

Case Study: **Supercart Limited**

Project: **Shopping Trolley**

Large scale prototype trolley takes centre stage to deliver successful new product launch

In late September 2004, Supercart, a leader in the supply of plastic shopping carts, and their design team, approached ARRK to help them develop a fully functional prototype model allowing them to assess their new design.

Following a visit to ARRK's facility in Gloucester, UK, Site Manager and in this case project leader, Craig Vickers, was able to guide them through the various processes available to them. These included StereoLithography, Selective Laser Sintering, Fused Deposition Modelling and of course the down stream services, such as polyurethane castings and our paint and texturing services.

Supercart's primary concern was how their model would work, stack and look, explaining that stackability was a vital factor for potential buyers of their product, given the limited space they have available to them when the trolleys were not in use.

As a result of this criteria, ARRK advised Supercart to have full sized Selective Laser Sintering (SLS) prototype model produced, to address all these areas. Using Glass Filled Nylon powder to produce the trolley in a series of sections, this process also offered the customer excellent strength, durability and rigidity. An initial 3 prototype SLS models were produced by Martin Burgess and his team, over a 2 to 3 week period, incorporating numerous design changes.

With ARRK having 3 SLS machines at their Gloucester site ARRK was able to offer the customer significantly reduced leadtimes, saving them both time and money.

Following assembly and trial stages, several modifications were made and incorporated successfully by grafting them into the existing units. By doing this from the beginning it saved valuable time and unnecessary additional expense not having to rebuild the complete trolley again!



Painted SLS Trolley



With the whole project having gone so smoothly and on time, Supercart decided they would exhibit their new trolley on their stand at the global retail trade exhibition "EuroShop" in Dusseldorf, Germany in February 2005.

With this in mind to create additional visual impact one of the trolley's was fully finished and painted red and silver. It was then specially packed and delivered direct to the show in Dusseldorf where it took pride of place on their stand, attracting large amounts of positive attention.

As a direct result, another trolley was later fully finished and shipped to Supercart's other facility, at their request.

Following the success of this project Supercart have subsequently requested prototypes for several other models for future launch.

Profile:

ARRK employs over 15,000 employees across its 124 businesses around the world, each specialising in a different area of the full line product development process. ARRK provides a high quality service that plays a vital part in helping some of today's leading businesses in the Automotive, Aerospace, Telecommunications and Household Goods sectors to develop their products. With sister operations across the world, ARRK has access to a multitude of product development capabilities which include; Design and Technical Resource Solutions; CAD; Digital Scanning; Traditional Modelmaking; Stereolithography; Selective Laser Sintering; FDM, Vacuum Casting; Silicone Rubbers; Express Metal Casting and Finishing Grade Options, together with Painting and Texturing Options: Aluminium, Zinc and Magnesium RPM Castings; Die Castings; Reaction Injection Mouldings; CNC; High Speed Milling; Prototype and Production Tooling in Cast Aluminium; P20 Steel or Hardened Steel Tools; Low volume Injection and Assembly.

ARRK

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