK TOGETHER ON PLANS TO DELIVER CONTINUOUS IMPROVEMENT IN SAFETY PERFORMANCE AND REFLECT ON OUR PERSONAL AND COLLECTIVE PLEDGE FOR SAFETY.

As a committed Shell contractor, Stork was asked to participate in Shell's Aberdeen, Scotland Safety Day. Stork showcased a number of safety-led innovations, including the Extended Reach Breathing Apparatus System (ERBAS) and the Hot Bolt Clamp (HBC) system (see separate box). Stork continually develops and updates its product and service offering to include new technologies that improve the health and safety performance of the company, its operatives and its Clients' operations.

Jade Crotty, VP HSEQ for Stork UK, commented: "We were delighted to be a part of such an engaging and collaborative safety event. Stork strives to work closely with our Clients, ensuring we share a common commitment to all aspects of HSEQ. Shell's Safety Day is a prime example of this."

## HOT BOLT CLAMP IN PRACTISE AT SHELL

Last September, Stork's specialist HBC team supported Shell's Bacton Gas Plant to circumvent an entire plant shutdown by utilizing their HBC system on a small valve. The valve had badly corroded bolts that required replacement. To execute this work conventionally, the system would need to be depressurized, evacuated and purged. Due to the location of the valve, this meant shutting down the entire plant, and therefore all the producing facilities feeding into the plant, for two days. Lost production to normal operations for this interruption was estimated to be over 150,000 boe per day.

To mitigate this risk, two specialist Stork operatives briefed the Shell Bacton team, and then successfully carried out the bolt change in a couple of hours, without any interruption to the plant's normal operations. Stork's intervention was well received by the Bacton personnel, who saw the clear benefits of using the technology to restore mechanical integrity to a key system.



## STORK'S SAFETY-LED INNOVATIONS:

- Left: Extended Reach Breathing Apparatus System (ERBAS): a high pressure, quick-connect emergency air cylinder refill system. Offshore, ERBAS is typically used for platform leg worksopes, where the operatives may have to climb 100 meters (328 feet) up vertical ladders and stairs to a safe area. ERBAS can also be used inside FPSO tanks, where the distance travelled may compromise their escape cylinder contents. Likewise, the system can be deployed up flare stacks, where the distance to safety may be 100 meters (328 feet) down.
- Right: Hot Bolt Clamp (HBC): a set of purpose-designed hydraulic clamps that clamp a set of pressurized bolted flanges together, so stud bolts can be safely removed. They were recently used successfully on the Nelson platform as well. This technology ensures that flanges are safe and secure at all times, while allowing plant operations to continue without the need for isolations.



# TURNAROUND ALLIANCE BRINGS INNOVATION AND EFFICIENCY TO ECOPETROL COLOMBIA

INNOVATIONS, AND THE IMPLEMENTATION OF INNOVATIVE TECHNOLOGY, ARE THE CENTRAL AXES OF EFFICIENT AND EFFECTIVE OPERATION. THEY ARE ALSO THE DIFFERENTIATING ELEMENTS IN THE SERVICES THAT THE TURNAROUND ALLIANCE CONSORTIUM PROVIDES TO ECOPETROL'S BARRANCABERMEJA REFINERY. IN AN EFFORT TO CONSTANTLY IMPROVE SERVICES AND RESULTS, ALLIANCE PARTNER STORK-MASA HAS INCORPORATED INTEGRATED PROCESSES IN A PROJECT THAT INCLUDED MORE THAN 30 MAINTENANCE ORDERS, SIX PLANT STOPPAGES AND ONE SPECIAL JOB INVOLVING THE RECOMMISSIONING AND START-UP OF THE TURBOEXPANDER PLANT.

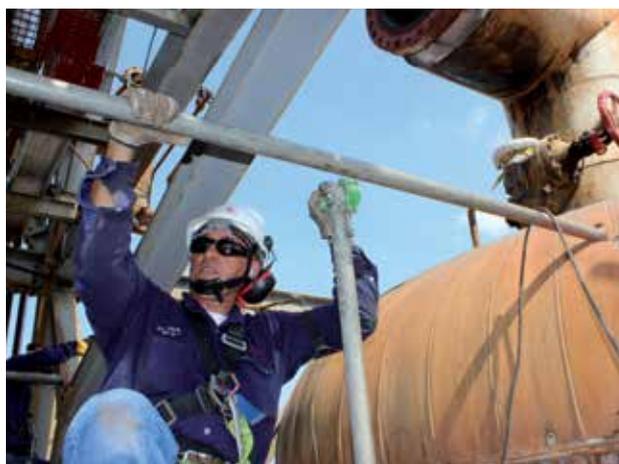
## FOCUS ON PRODUCTIVITY

The Turnaround Alliance Consortium proved to be an ideal platform for a smooth collaboration and for sharing knowledge and expertise between the partners. A rigorous personnel selection process and an adequate training plan, which guarantee knowledge sharing and the commitment of the operation's employees, are also part of the consortium's activities. Strategies focus on improving productivity levels and efficiency. And, perhaps most importantly, on assuring

optimal performance of assets and the integrity of industrial installations in the Barrancabermeja Refinery.

## DETAILED EXECUTION

"Plant stoppages require a detailed planning," explains Catherine Sosa, Risk and Knowledge Transfer Coordinator at Stork-MASA. "We define the work packets and the activities, programming and resources, both technical and human, associated with each of the major maintenance requirements. During the





**II** *"We have managed to be seen as a true ally in the day-to-day maintenance routine. As a consortium, we understand process control. This has allowed us to fully comply with more than 30 service orders to date, and to achieve HSEQ excellence, including around 335,000 man hours without serious accidents."*

Faustino Camacho  
Maintenance Manager at Stork-MASA

preparation, we verify all those activities, such as repair or prefabrication, to help us to save time during execution. Lastly, during the execution, we strictly carry out those plans, in order to meet the objectives defined at the start of the job. At the same time, opportunities for improvement are identified and implemented where possible."

### SPECIALIZED IN DAY-TO-DAY MAINTENANCE

By following these procedures, Stork-MASA became a strategic partner for day-to-day maintenance, a specialized service the Turnaround Alliance Consortium offers. Primary activities include: repairing leaks, cleaning interchangers and boilers, installing thermal insulation, inspection of tubing, assembly and disassembly of scaffolding, electrical maintenance works, telemetrics and preventive maintenance. The consortium strives to achieve efficiency and inspire innovation, despite the complexity of the services provided for more than 10 supportive production areas.

### RECOMMISSIONING AND START-UP OF THE TURBOEXPANDER PLANT

Because of the knowledge and experience the Turnaround Consortium had already demonstrated, Ecopetrol issued a special service requirement. The company requested to recommission and restart the Turboexpander Plant, built several years ago to recuperate ethane gas originating from the crude-oil-producing fields. The plant has been out of service for more than 11 years, due to a low gas charge. Since then, its equipment has deteriorated. Ecopetrol asked the consortium to recommission the plant and optimize its performance, according to new refinery needs. Stork-MASA saw this great challenge as an opportunity to demonstrate the technical capacities and the tools the consortium has in place to optimize investments in assets.

## STORK COLOMBIA OPENS ITS OWN COMPANY UNIVERSITY

STORK CONSTANTLY SEARCHES FOR NEW WAYS TO BECOME MORE EFFICIENT AND TO OFFER BETTER SERVICES. FOR THIS REASON, THE TEAM IN COLOMBIA OPENED ITS OWN COMPANY UNIVERSITY. ITS MOTTO 'GROW BY SHARING EXPERIENCE' EMPHASIZES KNOWLEDGE TRANSFER AND IMPROVING THE SKILLS OF EMPLOYEES.

The training contributes to the ongoing improvement objectives and optimizing timely operational matters. Previously, external suppliers – who did not fully recognize the specific requirements of a project – supported the training. Therefore, they often only centered on the theory. Cielo Suárez, Senior Training Professional at Stork-MASA, found the answer to this within his own organization: "We looked internally for the experts to transfer knowledge in each of our projects. That allows us to make training more effective. At the same time, we are making efficient use of the experience and expertise we already have on hand."

### IMPROVED DEVELOPMENT CULTURE

Last year, the Company University first started in 12 Operation and Maintenance (O&M) contracts across the country. There, the Human Capital Development team collaborated with local management to design relevant courses that responded to the specific contracts. Today, the University offers nearly 100 courses in different skills (mechanical & piping, electrical & instrumentation, among others). A team of approximately 57 specialists, in the role of resident experts, designs the content in line with the desired project objectives.

Suárez adds: "Mainly, they are short courses. But there are also longer, specialized programs available. It is important that each of the participants understands how to develop his/her skills correctly. To strengthen our service quality."

Most courses are open for registration, where professionals can freely attend. In some cases however, there are programs focused on specific areas, for which participants are invited and usually attendance is mandatory.

Suárez emphasizes: "The success of our University depends upon the interest and the desires of each attendant to improve his or her skills. Nevertheless, each one has the responsibility to make the best use of the tools we provide them."



# COMBINING CAPABILITIES IN AUSTRALIA AND NEW ZEALAND

IN 1954, FIVE GIOVENCO BROTHERS FOUNDED A SMALL SANDBLASTING AND PAINTING BUSINESS IN SYDNEY, AUSTRALIA. 62 YEARS LATER, GIOVENCO INDUSTRIES IS A LEADING PROVIDER OF INDUSTRIAL SERVICES IN AUSTRALIA. PAUL GIOVENCO, SON AND NEPHEW OF THE FIVE FOUNDING BROTHERS, TALKS ABOUT HIS CURRENT ROLE AS VP FOR STORK'S ASIA-PACIFIC REGION AND THE TASK OF COMBINING GIOVENCO INDUSTRIES, STORK AND FLUOR O&M.



Paul Giovenco was CEO and Managing Director of Giovenco Industries when Stork acquired it in 2015. Now, he represents Stork as Vice-President Asia-Pacific. "Stork was looking to expand its regional footprint in Asia-Pacific," Giovenco says. "Since both companies are committed to Client value and the highest safety standards, the acquisition was a perfect fit."

## A LIVING LEGACY

In the 62 years the company has been operating in very high compliance sites, one thing that has remained constant is the Giovenco commitment to safety. "The proudest thing for me and my family is, with a turnover of between 30,000 and 35,000 personnel, we have never had one fatality," Giovenco says. "We live safety. I have personally reached out to families of personnel, to tell them I've seen their loved one conducting exceptional safety on site. If our people hold safety in such high regard, we may have their 13 or 14-year-old son or daughter grow up to work at one of our sites and continue the safety culture that Mum or Dad taught them."

## BLENDING STRENGTHS

After Fluor's acquisition of Stork in March 2016, Fluor's Industrial Services group in Australia has combined strengths with Stork and Giovenco to offer a full range of industrial services. They are supported by a combined staff of more than 1,600 employees in the Asia-Pacific region. "My main word to describe Stork's biggest strength in the Asia Pacific region is diversification," Giovenco says, citing the company's broadened capabilities to offer even more complete services to market segments like oil & gas, mining and metals, industrial and rail. "And all of our capabilities are backed up by innovative solutions and experts from our global owners."

## ADDRESSING CLIENT CHALLENGES

The synergies will help to address the challenges that Clients currently face, according to Giovenco: "Clients want partners that hold safety as a top priority while offering them sustaining maintenance improvement, cost efficiencies, and reduce labor hours. We concentrate on tool time, offer design innovation in maintenance programs

CURRENT AND RECENT STORK OPERATIONS AND MAINTENANCE CLIENTS/PROJECTS IN AUSTRALIA AND NEW ZEALAND

1. Santos GLNG\*
2. Caltex Lytton Refinery
3. Caltex Kurnell Refinery
4. Port Kembla Coal Terminal
5. Chevron Wheatstone OSBL\*
6. Chevron Gorgon\*
7. Rio Tinto Iron Ore Rail
8. BHPB Iron Ore Rail
9. GDF Suez Hazelwood Power Plant
10. Australian Paper Maryvale Mill
11. Woodside KLE JV
12. Kwinana Strip various NDT projects
13. Shell Todd Oil Services NZ
14. Origin Energy NZ
15. Bluescope Steel Plant
16. QGC Upstream CSG
17. BHPB Illawarra Coal Rail
18. APLNG\*
19. Esso Longford Gas Plant\*
20. Wesfarmers various sites



\* indirect contracts

**STORK SERVICES**

- Advanced inspection
- Non destructive testing
- Heat treatment
- Thermal consultancy
- Plant & tank inspection
- Controlled bolting services
- Cathodic protection
- Corrosion monitoring and management
- Onsite machining
- Drone capabilities

**GIOVENCO INDUSTRIES SERVICES**

- Industrial maintenance services (fabric maintenance)
- Coatings & abrasive blasting
- Fire proofing solutions
- Insulation
- Scaffolding & access
- Tank repairs & shutdowns
- Mechanical services

**FLUOR SERVICES**

- Brownfield engineering
- Sustaining capital programs
- Maintenance and reliability engineering
- Asset optimization services
- Plant turnaround (shutdown) planning and execution
- Operational readiness & plant commissioning
- Plant maintenance
- Plant operations
- Rail design, construction, maintenance and facility management

and great software systems from 3D modeling to work packaging.” Giovenco continues that Stork, Giovenco Industries and Fluor are up for the challenge. A strong Client focus and a deep base of knowledge, expertise and experience put the companies at the forefront to serve Clients’ needs. But in addition to know-how and skills, Giovenco emphasizes that delivery and culture play a key role. “It’s all about reaching a level where our employees promote our business. I have the faith to bring my employees into safety audits with our main contractors, because I know that the culture of safety is one that all our staff understands. This is important: we pride ourselves – and even sell – on that safety culture.”

**FIRST THINGS FIRST**

Giovenco’s short-term vision focuses on combining the Fluor O&M, Giovenco and Stork operations, and melding resources together. For instance, Giovenco is very excited about utilizing Stork’s offshore capability. He says that it’s really well equipped, very technologically sound and offers vast experience in offshore human resources, too: “That capability is going to be something that will greatly benefit the Asia Pacific region in the coming years.”

**FOCUS ON THE FUTURE**

Giovenco has clear plans for the future of the Asia-Pacific business. “I have a vision of strong growth,” Giovenco states. “We have been very busy putting the new working structure in place. And I know we will be successful with an engaged management team to help lead us into the future. Our people are our main business, so I also want to keep our people informed on our strategy, site performance, new awards and innovations,” he says.

“Most importantly, I want to continue to give them the tools, knowledge and processes to be world-class in safety. As we always have been, with zero incidents!”

# STORK'S VALUE-DRIVEN APPROACH TO HSSEQ AT THE TOPSIDES UK 2016 CONFERENCE

Stork gave a presentation on its value-driven approach to HSSEQ at the Toppides UK 2016 Conference. The event, which attracted more than 500 visitors, took place at Aberdeen Exhibition & Conference Centre (AECC) in Scotland, in March.

The conference was the first of its kind, and focused on topside operations on ageing assets. The theme, 'A Platform to Engage', provided Stork with the opportunity to discuss how REACH Beyond Zero helps instill a sense of personal responsibility for safety and other HSSEQ issues across all populations within its business.

Ann McGregor, VP Corporate HSSEQ, explained how Stork continues to build a robust safety culture from the bottom up, playing a pivotal role in all operational decision-making. The presentation included a practical case study that

illustrated a collaborative and 'First Time Right' approach to delivering flange management operations on a major North Sea Operator's installation.



## ONE-STOP-SHOP MAINTENANCE FOR TURBINES

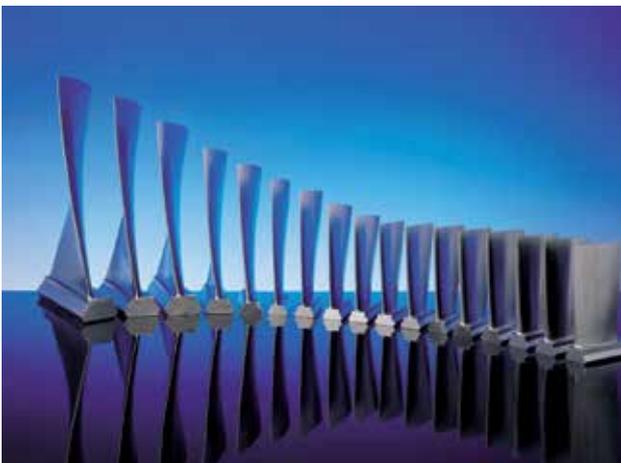
IT IS NO SECRET THAT PREVENTIVE MAINTENANCE IS CRUCIAL IF YOU WANT POWER-GENERATING EQUIPMENT TO KEEP GENERATING POWER. BUT IN REALITY, NOT EVERY TURBINE GETS THE ATTENTION IT DESERVES, AND WORN-OUT TURBINE PARTS CAUSE COSTLY DOWNTIMES. NOT TO MENTION THE POTENTIAL SAFETY HAZARDS WHEN BROKEN PARTS FLY OUT AT HIGH SPEEDS.

Stork's Turbo Machinery Components organization is a one-stop-shop for spare parts – from design and production to installation – and reduces repair costs and downtime. Stork is even able to extend asset lifetime by producing a better quality part than the original, ensuring that it lasts longer inside a turbine.

Stork's 3D scanning capabilities allows it to scan parts ranging from 2mm (0.079 inches) to over 20 meters (65.61 feet) in size.

The scans can take place on-site, no matter what the Client's location. Gathered data is coupled with Stork's CNC programming software in high-end manufacturing sites in the US and the Netherlands, where the part is custom-made and delivered to the site. This closed system allows 'First Time Right' production.

Stork can even suggest modification opportunities, improving the part design to better suit operational conditions as part of its reverse engineering services.





CASE STUDY:

# REDUCING DOWNTIME IN OMAN

## ON-SITE SCANS BRING FAST, EFFICIENT RESULTS

Stork constantly strives to provide the fastest, most efficient, most valuable asset maintenance possible. By combining knowledge and expertise with the latest technology, Stork not only replaces parts, but can even make the parts better, and longer lasting than the originals. The Stork Reverse Engineering team recently helped Client SMN Barka Power in Oman to reduce their downtime and expenses during the repair of two steam turbines.

## TIME OF THE ESSENCE

Every minute of downtime on a steam turbine costs money. So when a leak in the cooling system caused saltwater to damage two steam turbines at SMN Barka, they reached out to Stork's Reverse Engineering team to request the fastest, most effective and cost-efficient repair possible.

## ON-SITE SUPPORT

The Reverse Engineering team was deployed to the site during the disassembly of the turbines, to ensure that data could be gathered quickly, and to reduce time for analysis and repair. Although the Client could not be certain which parts would need to be replaced, the Reverse Engineering team had everything they needed to respond. Stork worked closely with the local maintenance teams to ensure that the right conditions were in place to perform on-site scanning and engineering. Using 3D scans of the defective parts, Stork was able to immediately send accurate scans of the needed components to the manufacturing facility. This further reduced repair time and cost by eliminating the need to ship the defective parts to the manufacturer.

## CUTTING-EDGE SOLUTIONS

Stork's swift intervention and on-site scanning and engineering brought SMN Barka a number of important benefits. First, downtime was reduced by more than a week, since the Reverse Engineering team was on-site to capture and process the necessary data. Next, replacement parts were available in the shortest timeframe possible, as Stork's 3D scans could be used to create the needed parts. Perhaps most importantly, Stork performed scans on all the critical parts, and two rows of the low-pressure blades of the turbines. Although replacement parts were not yet required in those areas, Stork now has that data readily available for future overhauls.

## PROJECT FAST FACTS

- Project: steam turbine repair
- Client: SMN Barka Power
- Location: Oman
- Services: Reverse engineering
- Date: 2015

## TPI SERVICES IN TRINIDAD AND TOBAGO

Stork in Trinidad and Tobago has expanded its service portfolio to include Third Party Inspection (TPI). This service strengthens the company's ability to oversee the function testing, NDT inspection and assembling processes specific to equipment used in the Oil & Gas industry in the Caribbean. This newly formed TPI unit provides visual inspection, process witnessing and document verification for equipment at several supplier facilities, before the items are shipped offshore. This well-trained and experienced team began providing services in March 2016, for our major client bpTT.



## ON THE ROAD TO OPTIMAL COMPETENCY MANAGEMENT



Also in Trinidad and Tobago, Stork has officially launched its Competency Assurance Management System (CAMS) in the second half of 2015. It is part of Stork's corporate objective to ensure a safer work environment for its workforce and, by extension, its Clients. Adopting this competency approach, Stork is able to ensure that all employees are exposed to industry best practices and regulations, while keeping them free from harm. Stork identifies the competency requirements for the different technical disciplines through competency standards.

The standards have been aligned to job roles for assessing employees in various disciplines, such as scaffolding, rope access and fabric maintenance. Since its launch, 4 assessors have successfully attained the Scottish Qualification Authority (SQA) 9DI Assessor certification, and a total of 46 employees have been deemed competent for their specific technical disciplines. The local team will be seeking OPITO certification for its CAMS in 2017.



# SMART SOLUTION EXCEEDS CLIENT EXPECTATIONS

DIFFERENT APPROACH + NEW SOLUTION = HUGE SAVINGS FOR CLIENTS. EQIN SUCCESSFULLY PUT THIS FORMULA INTO PRACTICE.

One of Stork's Clients rents a more than 200-meter-long (656-foot) manufacturing facility at a former shipyard, where it produces industrial parts. The building is old, with sub-optimal power supply. The client approached EQIN, Stork's equipment rental and sales specialist, asking for an alternative quote for his demand. "We were given a list of all the equipment that had been provided by another supplier, and were asked to write our price next to each item," says EQIN Technical Manager, Dennis Doorduyn. "We weren't comfortable competing on price alone, so asked if we might take a look for ourselves."

## MESSY

On visiting the site, Doorduyn and Ben Jacobs, EQIN Account Manager, discovered: "...completely unused or barely used mains power supplies, generators of various makes and models dotted throughout the entire property, excessive and messy cabling and serious noise pollution caused by one of the generators." The big question was, why the need for so much rented equipment, when there is mains power available? EQIN spent time listening to the Client's needs and came up with an entirely different approach.

## NEW PROPOSAL

EQIN's proposal comprised five key elements:

- Inter-connected generators, to be used in line with demand;
- (Re)employment of the existing mains power grid;
- Use of quieter generators, putting an end to noise pollution;
- A plan to clean up cables at height;
- An entirely new tariff plan.

Doorduyn: "With this Client, we don't charge them a fixed rental price. Instead, we are offering a pricing structure similar to that of a home: they pay for what they use, i.e., a price per kWh of usage, which incorporates costs for rental, maintenance and fuel."

## INTELLIGENT INNOVATION

The Client was more than happy to accept the proposal, recognizing the benefits: greatly reduced noise pollution, significantly lower diesel consumption (with a knock-on positive effect on the environment), safe and reliable energy supply, use of the existing power grid and huge energy cost savings. What's more, EQIN has devised a means of specifying energy costs on a weekly basis, allowing the Client to assign these costs to individual projects. "We've been told we exceeded expectations," Doorduyn says proudly. "This Client understands that we do more than just rentals. They know what EQIN stands for: innovative solutions for industrial equipment."

The Stork Kuwait Sales and  
HSSEQ Team at the stand

## HSE SEMINAR AT KUWAIT NATIONAL PETROLEUM COMPANY

STORK PARTICIPATED IN THE HSE SEMINAR ORGANIZED BY KUWAIT NATIONAL PETROLEUM COMPANY (KNPC) IN FEBRUARY AT JUMEIRAH MESSILAH BEACH HOTEL. THE SEMINAR PRESENTED AN IDEAL PLATFORM FOR STORK TO SHARE ITS EXPERIENCES AND CONCERNS REGARDING HSSEQ IN THE REFINERIES.

The seminar was well attended, with over 42 KNPC contractors displaying their capabilities and strengths. At its stand, Stork showcased its HSSEQ Platform – REACH Beyond Zero, which was already recognized by the KNPC officials and garnered immense interest among others.

Visitors enquired about REACH Beyond Zero and its policies. There were also queries regarding Last Minute Risk Assessment and the REACH response card. Participants showed appreciation for Stork's proactive and thorough approach to HSSEQ.

Stork's Kuwait Sales & HSEQ Team, led by Calum McEwan, Country Manager Kuwait, also exhibited Stork's portfolio of services to the KNPC officials and other visitors. The sales team was approached about Stork's advanced NDT capabilities, and discussed Stork's abilities to solve Clients' pain points.

Mohammad Ghazi Al-Mutairi, CEO of KNPC, visited Stork's stand and was aware of its ongoing contract with KNPC. He said that he appreciated Stork's support and services. Stork was also awarded a Certificate of Appreciation for its work and participation.



*Najju Ravindran, Safety Officer, Stork Kuwait, receiving our Certificate of Appreciation from Ali Ahmed Kshawe, Manager HSE KNPC*



# ROPE ACCESS BRINGS SOLUTIONS FOR ZADCO MIDDLE EAST

IN THE UNITED ARAB EMIRATES, ZAKUM DEVELOPMENT COMPANY (ZADCO) WORKS TO DEVELOP THE UPPER ZAKUM FIELD ON BEHALF OF A JOINT VENTURE BETWEEN ABU DHABI NATIONAL OIL COMPANY, EXXONMOBIL, AND JAPAN OIL DEVELOPMENT COMPANY LTD.

THE UPPER ZAKUM (UZ) IS THE MOST IMPORTANT OF ZADCO'S FIELDS. LOCATED 84 KM (52.2 MILES) NORTHWEST OF THE ABU DHABI ISLANDS, THE UZ FIELD COVERS AROUND 1,200 SQUARE KILOMETERS (745.6 SQUARE MILES) OF THE GULF MARINE AREA. THE ZAKUM FIELD IS THE SECOND LARGEST FIELD IN THE GULF, AND THE FOURTH LARGEST FIELD IN THE WORLD.

## ADDRESSING THE CHALLENGE

ZADCO was facing difficulty in removing and renewing 6.6KV cables for four LP Gas Compressor Motors. Since the activities need to be carried out on the offshore platforms, several critical areas were in play. Erecting scaffolding was not an attractive option, as it would be time consuming, and would cause production loss due to the unpredictable adverse environmental conditions.

To deal with this issue, Stork devised a solution to carry out the job using rope access method. The team developed a detailed methodology to carry it out, in collaboration with the Stork UK team. Through the support of Stork's Knowledge Transfer & Innovation platform, the Stork UAE team was able to convince the Client of this method's benefits, and the solution was adopted. ZADCO agreed to test this method using the cable replacement for the first motor as a pilot case.

## SHARING KNOWLEDGE FOR SUCCESS

This project is an excellent example of the success that can be gained with collaboration. Stork combined knowledge transfer from the UK with the UAE team's expertise to create seamless service. As Stork personnel have extensive experience handling rope access techniques in several offshore platforms across the globe, ZADCO was confident in Stork's capabilities.

The team was responsible for laying, termination, testing and commissioning of motor cables for four LP Gas Compressors. It performed a safety and technical analysis before the mobilization, to ensure a successful completion of the project.

ZADCO expressed their appreciation for exceptional work and successful completion of the project.

**“**We thank the Stork and the ZADCO teams for their great efforts to assist us in achieving this great milestone, and completing the work in safe and timely manner. This is the first time we have laid MV cable using rope access, and so far, it gives us a very good indication and assurance that we are on the right track to success, inshallah.”

Khalid Naser Humaid Al Hasani, Manager Electrical & Control, ZADCO

The UZ solution is a prime example of Stork's commitment to providing outstanding service to Clients, with a focus on reducing risk, assuring safety and constantly proving Stork's expertise in providing and implementing solutions.



# CROSS-SELLING COMBINED CAPABILITIES FROM AUSTRALIA TO AMERICA

LNG 18, THE WORLD'S LARGEST LIQUEFIED NATURAL GAS (LNG) CONFERENCE AND EXHIBITION, MARKED AN IMPORTANT EVENT IN THE EARLY HISTORY OF FLUOR AND STORK. THE EXPO, WHICH TOOK PLACE FROM APRIL 12-15 IN PERTH, AUSTRALIA, WAS THE FIRST TIME THE TWO ORGANIZATIONS PRESENTED A JOINT BOOTH TO THE MARKET, FOLLOWING COMPLETION OF THE ACQUISITION ON MARCH 1. THIS WAS QUICKLY FOLLOWED UP WITH A JOINT PRESENTATION AT OTC 2016, THE OFFSHORE ENERGY INDUSTRY'S FLAGSHIP EVENT, IN HOUSTON, TEXAS FROM MAY 2-5.

Showcasing the full portfolio of life cycle services, from conceptual engineering to decommissioning (and everything in between), the booths attracted high footfall. This despite reduced overall visitor attendance at both events, largely due to the ongoing low commodity price.

The combined organization focused on how it could build, optimize and maintain assets throughout the life cycle, with a focus on quality, cost-efficiency and safety. Many cross-selling opportunities came by, as Fluor Clients were introduced to the specialized maintenance capabilities from Stork.



## STORK KUWAIT AWARDED BY AMERICAN SOCIETY OF SAFETY ENGINEERS

IN MAY, STORK KUWAIT WAS HONORED WITH A BRONZE AWARD IN THE AMERICAN SOCIETY OF SAFETY ENGINEERS (ASSE) GCC HSE EXCELLENCE AWARD COMPETITION. THIS INITIATIVE WAS INTRODUCED TO RECOGNIZE LEADERSHIP AND EXCELLENCE, AND ENCOURAGE EXCEPTIONAL PERFORMANCE IN THE FIELD OF HSE. THE AWARD WAS INSTITUTED BY THE ASSE – KUWAIT CHAPTER.

The award scheme is devised to recognize and reward private sector organizations that are active in the Gulf Cooperation Council (GCC). Awards are presented to organizations that have been successful in workplace risk management, development and HSE performance, in addition to ethical business practices, over the course of the year. Criteria mandated organizations to demonstrate consistent, continual improvement or sustained leading performance in HSE for the past three years.

Award categories were: Engineering & Construction, Manufacturing, Oil & Gas, Facility & Maintenance, and Sectors (projects, contract-specific or services). Stork Kuwait's bronze award was in the Sectors category.

This is a perfect opportunity to celebrate Stork's achievement and commitment to raising the standards of health and safety management - and to recognize the efforts of all who have contributed to Stork's success.

# TO BOLDLY GO WHERE NO MAN HAS GONE BEFORE...DRONE INSPECTION

DRONES ARE A FAST AND COST-EFFECTIVE MEANS TO EXECUTE SCOPES OF WORK IN DIFFICULT TO REACH AND/OR HAZARDOUS PLACES. IN A GROWING NUMBER OF REGIONS, STORK IS USING UNMANNED AERIAL VEHICLES (UAV/DRONES) FOR ASSET INSPECTION. IN DOING SO, STORK GREATLY REDUCES LABOR HIRE, SHORTENS EXECUTION TIME AND, MOST IMPORTANTLY, KEEPS PERSONNEL SAFE FROM HARM.

Stork uses drones for asset inspection to provide a number of substantial improvements over traditional inspection methods. These include benefits to safety and efficiency.

## SAFE

- Eliminates the need for inspectors to work at great heights;
- Advantageous for inspection of areas that may be hazardous to human health.

## COST-EFFECTIVE

- No need for expensive scaffolding or similar access systems;
- Allows examination with zero downtime.

## ENHANCED INSPECTION OPPORTUNITIES

- Some tasks previously thought impossible can now be completed with ease and efficiency, often within a matter of hours.



## NEW SERVICE CONTRACT FOR AUSTRALIAN KARRATHA GAS PLANT

MGJV, A JOINT VENTURE BETWEEN MONADELPHOUS GROUP AND STORK'S GIOVENCO, HAS SECURED A NEW CONTRACT FOR SERVICES ON THE WOODSIDE-OPERATED KARRATHA GAS PLANT LIFE EXTENSION PROGRAM, IN THE PILBARA REGION OF WESTERN AUSTRALIA. MGJV WILL PROVIDE A RANGE OF SERVICES, INCLUDING THE PLANNING AND EXECUTION OF MECHANICAL, ELECTRICAL, FIRE PROTECTION APPLICATION, BLASTING AND PAINTING, CLADDING AND INSULATION SERVICES. THE WORK COMMENCED IN EARLY 2016 AND WILL CONTINUE FOR A TWO-YEAR PERIOD.



Located 1,260 kilometers (783 miles) north of Perth, Western Australia and covering approximately 200 hectares (494.2 acres), the North West Shelf Project's Karratha Gas Plant includes five LNG processing trains, two domestic gas trains, six condensate stabilization units, three LPG fractionation units, as well as storage and loading facilities for LNG, LPG and condensate. The plant has the capacity to produce 12,000 metric tons of domestic gas per day.

Ronan Mooney, Stork Executive Vice-President, Middle East and Asia Pacific, stated: "This contract represents the first significant win achieved since Stork's recent acquisition of Giovenco Industries. We are pleased that Woodside awarded us this opportunity to see our strategic growth ambitions materialize in the Australian Oil & Gas market."

VALVE DIAGNOSTIC SERVICES:

# INNOVATIVE AND COST-SAVING APPROACH FOR VALVE MAINTENANCE

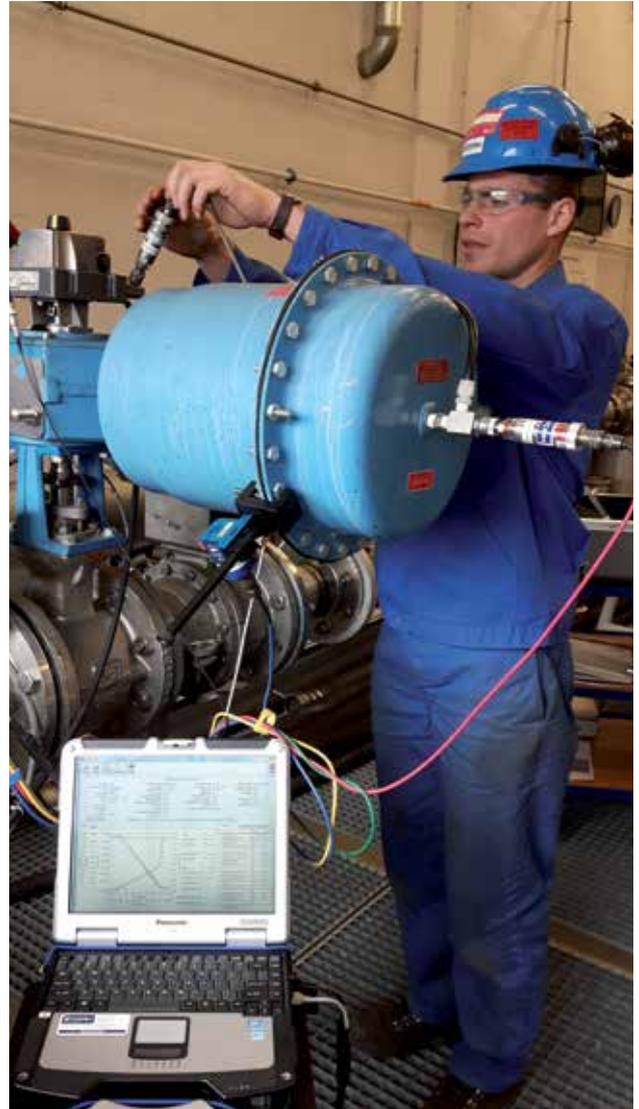
DO YOUR CONTROL VALVES SEEM TO FUNCTION PROPERLY, YET YOU'RE STILL HAVING PROCESS-RELATED PROBLEMS? DO YOU HAVE FAULTY CONTROL VALVES, BUT ARE UNCLEAR WHAT THE CAUSE IS? DO YOU WANT MORE INSIGHT INTO YOUR CONTROL VALVES? STORK'S INNOVATIVE CV-D SOLUTION OFFERS THIS AND MORE.

Stork's innovative CV-D solution is a new diagnostic measuring technique that can be used in-line, without the need to dismantle the control valve. The CV-D inspection maps out the condition of the valves and provides insight into possible faults before they actually occur. The result: large cost savings with respect to corrective maintenance, and no unnecessary preventive maintenance.

At a large chemical producer, Stork has used its CV-D diagnostic system to reduce the maintenance scope by 50%. In addition, the parts of the remaining 50% that would require corrective or preventive maintenance during the next shutdown were mapped out. This has saved the Client a great deal of time (and therefore, money).

Spend your maintenance budget on areas you need most: control valves that actually need maintenance.

Want to know when and what kind of maintenance you should carry out, and on which valve? Stork Valve Diagnostics offers insight and helps you focus your maintenance budget on areas where it is needed most. Would you like to know more? [www.stork.com/valve-services](http://www.stork.com/valve-services)



## TECHNIP NORWAY AWARDS STORK

STORK HAS BEEN AWARDED THE TECHNIP NORWAY 'OPERATIONAL EXCELLENCE' ACCOLADE AT THEIR 8TH ANNUAL SUPPLIERS DAY HELD IN OSLO. THIS AWARD ACKNOWLEDGED STORK'S COMMITMENT TO THE SUPPLY OF SUBSEA MACHINING AND BOLTING EQUIPMENT. INCLUDING SUBSEA BOLT TENSIONING, SUBSEA HYDRAULIC TORQUE TOOLING, SUBSEA NUT SPLITTING AND SUBSEA HYDRAULIC EQUIPMENT.

The event took place at Technip's new operational facility in Lysaker, Oslo and Odd Stromsnes, Technip's Managing Director commented: "Stork has good experience with a clear understanding of our rental equipment requirements and was very proactive on- and offshore. This was especially noted for critical issues where Stork was flexible, offering many solutions and delivering excellent support throughout the entire project with early involvement."

In November 2015, Stork commenced a three-year Frame Agreement for provision of hire of bolt tensioners, nut splitters, torque tools, flange pullers and associated services.

This was the first Frame Agreement Stork signed for services in support of the Subsea sector in Norway.

# STORK & FLUOR

Uniquely positioned to deliver integrated solutions covering the full asset life cycle.

For more information:

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

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

# STORK

*A Fluor Company*

 **REACH**  
BEYOND ZERO