



thyssenkrupp

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Around the world for a world-scale project: Modularization of process plants

A major challenge for every large project in chemical plant construction is the magic triangle of cost, quality and time. In the MOL polyol project, thyssenkrupp shows how modularization can solve this equation with a positive outcome for all three factors.

In a global team, it does not matter where the experts are.

[The new polyol plant for MOL](#) is a landmark project with an investment volume of over 1 billion €. Covering an area of 900 by 600 m, the project features several key processes and is executed in a network with six locations worldwide for engineering, procurement, and construction. For the most important product of the plant – polyether polyols – the center of competence is in Thailand. Here, a unique setup enables to deliver this key technology right to the doorstep of the plant site, in tightly controlled quality, and of course in time.

Close together: R&D and implementation.

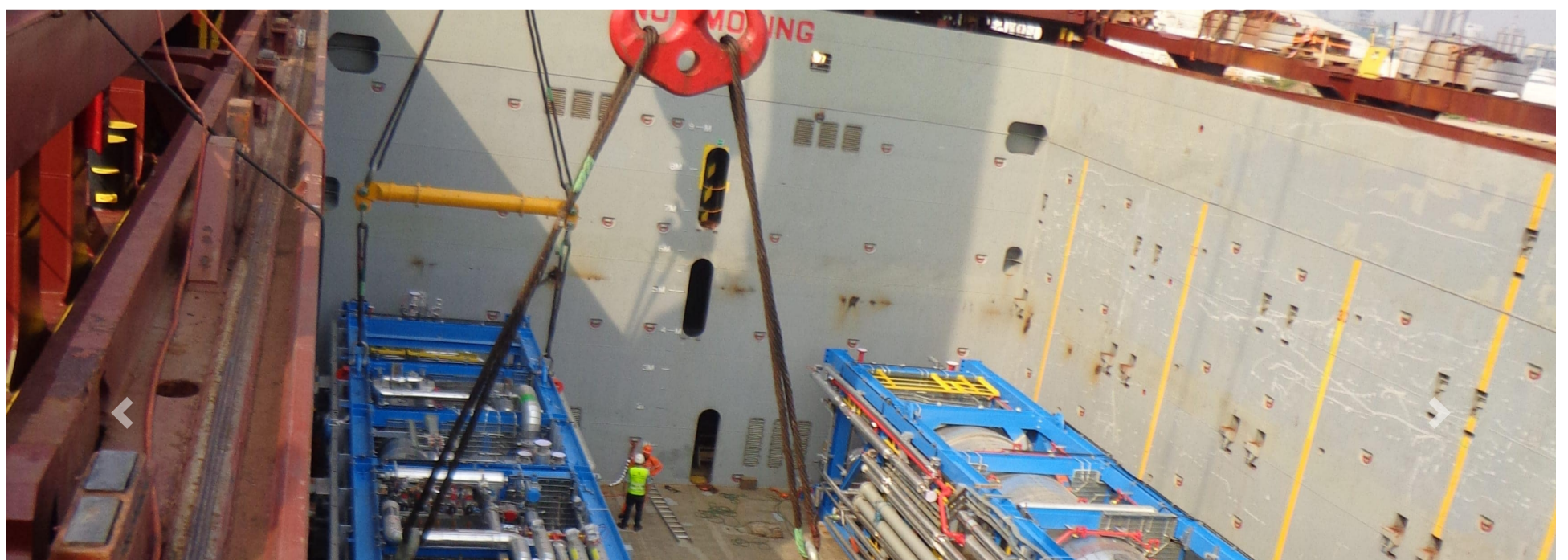
In Rayong, Thailand, thyssenkrupp Industrial Solutions (Thailand) has its offices – and a brand-new laboratory including a pilot plant for the polyol and other oleochemical technologies. This enables us to develop and test recipes for customers, improve processes, and assist in the scale-up from pilot plant to industrial size. And within walking distance, there's the module yard where the respective plants are built. This gives our team an excellent grip on quality, as the plants are fully completed in a controlled environment.

Build, check, ship.

The polyol plants are an excellent example of full, physical modularization. All necessary process units are built within robust steel skids, and everything is designed to withstand transportation across the globe. When the plant is complete, it can also be tested – the last step in ensuring highest quality standards. After the final inspection, the modules are disassembled and shipped to the site. So we can check two of three boxes: Quality is assured, and the plant is built in a cost-competitive setup. So what about time?

Modules are easy on the project – if you know how.

Clearly, any project benefits from reducing variables and risks. The modularized approach has the unique benefit of conducting the vast majority of the construction activities in a carefully managed environment. This significantly reduces risks and leads to improved construction safety and productivity, which results in lower costs and a shorter schedule. Due to thyssenkrupp's vast experience, building the modules can be planned and timed extremely well. Switching perspective to the construction site, there are a lot of benefits like standardized tie-ins or minimized foundation and civil works. The list goes on, but the bottom line is always: you simply save time and effort on site. And that makes it easier than ever to mitigate project risks of cost, quality, schedule and above all: safety. We are proud of our record 3 million man-hours with zero LTI.





The bottom line: In quality, in time, in budget: Fully modularized process plants minimize project risks and maximize benefit for the whole project. From planning and engineering down to execution and start-up.
