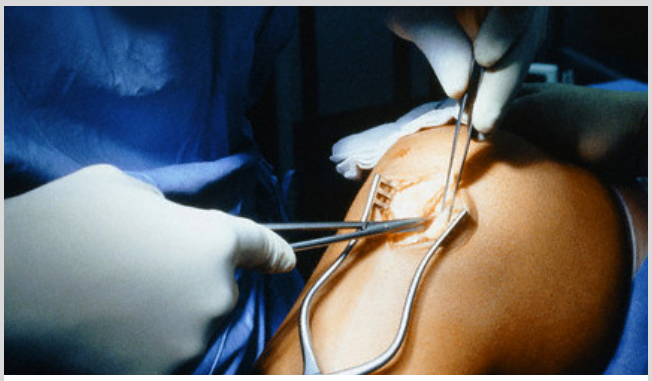
LIVIA

SURGEON'S STEADY HAND

OBSERVED

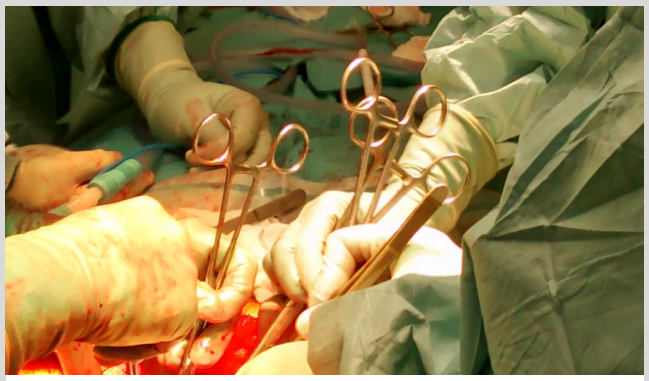
This project, based on pure user studies and in-depth surgery observations, discovers a possibility to, in a cost efficient way by using off-the-shelf industrial technology, offer robot benefits to **open surgery** scenarios.

EVER SO SMALL MOVEMENTS



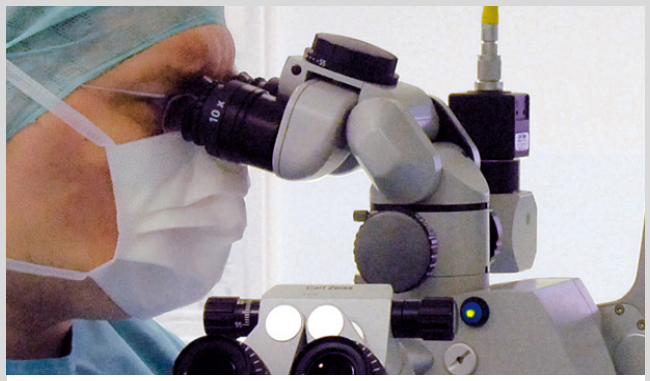
Extremely high precision is needed when working in sensitive areas.

LONG HOURS



Plenty of extra hands are needed when holding tissue in static positions for hours.

TIGHT AND **DARK**

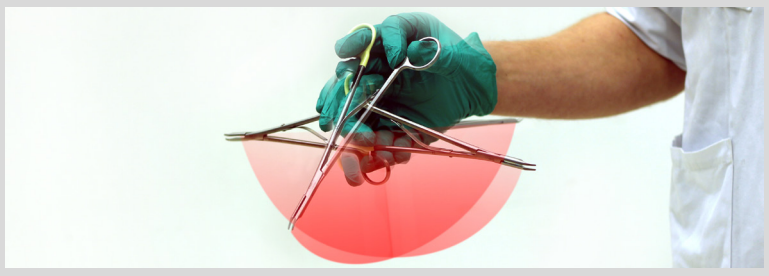


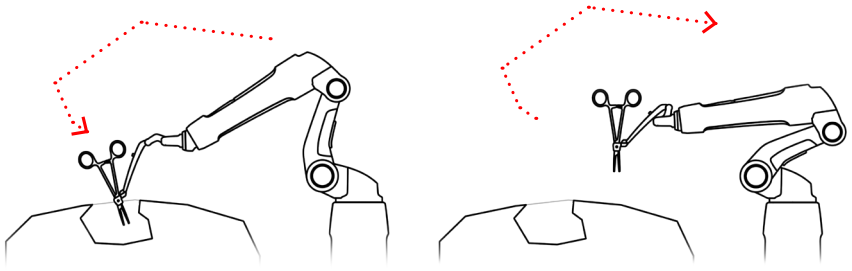
Magnifying glasses, lights, loupes, head lamps... It is hard to navigate inside our bodies.

Detailed mapping of the workflow in an operation room, handling of instruments and hand movements resulted in physical prototypes and test models evaluated with surgeons.

With a minimal effort can the surgeon merge the product concept into their regular workflow and **enhance the stability** in their movements, get **improved vision** and aid in **holding tissue** in static positions.

MAPPING, TESTING, EVALUATING





STATIC STABILITY

The instrument can be left in any possible position - a static, secure grip is secured by your extra hand the same second you let your hand off the instrument. Livia remembers the route in and can automatically take the same safe way out.

Using cameras and LED light, a clear view of the operation field is transported from the tip of your instrument to a high resolution screen in your field of vision.

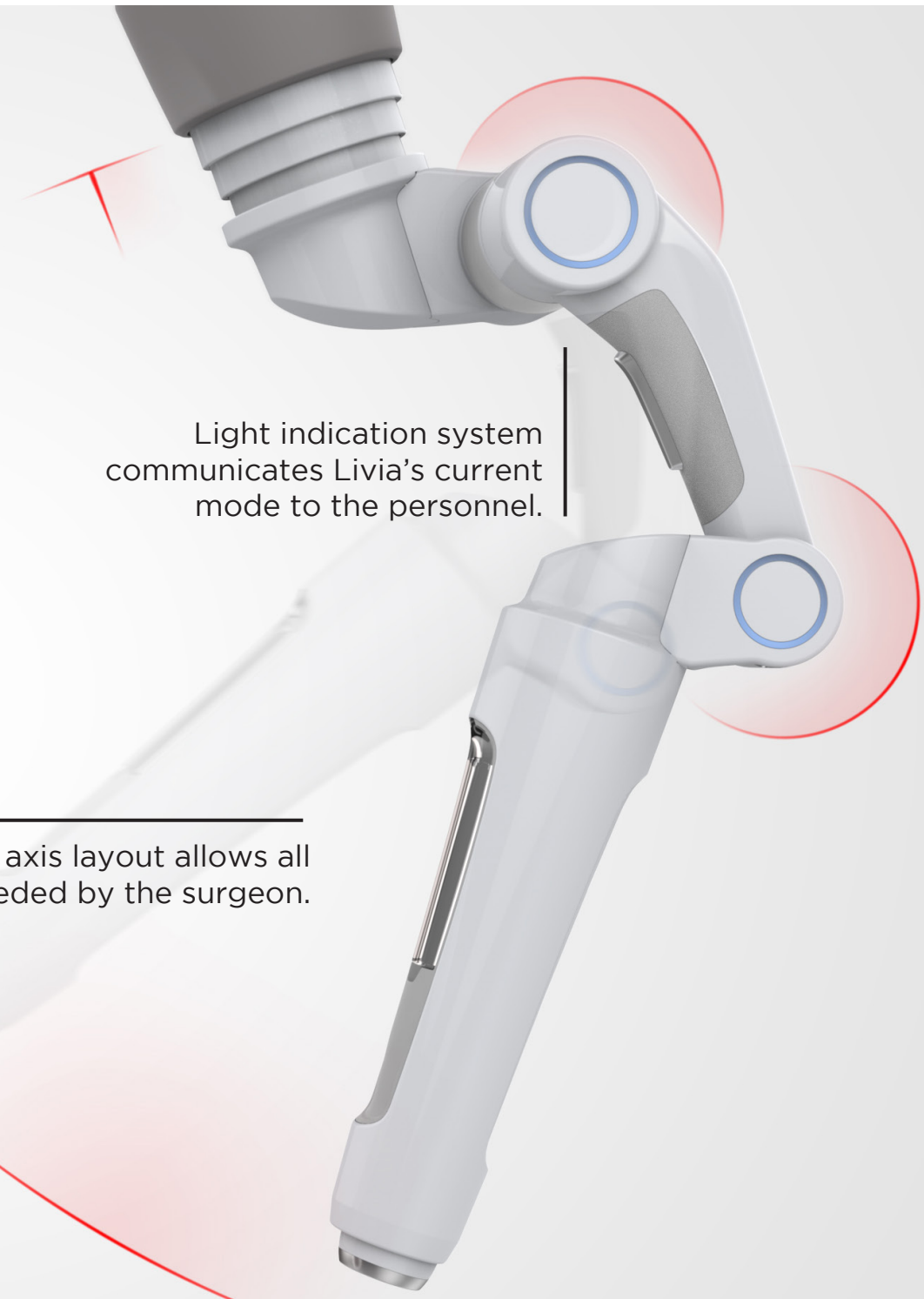
CLEAR VIEW

PRECISE MOVEMENTS

By adding smooth friction to your movements can extra high precision be achieved in sensitive areas. Livia connects quick and seamlessly to the hand held instrument on your given command.

FLEXIBLE WORKFLOW

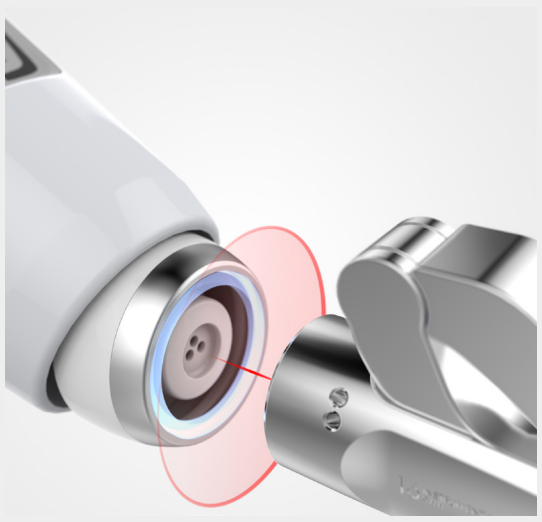
Superior flexibility assures usage in a wide range of situations - permanent installations in the ceiling or easy attachment to the operation table are two common scenarios.

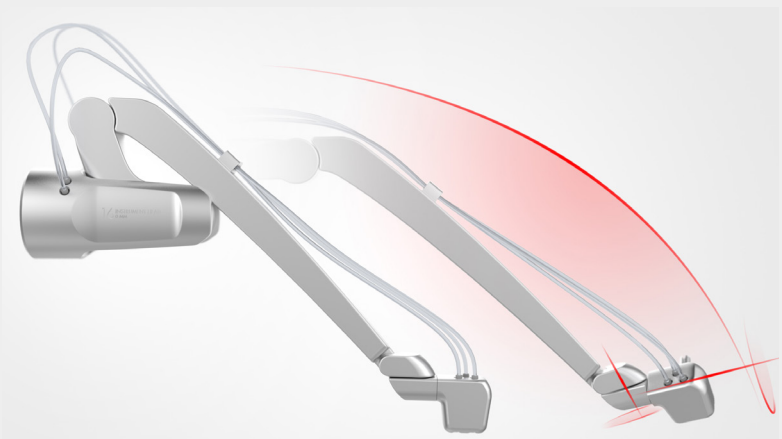


Light indication system communicates Livia's current mode to the personnel.

Rotation axis layout allows all movements needed by the surgeon.

FUTURE SAFE CONNECTIVITY





The plug-and-play Instrument Head system makes the Steady Hand ready for the upcoming task and for future applications. Extremely special surgery situations requires differently axis and lenght set-ups.

Equipped with camera and light, all desired hand movements are allowed by the Instrument Head. Cleaning is done in the hospital's autoclave.

INTUITIVE ENHANCEMENT

Voice controls, hardware buttons or the touch screen interface makes Livia even more flexible and ready for every possible situation. Real time camera view of the operation field can be merged with x-rays for even better locating in the body.

LIVIA

BOOST YOUR VISION.

ENHANCE YOUR PRECISION.

GET AN EXTRA STEADY HAND.