



Bern University  
of Applied Sciences

## Research Group HuCE – BME Lab

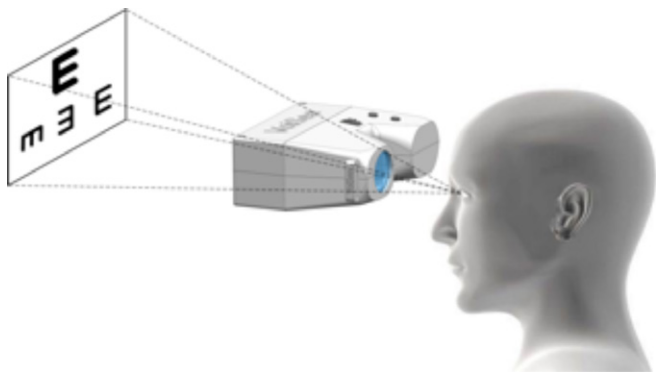
# VoiSee® – A Portable Electronic Vision Aid for Larger Pictures and Better Contrast, in Particular for Patients with Macular Degeneration

### Project Description

The sense of sight affects a large portion of our extrasensory perception. Various diseases of the retina and the nerve fibers, that significantly impair the sense of sight such as age-related macular degeneration (AMD), are currently not treatable. In these cases, one can attempt to compensate the visual impairment by technical means (e.g. by vision aids). The goal of magnifying vision aids is to compensate the vision loss by an appropriate enlargement to re-enable reading of texts.

Age-related macular degeneration is a disease which results in a loss of vision in the center of the visual field. Since AMD is currently untreatable, research is conducted towards a novel and portable vision aid within the scope of the VoiSee® project.

While the whole system ought to remain lightweight and small, a large field of view (FOV) and a comfortable viewing experience are crucial for the acceptance of portable vision aids. In this respect, VoiSee® distinguishes itself from already existing yet much more restricted portable devices. Using a special display-optics combination, it yields a FOV of more than 60° and yet weighs less than 350 g.



This electronic vision aid will considerably disburden the everyday life of AMD patients. Using VoiSee®, these patients will be able to perform general tasks more independently and will be capable of reading smaller writings outside their homes (e.g. product inscriptions in supermarkets or departure boards in railway stations).

The prototype developed within the frame of this project will be industrialized and marketed by a start-up company.

### Project Partner

Reber Informatik + Engineering GmbH,  
Münsingen, Switzerland  
University of Bern, ARTORG Center  
Ophthalmic Technologies, Bern, Switzerland

### Financial Supports

Commission for Technology and Innovation  
(CTI), No.12882.1 PFLS-LS  
Berne Economic Development Agency (BEDA)

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