



AVEVA

BROCHURE

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# AVEVA Bocad – Streamlined Design and Fabrication Process for Steelworks

AVEVA Bocad provides class-leading productivity in structural steelwork, enabling consistently rapid, high-quality design, fabrication and construction, for on-time, on-budget delivery of complex projects.

With an unrivalled track record on the most advanced structural design projects, AVEVA Bocad can deliver value as a stand-alone steelwork solution or as part of an integrated AVEVA deployment.



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‘Structural steel is a major part of all EPC projects. It can account from 10 to 30% of total project costs.’





## With delivery and financial pressure higher than ever, why are 70% of Capital Projects over time, and 60% over budget?

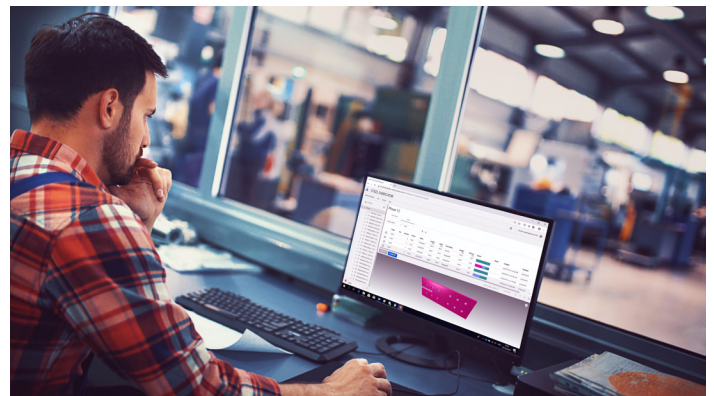
- Increased project complexity makes delivering a successful project incredibly challenging.
- Steelwork needs to be designed alongside all other disciplines in an ever-evolving, iterative design cycle.
- An ever-more globalized workforce and worldwide supply chains makes collaboration and effective data sharing difficult.

As design and detailing information is created, it needs to be shared across disciplines and across contractual boundaries to make sure the project stays on track. This process is not linear; design information does not simply pass to the next team until it is completed. The information iterates around a number of teams, affecting each aspect of the project on each iteration.

'When detailers are using disconnected solutions there is no real control of change management, nor control of who owns the latest information. It is very easy to get out-of-step, which leads to inconsistent, mismatching information.'

If this data isn't shared effectively, an early error or supplier issue can propagate to the finished asset, leading to costly fixes, wasted materials, and project overruns.

Steel detailing is highly important as it determines which steel materials must be procured and ensures that parts fit in construction, both of which affect the entire downstream process.



# Deliver highly constructible steel information models

Integrating structural steel detailing allows collaborative working throughout an entire design and construction project, helping reduce project cost, risk and delivery time.

Working seamlessly with the AVEVA design solutions, AVEVA Bocad™ takes over the layout design from the multi-discipline tool and allows you to build a full detailed structural steel model. Proven to reduce detailing time and – as it is linked to the layout model – all changes are visible at all times to everyone, including EPC designers, in-house detailers, supply chain detailers and fabricators.

Equally effective in 3D modeling and detailing connections, AVEVA Bocad removes design limitations, enables collaborative workflows for IPE and BIM (Building Information Modeling) projects, and ensures right-first-time steel fabrication and construction in multiple industry sectors.



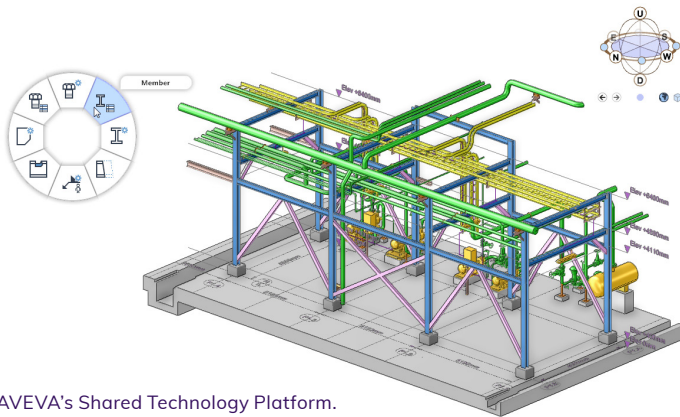
AVEVA E3D



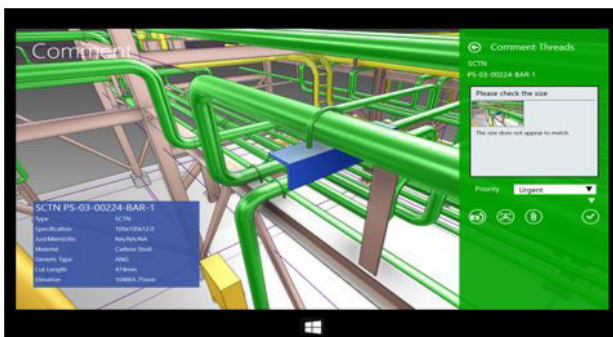
AVEVA Bocad



AVEVA E3D Insight



AVEVA's Shared Technology Platform.



AVEVA E3D Insight Mobile Tablet Application.

Supported by AVEVA's shared technology platform, AVEVA Bocad is fully integrated with a range of AVEVA products, providing high visibility and management of change. This creates a highly scalable, true multi-user environment where hundreds of users can simultaneously work on the same project data controlled by our system of claiming and access control.

AVEVA Bocad is deployed using the same project data as AVEVA Everything3D™ (AVEVA E3D™). The design multi-disciplines model from AVEVA E3D can be seen from AVEVA Bocad. The steel detailing model (AVEVA Bocad detailing data) can be seen live in AVEVA E3D.

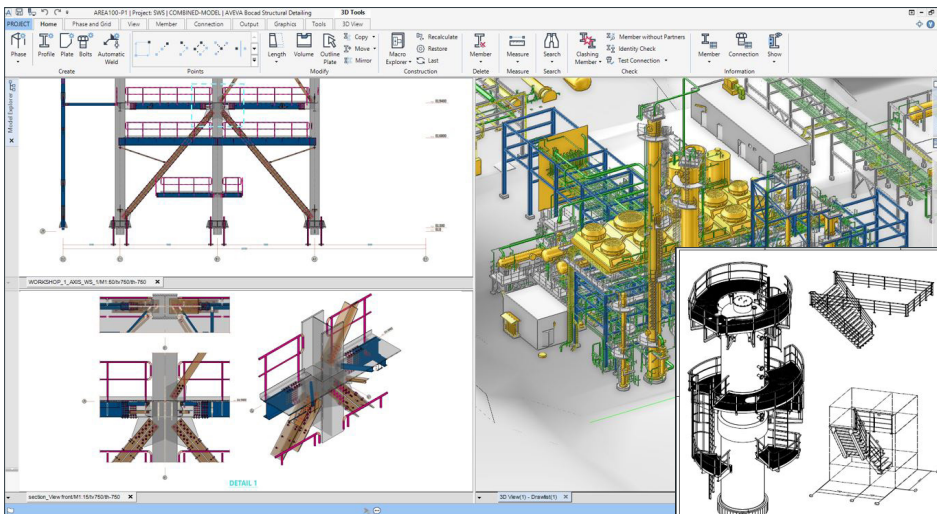
Shared technology delivers a true multi-discipline environment with common administration, report generation, and data management capabilities.



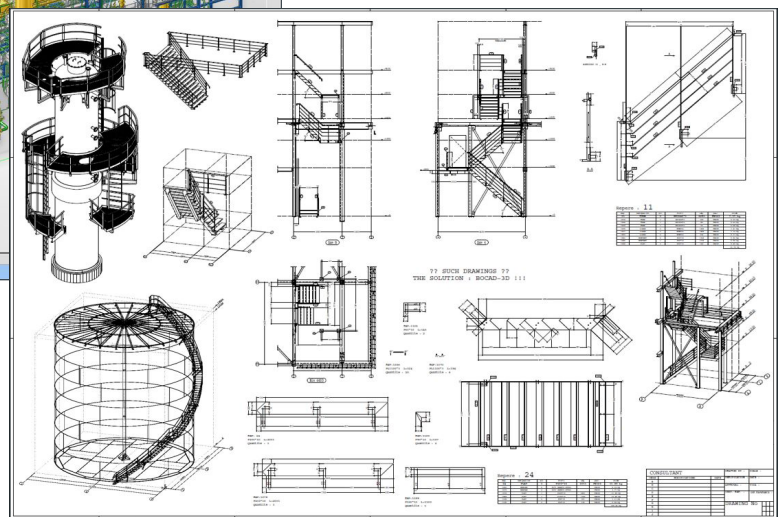
# With one, unified, real-time 3D model, teams are always up-to-date, making collaboration simple

AVEVA combines the latest 3D graphics and user interface technologies with state-of-the-art data management to deliver the most comprehensive, productive, and tightly integrated multi-discipline 3D design solution available today.

- Full visibility across teams means problems can be solved earlier, avoiding costly on-site issues, expensive rework, and fewer materials wasted.
- Trusted living laser point cloud to ensure data reliability, accessibility and intelligence for both brownfields and as-built data.
- Multi-discipline deliverables stored in the database, so they are always up-to-date and accessible from one place.
- All changes visible at all times, to everyone - from EPC designers, in-house detailers, supply chain detailers, to fabricators.
- Global, multi-user teams working on the same project data means improved decision-making, and fewer requests for information, revisions and errors discovered too late.
- Easy status management, with meaningful colour coding, makes it easy for everyone to stay focused and on track.
- Visualize, inspect, comment and approve messaging to communicate effectively.
- Virtual, augmented, and mixed reality allows users to freely and intuitively move around the digital model, viewing assets from any perspective.



AVEVA Bocad Structural Detailing user interface - plant.



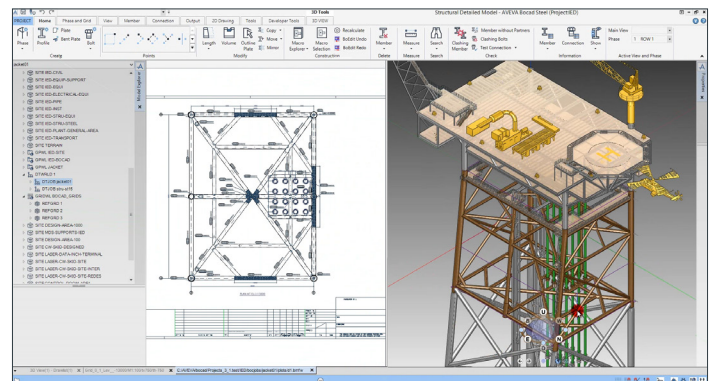
AVEVA Bocad sample drawings.





## Create consistent, rapid, and accurate steel detailing

- 3D modeling of any type of structure, no matter its complexity.
- Parametric templates enable commonly used designs to be stored and reused.
- Full modeling control and clash-checking capabilities.
- Quick and easy creation of structural general arrangement and details drawings.
- Automated parts, bolts and welds marking, generation of bill of materials, shop-ready fabrication deliverables including parts, assembly and install marking plans drawings.
- In-built material nesting optimizer and reporting for more accurate estimating and earlier procurement.
- Digital welds with steel preparation and reporting for Welding Inspection (NDT).
- Built-in links for CNC fabrication machinery, welding robots.
- Revision control, change highlighting and audit trail.
- Unique real-time association between 2D deliverables and 3D model.
- Interoperability with Stress Analysis, architectural/ plant/marine design, with ERM, and with Fabrication Management Systems.
- .NET API enabling building of your own software applications and interactions with 3rd party software.



AVEVA Bocad Structural Detailing user interface - offshore.









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Communication is needed in order to collaborate effectively

- Produce a fully detailed 3D model (Digital Twin) towards Digital Transformation
- Identify, control, and communicate change as early as possible (avoiding costly problems on-site, and reducing wasted materials)
- Involve Steel Detailing at an early stage to leverage downstream knowledge and optimize Lean Construction principles

Take back control with effective collaboration for on time, on plan, and on budget capital projects.

Find out more at [aveva.com/aveva\\_bocad](https://aveva.com/aveva_bocad)

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### About AVEVA

AVEVA Group plc provides innovative industrial software to transform complex industries such as Oil & Gas, Construction, Engineering, Marine, and Utilities. AVEVA's software solutions and platform enable the design and management of complex industrial assets like power plants, chemical plants, water treatment facilities and food and beverage manufacturers – deploying IIoT, Big Data and Artificial Intelligence to digitally transform industries.