COMPANY INTRODUCTION

THE ULTIMATE IMAGE SOLUTIONS

Wooptix team | January 2022

WOOPTIX

WOOPTIX

Wooptix is a developer of light field and wavefront phase imaging platform designed to acquire all information about the light using a single lens utilizing the full sensor resolution. The company's technique enables everyone to achieve their vision with more data points at high frame rate and volumetric images and video, unleashing new levels of quality and advanced post processing.

VISION

Wooptix wants to revolutionize light capturing providing high speed and high-resolution light field and wave front phase imaging.

MISSION

is to be the most advanced solution for capturing and processing the entire light spectrum and democratize our wavefront phase imaging technique for optical metrology.

WHAT WE DO

We work with the image through light in all its fields and applications. Thanks to the Light Field and Wave Front Phase technologies, we have developed our own formulas and patents to apply them to different solutions and products. We provide the only solution for capturing and processing the entire light spectrum.

THE ONLY SOLUTION FOR CAPTURING AND PROCESSING THE ENTIRE LIGHT SPECTRUM

Volumetric images

Highest resolutions

Live results

High accuracy measurement

WOOPTIX IN NUMBERS

+25 employees

Founded in **2016**

3 locations

- Tenerife, Spain
- Madrid, Spain
- San Francisco, USA

+50 published papers

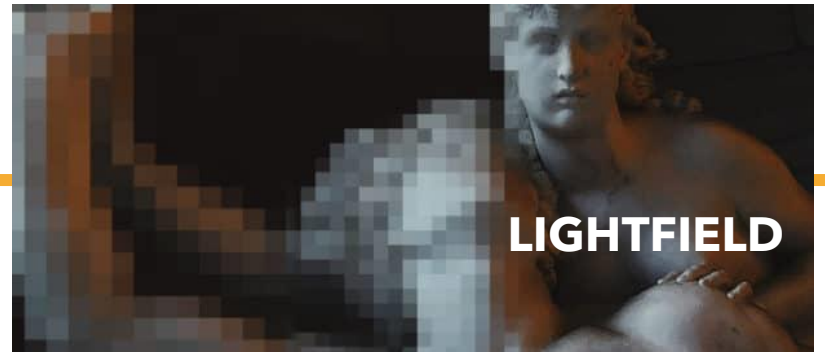
€7 million invested

- Bullnet capital
- Caixa Capital Risc
- intel capital
- TEL TOKYO ELECTRON
- innvierte

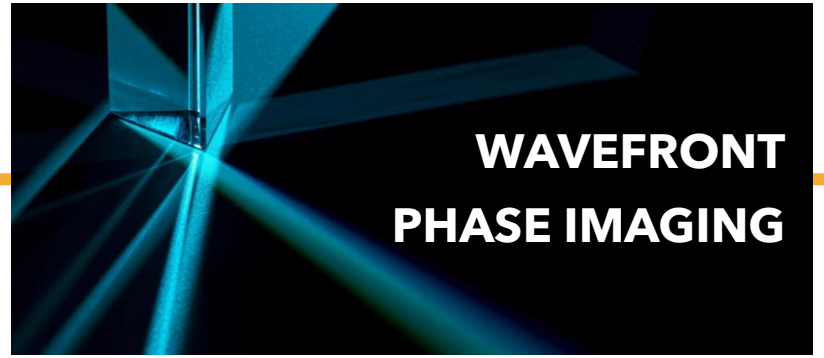
11 patents worldwide

EIC Accelerator

TECHNOLOGIES



With a new approach to light field imaging WOOPTIX is using a single variable lens to acquire a focal stack to approximate the direction of the light rays. Rather than using a microlens or camera array, which requires heavy computing and lower the resolution significantly.



WFPI is a sensor developed by us for acquiring high resolution wave front phase maps, with typical lateral resolution in the order of microns and amplitude phase resolution in nanometers. Unlike conventional wave front phase sensors, it is based on conventional imaging cameras and lenses.

BUSINESS LINES

SEMICONDUCTOR METROLOGY

New technique for measuring reflective & transparent materials, more datapoints in real time with sub-nanometer accuracy

CAMERA

Single lens light field & wavefront video camera. Real time volumetric capture at full resolution of the sensor

OPHTHALMOLOGY

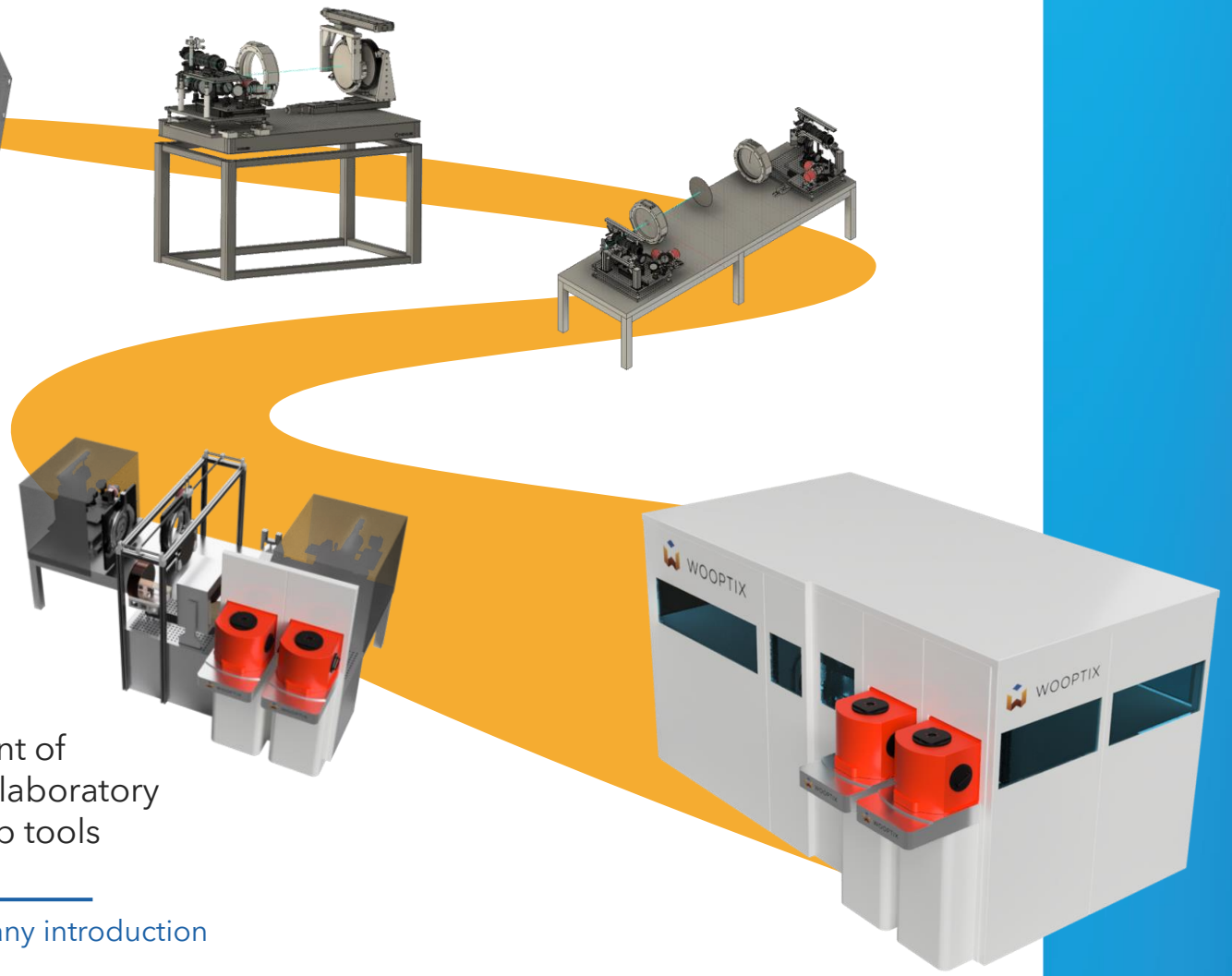
New technique for high accuracy measurements & transparent tissue detection from wavefront sensor & light field, generating millions of pixels

SEMICODUNCTOR METROLOGY

Wavefront phase imaging (WFPI) is a new semiconductor metrology technique for measuring wafer geometry, capturing millions of datapoints in a few milliseconds with sub-nanometer height accuracy and higher spatial resolution than any other techniques. This technique has been built in our new Phemet® system

- 1.000 times faster than conventional techniques
- Wafer geometry measured on 300mm wafer in milliseconds
- Lateral resolution below 100µm and height resolution <1nm
- Large tolerance for wafer placement
- Less noise

SEMICODUNCTOR METROLOGY



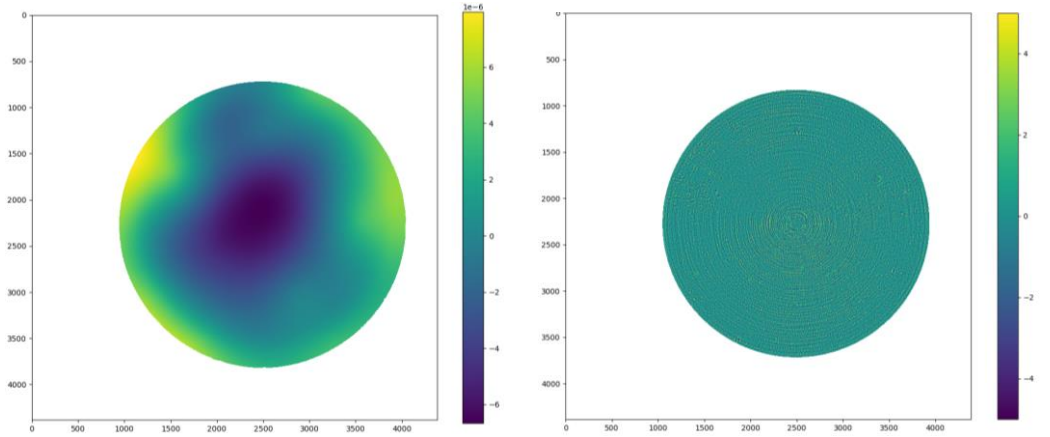
Development of prototypes, laboratory tools and fab tools

SEMICODUNCTOR METROLOGY

Global Wafer Geometry

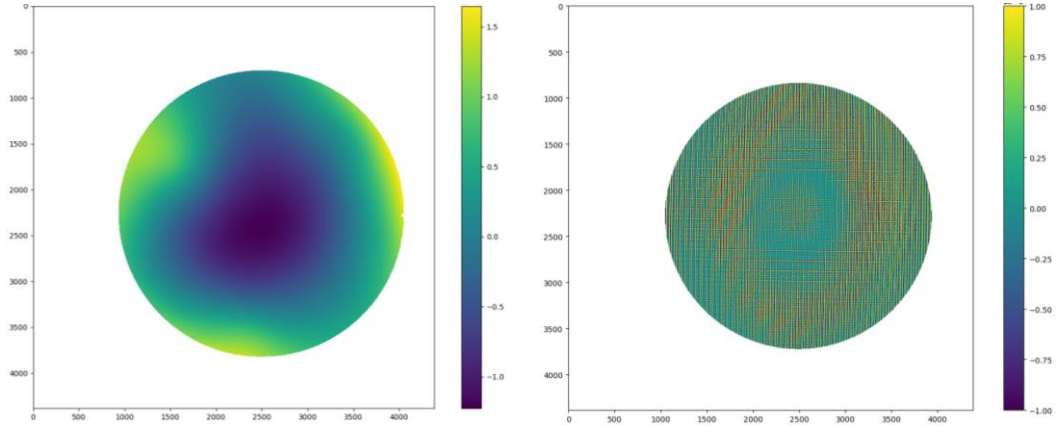
Nanotopography

Blank wafer geometry

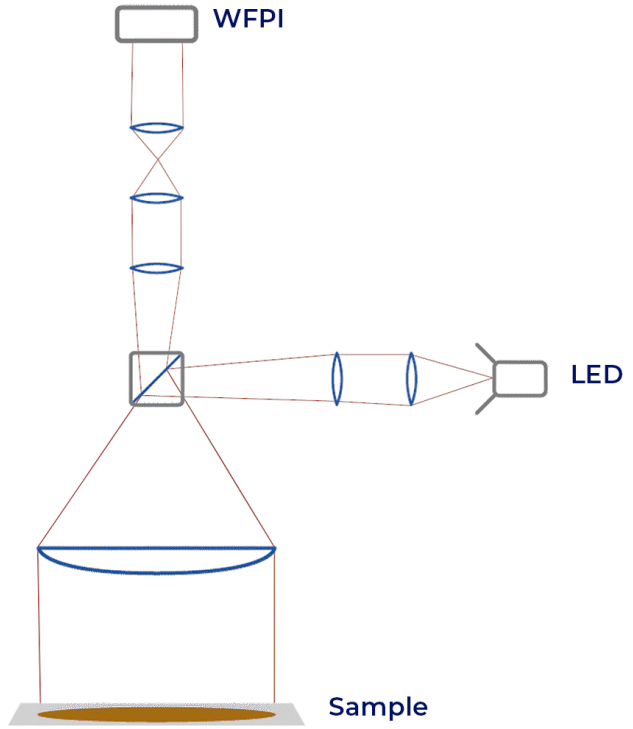


Patterned wafer geometry

Without using knowledge from the backside of the wafer



Phemet® system

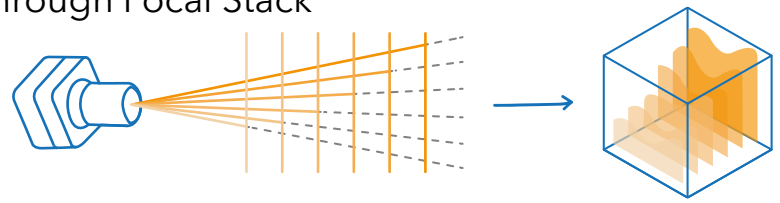


CAMERA

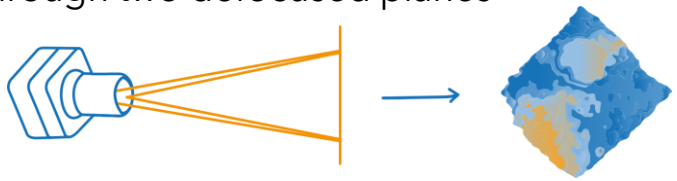
Single lens light field and WFPI video camera.
Real time volumetric capture at full resolution of the sensor.

2 TECH FOR
OUR CAMERAS

LIGHT FIELD
Through Focal Stack



WAVE FRONT PHASE IMAGING (WFPI)
Through two defocused planes



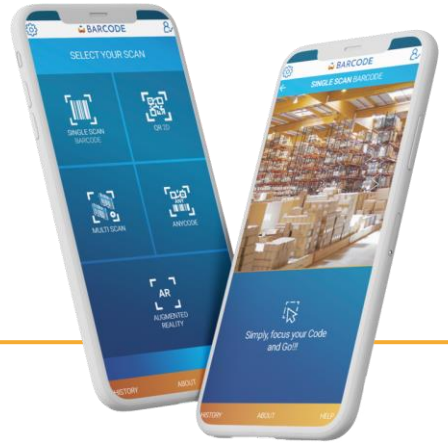
CAMERA Light Field

SEBI
Lightfield
videconference

SEBI Qmini
Lightfield
small module

LF SELFIE
App for LF selfies

MACRO
LF Macro Images



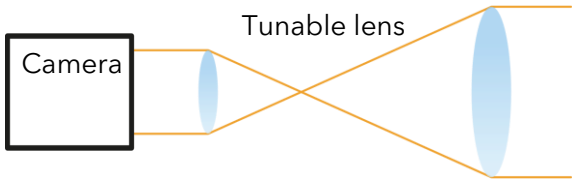
BARCODE SCANNER
Locate and decode

ALL-IN-FOCUS · RE FOCUS · POINT OF VIEW · 3D INFO · VOLUMETRIC INFO · DEPTH MAP · PLANE SELECTION · BACKGROUND REMOVAL · INSERT OBJECT · DISTANCE MEASUREMENT

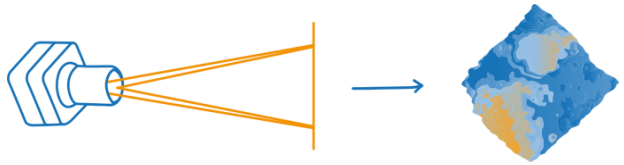
high-resolution light field camera capable of obtaining depth and color information in real time enabling live video.

CAMERA Phase

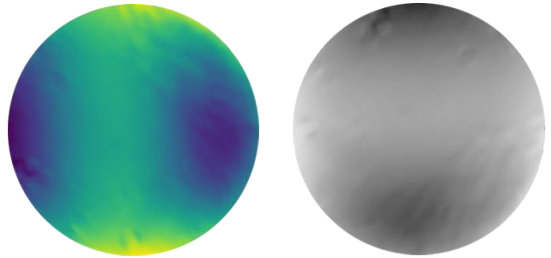
Working principle

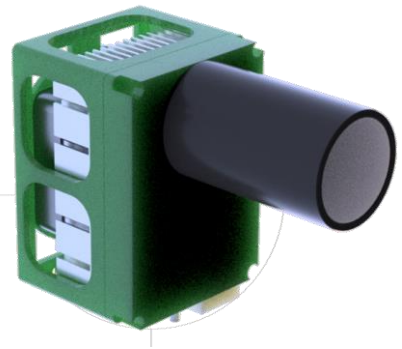


Process



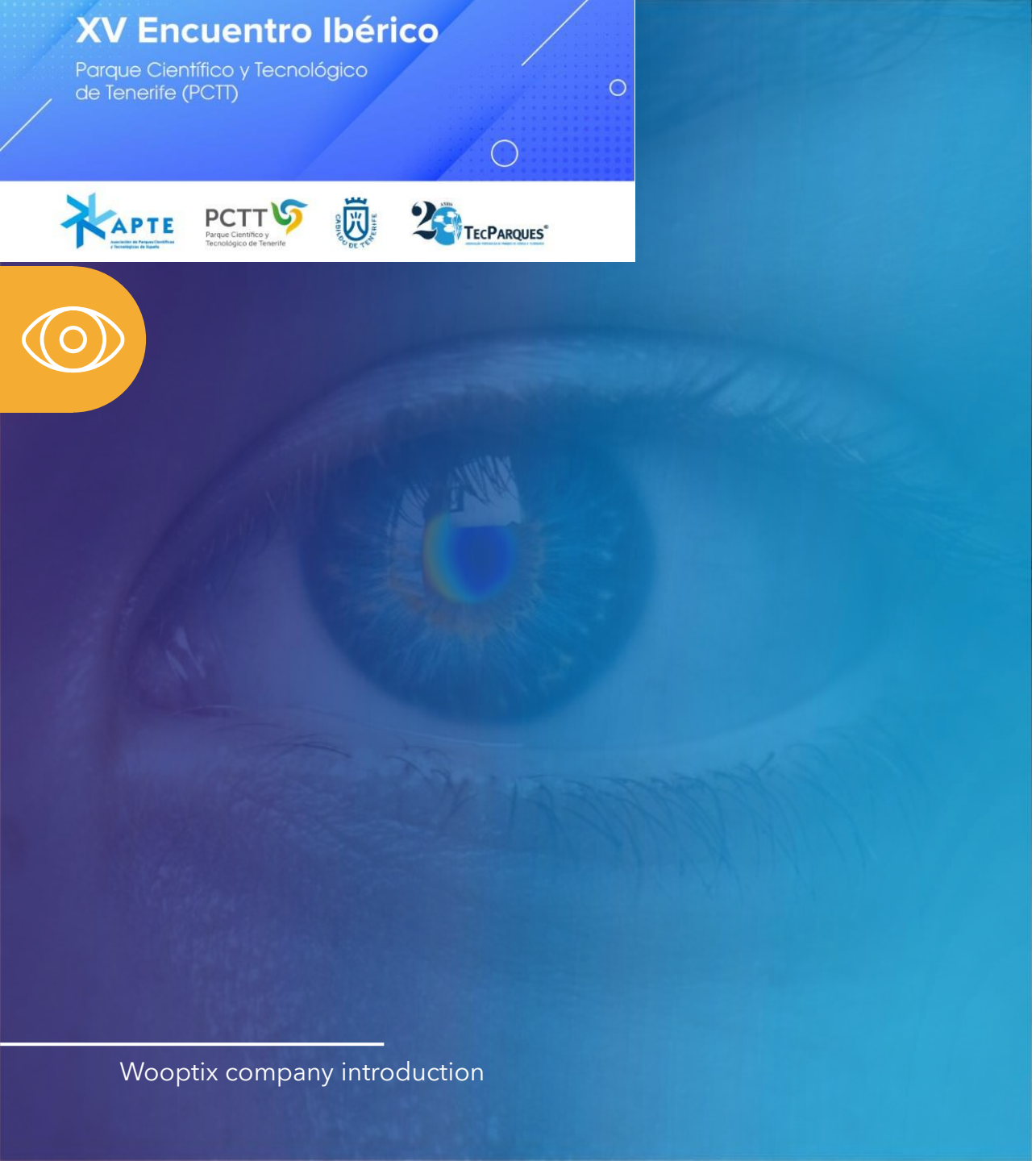
Result





SEBI QPhase1000
WFPI Camera module

small size implementation of the WFPI technology, based on an imaging sensor (standard) and a tunable lens.



OPHTHALMOLOGY

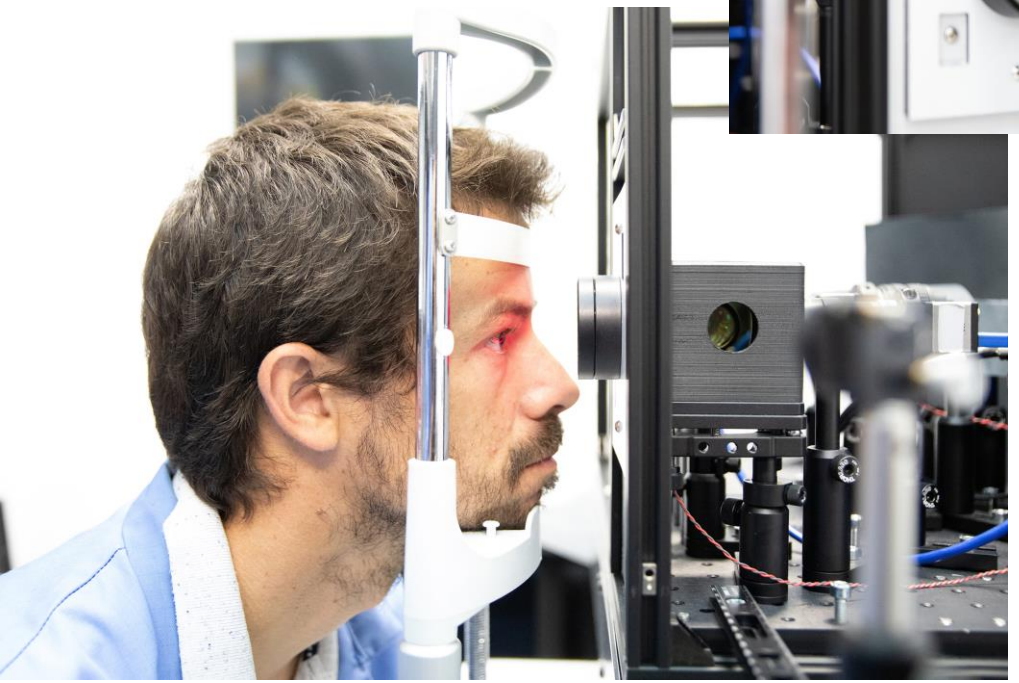
Wooptix has developed t·eyede® an ocular system that offers unprecedented resolution in the measurement of ocular aberrations up to the resolution of the used sensor-millions of points, surpassing by 10,000 the resolution that can be obtained with existing techniques.

- 10,000 times higher resolution
- Highest repeatability and reproducibility
- Measurement made in the entire pupil of the patient

OPHTHALMOLOGY

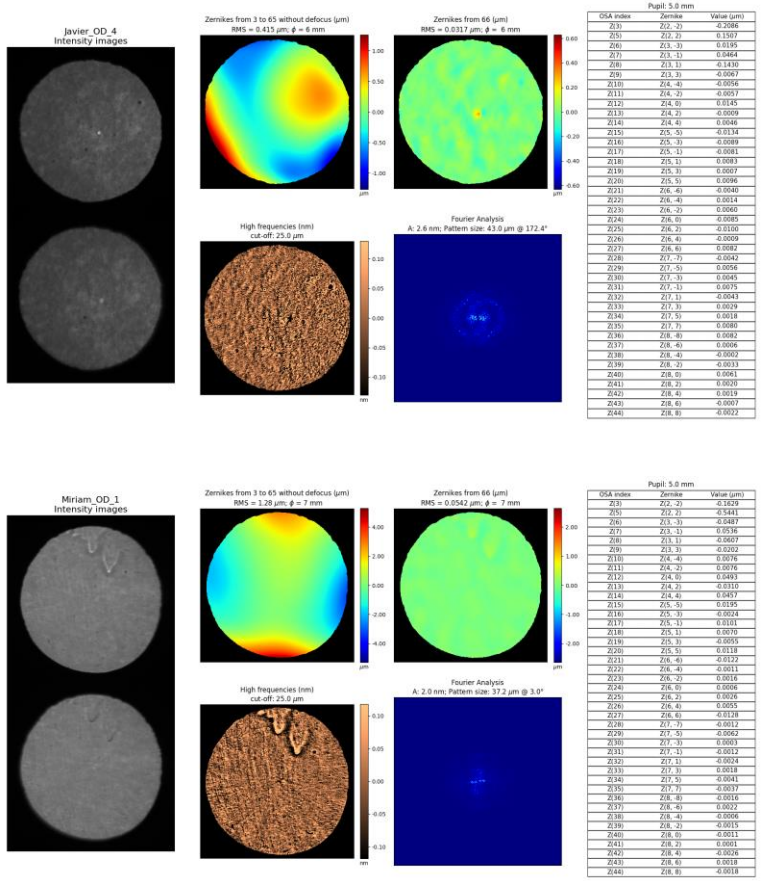
t·eyede®
system v1

- Trials ongoing
- System v2



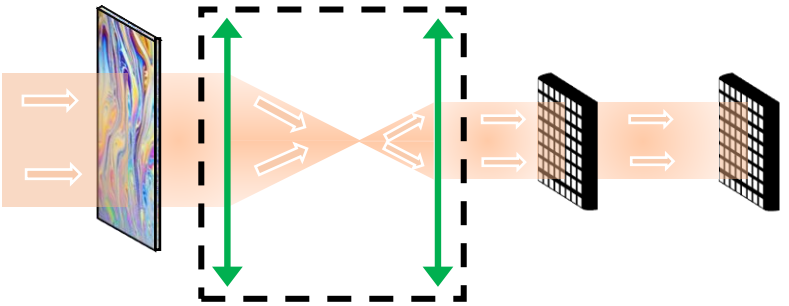
OPHTHALMOLOGY

t·eyede® system



Specs

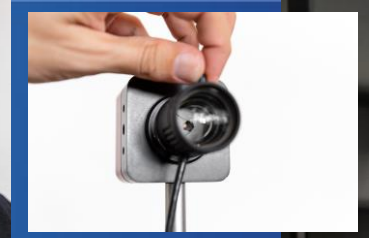
- WFPI
- Zernikes 3 to 65
- Zernikes from 66
- Pupil 5.0 mm
- High frecuencies
- Fourier analysis



Applications:

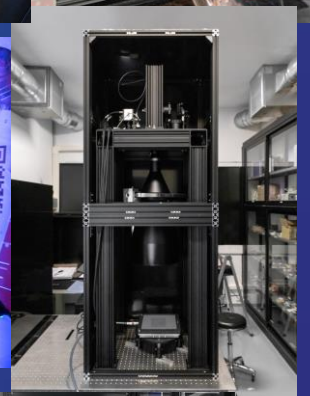
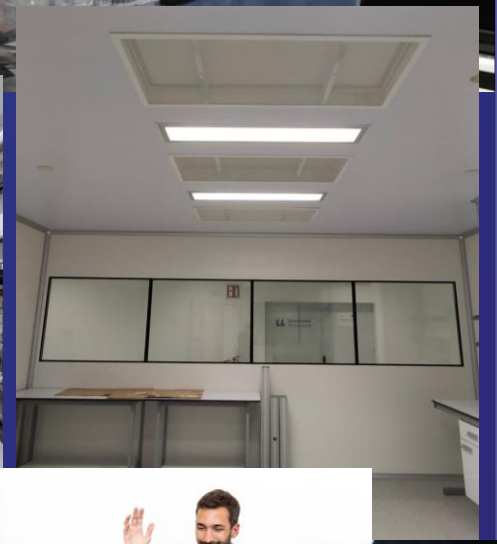
- Keratoconus
- Fuch Dystrophy
- IOLs
- Real time Surgery

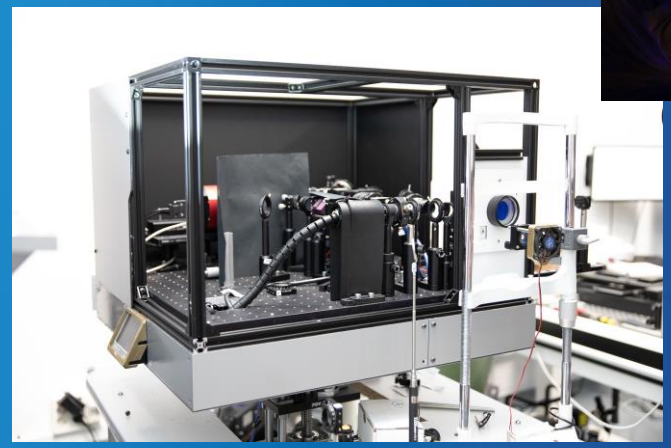


Greencycle





THANK YOU!

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