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**Title: Current challenges in sheet metal characterization**

Sheet metal forming processes are commonly mapped by simulation models in order to save time and costs in the design phase. For modeling the material behavior, the characterization of the mechanical parameters is essential. Actual challenges and potentials in this context are mainly the failure analysis of sheet metal foil materials, the conduction of experiments up to high strains and the characterization at a constant strain rate using an optical strain rate control. Therefore, the Institute of Manufacturing Technology will present current solution strategies at the 31st testXpo and show to what extent the partners of ZwickRoell AG and Carl Zeiss GOM Metrology GmbH are involved with their innovative testing and measuring systems.