

Recon Services, Inc.

TEEA 2018 Winner: Innovative Operations/Management



Recycling with Robotics

Recon Services, Inc. is the first company in Texas, and in the Western Hemisphere, to employ a robotics sorting system that uses artificial intelligence to recycle construction and demolition (C&D) materials.

Recon opened in 2005 as a three-person, family-owned company in Dripping Springs, Texas. Their goal was to aid cleanup efforts after Hurricane Katrina. Now, thirteen years later, Recon is leading the U.S. C&D industry toward automation and improved efficiency!

In 2010, Recon expanded their operations by acquiring a concrete recycling facility, which gave them the freedom to recycle concrete while reducing landfill costs. They collaborated with other recyclers to find more ways to reclaim metal and cardboard at C&D sites and created a completely new market by selling wood bio-mass as an alternative fuel source. As a result, Recon reduced material going into the landfill by 50 percent.

In 2016, Recon built a new recycling line to handle their growing business, and to help construction projects meet the city of Austin's recently revised C&D recycling ordinance. This new line increased Recon's recycling rate to 70 percent. During this time, Recon also began partnering with ZenRobotics to design and construct their new system.

This robotic separation technology debuted at Recon in March 2017. The new system uses robots, sensors, and trainable software that modifies sorting criteria when the waste-stream changes. The automated system also reduces the need for complex pre-processing because it can sort several types of waste material simultaneously. The robots are very perceptive, they can separate plastics based on polymers and can separate wood products down to grades of wood.

In less than a month after the debut of the automated line, Recon increased their recycling rate to 80 percent of their total processing. The system also saves Recon an average of \$2 million in landfill costs per year.

Fortunately, Recon is not done yet. The company is continuing their environmental efforts by working on projects to run their operations on renewable resources, which will reduce energy consumption and air emissions.

As a leader in the industry, Recon is out to transform C&D recycling and be a positive example in Texas and around the world.