



## **ALKA GROUP** SAVING TIME AND INCREASING MACHINE PRODUCTION WITH SOLIDWORKS



After implementing SOLIDWORKS, ALKA Group was able to reduce their design timeline for manufacturing nailing machines, once only imported into Turkey, by 50 percent.



## Challenge:

Meet the ever-changing production demands of a global economy in less time while ensuring the delivery of high-quality products.

#### Solution:

Implement SOLIDWORKS Standard, SOLIDWORKS Professional, SOLIDWORKS Premium, and SOLIDWORKS Simulation Professional.

## **Benefits:**

- Reduced design time up to 50 percent
- Increased machine production by factor of 15
- Satisfied industry demand for speed and realism
- Reuse of earlier designs in follow-on products

#### **HISTORY OF IMPRESSIVE GROWTH**

ALKA Group was founded in 1971 with a small, 100-square -meter metal workshop. Today, it is one of Turkey's leading manufacturers with three factories, 25,000 square meters of closed space, 15,000 square meters of open space, and headquarters of 2,800 square meters. The company has branches in Germany, Romania, Italy, and Iraq, and an annual processing capacity of 150,000 tons of steel. All of ALKA Group's factories, equipment, and products are accredited to international test standards. The quality of the raw materials the company uses, as well as its equipment, services, and products, have been certified internationally. Thanks to its significant share in the market, ALKA Group has earned its place among the world's leading corporations. ALKA Group exports to 41 countries and is 100 percent Turkish-owned.

## **CONTINUED COMMITMENT TO EXCELLENCE**

ALKA Group's products include road guardrails, steel manufacturing, noise barriers, wooden guardrails, power lines, and renewable energy plants. All of ALKA Group's operations are executed by their expert management team in collaboration with the academic advisory boards of various universities. This vision ensures that more creative products which meet the ever-changing demands of the modern world are added to ALKA Group's portfolio every day.

ALKA Group is one of Armada Yazilim's business partners in Turkey. ALKA Group acquired its first SOLIDWORKS<sup>®</sup> software license in 2009 and now has seven licenses. The company has used the SOLIDWORKS Simulation Professional package for the last two years. Since 2011, it has also used the SOLIDWORKS Premium, Professional, and Standard packages. ALKA Group's R&D department closely follows the Armada Portal, one of Armada Yazilim's major services. ALKA Group maintains that the portal has significantly contributed to the success it has achieved over the past five years.

## **USING SOLIDWORKS PROVIDES QUICK BENEFITS**

Initially, ALKA Group manufactured nailing machines, which had previously been imported into the country. With other applications, the design process typically required six to seven months. However, using SOLIDWORKS reduced the design timeline by 50 percent. Within just three months, the 3D design had been completed and the project came to life.

While the nailing machine project was in development, SOLIDWORKS was used to create drawings for all the parts and details, such as sheet expansion. Using the Big Picture feature of SOLIDWORKS to display the entire manufacturing process, the R&D department was able to both save time and increase machine production by an incredible factor of 15.

Thanks to the functionality of SOLIDWORKS, ALKA Group's R&D department has also expanded into different fields. Over the past five years, they have increased the number of industries beyond their traditional sectors of molded products, vehicle manufacturing, and energy. ALKA Group also uses the SOLIDWORKS Simulation program in trailer production for the automotive industry and in its solar energy systems.

According to Gökhan Duman, head of the R&D department, "SOLIDWORKS is perfect for our molding work. And because SOLIDWORKS products are used in various departments within the business, there are no interdepartmental difficulties. Any technical queries are answered quickly by the Armada Yazilim staff as we produce our designs."

Gökhan Duman and Alphan Sulu, who head ALKA Group's R&D department, had the following to say about the department's creation, the company's work, and using SOLIDWORKS applications: "As a result of the innovative ideas coming out of ALKA Group, the company's owners—Mr. Ömer and Mr. Akman—initiated the creation of an R&D department. Our team has been in action for six years. One of the main reasons we opted for SOLIDWORKS is that we can easily recycle previous work at the design stage. This means that our designs are functional and timesaving, and SOLIDWORKS provides the opportunity to carry out several tests and experiments, which enables us to move a little further forward every day."

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– Gökhan Duman, Head of R&D Department

## **STAYING AHEAD OF COMPETITION**

The R&D department at ALKA Group is hard at work. It is leading the sector and moving ahead of its competitors. Duman also mentioned that because of ALKA Group's success, foreign companies are showing more interest in Turkey. As a result, there is a more competitive, innovative mindset within R&D. He added that ALKA Group aimed to offer more economical solutions while complying with safety standards in their tenders. To achieve this goal, Duman convinced the management team of the merits of SOLIDWORKS, underscoring its full set of design features and extensibility beyond the core application. Although it took some time for SOLIDWORKS to be used throughout the company, Duman emphasized that by using the SOLIDWORKS analysis feature in the relevant departments, they have been able to develop their processes. As a result, they have started receiving patents and have garnered the respect of global testing and analysis companies in countries such as Spain and Italy.



ALKA Group relies on SOLIDWORKS as part of the modeling process for the Yavuz Sultan Selim Bridge, just as they did with the Bosphorus Bridge and the Fatih Sultan Mehmet Bridge, all located in Turkey.

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Duman explained that to keep their customers informed regarding the design work completed using SOLIDWORKS (and in compliance with the applicable regulations of a specific country), ALKA Group would be investing in a SOLIDWORKS Composer<sup>™</sup> license. The company intends to use SOLIDWORKS Composer in their municipal work, and in projects in the European Union (EU) and non-EU countries. He further indicated that SOLIDWORKS Composer's compatibility with Android<sup>™</sup> and iOS<sup>®</sup> means that R&D's activities can be clearly explained. He also said that the marketing department uses SOLIDWORKS Composer for more effective communications.

## **BRIDGE TO THE FUTURE**

Highlighting that ALKA Group uses SOLIDWORKS in 41 countries, Duman indicated that they received the tender for the protection system for Istanbul's third suspension bridge. Just as it did with the Bosphorus Bridge and the Fatih Sultan Mehmet Bridge, ALKA Group is using SOLIDWORKS as part of the modeling process for the Yavuz Sultan Selim Bridge. He emphasized that the R&D department worked tirelessly to ensure that the dilatation section was safely designed.

Through the effective use of SOLIDWORKS, ALKA Group enhances its laboratory with each passing day. Consequently, its products are of a higher quality and more affordable. In addition, ALKA Group officials stated that maintenance agreements exist for all of its SOLIDWORKS solutions, and that these agreements will be extended because they believe the future requires that they have access to all new features in the application suite.

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