

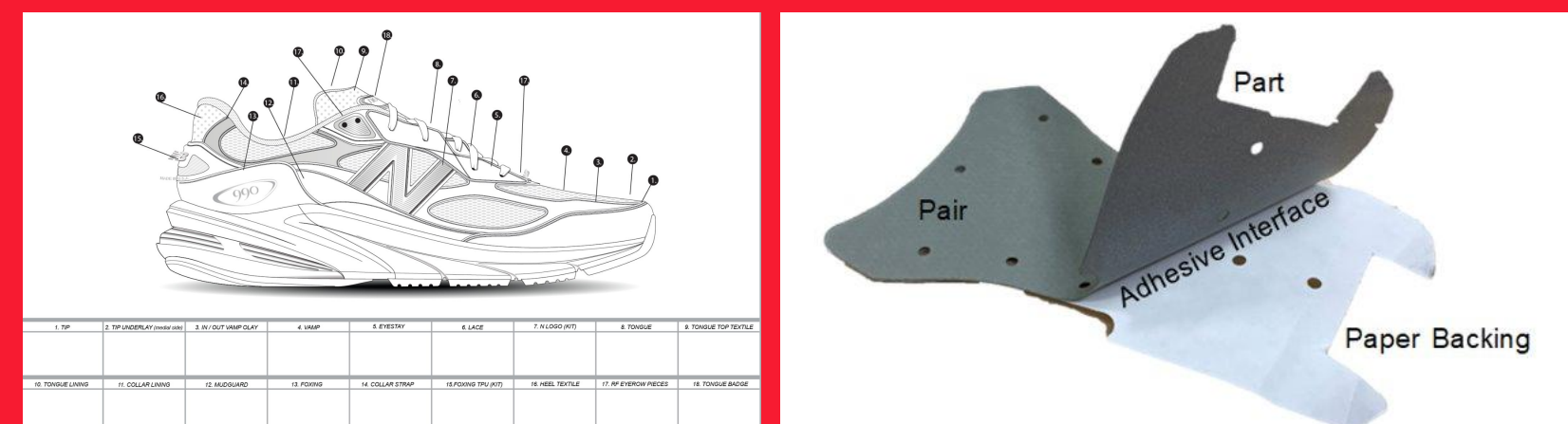
# Manufacturing Innovation Team

Finding ways to mechanize the peeling process of shoe components and their backing to reduce repetitive motion injuries and improve manufacturing efficiency within the US.



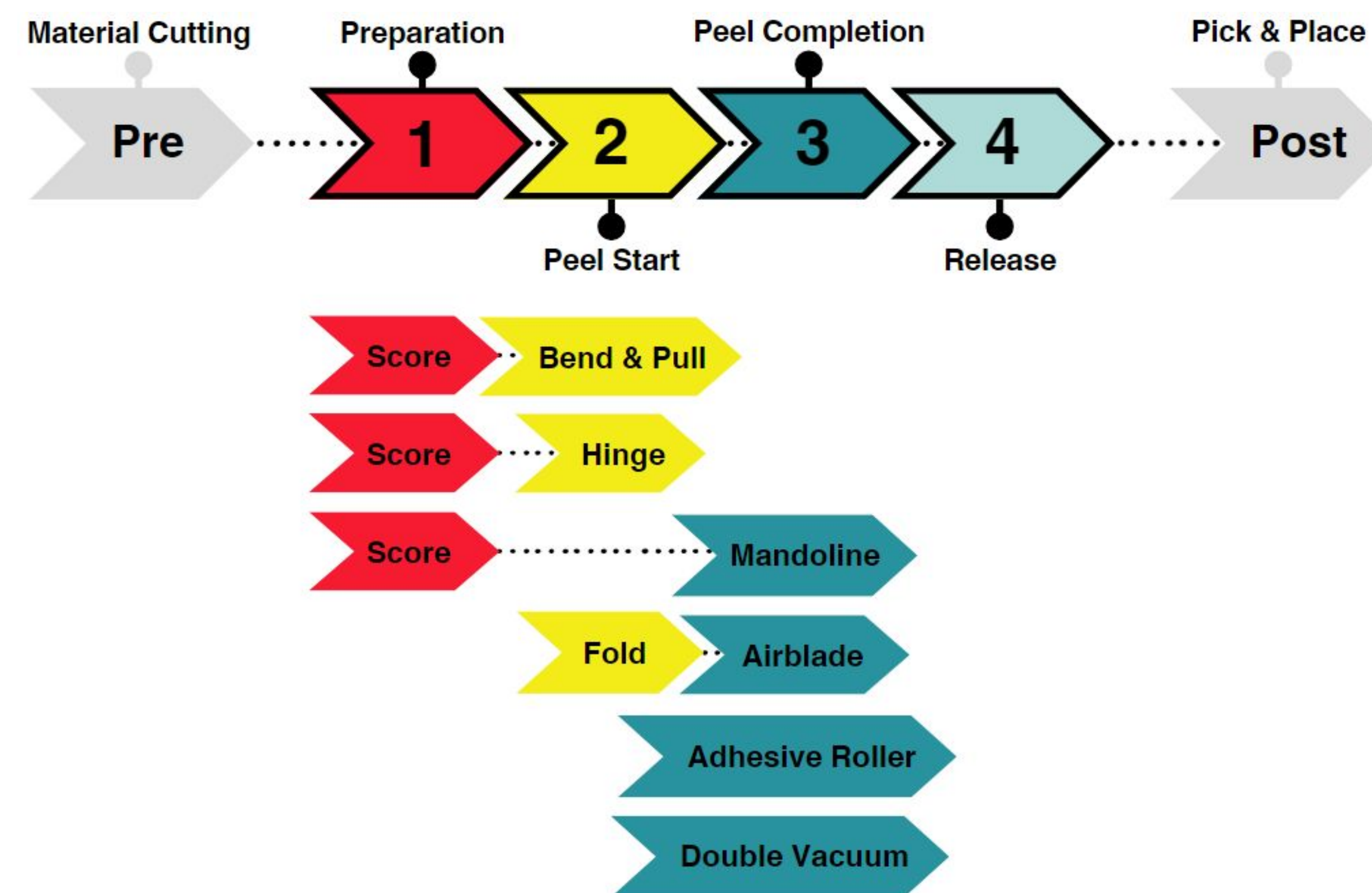
## Context

All shoes are made up of many individual fabric components that are secured together. Most of these pieces are cut out from large sheets of material that have a backing.



## Process Characterization

We broke down the problem space of the peeling process into four main steps.



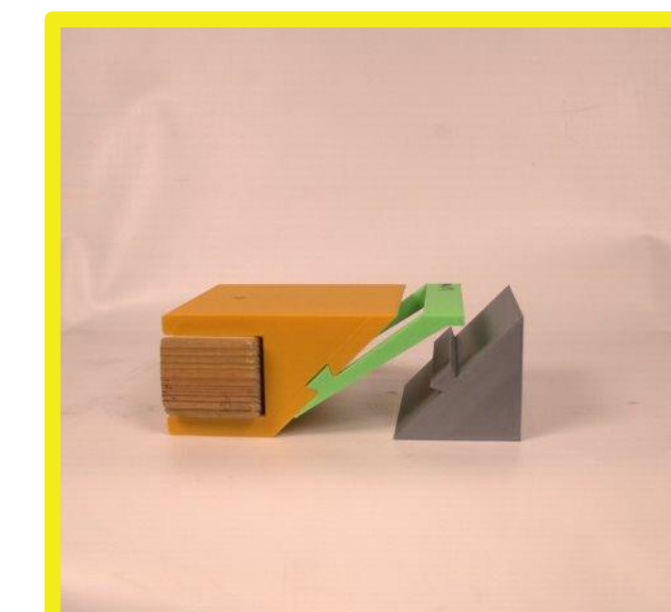
## Explorations

### Scoring



One of the ways we explored preparing our parts was by scoring the backing.

### Bend and Pull



Pulling the parts over a sharp angle enabled us to start peeling the backing.

### AirBlade



Once the peel is started, one of the ways we explored fully removing the backing is through directed air.

## Materials Exploration

We performed two tests to characterize the shoe materials:

### T-Peel Force Testing

- Measuring the force necessary to separate the backing from the material

### Chemical Composition Testing

- Determining the chemical makeup of the materials used

## OUR TEAM



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