

Siemens Tour

Siemens is a company that produces Light rail trains and trolleys. Due to the cost of the light rails trains and the type of business that Siemens attracts, Siemens products are low volume and high variability. I noticed that due to this low volume and high variability that Siemens uses virtually not mechanical automation. Most of the trains they produce are welded and constructed by hand.

I also noticed that the high cost of light rail trains also limits the ability that Siemens has to test their products. To get around this testing problem they rely heavily on simulations to perform their physically intensive testing (such as a crash). Siemens uses Pro-E to perform the majority of their tests which also allows them to perform a wider array of test that include not only a train vs. train crashes but train vs. car and train vs. pedestrian crashes as well.

I also noticed that Siemens performs failure management of their light rail trains. This is done so that when a crash occurs it will cause the least amount of damage in the aftermath. The anti-climber is was a neat ad-on to their trains that keeps one train from sheering the top off of another train in the event of a train vs. train crash. Seeing how safety was built into the design was fascinating as well as seeing how both trains are meant to take equal parts of the damage when they crash.

I was glad to see DTC in action at Siemens. I was amazed to see how DTC procedures resulted in a total part reduction of 33%. When dealing with a light rail train where there are a vast number of parts this 33% reduction could result in saving thousands of parts. I could hardly believe that DTC reduced the sheet metal parts alone by 54%. These part savings eliminate all downstream work; from design analysis and purchasing to inventory and assembly.

Production time was reduced by design alterations to the stitch weld. I was astonished that almost half of the production time was eliminated by altering the setup for these types of welds. This goes to show that the process of assembling parts can have just as much an impact on cost as the price of the parts themselves.