

# Photogrammetric Surface Inspection of Stamped Car Body Components

## Background and state of the art

- Premium automotive manufacturers must ensure flawless exteriors
- Surface inspection of stamped components, particularly unpainted ones, is complex due to factors like: *specularity, lighting, oiling* and *vibrations*
- Photogrammetric methods such as deflectometry and machine vision have the potential for full-form inspection of (unpainted) components

## Research questions

- How is the performance of surface inspection via machine vision (visible domain, regular images) dependent upon the above factors?
- How is the performance of surface inspection via deflectometry (visible domain and infrared) dependent upon the above factors?
- Can infrared deflectometry be utilized across the entire spectrum of material roughness (unpainted → e-coat → base-coat → clear-coat)?

## Research methods

- Machine vision
- Optical deflectometry and Infrared deflectometry

