



The tiny camera (below) in comparison to a regular pen (above)



The Smallest Camera in the World

Since the dawn of modern medicine, doctors have pursued the use of technology to help them see into the human body. A variety of means serve just this purpose: X-rays, CT scans, optical fibers and more, but the greatest breakthrough in the field can be attributed to a unique technology developed by the Israeli company Medigus / **Lior Eilam**

The Israeli company Medigus developed the smallest camera in the world, at 1.2 mm diameter, which can be employed in medical procedures, in particular endoscopic diagnoses and treatments. The micro-camera's miniscule diameter allows doctors to see into tiny organs and systems which were previously inaccessible.

Medigus CEO Dr. Elazar Sonnenschein explains that the only alternative are optical fibers which let doctors film video footage inside the human body although their numerous disadvantages limit their use: "Optical fibers are breakable and therefore can't access many spots. They're also very expensive – the smaller the diameter the higher the price," Sonnenschein explains.

The Medigus camera is used in flexible devices that offer a glance into places in the body that the optical fiber cannot access. In addition, it costs roughly 90% less than optical fibers of the same diameter. The low cost allows for significant savings in the component parts of the systems they comprise, and even allow the device to be disposable. Single-use cameras bypass expensive sterilization

processes, thus also avoiding the risk of dangerous contamination and infection as well as cutting down on excess cost.

Efficiency and Safety

Many of us are forced to undergo invasive surgery at some point in our lives, followed by a recuperation period proportional to the seriousness of the procedure. Older patients are more likely to undergo invasive medical procedures, and their recovery process is longer. The Medigus camera, which is affixed to special devices, is minimally invasive and eliminates the arduous recovery process from surgery. Medigus's SRS endoscope can substitute standard surgery for gastro-esophageal reflux disease (GERD), caused by stomach fluid rising into the esophagus. GERD is one of the most common diseases plaguing the Western world, afflicting an estimated 7% of the population.

The Medigus micro-devices can also efficiently diagnose gall stones, which are currently diagnosed with X-rays or expensive and fragile optical fibers. Medigus's micro-camera spares the damages of X-ray radiation as well as the

costliness of optical fibers.

The Medigus camera has enabled doctors, for the first time in history, a non-invasive glance into the heart, brain and other areas. Dr. Sonnenschein estimates that within 5-10 years, the technology will be used in dozens of procedures including vascular treatments, from inserting stents to replacing valves.

According to Dr. Sonnenschein, the camera technology could be utilized to effectively substitute invasive procedures carried out in hospitals, especially in the fields of orthopedics and ear-nose-throat medicine with less invasive procedures carried out at private clinics and outpatient clinics, offering a more efficient and cost effective option. 📺

This survey is a part of a project to expose Israeli technology companies

Business Card: Medigus

Field: Development of medical and endoscopic procedures based on micro-imaging

CEO: Dr. Elazar Sonnenschein

Status: Public company traded on the stock market (TASE: MDGS)

Number of employees in Israel: 33