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### A contest of sensors in close range 3D imaging: performance evaluation with a new metric test object

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**Abstract.** An independent means of 3D image quality assessment is introduced, addressing non-professional users of sensors and freeware, which is largely characterized as closed-sourced and by the absence of quality metrics for processing steps, such as alignment. A performance evaluation of commercially available, state-of-the-art close range 3D imaging technologies is demonstrated with the help of a newly developed Portable Metric Test Artefact. The use of this test object provides quality control by a quantitative assessment of 3D imaging sensors. It will enable users to give precise specifications which spatial resolution and geometry recording they expect as outcome from their 3D digitizing process. This will lead to the creation of high-quality 3D digital surrogates and 3D digital assets. The paper is presented in the form of a competition of teams, and a possible winner will emerge.

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