

3C News



3C METAL SECURES MORE PROJECTS FOR MANAGED PRESSURE DRILLING SYSTEM INTEGRATIONS

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A WORD FROM THE MANAGING DIRECTOR



Welcome to the Q3 edition of 3C News. I would like to take this opportunity to thank our employees for their hard work throughout the first half of the year. 2018 was always going to be a difficult year but your ongoing efforts have helped to secure projects in this improving – but still very difficult and competitive – market.

With the price of oil trading as high as 75USD per barrel recently, we are witnessing an improvement in market sentiment. With this gained confidence, it is 3C Metal's priority to increase the momentum of our commercial activities. Key areas of focus are the ongoing development in managed pressure drilling (MPD) technology, HPHT wells (20K psi), upgrade projects, reactivation projects and onshore activities.

3C Metal is steadily building a solid reputation for its intuitive designs for MPD integrations. 3C Metal Middle East's activities continue to progress well with the award of a succession of MPD integration projects. The team recently delivered a project for the engineering and installation of a MPD system for Weatherford, onboard Turkish Petroleum's Deepsea Metro II (page 4). 3C Metal Asia were also awarded a project for the integration of a Weatherford MPD system onboard the Deepwater Nautilus (page 6).

We have had healthy productivity outside of our work in upstream oil and gas, particularly in France and South Africa. 3C Metal South

Africa are leading the way with our renewable energy projects - the team are about to deliver a project for the intricate piping system for a concentrated solar power plant in the Northern Cape (page 8). This will be the largest and most challenging solar power site installation project performed by 3C Metal South Africa to date. In France, work is continuing on a project for two co-generation units for SOBEGI, and for the delivery of gas transmission infrastructure for the RGM Project for Terega (page 7).

With activities picking up in our workshops and offshore, it is important that we continue to focus on our number one priority – keeping our workplaces free from harm. As projects increase to a critical stage and we push to be as efficient as possible, we must ensure that safety comes above all else. This means constantly reevaluating our safety systems and ensuring our safety message is clear and consistent. Last year we implemented the 3C Metal Group HSE vision, culture and promise to set out the standards by which we must abide in order to achieve our target of zero harm. With the continued dedication to these standards by all 3C Metal employees, I am confident that we can uphold our strong safety record and deliver the best possible solutions to our clients.

Philippe Boy
3C Metal Managing Director
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3C METAL SECURES ANOTHER MPD SYSTEM INTEGRATION PROJECT

In late January 2018, 3C Metal was awarded another project for a managed pressure drilling (MPD) system integration. The project was carried out for Weatherford for their new client, Turkish Petroleum (TPAO), who recently purchased the Deepsea Metro II (DSMII) drillship from Odfjell.



This is the fifth MPD system integration where 3C Metal has used the semi-permanent modular design for the MPD system. The versatile design involves placing four DNV 2.7-3 modules on the existing X-Mas tree footings, minimizing modifications required for the rig's existing structures. Using knowledge from previous MPD integrations and improved laser scanning technology, 3C Metal were able to gain over 150 scans of the DSMII in order to make an accurate model for the work.

For the installation phase, 3C Metal installed six high pressure lines and three low pressure lines to and from the MPD system. The work also involved the installation of the required hydraulic, pneumatic and electrical connections to fully install

the system. All the work was approved to DNV drilling (DNV-OS-E101) and MPD notations and was manufactured and managed in the 3C Metal Middle East workshop.

3C Metal engineered, fabricated and delivered most of the piping, the large deck extension for the two umbilical reels, footings for the four DNV 2.7-3 modules along with pipe supports and a platform within the moonpool and under the drill floor. The DNV modules were outfitted with the required electrical, hydraulic and pneumatic material before being sent to Turkey. Installation started in May 2018 with a team of 35 personnel, and was completed over a six week period.

3C METAL MIDDLE EAST SECURES SEVERAL HP MANIFOLD PROJECTS

3C Metal offers a wide range of manufacturing and installation services for HP manifolds to suit onshore and offshore drilling rigs. 3C Metal Middle East is currently undertaking various HP manifold projects for Schlumberger Oman and Nabors.



The project for Schlumberger Oman is a complete HP mud system including the three standpipe manifolds (with 7500 psi working pressure), cement lines and all the HP mudlines. 3C Metal Middle East was commissioned to undertake the engineering, prefabrication, supply and onsite installation for three rigs operating in the Oman Harweel Field. As part of the commercial proposal for the project, 3C Metal conducted a laser scanning survey of the rigs. This allowed for an optimized design and reduced timeframes upon award. The project is being carried out over a period of three months with a team of 15 personnel.

3C Metal Middle East is also undertaking the prefabrication and supply of a standpipe manifold (with 5000 psi working pressure and H2S service compliance) for Nabors. The manifold is for jack-up rig NABORS RIG 655, located in Dubai Drydock.

3C Metal maintains a stock of HP fittings - including HP mud gate valves, API 6A flanges and blocks, hammer unions, longsweep and long radius fittings. This reduces fabrication time and allows 3C Metal to respond quickly to project specifications and deliver a superior service that meets or exceeds client requirements.

DNVGL HOSTS SEMINAR FOR ENGINEERING DEPARTMENT OF 3C METAL MIDDLE EAST

On 30 May 2018, DNVGL presented a technical seminar for the Engineering Department of 3C Metal Middle East.

The aim of the seminar was to promote a technical discussion amongst engineers and designers who often design offshore structures, in particular offshore containers and portable offshore units.



WEATHERFORD MPD SYSTEM DELIVERED FOR TRANSOCEAN'S DEEPWATER NAUTILUS

3C Metal was commissioned by Transocean to complete the integration of a Weatherford MPD System onboard the Deepwater Nautilus - an ultra-deepwater, semi-submersible offshore drilling rig. The project's timeline was critical and getting the system ready by the time the rig moved to its new contract was paramount.



3C Metal demonstrated its full range of capabilities to complete the project by the required deadline. A laser survey allowed 3C Metal to accurately model the entire piping runs, thereby increasing prefabrication and reducing the installation time – this was a major challenge to conduct simultaneously with drilling operations.

The engineering team worked on a mezzanine structure arrangement in order to reduce the footprint of the system. This was done to ensure that the critical deck space for the rig operation was not compromised. Fabrication for high pressure and low pressure pipework and structures were all done in our workshop in Johor Bahru. The team worked day and night to complete several hundred meters of pipework and roughly 15 tons of structures within a few weeks.

The piping runs were fabricated in flanged spool pieces, all pressure tested in our workshop before delivery. This

was done in order to bolt them in position once on site. The electrical connections of the system were also prepared and arranged by 3C Metal providing a complete turnkey solution for the project.

Finally the 3C Metal installation personnel (including a supervisor, welder, fitter, scaffolder, painter, NDT personnel, electricians and an HSE Officer) were in charge of completing the integration onboard the rig and during ongoing drilling operations in offshore Malaysia. The greatest challenge was to work around the rig's operation constraints which lead to varying the personnel on board based on availability of material, the area of operation and helicopter capacity.

3C Metal completed the installation and fully tested the pipework to confirm its adequacy. This is yet another project for an MPD integration undertaken by 3C Metal and serves as testimony of 3C Metal's reliability for challenging projects.

3C METAL ASIA RECEIVES API Q1 AND ISO 9001 CERTIFICATION

3C Metal Asia recently received its API Q1 and ISO 9001:2015 certifications without exclusions. To find out more, contact the team in Johor Bahru, Malaysia.



WORK PROGRESSES ON THE RGM PROJECT IN FRANCE

Terega (formerly TIGF), has been developing a national project to strengthen natural gas transmission infrastructures in France by developing a new pipeline for a unified gas price. The RGM - Renforcement Gascogne Midi (Strengthening the Gascogne Midi pipeline) - project, is located on the Terega Natural Gas Storage Center in France.



3C Metal were involved in the construction of counting and filtration installation; gas regulation; the construction of more than 1000m of pipeline ranging from 24 inches to 36 inches in diameter; and connections to six existing compressors.

The 3C Metal France team have successfully completed all connections to the existing installation of the RGM project

on behalf of Terega. These connections required 59 welds for pipeline ranging from 2 inches to 36 inches in diameter.

Work commenced in June 2017, for the main lines. The teams are now entering the finishing and commissioning phases of the THT gas analysis and injection facilities. Commissioning of 450m of 36 inch pipeline is scheduled for October 2018.

SOBEGI CO-GENERATION PROJECT CONTINUES



3C Metal France are partway through a six month project for SOBEGI at their Chemical Platform SEVESO 3, in Induslacq France.

The project called PEGAZE involves creating two co-generation units. They will be used to produce electricity (21MW) as well as steam and hot water from treated gas extracted from the Lacq underground.

The 3C Metal team have been working for nearly four months on the PEGAZE site. In the initial phase, the team completed the connections on the existing networks and the pipeway routing. The connections on the units as well as the pumping systems will be carried out in a second phase. The project is expected to be completed in October.

3C METAL SOUTH AFRICA'S LARGEST CONCENTRATED SOLAR POWER SITE INSTALLATION PROJECT ALMOST COMPLETE

The salt system installation project on the 100mW Kathu Solar 1 concentrated solar power (CSP) plant in the Northern Cape province of South Africa is coming to an end. This challenging project will be the largest solar plant site installation project performed by 3C Metal South Africa to date.



The salt system on a CSP plant utilizes Molten salts for thermal energy storage (TES). The ionic solids become liquids at elevated temperatures, offering exceptional heat transfer, chemical stability, and TES capability.

The salt piping system has intricate pipe runs with all horizontal piping being fabricated and installed with specified slopes. The piping installation scope is being done by the 3C Metal South Africa team deployed from Cape Town. The site

work is scheduled to be completed in Q3 2018.

The salt pipe installation project has kept 3C Metal South Africa well on track to achieve and exceed diversification targets, making the renewable energy sector work a large portion of the company workload in the last two years. More details of the project will be shared in the coming newsletter once the project is completed.



3C SUBSEA'S TAILORED SOLUTIONS FOR RECERTIFICATION OF MARINE DRILLING RISERS AND ASSOCIATED SUBSEA EQUIPMENT

3C Subsea is a specialist division of 3C Metal South Africa that deals specifically with marine drilling riser and associated subsea equipment recertification, overhaul and repair. Solutions are offered from the 3C Metal Group's regionally positioned fixed facilities and on a deployment model.



In the current challenging conditions of the exploration industry, 3C Subsea offer excellent support to drilling contractors and OEMs with carefully designed and cost-effective approaches to execute recertification programs. 3C Subsea can conduct a survey of the drilling rig, or equipment storage location, and tailor an innovative solution to suit client requirements. The client avoids having to manage multiple vendors and benefits economically from the wide range of services. These services include high pressure cleaning, disassembly, inspection, assembly and testing, and preservation. 3C Subsea ensures its recertification programs are carried out with a high degree of integrity and with the support of its highly-skilled engineers. 3C Subsea's dedicated riser recertification facility is located in Cape Town, South Africa.



3C Subsea operates as an approved vendor or licensed vendor for OEMs for inspection and repair of marine drilling risers and associated subsea equipment.

Services include:

- Regional coverage and support around Africa, the Mediterranean, the Middle East, the Pacific Rim and North America.
- Remote riser and associated subsea equipment inspection and repair solutions - 5 and 10-year riser inspections and weld repairs.
- Offshore 5-year riser inspections utilizing advanced Non-Destructive Testing (NDT) techniques.
- Extensive welding repair capacity.
- Qualified welding procedures for a wide variety of materials and combinations.
- Large product scope, recertification of Marine Drilling Risers, Telescopic Joints, Diversers (with Annular Packer), Flex Joints, Riser Spiders, Riser Gimbals, Running Tools, Wellhead Connectors, Coflex Hoses, Crown and Travelling Blocks.
- Dedicated project management and engineering support on all projects.
- Deployment kits for riser high pressure water jet blasting and long-term preservation of marine drilling riser and associated subsea equipment.
- Long-term storage and preservation of risers and associated subsea equipment at dedicated facility in Cape Town.
- Mechanical fitting services for regular offshore maintenance of marine drilling risers and other associated subsea equipment.
- In-house NDT.
- Positive Material Identification (PMI).
- Heavy machining services and in-situ machining services through partner machine shops.
- Special engineering coatings.
- Riser buoyancy module repairs.

Contact 3C Subsea to find out more about its wide range of services.

3C METAL PARTNERS WITH WORDWORKS PROGRAM IN HONOUR OF LATE 3C METAL EMPLOYEE

3C Metal recently showed its support for South African non-profit organisation, Wordworks. The organisation runs programs aimed at strengthening early language and literacy development in the first eight years of children's lives. For the past year, 3C Metal South Africa has sponsored a Wordworks program as part of its commitment to give back to the local community.



The program was a series of workshops held for the parents of the young learners attending St. Augustine Primary School in Cape Town. The workshops were aimed at building closer ties between homes and schools, and to give parents ideas and resources for supporting their children's learning at home.

General Manager of 3C Metal South Africa, Michael Birch, said, "It is an initiative that the company undertook to be one of the proud donors of Wordworks in memory of the late Morné Brikkels, a 3C Metal South Africa employee who attended St Augustine Primary School."

On 21 April 2018, about 20 graduates of the program (parents of the young learners attending St. Augustine Primary) received certificates from Wordworks for successfully completing the workshops. The ceremony was attended by the management and staff of 3C Metal.

Since 2005, Wordworks have worked in under-resourced communities with those adults best positioned to impact on young children's language and literacy development – parents and caregivers, family and community members, home-visitors, early childhood development practitioners and teachers. 3C Metal South Africa have proudly sponsored Wordworks since 2012.

3C METAL MIDDLE EAST NAMED ENVIRO CARE COMPANY OF THE YEAR

3C Metal Middle East won the title of Enviro Care Company of the Year 2017. The title was granted by Dubai-based facilities management company, Imdaad.



Last November, Imdaad, in collaboration with the Jebel Ali Free Zone Authority (JAFZA) in Dubai, launched Enviro Care Month 2017. During the month all companies working in the JAFZA area of Dubai were encouraged to compete in two environmental initiatives - gather recyclable materials or prepare a handicraft made of recyclable items. 3C Metal Middle East claimed the title by collecting 325kg of recyclable materials. The achievement was announced in June 2018 after the entries had been judged.



On 28 June, Imdaad's Assistant Manager, Mr. Mohammed Abdul Qader Saeed, presented 3C Metal Middle East HSE Coordinator, Anoop Panicker, and 3C Metal Middle East Operations Manager, Basil Georgakopoulos with the award and a certificate. There was also a small monetary gift which went towards a treat (pizza) for staff.

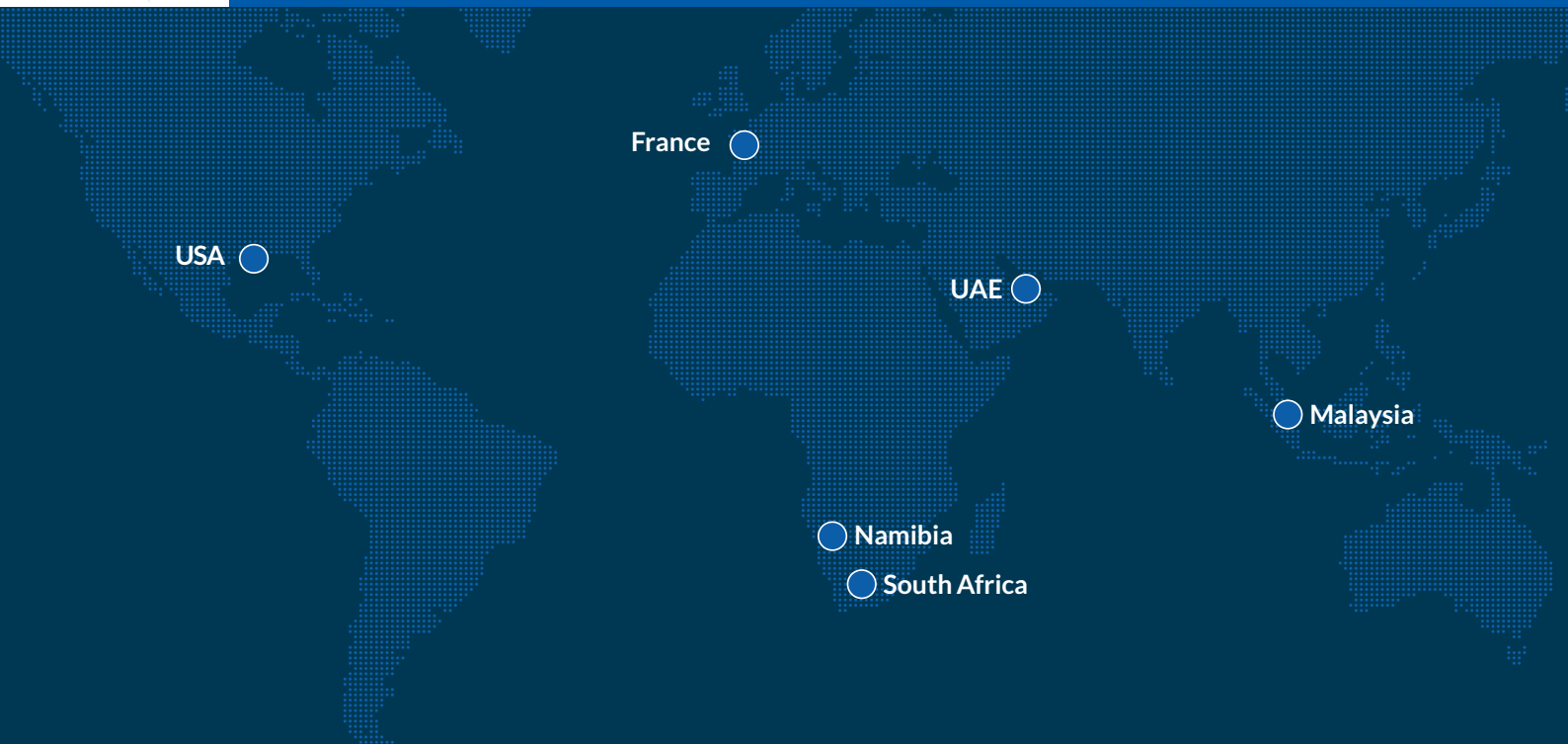
3C METAL MIDDLE EAST TEAM CELEBRATE THE FIFA WORLD CUP FINAL

The 3C Metal Middle East team got behind the France versus Croatia FIFA World Cup Final on Sunday 15 July, celebrating in style at one of Dubai's famous nightlife venues.

The team watched the final in the VIP space of Zero Gravity, a trendy bar located in Dubai Marina. The space provided the perfect atmosphere for football fever. The crowd was divided

between France and Croatia supporters but in the end France was victorious, beating Croatia 4:2 and claiming the World Cup title for the second time in history.





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