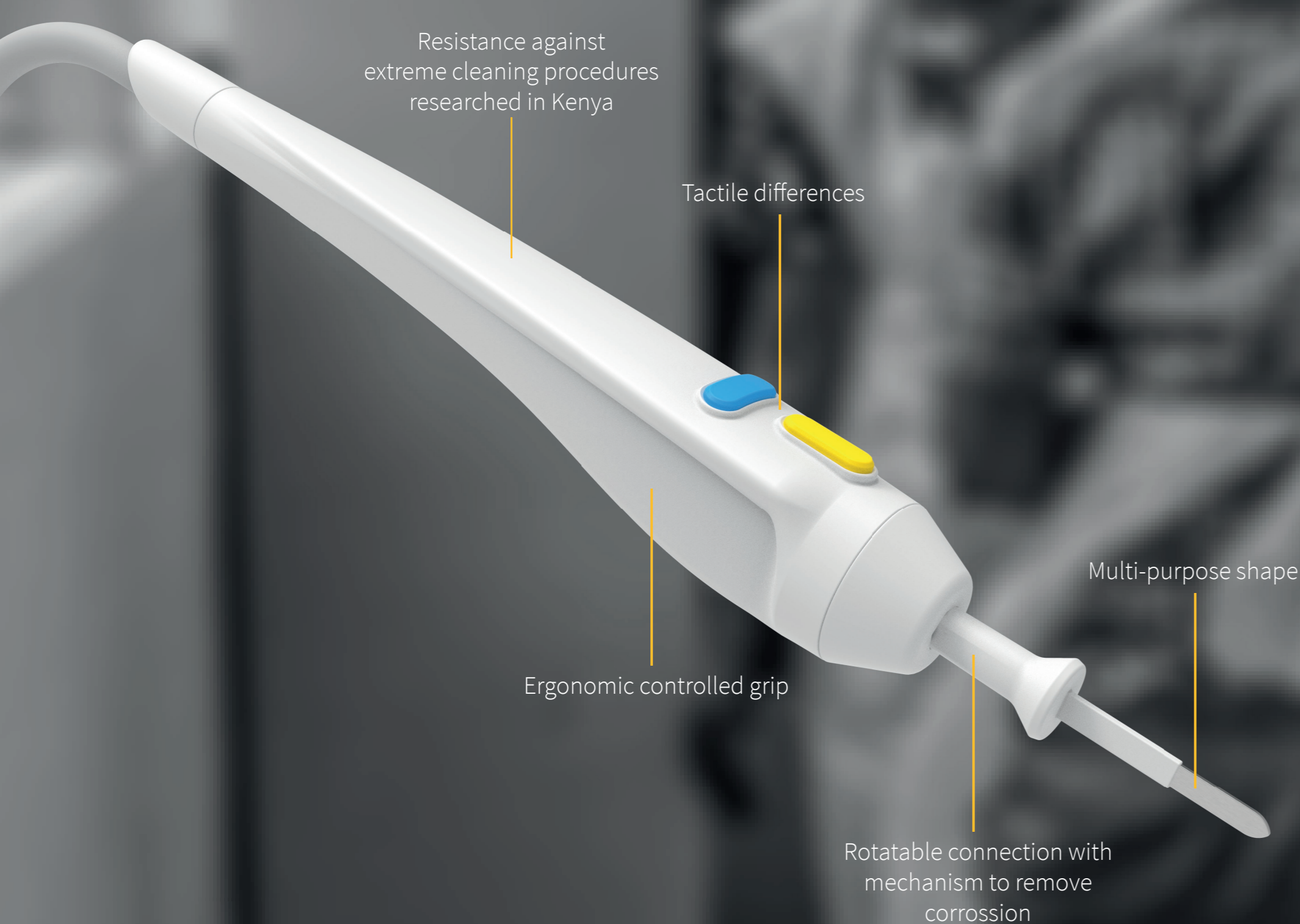


MSc. Roos Oosting and the Global Health Design Lab initiated development of affordable and high-quality electrical surgery units (ESU) as a step towards improving surgical care. The ESU is used as an operating tool to assist the surgeon for a high variety of essential surgical procedures. The ESU consists of a high frequency generator with an interface to adjust power settings, a return electrode and an a monopolar handheld that is used to perform the surgery.

In general, the underlying principles of electrosurgery are not widely known and the experience with the ESU is limited. Hence, this forms a potential risk for the operator as well as the patient. Even more in LMICs where a routine surgery does not exist and a broad spectrum of surgery knowledge is required according to the majority of the interviewed surgeons from the Netherlands, Brazil and Kenya.

Empowering the accessibility of safe global electrosurgery

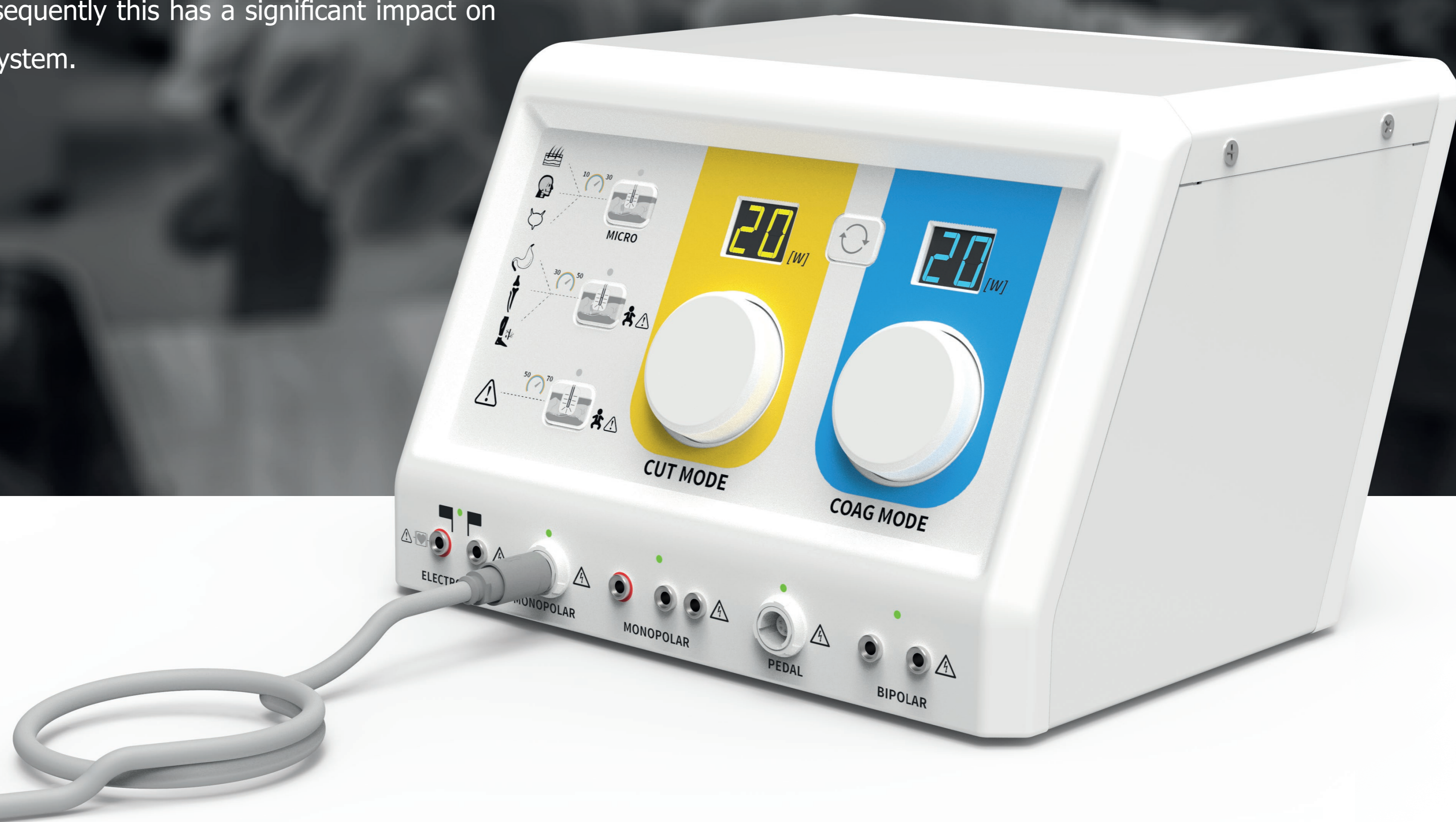
Safe electrosurgery for **everyone** and **everywhere**



The monopolar handheld and electrode tip have been designed to enhance control, safety and intuitiveness during the surgical procedure. Besides, the monopolar handheld is resistant against the various used cleaning procedures in LMICs and consequently this has a significant impact on the sustainability of the ESU system.

The design goal of the project has been the development of a reliable, safe and intuitive user-interaction with the ESU system and a tailored design for maintenance in a variety of use-contexts in LMICs. The new design of the electrosurgery unit should be understandable for all electrosurgery users, thus surgeons with limited electrosurgery experience as well as specialists and surgical assistances.

The ESU system increases safety and an intuitive user interaction concerning the limited electrosurgery experience and enhances reliability for maintenance in the variety of use contexts in LMICs. The high frequency has been designed to enhance a safe and intuitive user interaction by integrating co-created guidelines on appropriate power settings related to a certain surgery. This will empower clinical outcomes of the surgery, reduce check-ups and take away safety risks.



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