# OrcaM is new kid on block for 3-D data capture

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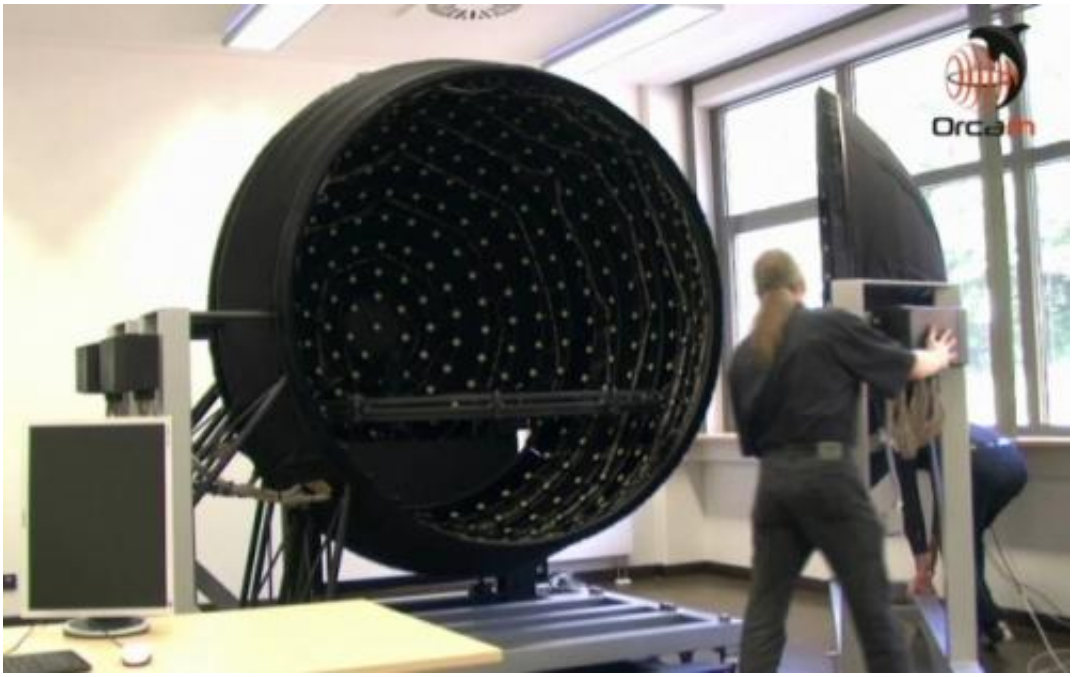

(PhysOrg.com) -- Call it automated photograph station, seven-camera system, 3-D model showcase, or digital reconstruction tool. OrcaM is being described as all these things. Whatever the tag, the "OrcaM" name stands for Orbital Camera System, according to its Germany-based developers NEK GmbH. A video demo was making the rounds of web gadget blogs and news sites this week as a camera system to watch.

The OrcaM system involves a large sphere, likened by one viewer as a giant maw, inside which one places the desired object for 3-D scanning. Once the object is placed inside, the sphere is sealed shut and the seven cameras and lights go to work. The cameras take simultaneous high-definition photos of the object at different angles. Serving to define the object's geometry, various combinations of lights illuminate the object differently for every shot, capturing the finest details. After the photo processing, computer processing of the image creates the 3-D model. Observers say the end result is a highly impressive agreement of the real object.

According to the web site I Programmer, which assessed the video, the wire frame model used 20,000 triangles based on 300 million measured points "accurate to less than a millimeter." The camera system, said the report, is worth the look when accuracy is paramount.

A camera system of this size and scope may seem easily destined for the confines of powerhouse R&D labs in the sciences, but OrcaM is also generating interest in how it is being promoted.

Developers of the camera system are identified as NEK. According to the company, “Within the range equipment construction we developed and finished an automated photograph station (OrcaM) for digital visualizations and reconstructions of objects.”

The system is also identified on the DFKI site as having been developed "in the context of a project" of the Augmented Vision arm of DFKI, which stands for Germany's Research Center for Artificial Intelligence.

NEK sees the camera system as a way to conduct automated transfers of real objects into high-quality digital representations for media such as on the "Internet, cinema, and computer games." The DFKI envisions its application being to create super-accurate models of museum and art

objects, models that are good enough to be used instead of the originals. The 3-D models produced by OrcaM are said to be fully textured and of high enough quality for the archives of valuable artifacts from museums.

A useful selling point for both the above two applications is that, with the OrcaM system, key tasks are automatic. The user does not have to calibrate the cameras or lighting system, which the system performs automatically.

**More information:** www.nek-kl.de/de_DE/produkte/o … bital-camera-system/