

# Case Study | 3D Printing

## *Situation*

Our Auto Industry Customer planned an event to showcase its' Additive Manufacturing capabilities. They desired to have representative 3D printed part to give away to attendees but could not handle the volume of parts required in the time needed to complete.

## *Approach*

Their 3D printing team provided Capitol with CAD Design data that represented a pinion gear. We verified the 3D model for printability, reviewed material and color to be used, and type of 3D printer that reflected equipment they wished to represent to their attendees. Our machine scale handled the volume needs.

## *Outcome / Value Delivered*

Capitol printed 1600 parts for the customer. The customer was able to provide representative rapid prototype parts as a takeaway. The customer was able to market their 3D Print capabilities as a future source for printed parts.

## Solutions

- CAD Design
- 3D Modeling
- Rapid Prototyping
- Post Processing

# Case Study | 3D Printing

## *Situation*

Our automotive customer needed to hang parts off of vehicle bodies as they passed through the paint process. The traditional hangers used were steel, high cost and having long lead times to have manufactured. The customer was looking for an alternative cost effective approach.

## *Approach*

Capitol advised that 3D printed parts using material with high thermoplastic properties could achieve cost and time savings. We scanned the current steel part, slightly modified the CAD model to satisfy printability, and printed parts using the high thermoplastic material in a matter of days.

## *Outcome / Value Delivered*

We were able to show how quickly these hangers could be manufactured compared to traditional manufacturing to meet customer timing. We drove the cost metric down and provided the hanger tool with material that could withstand 350 degree heat ovens without having to use steel material to meet that prerequisite.

## Solutions

- CAD Design
- Data Management
- Rapid Tooling

# Case Study | Large Format Printing

## *Situation*

The United States Forestry Service needed to communicate to park service visitors how to keep bears from entering camps searching for food stuffs and trash.

## *Approach*

Two types of signage needed to be manufactured describing proper storage and proper disposal of food and trash. Signs would be dispersed and posted throughout the parks where visitors could readily see the communications.

## *Outcome / Value Delivered*

Instead of relying on passive communications via Park Service Websites, proactive communication using the signs provided continual reminders to visitors of the importance to keep food and trash in approved bear safe containers and storage bins. This approach delivered another layer of information to keep visitors safe from bears.

## Solutions

- Decals
- Banners
- Posters
- Labels

# Case Study | Large Format Printing

## *Situation*

The automotive customer required new Vehicle Build Metrics signs throughout the plant every quarter because the data changed and the signs needed to reflect current information. Manufacturing hundreds of new signs each quarter was costly, time consuming, but necessary to keep the data current.

## *Approach*

Capitol worked with the customer to identify data on each sign that was static versus variable. Once the data was understood, Capitol prepared a set of signage that permanently printed static data on each sign, and then affixed pockets on each sign to be used to insert variable data sheets, thereby keeping the data current very quickly.

## *Outcome / Value Delivered*

The new approach saved the company the cost of hundreds of new signs every quarter. Refreshing the signs with variable build data sheets in pockets meant data could be kept current as much as on a daily basis. There also was an environmental conscience impact since old signs would not have to be discarded.

## Solutions

- Onsite Printers
- Printer Ink
- Printhead

Fulfillment