

**Project Note**

# Scanning with a mouse

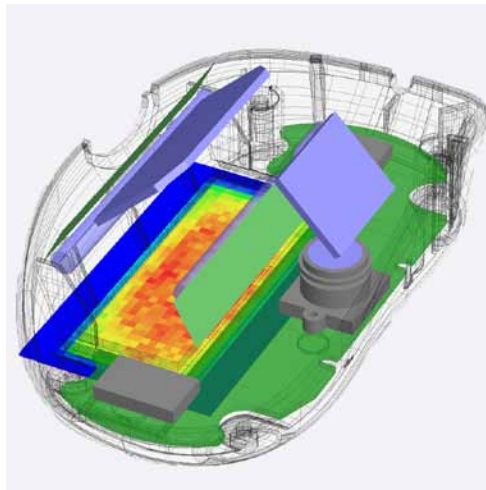
A start-up company is revolutionising the scanning experience with an innovative new way of capturing images. A mouse that can intuitively scan was required to get maximum benefit from the new software solution. A case for Zühlke.

**Task**

A start-up company developed a software solution based on its patented scan algorithm that made it possible not just to scan image and text material, but to import it directly from the paper to the desired application by means of drag and drop. A key part of the technology was a mouse that could be used as a scanner at the press of a button. Together with a further partner, Zühlke developed the reference design for this innovative computer peripheral.

**Solution**

Zühlke engineers worked with the customer and another partner to identify the technical and organisational interfaces. Zühlke thus laid the foundation for the parallel development and the miniaturisation of the hardware. The hardware architecture for the reference design was then developed in a conceptual study. This involved rules from the computer mouse market being integrated into the design engineering and ergonomics. In close consultation with the design engineering and electronics teams, optics experts configured the optical path from the camera to the object. Zühlke drew up the design for the integrated LED lighting and assisted with the construction by using optical simulations. Rapid prototyping focused in particular on aesthetics and feel, in order to be able to allow the demonstrators not just to show the feasibility of the product but also to impress potential licensees and convince them of the benefits of the Scan Experience.



**Technical Data**

**Optics:**

Illumination simulation with FRED  
LED illumination

**Mechanical Engineering:**

Free form surfaces with SolidWorks  
Ergonomic analysis  
Rapid prototyping  
Manufacturing

**Customer benefits**

- With its systems engineering experience, Zühlke could efficiently manage the interfaces between the customer and all the participating teams.
- Combined expertise in optics, design engineering and manufacturing enabled rapid design and implementation of the reference architecture.
- The functional demonstrators enabled successful presentations of the innovative scanning solution to be given to the licensees.

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