

BIEL

D I G I T A L G L A S S E S

Biel Smartgaze

Supported by



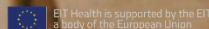
ACCIO



Generalitat
de Catalunya



Accelerated by
Health



X **PATIENT**
BARCELONA
CONGRESS



Biel is a child who has low vision

He has problems for descending stairs, crossing streets, and even to recognize his parents



We adapt the world to your eyes

Low vision



**7 times more
common than
blindness**

25M in Europe, 246 M in the World

Causes

Glaucoma
Retinitis pigmentosa(RP)
Diabetic retinopathy (DR)
Macular degeneration (AMD)
Retinal detachment
Brain injury
Etc.

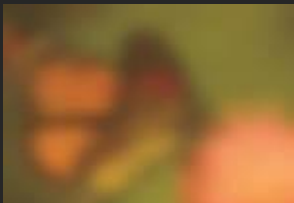


**Mobility issues is the
most disabling effect**

Effects on vision, causes and patient needs

Low visual acuity

Effect



Causes

Cataracts
Miopia
magna
ONH

Needs

Reading
Social awareness
Object recognition
TV/Cinema
Mobility

Low contrast visual acuity

Effect



Causes

Cataracts
Albinism
Glaucoma
DR
ARMD

Needs

Reading
Social awareness
Object
recognition
TV/Cinema
Mobility

Visual Field: Central vision loss

Effect



Causes

AMD
Stardgart

Needs

Reading
Social awareness
Object recognition
TV/Cinema

Visual Field: Peripheral vision loss

Effect



Causes

Glaucoma
RP
DR
Retinal d.
Brain injury

Needs

Mobility!!!
Social awareness
TV/Cinema

Peripheral vision loss has the worst consequences on patients' mobility

Health risks: falls and collisions

- Almost **40%** of patients with visual impairment suffer **falls more than once a year**, and **7% more than once a month**
- **63%** of these falls **required assistance** by medical professionals
- **36%** of the respondents stated that accidents resulting in falls had **medical consequences**.



Social risks: isolation and depression

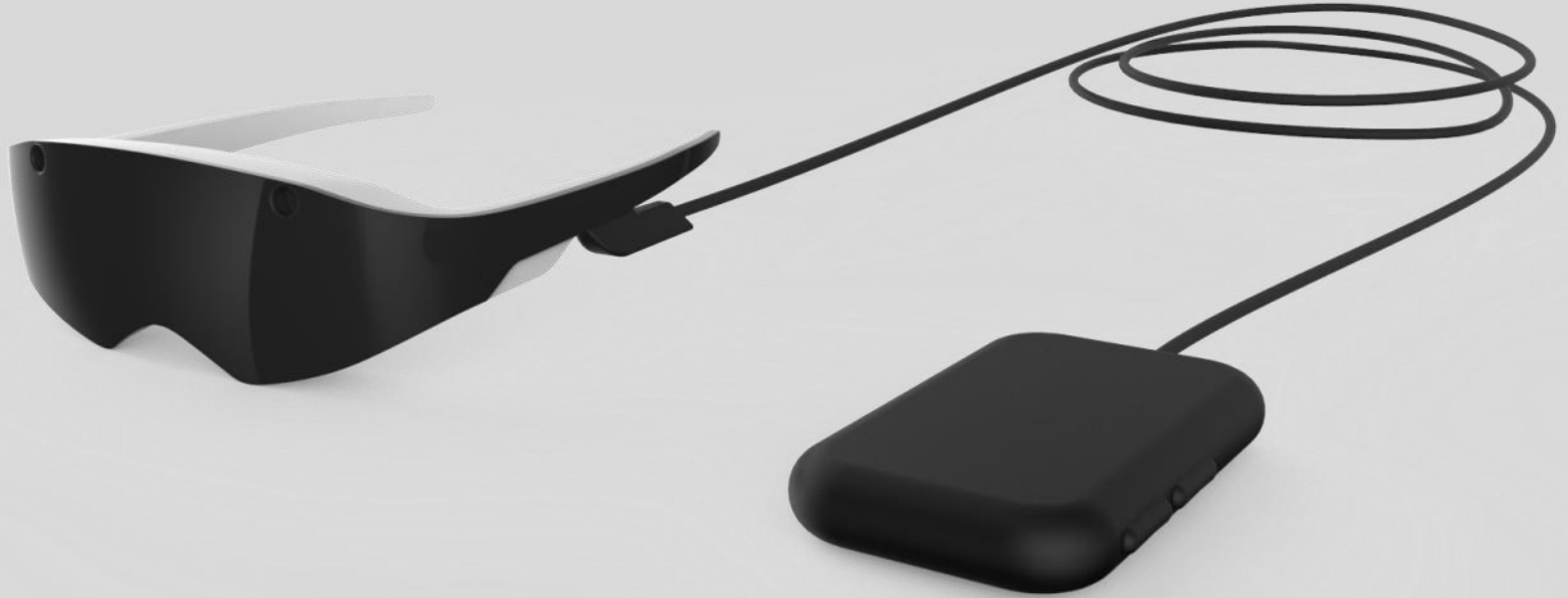
- **Mobility** problems are the main cause of social activities limitations
- **40-50%** of visually impaired seniors have limited activities compared with the 16% of those with normal vision*
- People with low vision is 2-5 more likely to suffer depression **



* Freeman et al. Investigative Ophthalmology & Visual Science

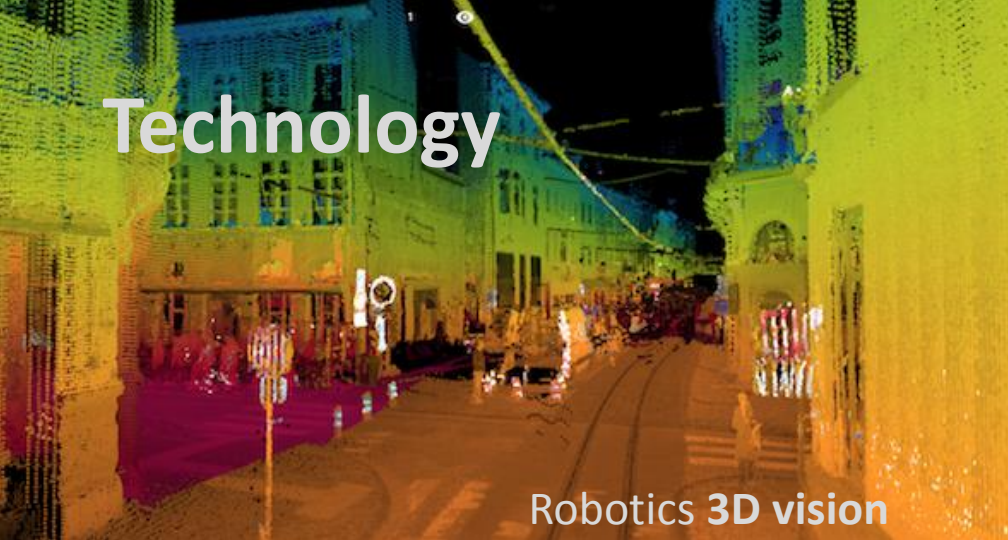
** Nolle et al. BMC Psychiatry

Our solution



Smart glasses that adapt reality to the remaining visual capacity,
improving mobility and personal autonomy.

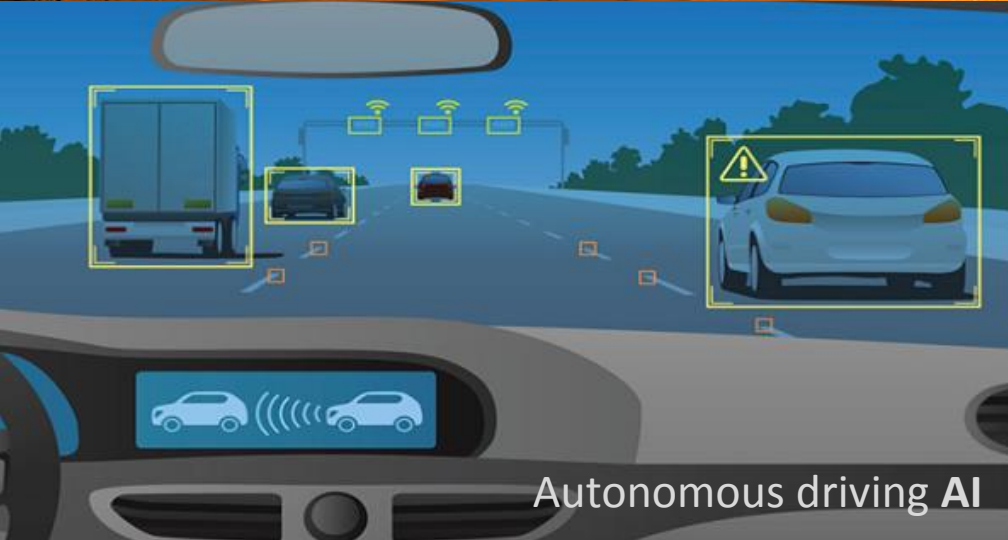
Technology



Robotics 3D vision



Gaming mixed reality



Autonomous driving AI

Enhanced vision

Application examples (video)

The video below shows how our solution will help people with low vision (peripheral vision loss) in different mobility situations.

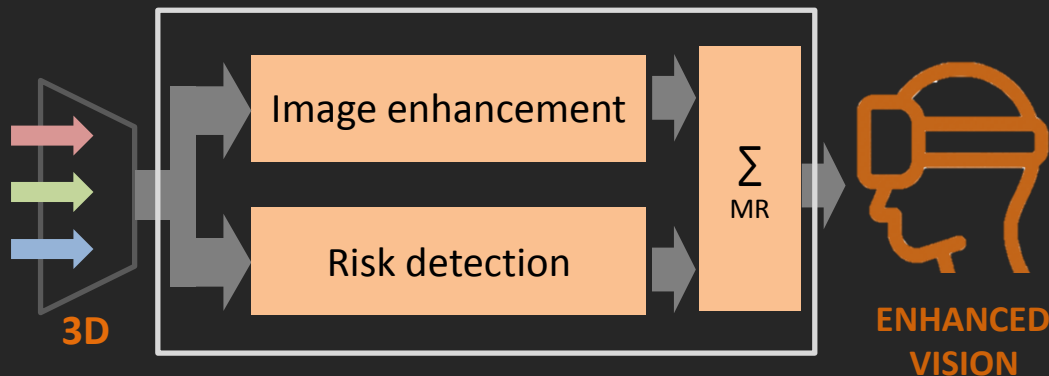
<https://www.youtube.com/embed/SrNqXeteSQA?ecver=2&rel=0>

(Please note that the video **simulate the subjective vision of a person with peripheral vision loss**).

The video below shows an example of the improvement obtained by the patients which participate in the trials of our prototype

<https://www.youtube.com/embed/6u6bpybv7r8?ecver=2&rel=0>

How we do it?



Protection:

- Patent pending
- Confirmed FTO
- Impossible reverse engineering
- Exclusive exploitation, publishing and patenting rights

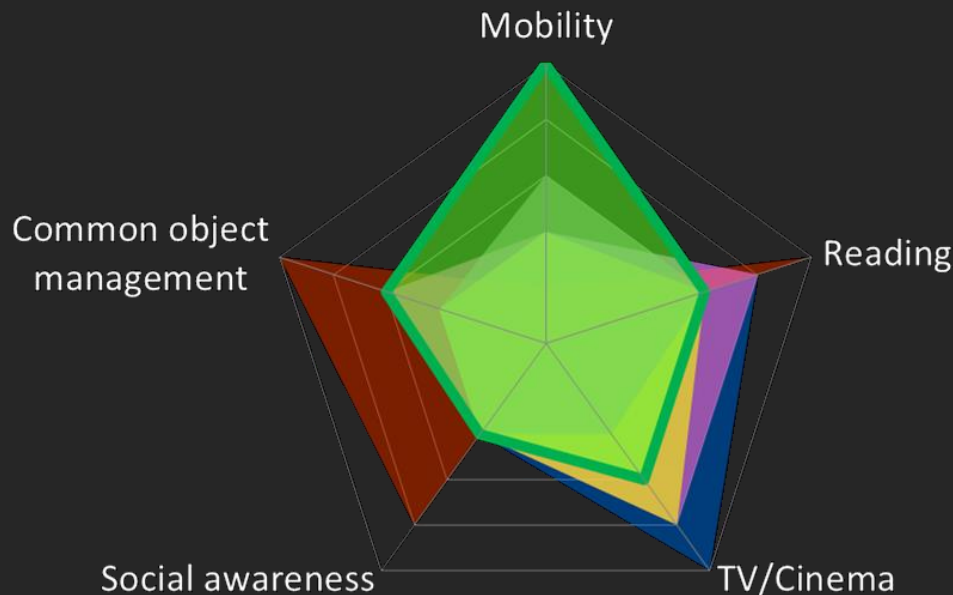
Partnerships:









- AI and graphical processing technology
- 3D video capture technology
- 3D vision and AI software development
- Scientific assessment and testing with patients
- Industrial design and production

Unique functions for mobility

Comparing with existing solutions, Biel Smartgaze **provides unique functions for mobility**, and includes other capacities to offer a complete solution for low vision



Product positioning according to covered needs

	eSight	10.000 €
	NuEyes	5.995 \$
	Biel Digital Glasses	4.900 €
	ORCAM	4.500 €
	Retiplus	3.950 €
	Relumino	1.000 €* Relumino

Biel Smartgaze estimated price is at market average, even providing higher functionalities

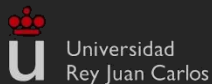
* Samsung Relumino is an app. for Samsung Gear VR Glasses. Requires Samsung Gear VR + high end Samsung Galaxy cell phone.

Traction

- Distribution pre-agreements already signed in Spain & Denmark



- Patient and professional associations, scientific and medical institutions actively collaborating in the project



Team

A multidisciplinary team covering business , medical, technological and scientific needs of the project.



Jaume Puig

CEO

Electronics Eng.
MBA, 25 years as
International Manager and
entrepreneur



Constanza Lucero

(MD, PhD)

CMO

7 years in medical
regulations and clinical
trials



Lali Sánchez

CSO

Optometrist,
30 years as vision
researcher and
visual therapist.



Jordi Puig

CTO

Computer Eng.,
25 years on
e-health projects.



Alex Cabañeros

Software Engineer

Electronics and
Robotics Eng., expert
in autonomous driving



Llatzer Zurano

Mgmt. Assistant

Biotechnologist
MBA
Project Mgmt. expert



Saskia Muelheim

Export Mgmt.

Pharma and science
experience
Msc Innovation &
Entrepreneurship



Iñaki Casanova

Export Mgmt.

Biologist
MBA
5 years as Product
Manager



Pulkit Kashyap

Technical prod. Mgmt.

Technical Analyst
MBA
8 years in in-house
technology consulting

Advisory board

An advisory board with an strategic vision and experience in every company challenge



Albert G. Zamora

Co-founder and chairman of the board at BHV Partners, San Francisco.
Entrepreneur of several startups of a technological nature. Business mentor



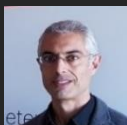
Bernardo Sánchez-Dalmau

Neuro-ophthalmologist. Coordinator of Neuro-ophthalmology Unit at Hospital Clínic de Barcelona.



Josep-Ramon Ferrer Escoda

Expert in urban mobility technologies and digital transformation. Former Director of Barcelona Smartcity (Barcelona city council).



Ernest Cid Farrero

Founder and CEO of Wavecontrol, international leading manufacturer of electronic equipment for electromagnetic field measurement. **Expert in electronics manufacturing business**



Jordi Boza

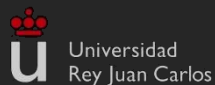
Experienced entrepreneur and **renowned expert in VR/AR/MR sector**.



Jaume Caballé Vilarnau

Telecoms engineer with more than **20 years in customer care** of major consumer electronics companies (SONY, PANASONIC, SAMSUNG). **Visually impaired**.

Partners and supporting institutions



Awards and achievements



NEOTEC Grant for innovative startups



"Tech for good"
GITEX DUBAI



Acceleration program
for industrial startups



Forum Inversió ACCIÓ
Sponsors Awards



Winner of Spain
competition and
health-tech acceleration
program



Startup Capital grant for
innovative startups



H2020 SME 1 grant for
innovative projects



2nd best project of EIT
Health health-tech
acceleration program



EIT Health Headstart
Grant for bringing
innovative products to
market



Finalist BCN-NY
Challenge to improve
mobility of v. impaired

Barcelonactiva



Pre-acceleration
program for high
technologic impact
projects



Finalist of mobility
challenge for social
inclusion



* Photograph of a prototype, not the final product.



**We adapt the world
to your eyes**

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