

Naval Architect Article February 2016
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Bentley's Naval Architecture Software Advances with MAXSURF CONNECT Edition

The demands made on naval architects are becoming more and more exacting. To compete in an increasingly competitive global market, naval architects need to produce more detailed designs, examine design alternatives in greater depth by applying engineering analyses, and accomplish this more quickly and efficiently. To meet this demanding design exploration – also known as optioneering – it is essential that naval architects make use of the latest technologies and processes available.

Some key aspects to consider are:

- collaboration among geographically dispersed teams and stakeholders;
- use of a common modeling environment (ensuring data consistency) that can be manipulated on multiple hardware platforms (desktop PC, hosted analysis cloud, phone, tablet, or other mobile device);
- access to cloud computing for otherwise time-consuming analysis – such as complex CFD, FEA, or multi-parameter design-space exploration for novel design concepts;
- advanced simulation of vessel performance.

Bentley Systems is moving rapidly to broadly address these increasingly demanding requirements. In September 2015 Bentley Systems released the CONNECT Editions of several of its design and analysis software products to complement the CONNECT Editions of MicroStation (providing a common modeling environment), ProjectWise (providing collaboration for comprehensive project delivery), and the Navigator “application” for design review), which were released earlier in 2015. Among the new releases is the CONNECT Edition of MAXSURF, Bentley’s naval architecture design and analysis software.

MAXSURF’s simulation capabilities were enhanced to help naval architects more accurately predict the stability performance of vessels, including accounting for fluid spilling from tanks, deck wells and cockpits, calculating cross-flooding between opposing tanks, and providing more options to define vessel damping when performing motions analysis.

These advanced engineering analysis and simulation capabilities all support optioneering, which involves assessing a broad range of design alternatives to gain insight into the design space and the influence of design parameters on performance for improved decision making. This is something that Bentley is committed to making accessible to users. A key requirement for optioneering is having the capability to assess the performance metrics of numerous design alternatives in a timely manner.

It is within this context that Bentley now offers its cloud services through its new Cloud Services Subscription program. Through Bentley’s Scenario Services, high-performance cloud computing is accessible to designers. Additionally, to support collaboration across disciplines and time zones in the distributed teams now common on marine projects, along with data integrity, Bentley cloud services provides a single access point to project-related information. In addition, Bentley cloud services makes

it possible to track per-project software usage and other project-based performance metrics. To the end user, Bentley cloud services also provides access to the latest on-demand training material to enhance professional skills via a self-service learning system.

Bentley's MAXSURF CONNECT Edition provides the capabilities to quickly and efficiently meet the analysis and design requirements of demanding naval architecture projects. To find out more please visit www.bentley.com/maxsurf and www.maxsurf.net