

Application Example: 3D Scanning and Reverse Engineering Automotive 3D Scanning and Reverse Engineering, Ford Mustang GT500

Measuring Systems: ATOS Core, Tritop

Keywords: 3D Scanning, Reverse Engineering, Automotive

ProDrive Racing Australia contracted the services Scan-Xpress to help develop the CAD model for their new ProDrive Racing Mustang vehicle. In order to fit the topology of this iconic muscle car over ProDrive's racing chassis a 3D scan was completed. Capturing the complex geometry of the panels was completed to a level of precision made possible only by the industry-leading ATOS Core system.

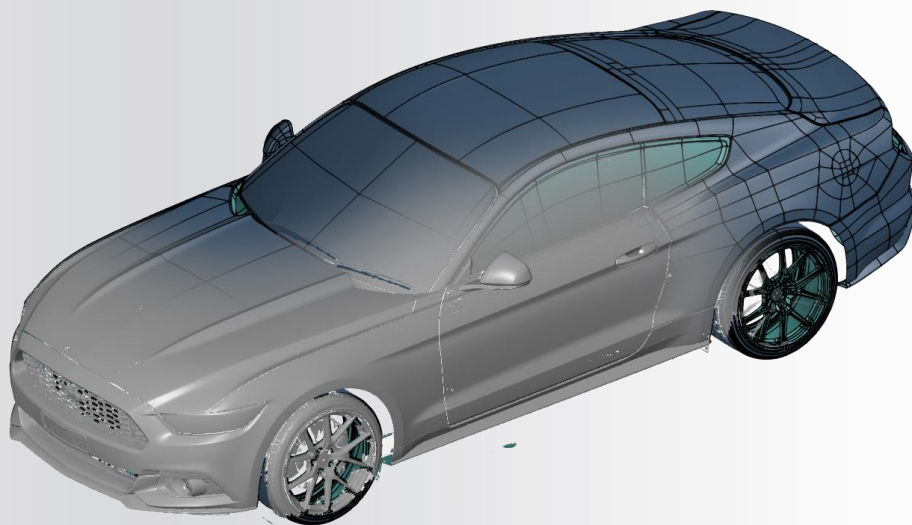


To begin with a photogrammetric study was completed using the ATOS Tritop system. This captured some three dimensional reference points around the entirety of the vehicle. These markers provided locational information for each patch of scan data, allowing measurements to be pieced together with sub-millimeter accuracy.

The entire left hand side (LHS) of the car was the captured, as well as some panels on the right hand side (RHS) of the vehicle. The LHS scan data was then mirrored about the midline of the car. The mirrored LHS was compared to the scanned RHS panels and deviations of around 1mm were reported. This validated the modelling of the vehicle as a symmetrical body.

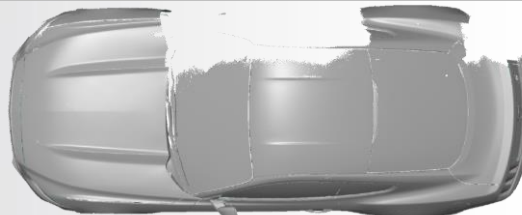
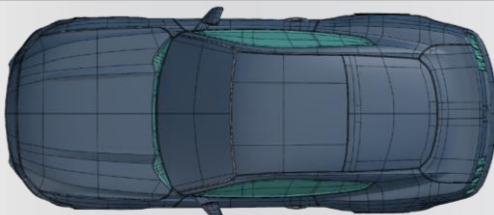
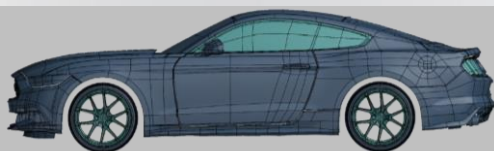
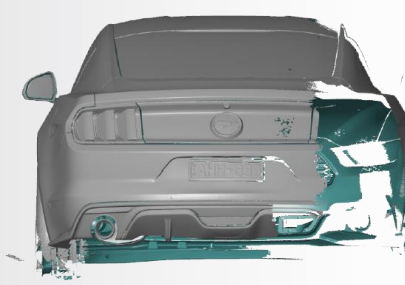
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CAD Model

Scan Data



SCAN-XPRESS

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Finally a surface deviation report was generated to evaluate the quality of the model. In most areas the CAD was accurate to less than 1 mm, with a maximum deviation of less than 3 mm on the mirrored side.

