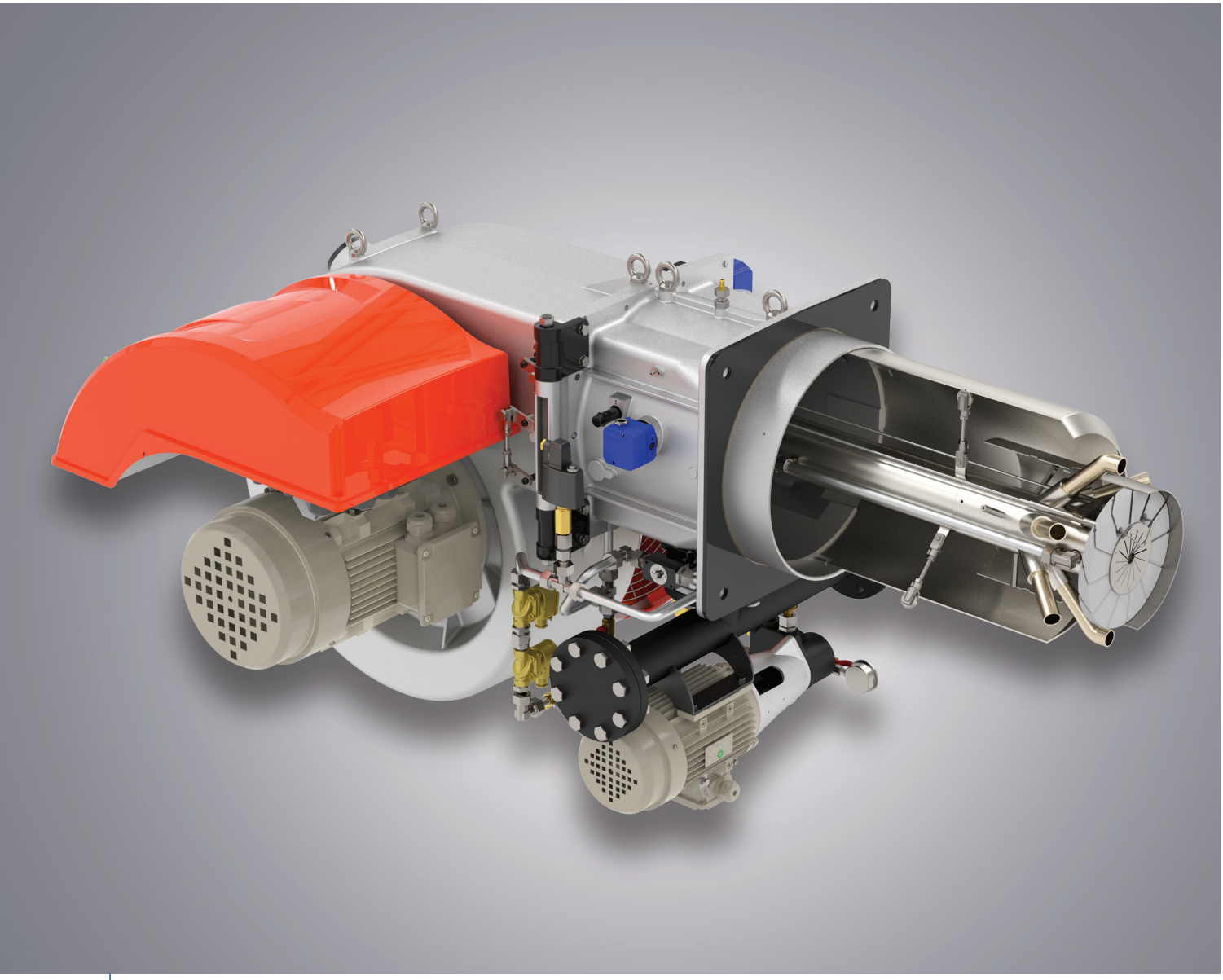
DASSAULT SYSTEMES

SOLIDWORKS

BALTUR S.P.A.

ADVANCING INDUSTRIAL BURNER, HEATER, AND AC DEVELOPMENT WITH SOLIDWORKS SOLUTIONS



With SOLIDWORKS design, analysis, flow simulation, and inspection software solutions, Baltur has streamlined development of its industrial burners, resulting in shorter lead-times and fewer design errors.

baltur

Challenge:
Reduce product development cycle time by improving collaboration and eliminating duplicative work.

Solution:
Implement SOLIDWORKS 3D product development software solutions, including SOLIDWORKS Standard, SOLIDWORKS Professional, SOLIDWORKS Premium design and analysis, SOLIDWORKS Flow Simulation computational fluid dynamics (CFD) analysis and SOLIDWORKS Inspection software solutions.

Benefits:
- Cut design time by 25 to 40 percent
- Decreased design errors by 15 percent
- Reduced prototyping requirements and associated costs
- Shortened lead-times and improved interdepartmental collaboration

Since 1950, Baltur S.p.A. has been designing, manufacturing, and assembling state-of-the-art systems for heating, climate control, and industrial process applications. Known initially for its line of industrial burners, the company also offers solutions for other industrial and residential heating and climate control needs. Baltur's success and longevity stems from its commitment to leveraging new technologies to drive continuous research and development, as well as its focus on developing intelligent systems and innovative products.

Today, Baltur develops four different types of products: burners for residential and industrial applications, powered by gas, diesel, fuel oil, and combined sources; heating systems—including boilers for residential use—steel boilers, and high-power thermal modules; air conditioning systems, including coolers, air treatment systems, and fan coil units; and systems based on the use of renewable energy sources, such as solar thermal energy systems and heat pumps. As the company's product lines have grown, so have the challenges Baltur faces in R&D and product development—challenges that compelled the Italian company, in 2013, to seek an integrated 3D product development platform to replace the ThinkDesign® software it had used, according to R&D–Mechanical Designer/CAD Manager Virgilio Sisti.

"We needed to slash product development cycle time overall by increasing interdepartmental collaboration to support shorter delivery lead-times," Sisti recalls. "So, we undertook an extensive evaluation of leading 3D design systems to determine the set of integrated capabilities that would best meet our product development goals."

After evaluating the Autodesk® Inventor®, Pro/ENGINEER®, Solid Edge®, and SOLIDWORKS® 3D design environments, Baltur chose to standardize on SOLIDWORKS solutions, implementing SOLIDWORKS Standard design, SOLIDWORKS Professional design, SOLIDWORKS Premium design and analysis, SOLIDWORKS Flow Simulation computational fluid dynamics (CFD) analysis, and SOLIDWORKS Inspection software solutions.

"After assessing the entire 3D CAD software landscape, we found SOLIDWORKS to be the best match for our requirements because it delivers high levels of productivity and integration," Sisti explains. "We also found SOLIDWORKS to be easy to use, to be widely adopted throughout industry—providing a credible product development roadmap—and to have the most comprehensive suite of integrated capabilities."

"Because SOLIDWORKS is a full-featured, integrated product development environment, it helps us design very quickly and competitively, thanks to an extensive range of technologies and tight integration between all of the modules that we use across the entire order lead-time. The seamless integration of all SOLIDWORKS solutions used by Baltur has resulted in significant co-engineering time reductions."

— Virgilio Sisti, R&D–Mechanical Designer/CAD Manager

STREAMLINING DEVELOPMENT

Since utilizing the SOLIDWORKS product development environment to develop and introduce Baltur's new TBG 800 industrial burner, the company has completed more than 200 designs and new products, all within a more streamlined development process. "We have reduced design cycle time by 25 percent, and by more than 40 percent if we consider the specific development of virtual prototypes," Sisti notes.

"Design and drafting are executed in the Engineering Department, followed by a test phase in our laboratory to make sure that design results meet end-product specifications," Sisti adds. "Because SOLIDWORKS is a full-featured, integrated product development environment, it helps us design very quickly and competitively. It has an extensive range of technologies and tight integration between all of the modules that we use across the entire order lead-time."

UNDERSTANDING FLUID DYNAMICS

One of the integrated technologies that Baltur has heavily used is the CFD analysis capabilities of SOLIDWORKS Flow Simulation software, which are especially beneficial in understanding the performance of a burner's combustion head. "SOLIDWORKS offers its greatest benefit in the fluid dynamics simulations. We use it to analyze a burner's combustion head, where specific conditions are difficult to anticipate and often cannot be replicated in our laboratory," Sisti stresses.

"This is also a critical issue for our competitors, and we are now one step ahead thanks to the virtual flow simulation engineering technology that SOLIDWORKS offers for product development," Sisti continues. "With SOLIDWORKS Flow Simulation software, we can use virtual prototypes to check product features and performance without having to manufacture them. This has enabled us to reduce the number of prototypes required and consequently has allowed us to slash costs."

SHORTER LEAD-TIMES, FEWER ERRORS

With design cycle reductions and the ability to analyze virtual prototypes, Baltur has achieved its goal of shortening delivery lead-times while simultaneously reducing design errors by 15 percent. "SOLIDWORKS improves our ability to handle modifications, even at the end of a project, and collaborate in real time with other corporate teams," Sisti points out. "Furthermore, with virtual product development, we can avoid several prototypes and last-minute modifications in the factory.

"All enterprise areas benefit from the integration offered by SOLIDWORKS solutions," Sisti concludes. "The SOLIDWORKS platform helps us handle orders with very short lead-times and supports collaboration among all departments."

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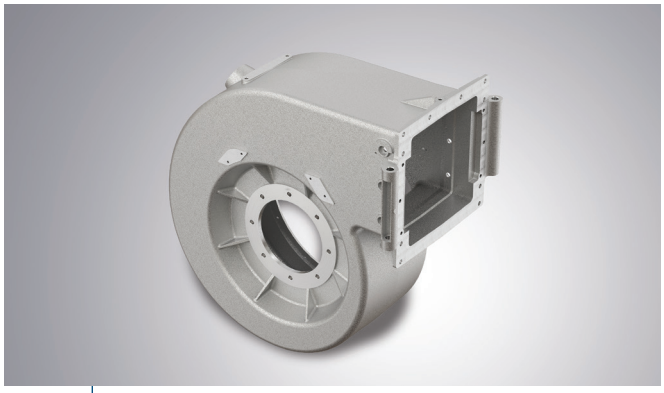

Using SOLIDWORKS Flow Simulation CFD analysis software, Baltur has gained a better understanding of the performance of a burner's combustion head, leading to fewer prototypes and a reduction in associated costs.

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