

**Project Note**

# Digital Camera for Medical Colour Determination

For colour determination on certain human body-surfaces, a portable camera is developed and tested with a prototype on field tests. A collaborator of the customer was integrated into the Zühlke Project team during development.

**Task**

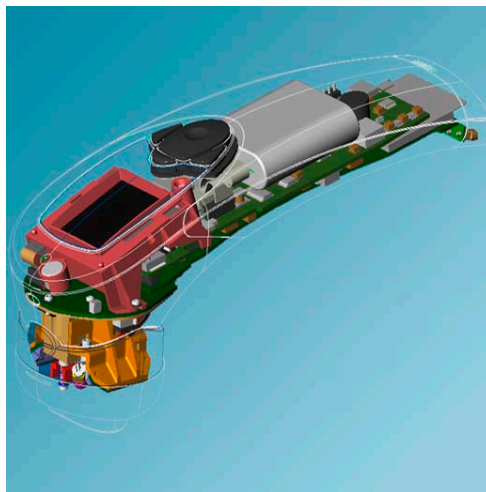
To allow a colour determination on certain human body surfaces, a portable camera was developed, which, with a CMOS colour sensor, digitally photographs the body surface. Initially, the data is recorded on a SmartMedia memory card and subsequently transferred via a USB link to a PC. Afterwards, the actual colour determination is performed with special evaluation software.

**Implementation**

Zühlke was responsible for the entire development of the camera. The optical block was developed to achieve a homogenous illumination of the image region. Subsequently, the camera housing was designed and constructed and simultaneously the software and the GUI developed. As a result 20 tested prototypes were available for field tests. The following constraints had to be taken into account:

- Evaluation of the camera-specific components
- Development of a functional model
- Development of a demonstrator for field tests
- Development of the prototype

A collaborator of the customer was integrated into the Zühlke Project team during development. In this manner, he was able to expand the know-how on site.



**Technical Data**

Colour sensor: VGA-CMOS (640 x 480)

Optics: Achromate / Filter

Battery: NiMHd, 2000mAh, C/3 charge

Tools: PROEngineer, Orcad, OptiCad

Plastic parts: Silicone tools

**Customer benefits**

- The prototypes were delivered for the desired deadline thanks to a risk-controlled development process and the interdisciplinary competence of Zühlke in the areas of construction, electronics, optics and software.
- Complete functionality of the prototype is guaranteed at the requested production costs.
- The prototype is easy to handle, portable and precise in the colour recognition.

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