**PROJECT OBJECTIVE**
To create a device that measures the width of fabric laminates to an accuracy of 1 mm.

**CURRENT PROCEDURE**
Tape measure currently used to measure laminate width.

**Current Procedure Leads to**
- Inaccurate Measurements
- Loss of Profits
- Decrease in Quality Assurance
- Poor Ergonomics
- Time Consumption of Product Specialist

**DESIGN DRIVERS**
The final design was driven by the top customer wants, metrics, and corresponding target values.

**FINAL SOLUTION**

**Concept**
- Current Framework
- Servo Motor
- Linear Actuator
- Mounting Brackets

**Solution Features**
- Belt-driven Linear Actuator
- Servo Motor
- Encoder Output
- Hand-Held Controller
- Laser Marking System

**Solution Benefits**
- More Accurate Measurement
- Non-obstructive
- More Ergonomic
- Increased Repeatability
- Able to Integrate to Computer

**Prototype**
- Left Bracket & Servo Motor
- Laser Source & Actuator
- Right Bracket
- Hand-Held Controller
- Cross-Hair Laser Mark

**TESTING & VALIDATION**

**Procedure**
Preliminary testing of the new device involves measuring the two primary types of laminates using three different operators.

The data from the testing was used to perform a statistical analysis.

**Results & Conclusions**
According to the statistical analysis, the prototype is about 4.7 times more accurate, at 1.016 mm compared to 4.76 mm using current methods.

**ACKNOWLEDGEMENTS**
The team would like to thank all those helpful in the success of the project. Special thanks to Jim Everhart, Tom Hocker, and Julia Levinson.