

Sensimed AG

Initiating personalized glaucoma disease management by means of contact lens-based intraocular pressure monitoring system

www.sensimed.com

Sensimed AG
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SWITZERLAND

Founded in	2003
No. of employees	15
State of Ownership	Private
Primary stock exchange	N/A

April 2010: Sensimed is bringing in a patient friendly approach for 24-hour continuous intraocular pressure monitoring system. The *Sensimed Triggerfish®* wearable mini-system is designed to enhance diagnostics and treatment of glaucoma disease.

Venture Valuation (VV) interviewed Mr. Jean-Marc Wismer, CEO.

SENSIMED 
innovation in medical micro-technology

VV:

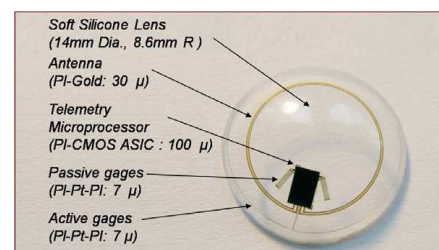
Would you please describe your business?

Wismer:

Sensimed develops and commercializes integrated microsystems for medical devices. Our first product, *Sensimed Triggerfish®*, is a non-invasive solution for 24-hour continuous monitoring of intraocular pressure. It will help ophthalmologists diagnose glaucoma disease, treat patients at the early stage, and monitor efficacy of each patient's medical treatment.

Glaucoma is an asymptomatic progressive and irreversible disease which leads to blindness unless adequate treatment is provided. The cause of glaucoma is little known. High or unstable intraocular pressure is considered a major contributor among medical experts. Real-time intraocular pressure monitoring is required, but is quite a challenge to measure because pressure peaks occur at night or unpredictably. The *Sensimed Triggerfish®* system offers a solution to overcome this medical impediment.

The *Sensimed Triggerfish®* system is composed of a disposable normal soft silicone contact lens with an integrated MEMS (Micro-Electro Mechanical System) and a telemetry microprocessor. (see pictures below)

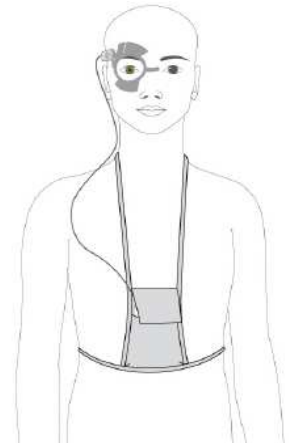


The disposable soft contact lens records qualitative diurnal intraocular pressure profiles during normal activities and a sleep, literally 24 hours.

A strain gauge embedded in a contact lens detects changes in the corneal curvature; those changes are wirelessly transmitted through the embedded telemetry microprocessor to a portable reader.

The ophthalmologist's computer is also wirelessly connected to the reader to download the complete data.

As far as patients are concerned, they go to see their ophthalmologists, have a contact lens fitted, put a wearable device on, and bring them back the next day. Compared to staying at a sleep lab for 24 hours being frequently awakened to measure intraocular pressure, the *Sensimed Triggerfish®* system allows the patients to maintain their normal life style and sleep at home. It will also reduce health care costs. Sleep labs normally charge up to 3,000 CHF although monitoring performance is not always reliable enough due to the stress patients get from frequent interruptions in sleep.



VV:

Wismer:

What are your strengths?

We excel in highly sophisticated microsystem technologies combining micro-mechanics, micro-electronics, and micro-packaging. The *Sensimed Triggerfish®* demonstrates our advanced expertise and meticulous attention of detail. In February 2009 the system received the CE Mark which certifies the product has met European Union (EU) consumer safety, health and environmental requirements. This is a mandatory conformity certificate for products sold in the EU member countries and also in some non-EU countries like Switzerland.

We have successfully completed a variety of safety, comfort and tolerability tests; Issues related to adherence and cornea swelling have been duly examined; Noise caused by blink and eye movement has been proven to be marginal. The signal has been verified to be strongly correlated to manometric intra-ocular pressure in enucleated eyes. Currently we are conducting several post-marketing application trials at selected medical centers in Switzerland, Germany, Austria, and the U.S.

VV: What are your current objectives?

Wismer: We have started working on FDA approval and reimbursement in various countries. For commercializing the *Sensimed Triggerfish®* system, we are looking for strategic partners for manufacturing¹ and distribution. They may be medical electronics product companies, pharmaceutical companies, or distributors closely working with a network of ophthalmologists.

The *Sensimed Triggerfish®* system is a totally new concept in the current market. We are strategizing how to promote advantages of the product. We are also working on pricing.

VV: What opportunities are you exploring in the market?

Wismer: Glaucoma is incurable and a major cause of blindness. It is estimated to affect 68 to 70 million people worldwide, approximately 1% of the global population. Glaucoma affects on average 1 in 200 people aged fifty and younger, and 1 in 10 over the age of eighty. As the world population is aging, the number of glaucoma patients is seriously increasing. It is expected to grow to 80 to 100 million by 2020.

Furthermore, one of two glaucoma patients are undiagnosed and one of three are under inadequate treatment. A better understanding of how intraocular pressure fluctuates during day and night in glaucoma patients will lead to properly tailored care for each patient. We believe the *Sensimed Triggerfish®* system will not only help control glaucoma disease effectively but also contribute to save health care costs.

VV: How do you differentiate from your competitors and position your company?

Wismer: The *Sensimed Triggerfish®* complements existing technology such as tonometry which is designed for single absolute pressure measurement snapshots. Our product provides 24-hour continuous qualitative profiles. Self-tonometry pressure curves will not provide data during sleep and lacks reliability. Other technologies exist at development stage but are implanted in the eye, as opposed to the *Sensimed Triggerfish®* system that is non-invasive by applying normal soft hydrophilic contact lens.

Our challenge is how fast and tactically we will succeed in gaining confidence and acceptance from end-users and creating a pace for the *Sensimed Triggerfish®* system in the current market.

VV: VV Comments after the interview:

Sensimed is a front-runner in developing personalized care for glaucoma patients. The *Sensimed Triggerfish®* system has potential to be integrated as a de facto standard procedure in management of glaucoma disease. The system will also give a great opportunity for scientists to research further into causes of glaucoma disease and in developing new drugs.

The company is in the process of raising 10 million CHF (A first round of 8

¹ Just after this interview, STMicroelectronics, a global leading supplier of MEMS devices for consumer and portable applications, has announced that it will develop and supply a wireless MEMS sensor for the *Sensimed Triggerfish®*.

million was raised in January 2008). The additional funds will boost growth of this promising venture-backed company. Sensimed plans to break even in 2011 and increase sales to 100 million CHF in five years.

Contact

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