From alternative to preference

Autodesk Inventor software helps Springboard save time, reduce pollution

The Autodesk Clean Tech Partner Program supports clean technology innovators with design and engineering software they can use to accelerate their development of solutions to the world’s most pressing environmental challenges. For more information, visit autodesk.com/cleantech.

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—Todd Swagerty
Lead Engineer
Springboard Biodiesel

The environmental benefits of processed biodiesel have historically come with a high price tag. Using costly commodities such as soybean and canola oils has made biodiesel more expensive to produce and, therefore, less attractive to both producers and potential customers.

“We know that biodiesel is better for the environment than the petroleum-based diesel it replaces,” says Mark Roberts, chief executive officer of Springboard Biodiesel in Chico, California. “If we can enable our customers to efficiently make biodiesel from a wider variety of raw materials, they will be able to use and sell it for the same price as diesel, maybe even less. At that point, biodiesel fuels will be preferred, not just considered.”

Working with and selling to farmers, small fleet operators, community cooperatives, and some universities, Springboard Biodiesel makes small-scale processors for converting recycled vegetable oil, or grease, into biodiesel fuel. So far, the Springboard process has enabled production of up to 100 gallons every 20 hours. Since biodiesel has a significantly cleaner emissions profile than traditional petroleum products, Springboard’s customers are drastically reducing their environmental footprint even as they are making money.

Studies have shown that for every gallon of diesel replaced by biodiesel, 17 pounds of CO₂ are kept out of the atmosphere, and polluting particulate matter decreases by almost 50 percent. Springboard Biodiesel’s newest product line, the Intelligent Local Processing (ILP) system, is capable of producing 200,000 gallons of ASTM (American Society for Testing and Materials)–grade biodiesel each year.

Using Autodesk Inventor software and a Digital Prototyping workflow, Springboard has reduced its overall design to production time by as much as 30 percent. By eliminating the need for costly physical prototyping of certain subsystems and the associated build times necessary to verify mechanical viability and fit, the company can get its products to market faster.

“In several cases, we’ve been able to use Autodesk Inventor software to solve subsystem fit issues in hours instead of weeks,” says Todd Swagerty, one of Springboard Biodiesel’s lead engineers.

Digital Prototyping with Autodesk Inventor has also helped Springboard recognize and avoid design errors that might have been missed in a 2D environment. Springboard has also been using Autodesk Showcase software to assist in presales of its newer products, particularly with international customers.

With the help of Autodesk software, Springboard Biodiesel looks forward to transforming sustainable, renewable fuel into the preferred fuel choice.