

# Senhance<sup>®</sup> Surgical System with Digital Laparoscopy

A New Era in Minimally Invasive Surgery



At TransEnterix, we believe in **digitizing the interface between the surgeon and patient** in laparoscopy **to increase control and reduce surgical variability for improved patient outcomes** in today's value-based healthcare environment.

## Digital Laparoscopy Improving the Robotic Surgical Experience in Ways that Matter

A **digital fulcrum** sets a dynamic virtual pivot point that helps potentially minimize the incision trauma

**Standard reusable instruments** keep costs similar to traditional laparoscopic instruments



**Open-platform architecture** allows use and integration of existing OR technologies to maximize benefit from capital investments and support surgeon preference

**Haptic sensing** heightens the surgeon's sensing of pressure/tension through alerts if pressure threshold is reached, for an added layer of security not currently available elsewhere

**Digital laparoscopy** maintains familiar motion, ancillary tools, and techniques

**The 3DHD visualization** provides the surgeon with additional intelligence regarding depth and spatial relation of organs

**Eye-tracking camera control** allows surgeons to continuously control camera with their eyes

Allows the surgeon to be seated in an **ergonomically comfortable position** throughout the procedure

#### Maintain OR Efficiency

- No connecting of arms directly to the trocar, allowing for simple setup
- Open cockpit, which allows for direct sight to the sterile field and clear communication with surgical team
- Manipulator arms that are easily repositioned to adapt to the procedural needs

#### Senhance Digital Benefits

- Eye-tracking camera control, compatible with 3DHD and HD fluorescence
- Ability to use a digital fulcrum point to minimize torque at incision site
- Improved ergonomics, with surgeon seated comfortably throughout the procedure

#### Maintain MIS Standards

- Security of haptic sensing that allows for force-sensing during palpation and suturing
- Compatibility with standard laparoscopic trocars allowing robotic and traditional laparoscopy instruments
- Advanced instrumentation – Senhance Microlaparoscopy 3 mm instruments, and Senhance® Ultrasonic Advanced Energy device

#### Responsible Economics

- Broad selection of reusable 3 mm, 5 mm and 10 mm instruments
- Maintains per-procedure costs similar to laparoscopy



## Flexibility with Interchangeable Arms

Each robotic arm is an independent unit, capable of handling any Senhance surgical instrument, including the endoscope.



## Multispecialty and Multiquadrant

Senhance is designed to be used in various surgical specialties, such as gynecology, colorectal and general surgery. It enables the surgeon to access the various abdominal quadrants simply by changing the position of the camera and instruments, and assigning them to the desired robotic arm.

## Robotic Precision

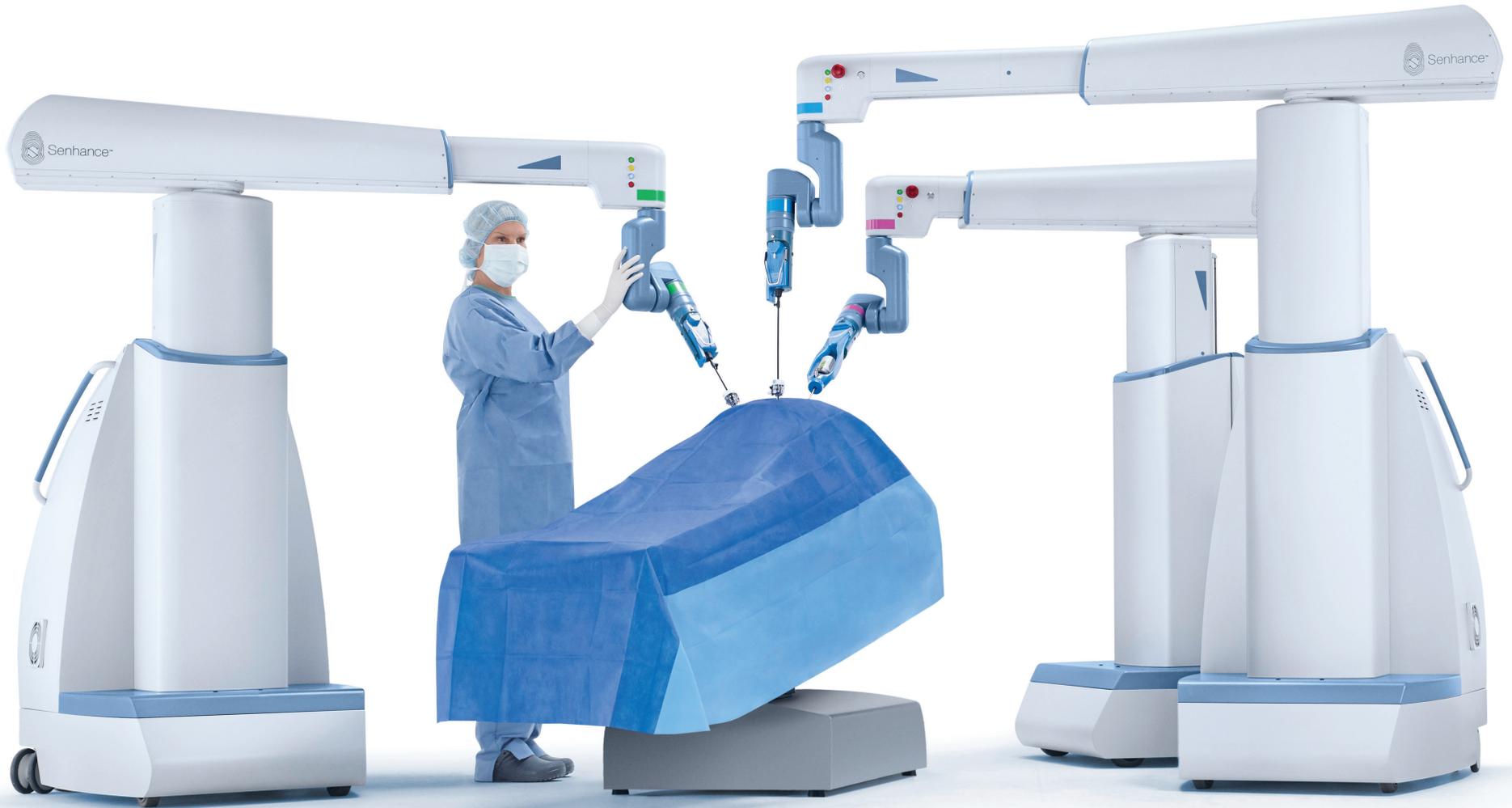
The system allows the surgeon to select appropriate scale to enable precise manipulation during delicate tasks.



**FIRST OF ITS KIND**

## Eye-Tracking Camera Control

With their eye movement, the surgeon utilizes the eye-tracking technology to control the field of view, including pan and zoom features, enabling full control of the third robotic arm.



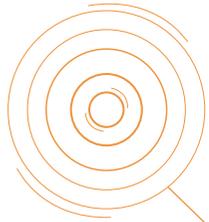


## Comfortable Ergonomics

The surgeon can operate with laparoscopic techniques while seated comfortably at the open cockpit and can easily reposition their arms and hands throughout the duration of surgery by engaging the clutch pedal.

## Open Communication

The surgeon is seated at an open cockpit, with direct sight to sterile field, enabling clear communication with surgical team.



## FIRST OF ITS KIND

### Haptic Sensing

Senhance's innovative haptic force sensing transmits forces sensed by the robotic instruments to the surgeon's hands during critical tasks such as suturing.



**Clutch pedal** allows the surgeon to pause instrument movement, and reposition to a more comfortable and ergonomic operating position at any time.



## Open-Architecture Platform

An open view of the sterile field from the surgeon's cockpit and easy access to the patient enables clear communication between the surgeon and staff.

## Ease of Use

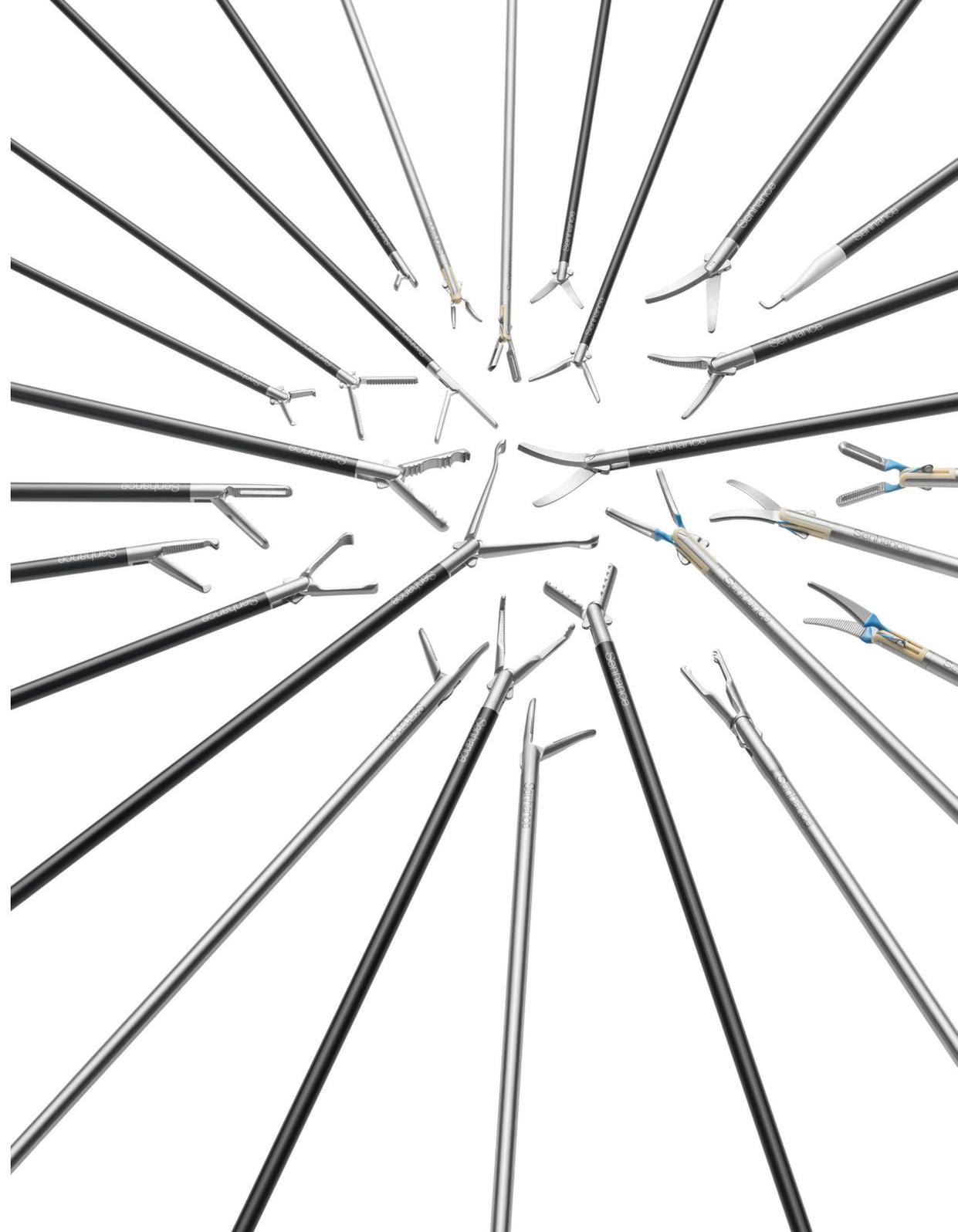
Senhance is designed for ease of use by the surgical staff, making arm positioning and instrument exchanges fast and simple.

## Advancing Robotic MIS

### Responsible Economics

Senhance's broad offering of 3 mm, 5 mm and 10 mm **fully reusable instruments**, along with minimal disposables, creates a responsible per-procedure pricing model similar to that of traditional laparoscopy.

**FIRST OF ITS KIND**



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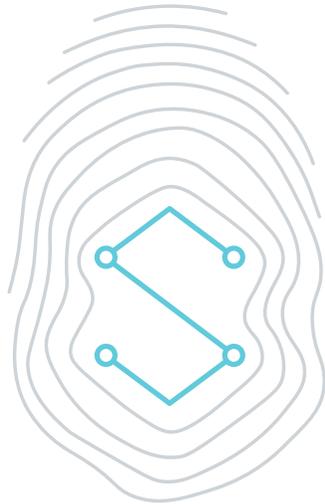
The only 3 mm instruments on a robotic platform

**Senhance Microlaparoscopy**



Fast, precise tissue dissection  
and vessel sealing

**Senhance® Ultrasonic Advanced Torsional  
Energy**



# Senhance<sup>®</sup>

## Surgical System

Senhance<sup>®</sup> is CE marked according to the MDD and is intended to be used for laparoscopic surgery in the abdomen, pelvis and limited uses in the thoracic cavity excluding the heart and greater vessels of adults. The device is restricted to sale by or on the order of a physician. TransEnterix Italy is the legal manufacturer for CE purposes.

Eye trackers supplied by Tobii.

Senhance was developed under a license of the European Commission Joint Research Centre.

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BRO-001-00045.005 – 08.2019



Maintain OR Efficiency



Senhance Digital Benefits



Maintain MIS Standards



Responsible Economics

 TransEnterix<sup>®</sup>

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