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Taking engineering to a higher level

PICTURE YOURSELF 500 FEET HIGH ON A SPACE SHIP-LIKE STRUCTURE, FLUORESCENT JACKETS, HELMETS, LASERS, IN THE SOARING HEAT OF THE MOJAVE DESERT IN CALIFORNIA, USA: JUST ANOTHER DAY IN THE LIFE OF AN ENGINEER.

Bilfinger Industrial Services was contracted to do a structural verification study for the replacement of a cement plant pre-heater feed in California. The pre-fabricated 70 ton duct-structure itself, which stands 140 feet tall and measures 11 feet in diameter, will be hoisted into place and bolted into position. Precision scanning and verification that the new piece will precisely fit the existing structure requires technical skill, good preparation and a strong focus on safety.

Industrial revamps

‘This is taking engineering to a higher level, literally’, says Sander Stolk, Manager Project Delivery, who works for Bilfinger Industrial Services and Tebodin in the US since May 2015. ‘The scanning technology, verifying the as-is situation, has been available for some time now, as well as 3D design tools. However, integration of the data with engineering, fabrication, construction and installation of industrial revamps is

where Bilfinger industrial Services can show its strengths: combining industrial engineering expertise with fabrication and construction know-how and execution skills. Especially for smaller project and plant turn-arounds it saves time and costs to have both design and construction with one partner.’

Integrated 3D design

Many manufacturing facilities in the US have been built over 20 years ago.

This means in general that companies have outdated as-built drawings; so costly and time consuming in-field measurements need to be done. With in-house laser scanners and 3D design tools for visual and technical design support these issues are no longer an obstacle. It also significantly reduces time, improves communication and has an ever increasing accuracy level.

In order to respond appropriately to the increasing demand on production line efficiency and yield, the integrated use of 3D in all phases of the project is key to efficient and successful project execution. Once scanned, the data is available anywhere at any time. 'Exploring the new possibilities of integrated 3 dimensional execution of these types of projects takes engineering and project execution to new heights', concludes Sander.

Teaming up

A large part of Tebodin's current customer portfolio consists of US multinationals, which Tebodin facilitates with their overseas investments in Europe and the Middle East. Tebodin expanded its geographical foothold in the US by initiating a core Tebodin team and teaming up with the established engineering and construction company Bilfinger Industrial Services inc. ■