



IMPLEMENTATION OF 3D DIMENSIONING THROUGH DESIGN OF SEAT HOLDER ON “AVENIO” TRAM

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***Abstract** – The development of information technologies with a focus on digitalization allows further development of processes in all fields of mechanical engineering. Computer-aided design modeling is the base for designing Railway vehicles with additional potential to become used in all segments of vehicle lifecycle as a digital twin. These facts provide a guideline for moving to a new way of preparing documentation in 3D form instead of traditional 2D drawings. Because of that, the main subject of master thesis was to investigate the possibilities of preparing and designing documentation in a 3D environment. This thesis was made in cooperation between the Faculty of Mechanical Engineering in Belgrade and the company SIEMENS MOBILITY. All necessary Materials were made in programs that are used in the company working environment. 3D models were made in the program PTC CREO, and the program for presentation of the model with annotations JT2GO. Documentation was made according to ISO standard 16792 based on ASME 14.41 and internal company rules. Model for which documentation was made is a holder for driver seat in tram “Avenio”. Finally, research was conducted with several suppliers in Serbia to assess whether there is the possibility of cooperation under these terms, as they are interested in investing and improving in this field and what were their comments. Conclusions were made with results of research and another older research done by ASME institute.*

Keywords – Tram, Design, Digital Factory, Model based annotations, Digital Twin.

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