Motivation
- Depleting Natural Resources
- Rising costs of traditional manufacture
- Increasing Pollution
- Low efficiency of cars
  (For every dollar spent on fuel only 1% is used to move the passengers and 19% to move the car!)

Problem
- Need for lightweight cars
- Strength of materials
- Low cost, high volume manufacturing process

Aim
- Identify suitable composite materials
- Identify manufacturing process
- Identify suitable process parameters
- Simulate process
- Experimental validation

STEP 1: Process modelling
Tooting and Blank View

STEP 2: Experimental validation

STEP 3: Understanding the process
Influence of Process Parameters
- Temperature
- Blank Holder Force
- Feed Rate
- Quality

STEP 4: Comparison with metal

Significance
- Glass fibre reinforced thermoplastics and All-PP thermoplastics identified as suitable materials for parts manufacture
- Composites can be fully recycled
- Composite materials can be manufactured by stamp forming
- Key process parameters identified
- Process simulation can be used for advanced designs
- Composites can be manufactured as good as metals!

Conclusion
This research will demonstrate that lightweight fully recyclable composite materials are the answer to the next generation of ‘green cars’