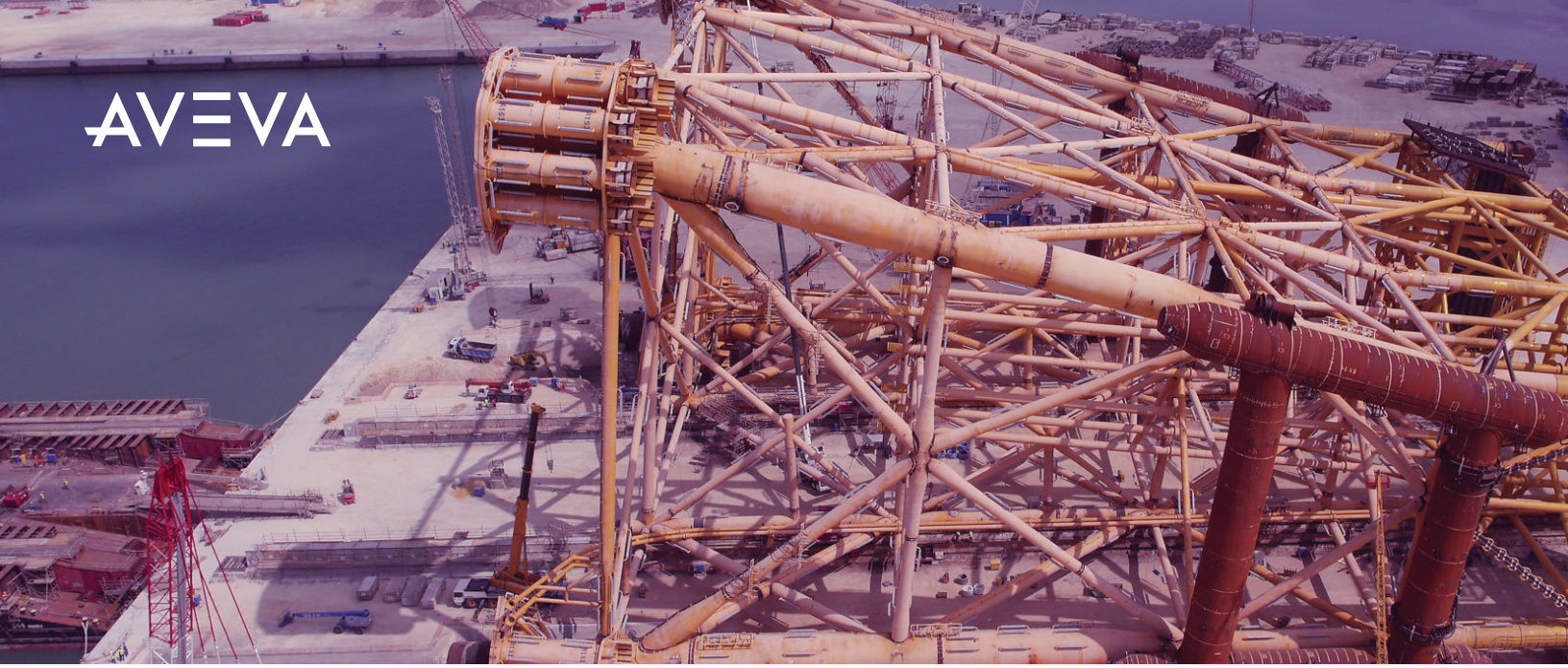

CUSTOMER CASE STUDY

To ensure quality fabrication during structural design, Dragados Offshore utilizes AVEVA™ Bocad's 3D modeling and design features, resulting in faster time to market and more efficient steel detailing.

Dragados Offshore S.A. - www.dragadosoffshore.com
Industry - Energy

Goals

- Upgrade to a design system that would not only meet its specialised needs.
- Improve and ensure accuracy is throughout the design and fabrication workflow.
- Incorporate valuable features for fabrication quality assurance, such as the treatment of welds as tagged objects instead of manual drawing annotations.
- Automatically create optimised weld preparations on the most complex joints.

Challenges

- Required a design system that's flexible enough to enable engineers to use the same software on different types of projects.
- Seeking a complete realtime association between 3D models and 2D deliverables.
- Implement a solution that supports first stages of structural design and enables project teams to respond faster in the market.
- Cover all offshore needs with little to no disruption of ongoing projects.

AVEVA Solution

- Bocad

Results

- Collaborated with AVEVA to implement best-in-class, customized structural detailing software for the plant and construction industries.
- Automatically generating high quality, detailed deliverables thanks to a flexible, open and customizable solution that can incorporate customer know how.
- Saving time and eliminating many sources of errors due to more efficient steel detailing and fabrication.
- Improving data ownerships and reducing project rework with the ability to exchange multidiscipline model data with structural analysis programs.

Dragadose Offshore Partners with AVEVA to Cut Through Project Complexity

Madrid, Spain – Founded in 1972, Dragados Offshore S.A. is a leading engineering, procurement and construction (EPC) contractor for the oil & gas and other energy-related industries. Their four decades of experience in both offshore and onshore projects give them a solid track record, ensuring their clients that their most complex and challenging projects will be successfully planned, executed and delivered.

Dragados Offshore is part of the ACS Group. Headquartered in Madrid, Spain, the ACS Group is a global leader in the development, construction and management of infrastructure and related services, with operations and offices worldwide and more than 162,000 employees.

Balancing Quality and Time to Delivery with Project Complexity

Faced with increasingly diverse and complex projects, Dragados Offshore wanted to upgrade to a design system that would not only meet its specialized needs but which would also be flexible enough to enable engineers to use the same software on different types of projects.

The type of complex, high-risk projects in which Dragados Offshore specializes require complete realtime association between the 3D model and its 2D deliverables, so that accuracy is ensured throughout the design and fabrication workflow.

Dragados Offshore needed a solution that would also incorporate valuable features for fabrication quality assurance, such as the treatment of welds as tagged objects instead of manual drawing annotations, and the automatic creation of optimised weld preparations on even the most complex joints.

In the contracting business, tendering involves being able to demonstrate the necessary capabilities. Dragados Offshore needed a solution that would support the first stages of structural design and allow them to respond faster in the market.

> "Once our designers saw the AVEVA Bocad software and recognised its potential, they were convinced. Within a year, we had 70 people fully trained on AVEVA Bocad and nowadays we have engineers able to program further customised macros for our needs."
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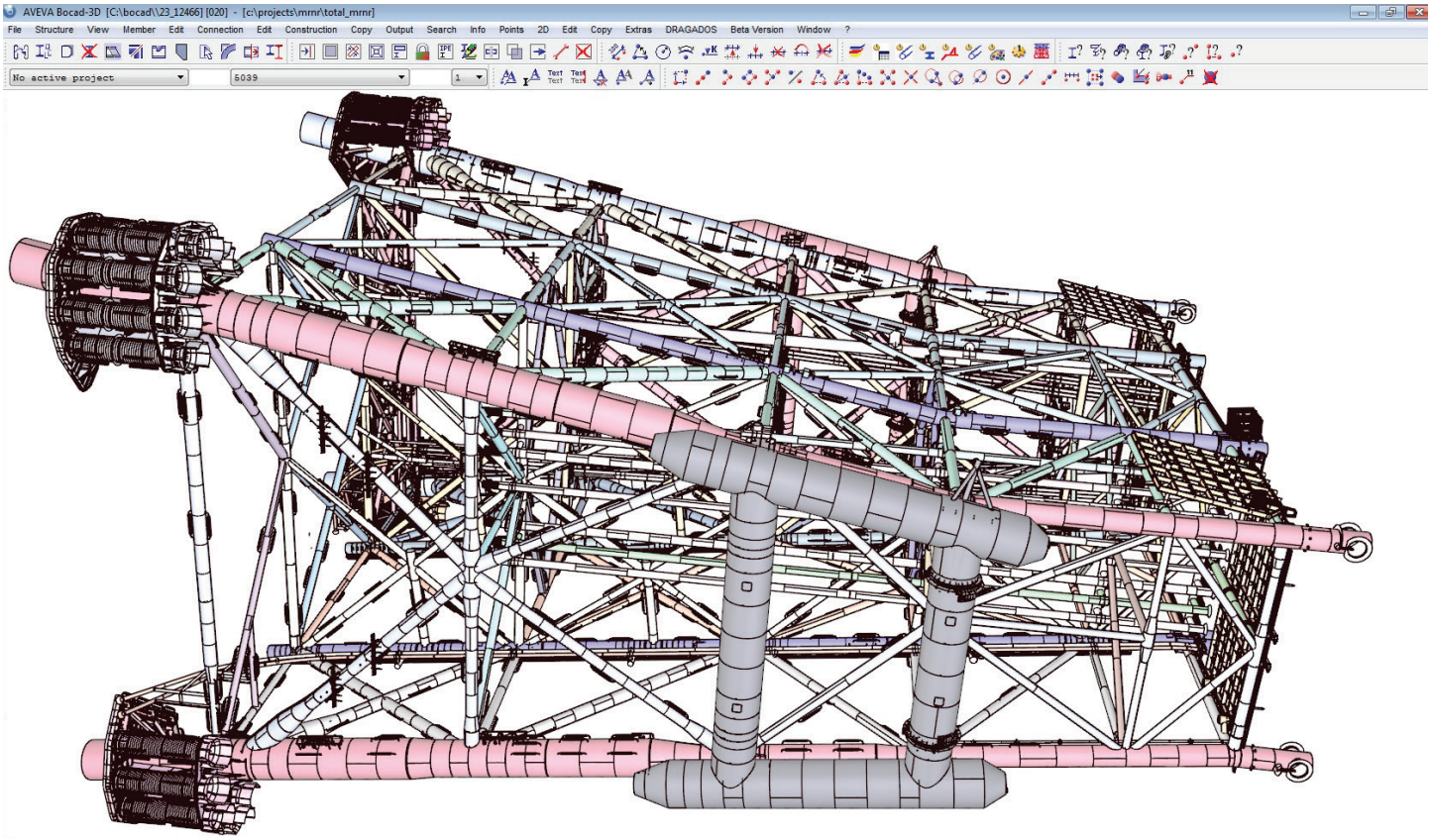
> -
>
> **Ramón Núñez,**
> Engineering Director, Dragados Offshore

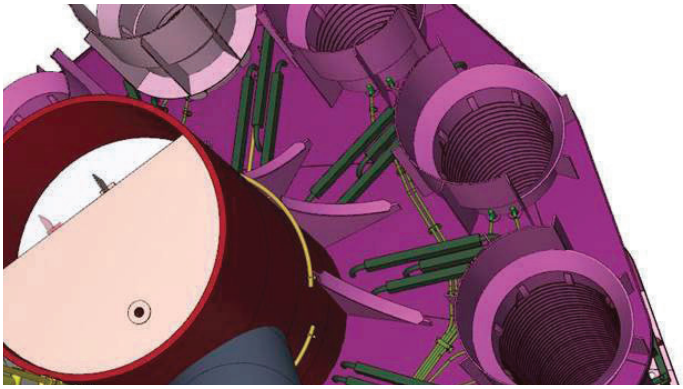
A Solution that Incorporates Design, Planning, and Execution Deliverables

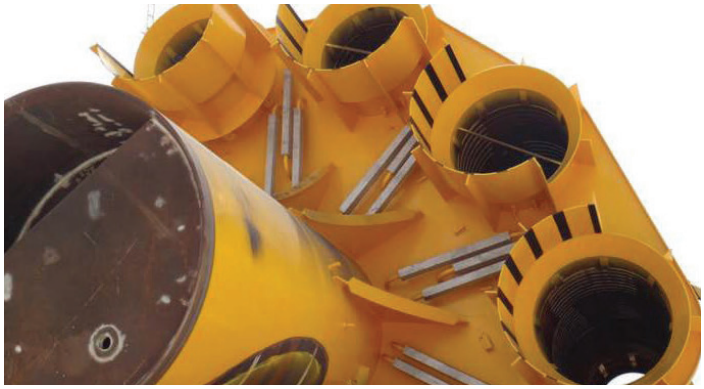
Implementing any new software solution is always likely to create disruption. With their heavy workload and tight project deadlines, Dragados Offshore chose to play the long game, implementing AVEVA Bocad progressively over two-and-a-half years. This phased approach proved very successful; the design team began to use the software, enjoying the benefits of the 3D model and design features, while experienced users shared their skills and needs with the AVEVA team on site, to create together a perfect tool to cover all offshore needs with little or no disruption to ongoing projects.



Mariner jacket EPC contract for Statoil - full 3D detail design. Image courtesy of Dragados Offshore S.A.

Another advantage of this approach was that it provided the time to fully customise the software to meet Dragados Offshore's specific requirements. AVEVA worked with the company to detail the respective needs of the fabricator and the builder, deciding together which new features should be implemented into the software, and how AVEVA Bocad's deliverables could be configured to make their work easier, reducing errors from fabrication right through to completion.





Above: The mariner jacket EPC contract for Statoil. The top view of the modelled pile cluster is shown alongside the fabricated pile cluster. Images courtesy of Dragados Offshore S.A.

This cooperation between AVEVA Bocad and Dragados Offshore in increasing the program's features soon showed its worth. The ability to exchange model data with structural analysis programs, and to create detailed, multidiscipline models and accurate layout drawings means better ownership of data, fewer clashes, less rework in construction and shorter schedules.

"AVEVA Bocad adds value because it allows design integration in the first phases of a project and makes it easier to work on difficult details. In addition, our clients normally work with AVEVA 3D tools and that creates synergies."

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Ramón Núñez,
Engineering Director, Dragados Offshore

Overall, faster and more efficient steel detailing and creation of fabrication deliverables save Dragados Offshore a considerable percentage of project time; project quality has also been improved. On-demand generation of shop-ready fabrication deliverables makes it possible to delay creation of drawings and CNC data until the last possible moment before fabrication must start. The maximum number of design optimizations can therefore be incorporated to achieve better quality in the fabricated parts and less rework in construction.

AVEVA Bocad's interoperability, both with AVEVA's 3D design solutions and with third-party software, adds great value to Dragados Offshore's projects.

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