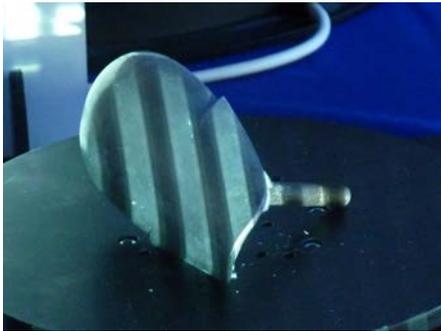


## 3D scanning & 3D printing in historic car restoration



Almost every oldsmobile owner knows the feeling that some small parts are missing. It could happen long time ago when car was still quite new, sometimes they are lost in transport when car is no longer mobile, despite of the life time length result is always the same. As a owner of such four wheel relics, we want it to be as beautyfull as in the past.

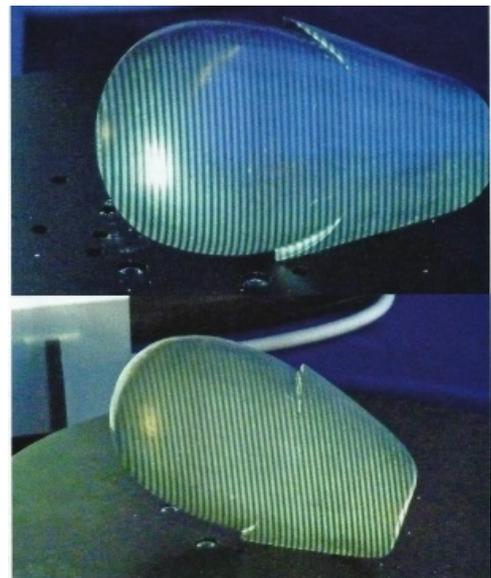
Depending on car model, searching for a missing part can take ages, arduous browsed internet forums, participating on meetings and searching, can be replaced by innovate technology that will not only allow us to gather the parts features but also adjust it to production need.

Our part originally was made of aluminum. To minimize the costs chosen method of reproduction was sand casting that in opposite to vacuum casting requires bigger post-processing and requires upscaling the original object.

3D scanning and post processing in appropriate software allows to enlarge the object up to 2% to reduce metal contraction and print out enlarged prototype on 3D printer.

3D scanner used for this application was basic model scan 3D Universe with certified accuracy of 60 microns.

We gathered the geometry using white structured light technology which is based on projecting fringes on the object. 3D scanner detector receives their curvature and using mathematic alghorythm transform it into the cloud of points. To make a complete virtual model we scanned in 3D using rotary stage.



Such point cloud is processed in appropriate software – In our case Design X. We made an enlarged STL solid model which was used to create the CAD model suitable for our 3D printer.



When Virtual prototype was printed out – we could take it to mouldmaker.

Printed model was used to do impressions and then casting.

