LIGHTHOUSE TECH

Helping blind and vision impaired people get outside with confidence

Morbio Inf., Q3/2022

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Founder & CEO

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20 million Europeans wake up to this every morning

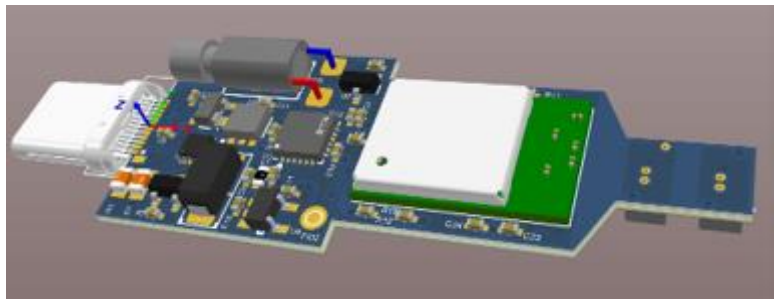
Keeping safe

Protection from collisions

Sensing and alerting user of dangers

Continuous wave time-of-flight sensors on the eyewear frame scan the environment alerting the user through vibratory feedback

Innovative solution



- Highly intuitive experience
- Low training required
- Comfortable and light
- Discreet and fashionable
- Water and impact resistant

Patent pend.

Sales channels

1. LTH – Fashion eyewear

Direct
End consumer/user

Indirect
Distributors, opticians

Co-related
Associations

2. LTH-M – Module

White label
Brands and eyewear frame factories

Patent pend.

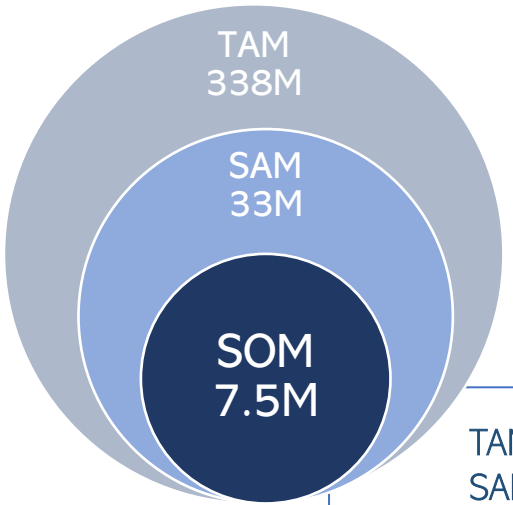
Fashion collection

Patent pend.

Market

Vision Impairment Europe[1]

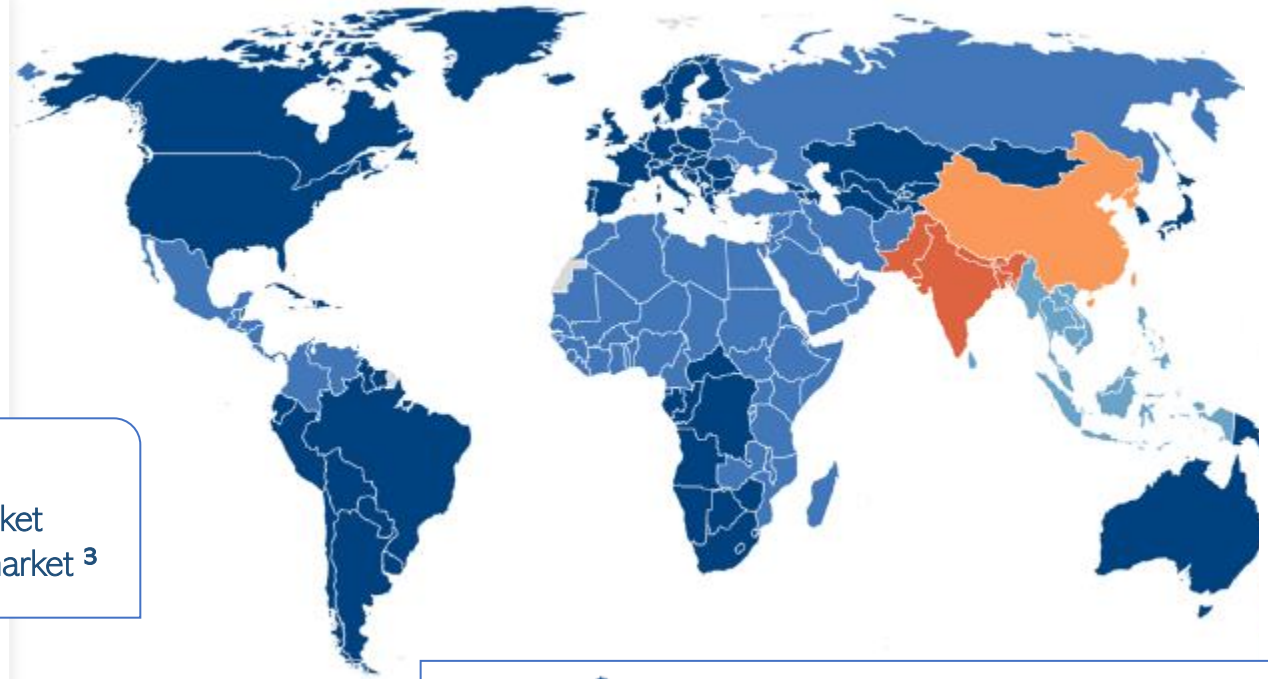
2.7m blind people and 30.5m vision impaired people



TAM = Total global available market
SAM = Serviceable EUR available market
SOM = Serviceable EUR obtainable market [3]

Vision Impairment Globally[1,2]

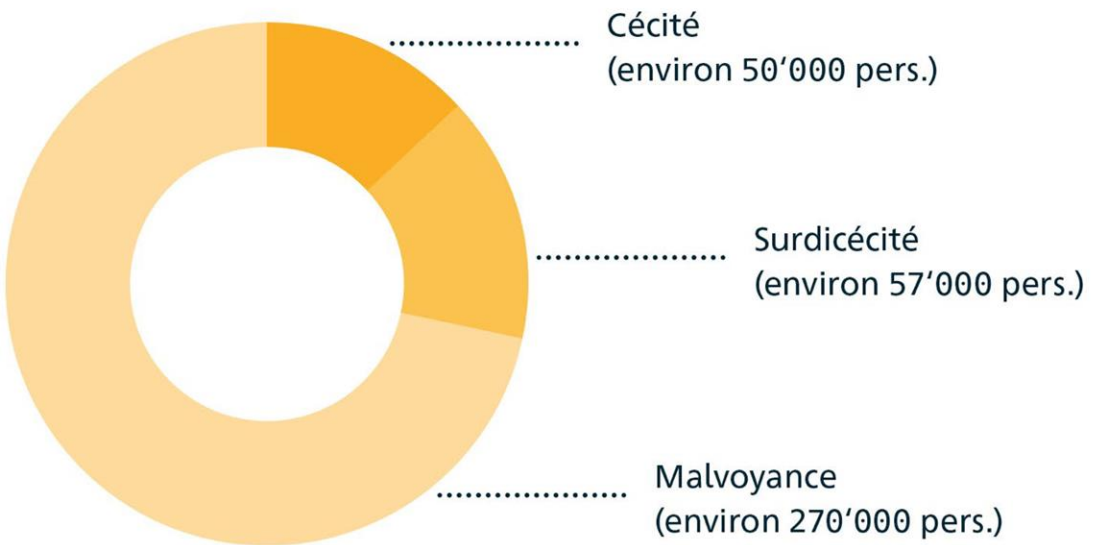
43.3m blind and 294.0m vision impaired people



Blind and vision impaired people living in Switzerland approx. 377'000
→ Equivalent of Ticino population!

1. Bourne, R., et al., 2021. Trends in Prevalence of Blindness and Distance and near Vision Impairment over 30 Years. An analysis for the Global Burden of Disease Study. *Lancet Glob Health. 9(2)*.
2. VLEG/GBD 2020 model, accessed via the IAPB Vision Atlas
3. SOM assumes 40% of blind, 20% of MSVI, Europe

Swiss market



Personnes malvoyantes, aveugles et sourdaveugles
Totaux 2019

2020. Cécité, malvoyance et surdicécité: évolution en Suisse, Union centrale suisse pour le bien des aveugles UCBA. Used with permission by Swiss Retina

Personnes malvoyantes, aveugles et sourdaveugles
en Suisse: 2011-2039

Competition

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No clear market incumbents among competing devices

1. Mounted on white cane

Ultracane

WeWalk

Tom Pouce

Smartcane

2. Hand-held or wristband

Miniguide Mobility Aid

Sunu

3. Shoulder mounted

Biped

Roadmap

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Ideation

- 2018/Q1 — Initial feasibility study commissioned from Microtech AG Zug
- 2019/Q2 — Exploratory meetings and interviews with blind associations
- 2019/Q2 — Innosuisse grant for feasibility study with SUSPI, University of Applied Science
- **2020/Q3 — Participation in Boldbrain Challenge by Fondazione Agire, Lugano**
- 2021/Q1 — Incubated at USI Startup Centre, Università della Svizzera Italiana
- **2021/Q1 — Patent filed**

Proof of concept

- 2021/Q2-3 — Alfa series for testing with blind users
- **2021/Q4 – 2022/Q2 — Beta series for ongoing field tests**
- 2022/Q4 — Pre-production series and packaging completed
- 2023/Q1 — App beta with customization features

Technical milestones

- 2022/Q1 — Document acquisition for certification of LTH01
- **2022/Q2 — Design and development of eyewear collection**
- 2022/Q2 — Selection of lenses (CR39)
- 2022/Q3 — Spec sheets for the electronic module and its components
- 2023/Q1 — Production begins
- 2023+ — App integration of additional features and continuous improvements

Go-to-market

- 2020/Q4 — Lighthouse Tech Sagl founded
- **2022/Q2 — Pre-seed round CHF500k**
- 2022/Q3-4 — Pre-sale activity to reduce initial financing requirements
- 2022/Q4 — Non-paying pilots with associations
- 2023/Q1-2 — Market entry in Europe
- 2023/Q3 — Seed round CHF 1mn.
- 2024/Q1 — Subscription lock-in
- 2024/Q2 — White label with eyewear frame manufacturers and JV
- 2024+ — Third-party integration of SW (mobile assistive technologies) in our app

2027 Exit

Ongoing field tests

Claudia, blind since the age of 8, testing LTH01 in Bellinzona:

"[LTH01] is very comfortable. Very lightweight. I loved it."

"[LTH01] improves life."

"The vibration alert works! "

Anonymous tester, 65 years old, in-patient 8 weeks post stroke at LUKS Neurozentrum:

"I wish I had [LTH01] earlier to help me avoid collisions."

"It needs to be fashionable"

Call for action

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Pre-seed Q3/22 **CHF 500k**

Seed Q2/23 **CHF 1m**

Made for social impact

Lighthouse promotes safe, independent outdoor mobility, increasing self-sufficiency and wellbeing, benefiting blind and vision impaired people, their families, wider social networks, and society as a whole, addressing SDG 3.

Use of funds (pre-seed)

- HR (sales and promotion)
- HW production setup
- Clinical validation
- Patent extensions

Team






Franco Burlando
B A. Econ.
Cornell University.
CEO

35+ years in product development and international sales in the eyewear frame industry.

Andrea Moroni Stampa
MSc El. Eng. ETH Zurich
CTO

10+ years CTO and Head of R&D @ Hemargroup.ch
IoT Consultant @xFarm.ag
Visionary Day Swiss Ambassador.

Riccardo Baldini
Industrial Designer
ITIS 'Enrico Fermi' Mantova
Designer

Industrial technician and high fashion designer in the optical industry.

Nathan Deutsch
Ph.D., NREM
University of Manitoba
COO

15+ years applied research and consulting experience, grant proposals, sustainability.

Melissa Graboyes
Ph.D., MPH Boston University
Scientific Advisor

Author and professor @Uoregon. Emphasis on medical ethics. National Science Foundation (USA) Career Award, 2019.

Emanuele Pizzatti
M.A. Econ.
IDEHAP Lausanne
CFO and Corp Development

Professional PE and corporate finance with experience early-stage venturing.

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Thank you!

Q&A

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Feasibility report

Scuola universitaria professionale della Svizzera italiana
SUPSI

Supported by

Innosuisse - Swiss Innovation Agency
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

USI Startup Centre

Boldbrain STARTUP CHALLENGE

AGIRE FONDAZIONE

Hemargroup

Key partners

Unitas
Associazione ciechi e ipovedenti della Svizzera italiana

Annex I – Visual impairment data

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Countries and regions considered in analysis

Western Europe	Andorra, Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy (subnational), Luxembourg, Malta, Monaco, Netherlands, Norway (subnational), Portugal, Sweden (subnational Stockholm + not Stockholm), United Kingdom (subnational; two levels of subnats)
Central Europe	Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Montenegro, North Macedonia, Poland (subnational), Romania, Serbia, Slovakia, Slovenia
Eastern Europe	Belarus, Estonia, Latvia, Lithuania, Moldovia, Russia (subnational), Ukraine

Number of cases and age-standardised prevalence of blindness and moderate and severe vision impairment in 2020 and change since 1990, all ages (Data in parentheses are 95% uncertainty intervals)

	Blindness				Moderate and severe vision impairment (MSVI)			
	Cases (thousands)		Age-standardised prevalence (per 1000)		Cases (thousands)		Age-standardised prevalence (per 1000)	
	2020	Percentage change 1990–2020	2020	Percentage change 1990–2020	2020	Percentage change in cases 1990–2020	2020	Percentage change 1990–2020
Western Europe	**1530** (1320 to 1760)	24·0% (19·3 to 29·2)	**1·78** (1·55 to 2·00)	−23·9% (−25·0 to −22·7)	**15 400** (13 900 to 16 900)	36·5% (32·9 to 40·1)	**23·9** (21·6 to 26·2)	−2·1% (−2·8 to −1·3)
Central Europe	**327** (280 to 373)	15·6% (12·3 to 19·5)	**1·69** (1·46 to 1·91)	−19·5% (−21·0 to −18·1)	**3950** (3490 to 4420)	30·3% (26·6 to 34·0)	**21·7** (19·5 to 24·1)	−2·4% (−3·2 to −1·6)
Eastern Europe	**790** (690 to 890)	−3·4% (−5·7 to −0·8)	**2·44** (2·14 to 2·74)	−24·9% (−26·1 to −23·7)	**11 100** (9860 to 12 300)	16·3% (14·3 to 18·4)	**36·4** (32·8 to 40·1)	−1·7% (−2·5 to −1·0)

Bourne, RRA, Steinmetz JD, Flaxman S, et al. Trends in Prevalence of Blindness and Distance and near Vision Impairment over 30 Years: An Analysis for the Global Burden of Disease Study. *Lancet Glob Health* 2021. https://doi.org/10.1016/S2214-109X(20)30425-3.