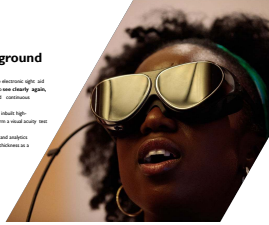


## Company Background

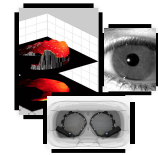
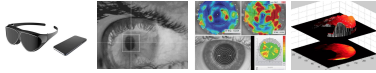
Right Eye™ is a clinically validated wearable electronic eye aid that enables patients with severe sight loss to see clearly again, with the same ease, precision, portability, convenience, minimal sight monitoring including:

1. **Wearable eye aid** and external imaging of clouding eye.
2. **Real-time display** allows the user to perform a visual acuity test from the comfort of their home.
3. **Real-time imaging** in both visual imaging and analysis systems. Allows the change in the retina structure as a proxy for disease determination.



## Wearable Corneal Imaging Device for the Home-Based Monitoring of Patients on Blenrep™ Therapy

A novel method that allows quantifying corneal clouding caused by hereditary and acquired disease progression over time. A quick and reliable, acceptable and accessible means of quantifying corneal clouding, objective quantification of the haze seen by clinicians via an image processing technology.



### KEY FEATURES:

- **Precision:** Multiple images of each eye with different illumination angles and frequencies of light including near infrared wavelength illumination penetrating through any amount of corneal haze.
- **Scalability:** Doesn't rely on an clinic visit to support clinical research and clinical trials.
- **Consistency:** Wearable device allows for the most distance between the eye and the sensor distance to maintain low light environment to maximize image quality and minimize variability.
- **Accessibility:** Rapid enable to use and non-invasive. Algorithm allows for easier read out for patients with severe, the most severely physical or mental disability.

## How it Works



**Wearable IR Camera**

Wearable eye aid with external imaging system. Allows the user to perform a visual acuity test from the comfort of their home.



**Reliable Eye Imaging**

The use of multiple wavelengths (near, mid, and far) allows penetration of light through any amount of corneal haze to reach the retina and return to the sensor.



**Image Analysis**

Processing image using computer vision algorithms. Allows the user to perform a visual acuity test from the comfort of their home.

## Product Evolution

**Form Factor:** Over the years we have refined the clinical efficacy of the proposed system (Stage 3) using VR, based on a platform for the imaging sensor we will continue (Stage 4) engineering work to miniaturize and service the device into a half-hour solution with a form factor of a small and comfortable pair of eyeglasses.

**Architecture:** Wearable device (S) with IR imaging system (S) on board equipped with a pair of high-resolution displays for the Visual Acuity and Corneal Imaging (S) connected to a smartphone app (S) to the secure cloud where images are processed and analyzed (S).



## Clinical Evidence and Data



The application of IRIS biometric systems for ophthalmic diagnostics was presented at 2011 by Professor Trifunovic - a Consultant Ophthalmologist at Manchester Royal Eye Hospital, and a Professor of Ophthalmology and Biophysics Technology, at the University of Manchester.

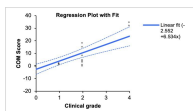
The studies initially published in 2017 and further publication up to 2019 (in well in ongoing works) have shown that their algorithm analyzing corneal IRIS images:

- **Provided an objective measure of corneal clouding.**
- **Had good repeatability and reliability.**
- **Was faster, more practical and affordable than a S.L. ophthalmologist.**
- **Permitted an quantitative measurement of corneal clouding, allowing subjective measurement of corneal clouding with a display and use of more complex corneal imaging equipment.**

### Validity:

Figure 2 demonstrates a graphical form in a clear and strong relationship between the value of corneal clouding score obtained by our algorithm and the clinical grading of participants. Linear regression (R<sup>2</sup>=0.74) confirmed a strong relationship with a coefficient of 0.0000.

In addition to the 18 eyes of patients with anterior segment pathology who were analyzed by the CDOR measure, an additional 18 normal eyes were

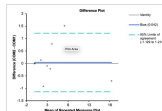


measured by the algorithm. All 18 normal eyes gave CDOR scores of zero.

Plot of visual acuity score (CDOR) versus corneal clouding score. The linear regression line is shown in blue. The data points are shown in red.

### Reliability:

Seventeen subjects were (excluded four normal eyes) had images repeated by the same operator on two occasions at least an hour apart to assess the reliability of the CDOR measure. A Bland-Altman plot (Figure 3) demonstrates an evident systematic bias, and narrow coefficient of repeatability of 1.2 (95% limits of agreement) The interclass correlation coefficient (repeated images for same measure) (ICC) (0.93) was 0.93 (p < 0.0001).



Bland-Altman plot of visual acuity score (CDOR) versus corneal clouding score. The mean difference is 0.00, and the limits of agreement are 1.20 and -1.20.

## Development Approach



The first stage of the project will involve the development of a wearable IRIS camera integrated with a VR system. The system will be used to capture images of patients with disease and compare them to images of patients with normal eyes. The system will be used to capture images of patients with disease and compare them to images of patients with normal eyes. The system will be used to capture images of patients with disease and compare them to images of patients with normal eyes.

Stage 2: Algorithm Development (n=20). The second stage of the project will involve the development of an algorithm to analyze the images. The algorithm will be used to analyze the images and determine the degree of corneal clouding. The algorithm will be used to analyze the images and determine the degree of corneal clouding. The algorithm will be used to analyze the images and determine the degree of corneal clouding.

Stage 3: Validating the Algorithm (n=10). The third stage of the project will involve validating the algorithm. The algorithm will be used to analyze the images and determine the degree of corneal clouding. The algorithm will be used to analyze the images and determine the degree of corneal clouding. The algorithm will be used to analyze the images and determine the degree of corneal clouding.