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Summer 2016

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A Passion for Surface
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Special Report: A Passion for Surface Solutions

In this special we speak with Oerlikon Metco who is a leading surface solutions provider with a global presence. OM is constantly expanding their product and services which are offered to the oil and gas industry. Along with an acquisition of their latest service facility, which provides customers with proven surface solutions for oil and gas applications, OM expanded its Thermal Spray (HVOF & Spray and Fuse), Laser Cladding and Laser Heat treating process offering in the North American market.

OGI: Could you start by explaining Oerlikon Metco's credentials and experience in terms of the applications of your products and services in the Oil and Gas sector? Could you tell our readers the breadth of your experience, how long the company has been active, and its worldwide reach?

OM: We are a global leader in providing solutions to wear and corrosion problems. Our coating solutions have been addressing wear and corrosion issues in challenging applications for over 80 years. Leading companies confidently specify our coatings in critical applications in many fault intolerant industries such as Aerospace, defence, power generation, Semiconductor manufacturing and the oil and gas industry. Oerlikon Metco, together with Oerlikon Balzers, belongs to the Surface Solutions Segment of the Switzerland based Oerlikon Group.

OGI: Oerlikon Metco has a few different product lines, which are of course applicable to various industrial sectors. As far as the applications of your solutions, which sectors within the oil and gas industry do you primarily help?

OM: We offer a broad range of materials for



number of processes such as Thermal Spray, Laser Cladding, Weld Overlay, Additive Manufacturing, Brazing and others. Our equipment offering covers Thermal spray and laser cladding components and complete

systems. Within the Oil and Gas market our coatings address issues related to pumps, shafts, valves, hydraulic rods, buckets, screens, slurry transport, downhole tools, wear restoration and others.

OGI: What are the main products and services offered to the industry by Oerlikon Metco?

OM: A broad range of materials, coating equipment, technologies, coating services and know-how needed for next generation surface solutions. For the O&G market we typically offer materials and technologies for hardchrome replacement, hardbanding, overlays, wear, corrosion and impact resistant coatings.

OGI: What are the advantages of having Metco as your coatings partner?

OM: We are a full service provider. We combine our application know-how and development teams with our extensive materials, equipment and service portfolio to ensure the right coating is applied to meet your surface problem. Our global footprint ensures a rapid deployment of solutions throughout your supply chain.

We enhance surfaces that bring benefits to customers through a uniquely broad range of surface technologies, equipment, materials,



Reduce replacement costs by using wear- and abrasion resistant carbide materials

services, specialized machining services and components. The surface technologies such as Thermal Spray and Laser Cladding improve the performance and increase efficiency and reliability. OM serves industries such as aviation, power generation, automotive, oil & gas, industrial and other specialized markets and operates a dynamically growing network of more than 40 sites in EMEA, Americas and Asia Pacific.

OGI: There can be many problems oil and gas companies face that are the result of corrosion, wear and tear, extreme temperature etc. Not all problems are “one size fits all” or turnkey. Can you elaborate on Metco’s flexibility in the application of its coating to almost any problem, and moreover Metco’s ability to find the perfect solution?

OM: Over the past 80 years OM has developed 1000’s of tailored coatings to meet the specific surface challenges of our customers. We couple our extensive materials and process portfolio with the experience of our application development teams to ensure the best coating is selected, developed or tailored to meet the individual requirements for a specific problem.

OGI: Are there any new products / services which are being brought to market recently? If so could you kindly elaborate on what these are and what they do specifically?

OM: To meet the ever increasing demands of the oil and gas market OM is continually developing new products and processes. Recently we have launched a series of Laser cladding, PTA and hardfacing materials. Standard products are continually being improved and we are always working with key industry players to develop products that will meet tomorrow’s challenges.



Protect components against high chloride mud and acidic and alkaline environments

Increased drilling uptime and protection against slurry erosion and erosion for PDC and tricone drill bits



OGI: Finally, Oerlikon Metco has worked with many industry players around the world. Could you enlighten our readers of a particular case study where you helped a client with your solutions?

OM: The Oil and Gas industry uses valves in critical applications for both subsea and surface applications. Very often, valves are designed to operate in extremely severe environments, with gas-tight, metal-to-metal sealing that must maintain very high pressures. Failure of a valve can result in catastrophic harm to workers and the environment as well

as lost production and potentially expensive repair and clean-up operations. As part of their engineered design, BEL Valves (United Kingdom) routinely utilizes thermal sprayed tungsten carbide coatings to ensure proper sealing.

Operating conditions are becoming ever more challenging within oil and gas production. As such, BEL Valves employs best practice solutions and engineers their valves to very exacting standards to ensure the valves are safe, reliable and fit for purpose. Their designs provide solutions to their customers’ demands for current and future surface and subsea applications.

To fulfil this promise to their customers, BEL Valves turned to OM to improve their products and the reliability of their production processes. While the company has long applied tungsten carbide coatings using liquid-fuel HVOF (High Velocity Oxy Fuel) to their valves, they tested Oerlikon Metco’s WokaStar-610 spray gun and compared the coating results to the TAFE JP5220 spray gun that BEL Valves currently uses.

BEL Valves’ conclusions

The WokaStar-610 produced a superior coating to that of the JP-5220. The benefits of using the WokaStar-610 include reduced consumable usage and potential increased gun component life.

As a direct consequence of these promising test results, BEL Valves intends to continue to evaluate the suitability of the WokaStar-610 spray gun for their processing requirements, with further trials currently under discussion.

OGI: Thank you for your time. •

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