DASSAULT SYSTEMES

SOLIDWORKS

RADIJATOR INŽENJERING D.O.O.

FIRING UP BIOMASS HEATING SYSTEM DEVELOPMENT WITH SOLIDWORKS SOLUTIONS

Radiator Engineering leveraged SOLIDWORKS design, product data management, and technical communication solutions to achieve shorter development cycles and increased throughput for its solid-fuel, biomass-pellet, and liquid-fuel boilers and heating systems, resulting in business growth.

Radijator INŽENJERING

Challenge:
Streamline and accelerate the development of new boiler-based heating system products to support greater throughput and future growth into emerging markets—particularly biomass systems—for industrial, commercial, and residential heating systems.

Solution:
Implement SOLIDWORKS Professional design, SOLIDWORKS Enterprise PDM product data management, and SOLIDWORKS Composer technical communication software solutions.

Benefits:
- Cut time-to-prototype by 20 to 50 percent
- Increased heating system throughput by 30 to 40 percent annually
- Boosted export business to become 70 percent of the company
- Improved collaboration with customers and partners in Belgium and Austria

Radijator Inženjering d.o.o. (Radiator Engineering) is a leading manufacturer of solid-fuel, biomass-pellet, and liquid-fuel heating boilers; heating systems and boilers for residential use; storage tanks for fuel oil; and boiler buffer tanks. Based in Serbia, the company was founded in 1991 from the "Radiator" craft shops, whose main activity was the installation and maintenance of central heating systems. Since then, the company has continued to grow through the application of new technologies, the development of innovative products, and entry into the broader European market.

Working with customers and partners in Belgium and Austria, Radiator Engineering designers and engineers learned that the AutoCAD® 2D design tools that they were using were slower and less accurate than the 3D tools used by colleagues at customer and partner companies, according to Manager of R&D Nenad Radosavljevic. "As our product development requirements and business opportunities grew, it became clear that we would need to move from 2D to 3D to expand our product offering, increase throughput, and boost innovation," Radosavljevic recalls. "Our products contain roughly 80 percent sheet metal, and we needed to accelerate sheet metal design and fabrication—as well as improve our accuracy—to achieve our business growth objectives."

Following discussions with colleagues from its customers and partners, Radiator Engineering chose to upgrade from 2D design to the SOLIDWORKS® 3D product development platform in 2010. While the company favored the SOLIDWORKS design environment because its customers and partners used SOLIDWORKS solutions, management also valued the ability to integrate the SOLIDWORKS Enterprise PDM (EPDM) product data management system with the company's enterprise resource planning (ERP) and associated business systems.

"To succeed and gain share in Spain, Italy, and the greater Southeastern European market, we needed to boost productivity not just in product development, but also in fabrication, manufacturing, assembly, and related business functions," Radosavljevic explains. "The combination of SOLIDWORKS design software and the EPDM system provided the foundation on which we continue to grow our business."

Radiator Engineering standardized on SOLIDWORKS software—implementing SOLIDWORKS Professional design and the EPDM product data management system, and recently adding SOLIDWORKS Composer™ technical communication software—because the solutions are easy to use, enhance design visualization, connect design offices with a new factory, and integrate with the company's business systems.

"As we've expanded our product line, our boiler designs have become more complicated—with many more moving mechanical parts and electrical components—especially with our line of wood-pellet biomass boilers for residential use. Working in 3D with SOLIDWORKS, we're much faster and more accurate in design, which leads to clearer, error-free designs for manufacturing."

—Nenad Radosavljevic, Manager of R&D

FASTER, MORE ACCURATE BOILER DEVELOPMENT

Since moving to SOLIDWORKS 3D design, Radiator Engineering has shortened product development cycles while simultaneously improving the accuracy and increasing the complexity of its products. "As we've expanded our product line, our boiler designs have become more complicated—with many more moving mechanical parts and electrical components—especially with our line of wood-pellet biomass boilers for residential use," Radosavljevic notes. "Working in 3D with SOLIDWORKS, we're much faster and more accurate in design, which leads to clearer, error-free designs for manufacturing."

"We make boilers of all capacities and sizes, and also collaborate with our customers and partners," Radosavljevic adds. "Since moving to SOLIDWORKS software, we've reduced the time it takes to produce a prototype for testing by 20 to 50 percent, depending on the unit. This is partly because it's easier to detect design issues—using interference and collision detection tools—and faster to develop sheet metal parts with SOLIDWORKS. We're also able to reuse more of our design work with EPDM."

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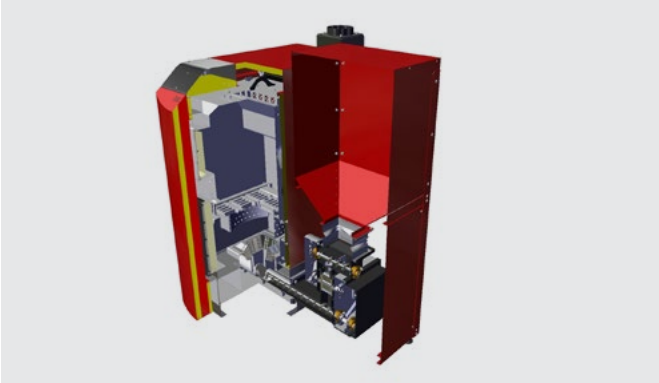

Using SOLIDWORKS Composer software, Radiator Engineering can more rapidly and cost-effectively develop visual-based spare parts catalogs, user manuals, and maintenance instructions to support customers in places that speak different languages.

DRIVING INCREASED THROUGHPUT WITH EPDM

Radiator Engineering's EPDM implementation, which includes viewer licenses for personnel outside product development, helps the company streamline and accelerate product development workflows as well as increase productivity in other business areas. Since 2010, the heating system manufacturer has increased throughput by 30 to 40 percent each year.

"Because EPDM provides the means to connect all of our different departments, all of our processes have become automated, allowing us to increase throughput," Radosavljevic stresses. "We cut upwards of 20,000 pieces on our laser-cutting machine and produce more than 30,000 components. We rely on EPDM to keep it all straight. Plus, it helps us maintain tight revision controls. The system has provided substantial benefits."

SUPPORTING GROWTH IN EMERGING MARKETS

With the trend away from traditional fuels toward less expensive and more sustainable biomass fuels for heating, Radiator Engineering is well positioned for growth in Southern European markets. Due to the firm's product line expansion and improved efficiencies, export products now account for 70 percent of Radiator Engineering's production.

"The market is moving toward wood-pellet heating systems," Radosavljevic says. "With SOLIDWORKS, we can more quickly develop products that take advantage of the changing market. That's why we recently acquired SOLIDWORKS Composer software—so we can more rapidly and cost-effectively develop visual-based spare parts catalogs, user manuals, and maintenance instructions to support customers in places with different languages, like Russia, Romania, and Greece. SOLIDWORKS Composer also allows us to develop better product installation presentations and materials for our distributors."