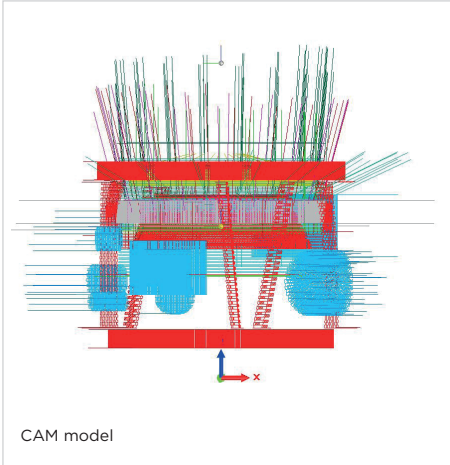


# GEARBOX HOUSING OF A POWERSHIFT TRANSMISSION



CAM model



Metal printed part



Partly machined part

## INFORMATION ON THE COMPONENT PART

- Application: Gearbox housing of a powershift transmission
- Conventional manufacturing technology: milling or casting, from aluminum to reduce weight
- Problems with procurement by milling:
  - Very high chip volume
  - High utilization of turning and milling centers
  - High costs for wrought material procurement due to large required dimensions
  - Weight-optimized component geometry cannot be produced due to production limits of conventional technology
- Problems with procurement by casting:
  - Economical only in high quantities
  - Subsequent changes can only be realized by manufacturing new molds
  - Weight-optimized component geometry cannot be produced due to production limits of conventional technology

## ALTERNATIVES TO CONVENTIONAL MANUFACTURING TECHNOLOGIES

- Weight-optimized production with steel, enables weight savings with higher strength at the same time
- Near-net-shape production
- Shortening of the required turning/milling time
- Economical from lot size 1
- Subsequent adjustments can be easily implemented

## TECHNICAL DATA

**Machine:**  
arc405

**Dimension [mm]:**  
 $D_{a, Flange} = 324$   
 $D_{a, Segments} = 380$   
 $D_{i, Cooling Channel} = 161$   
 $D_{i, Tube} = 248$   
 $H = 244$

**Wire:**  
1.4370 |  $\varnothing 1,2$  mm

**Printing mass:**  
35,0 kg

**Printing time:**  
31,60 h

## BENEFITS OF 3DMP®

- 🕒 Reduction of manufacturing time
- 💰 Cost savings
- 📦 Small units
- 🔪 Material savings
- 🚀 Fast customization