



## Petersen Inc. TIA Portal Application Awards – 2013

**Company Name:** Petersen Inc.

**Location of Application:** Ogden, Utah

**Website:** [www.peterseninc.com](http://www.peterseninc.com)

**Key Business Activities:** Large and small fabrication, manufacturing, machining, and engineering services.

**Name of Application:** Enviro Board, Strawboard, Fiber Extrusion Milling.

**Description of Application:** "Enviro Board has developed and patented a milling process that converts many varieties of agriculture waste fiber such as rice straw, wheat straw, elephant grass, sugar cane and many other varieties into low-cost, environmentally friendly building panels. These durable panels are mass produced to create low-cost, energy efficient housing systems for families living in a variety of climates and conditions." ([enviroboard.com](http://enviroboard.com))

Petersen has helped Enviro Board develop the second iteration of the strawboard machine, which starts by unrolling a typical bail of straw into a hydraulic press chamber. There, the straw is essentially compressed into an extruded die into the strawboard shape.



### **What challenges led you to look at a new solution?**

The primary challenge for Petersen was that the machine had to be as flexible and modular as possible, meaning there was not an option to have long stretches of field wiring around the 60+meter machine, or add extra cabinets to the application. Ideally, the I/O and drives would be able to be mounted directly on the machine.

Also, manufacturing boards from straw is a very dirty, dusty process, so these modular products had to be able to withstand harsh environmental conditions, even if they were to be mounted at machine-level.

**What Siemens automation products were chosen for this project and why?** The 315F-2 PN/DP Safety-Integrated CPU was selected to run the application, because Petersen wanted to bring in the hard-wired safety control from relays, and combine them in the same CPU as the standard code. There were two, TP700 Comfort Panel's and one TP1200 for HMI-modularity. Fifteen G120D drives (seven with Safety-Integrated features) and three racks of ET200pro, high-feature I/O and Frequency Converters were used to help modularize the machine, minimize the control cabinet size and cabling requirements.

**What features in the TIA Portal addressed your project challenges?** The integration of PLC, HMI, and Safety has reduced the amount of software needed for us to work on the single machine application for our single End Customer. We are looking forward to the future where even more automation and drive elements are integrated into the same engineering environment to make our system engineering even more simplified.

**How has your business improved?** TIA Portal has allowed us to save time and money through its integration and ability to program a large range of devices in the same software platform. In our minds, it has been the best way to prepare ourselves for what's to come in the future of automation.

