**CURRENT PROBLEM, FROM EXPERTS**

“In my work as a laparoscopic surgeon, I sometimes encounter situations in which anatomical areas are hard to reach with the currently available instruments. An instrument with a steerable tip would be the solution to this problem, but in the past these instruments have been very bulky and complex in buildup. Steering of the tip of these instruments is because of this, awkward and unreliable. Especially in situations where we have to operate through small incisions with small trocars.

Refined, efficiently designed and robust steerable laparoscopic instruments would be the solution to this problem, allowing me to deliver better patient care. Surge-on Medical has designed a new and very promising generation of these instruments. Next to the brilliant and very sophisticated design of the instruments, there is a strong focus on usability and cleanability in order to satisfy the needs of all stakeholders”

— Roelf Postema MD, Laparoscopic surgeon, Amsterdam UMC

**THE NEED**

Laparoscopic surgeries are performed through small incisions in the abdominal wall, which require long slender instruments. Surgeons need suitable instruments to operate with better reachability and less tissue interaction force.

**Surgeons need solutions for problems such as:**

- Difficult reachability to surgical sites.
- Complex mechanical steering mechanisms in current instruments.
- Bulky instruments that limit their use in advanced laparoscopic surgery.
- High purchase and sterilization cost of complex disposable steering instruments.
- Unergonomic instrument interfaces that cause discomfort in laparoscopic surgeons.
THE SOLUTION

Steerable laparoscopic instruments

Based on our multi-degree of freedom technology, Surge-on Medical is developing a new line of steerable, configurable and reusable laparoscopic instruments in the 5 to 8 mm range. The first is the Steerable Grasper.
Watch a teaser video here: http://bit.ly/sg5mm

The instruments are cable-less and based on a minimalistic design to provide an intuitive solution for the needs of the surgeon, the hospital staff and the sterilization department.

Unique features

• Multi-steerable: The steerable and configurable instrument’s tip improves the reachability to hidden surgical areas without compromising the surgeon’s comfort.
• Reusable instruments: Easily assembled and disassembled. With 70% less parts than current instruments, they’re easy to clean with low-tech sterilization means.
• Easy to use: The hand interface is operated by two steering wheels that are aligned with the shaft for intuitive instrument tip actuation.

Unique Benefits

• Ideal to spread advanced laparoscopic surgery worldwide.
• Better surgical outcomes. Better instrument alignment capabilities and a smaller shaft allow the surgeon to manipulate tissues more efficiently with lower force and smaller incisions.
• Faster surgeries and faster healing. The patients could recover faster and spend less time in the hospital.

VERSATILE FUNCTIONALITY

Our steerable technology can be adapted to multiple end effectors such as scissors, atraumatic graspers, needle drivers and clip appliers towards fulfilling the needs of our partners and customers. Additionally, Surge-on Medical is starting the development of a wide range of energy-powered end effectors. Besides the laparoscopic handheld devices, our multi-steerable technology is compatible with robotic systems.

ABOUT US

Surge-on Medical is a medtech company founded in 2015 in Delft, the Netherlands. It develops innovative surgical instruments based on its patented SATA technology, resulting from a decade of research at Delft University of Technology.

The current instruments are developed for arthroscopic and (robotic) laparoscopic procedures, but the platform technology can be easily expanded to other fields of surgery. The SATA mechanism and the SATA instruments are protected by 4 patents, and more are on its way.