ArcelorMittal is the largest steel producer in North America, and like most manufacturing companies, they are faced with a significant waste stream. Our task as future engineers was to study one of ArcelorMittal's waste streams - wooden pallets from cargo, chemical tanks and drums, and used refinery bricks - and find a way to reduce, reuse, or recycle these materials. Our main goals are to reduce landfill waste and disposal costs. My group decided to focus on the chemical drums that hold industrial coolants, such as antifreeze.

These drums could be recycled, but the chemicals must be washed out from the inside of them first. Although antifreeze breaks down in the environment readily, it takes oxygen to do so. If the antifreeze enters into a lake or stream as runoff, it could kill fish populations due to oxygen depletion. Therefore, my group decided that prevention was key, and decided to reduce the waste from chemical drums all together. We created an industrial storage tank that requires little maintenance. Our tank can hold up to 2,750 gallons of chemicals and will be delivered using a tank stored on the cargo truck. With two faucets, the chemicals can be transported around the facility using industrial hoses, and will be easy for employees to handle.