Integrated quality control in offshore wind: part 2

Following on from our interview with Wim Keen in the last edition, PES had some questions for Maik Rienecker, founder of Steel Inspect and father of the unique Q7 concept for optimal quality management of offshore windfarm EPCI (Engineering, Procurement, Construction, Installation) projects. He was happy to explain the Q7 concept in more detail and share the benefits this brings to offshore wind farm construction projects.

PES: Hi Maik, welcome back to PES Wind, for the second part of the interview, following on from the last issue. For the benefit of our new readers, would you like to begin by telling us something about the history of Steel Inspect?

Maik Rienecker: Steel Inspect and especially its predecessor Rienecker PM was founded in 2006. At this time, I had already gained wide experience over the years from 1990, in purchasing and quality management for manufacturing, including site construction and commissioning for worldwide EPCI power plant projects.

Consequentially I capitalized on this experience I gathered from various kinds of projects worldwide and founded the company. From 2016 we consistently pursued the growth path, as a quality service provider for inspection and monitoring. The establishment of Steel Inspect allowed us to pool the experience of 15 years project management, quality assurance in the field to transform into a global, lean holding structure.

PES: In our earlier discussion, Wim Keen explained that offshore wind makes up more than a third of Steel Inspect's annual turnover. He also told us that your approach towards quality is very unique, because of the 'Q7 concept'. Can you please explain what this is in general and how it was born?

MR: The main added value is the holistic approach of integrated project quality control and time supervision, throughout all the project execution phases, in order to efficiently reduce costs on quality and to improve time awareness!

This means know-how transfer from the engineering phase onwards, starting with quality control during procurement, fabrication and delivery until the erection and commissioning on site. This also includes on-time delivery, as well as maintaining the right mindset of all involved parties. Finally, we also take responsibility for cost optimization for the duration the project execution.

The idea itself was born out of my way of looking at project execution, as an integrated process where the single phases are connected to each other and consequences of action are very often obvious only in one of the next phases.

PES: Why is the Q7 concept so important for the success of offshore wind farm construction projects?

MR: The Q7 concept comprises the management of a complete offshore wind farm construction project: from design, up to and including handover. All managed by one and the same team, which, by overviewing every single phase, is able to prevent bottlenecks between single phases from happening. This is a huge advantage: by doing so we prevent time delays and quality setbacks in a very early stage.

It goes without saying that all of the documentation is also managed by us: starting with a Project Quality Control Plan, which we set up and from it derive all quality documents, needed for the complete project, in all phases.

Furthermore: the specialists on projects bring in experience from multiple former projects and are thus automatically acting proactively to prevent any bottlenecks from happening.

PES: Why 7 steps and can you explain what step 1 of the Q7 concept entails? What specific benefit does Steel Inspect bring in in this phase?

Maik Rienecker

MR: I started by defining the main steps of a project execution, the phase of a project where the points of return are difficult and

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Q⁷

- **Establishment of data interface**
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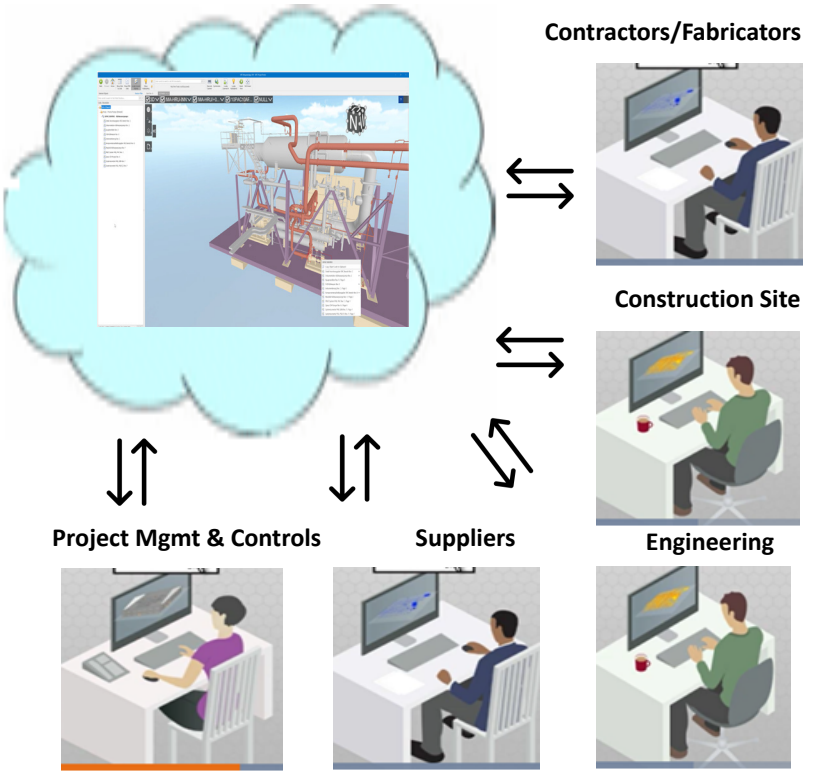

expansive. Mainly during fabrication, transport and installation. Q1 stands for design and procurement support, phases in which the details for the further implementation are defined and prepared. That's why we start with quality assurance and control during engineering and procurement.

PES: Steel Inspect brings in a lot of experience in quality control for the production of steel components. Since when and for which components?

MR: We have especially been involved in foundation parts like monopiles, jackets and transitions pieces, as well as tower parts and nacelle production.

Additionally, we have already participated in the fabrication of offshore substations. References are available for about 20 projects starting in 2011 with GlobalTech1. Some of the latest projects we have been involved are Moray East, Danish Kriegers Flak and Kaskasi. Hollandse Kust Zued, one of our next projects has just started.

PES: What role does documentation play in an offshore wind farm construction project and how does you manage this topic successfully to the benefit of its clients?

MR: Each industrial plant project depends on its documentation, especially on the quality and the on-time delivery of documents, the data base structure and the change process.

Another point is the accessibility for all project members. Also, here it is important to teach all project members the fact that only released and updated documents are used, monitored and accessible for all involved parties and departments.

PES: As in an offshore wind farm EPCI project after production of the components, the installation and commissioning phases are also very important and where there is a high potential for bottlenecks and delays. So, how the Q7 concept manage these phases successfully?

MR: The Project Quality Control Plan serves as a tool to drive the project, with less costs incurred by poor quality and is always focussed on being on time.

At the same time such a quality plan defines the bottlenecks and problems known from former projects and contracts so as to avoid them and, very importantly, not only to know about them, but to keep them in mind at all times.

It needs proactive meetings and analysis prior to the implementation of the single phases. Unfortunately, very often there is no time given for such analyses and project preparation. So, this missing time will cost real money at later stages of the project. If this fact is taken in to account by all the different involved departments and parties the project will run smoother and on time. It is indeed so simple.

PES: Can you give an example of a specific project you were involved in and where the application of the Q7 concept brought significant advantages to the project?

MR: Currently we have only been involved in one or more of the Q7 phases. Clients and partners are well aware of the advantages, but it takes a lot of engagement and trust to cooperate in all these phases with an external partner, who will be looking at internal processes to optimize them.

We have already proposed the whole concept, however, based on complexity and its scope overlapping different phases and departments it will always need a careful study of the project and the needs of our clients.

We are also able to support a project during a specified phase. Based on this approach the specific services necessary for a specific project must always be defined thoroughly, together with our clients as much as possible in advance.

PES: For whom is the Q7 concept especially beneficial?

MR: It is especially made for project owners, investors, energy providers, EPCI contractors and large steel workshops with different subsidiaries and sub-suppliers.

We also see the concept as a very appropriate supplement for engineering offices to complete their offers.

PES: How do you see this evolving in the future?

MR: I'm convinced that the Q7 concept will be fully understood by our clients and taken over in specific ways, because quality matters right from the beginning and throughout. The holistic approach of quality and time will be the only way to improve the execution of projects, especially in complex developments such as wind farms. Reduction of non-budgeted costs will come along if our concept is used by adapting it specifically.

PES: So, how do you see yourselves in 5 years' time?

MR: Steel Inspect will dive in deeper into the business of renewable energy, but not forgetting where we came from. We will always be linked to the entire range of power plants, supporting our clients as described in this article. I'm convinced that only a meaningful mix of energy sources will be the future for mankind, of course adapted to the environmental standards just being set up worldwide. Within this energy mix the offshore energy, both fixed and floating, will continue to play a very important role. It will grow further and we are ready and eager to grow with it.

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