

Project Proposal Summary

Rotarian Peace Projects Incubator's Thematic Area	Health as a pillar of peace
Rotary Focus Area	Disease Prevention and Treatment (specifically "Medical devices, particularly for surgeries project type)
Contact: Contact person within your group (Name and email)	Karen Bernstein, karen@surgibox.com
Project Title: Provide a full title (and acronym if any)	SurgiBox: An operating theatre in a backpack that provides access to safe surgical care in conflict, humanitarian/disaster and remote settings
Project Partners and Participating Organisations: List all your project partner organisations, including participating Rotary clubs and districts if any	Médecins Sans Frontières- Switzerland; EPFL (Switzerland); Mass General Hospital (Boston, MA). While there have been presentations given to Rotary clubs in Switzerland – no partnership has been set up with Rotary clubs there or elsewhere where SurgiBox will be launched.
Geographical Scope	SurgiBox is particularly relevant to disaster/conflict settings and remote areas of low-and-middle-income countries. We are looking at deploying SurgiBox in parts of Africa (e.g. Uganda), the Middle East and southeast Asia – but are open to discussions with any Rotary clubs that see relevance in the countries in which they work/are based.
Summary: Please provide a concise summary with a maximum of 500 words outlining the project and explaining the community needs your project will address and how these needs were identified. Ensure that you include what your project aims to achieve (objective) and how (method/procedure). What will be the main outcomes? Explain in a few sentences how you will incorporate the objective of sustainability into your project.	Worldwide, five billion people lack access to safe surgical facilities and, every year, 116 million disability-adjusted-life-years and 16.9 million lives are lost annually from surgically-treatable conditions such as injuries, postpartum hemorrhage or hernias. However, operating theaters need infrastructure: good roads, stable electricity grids, ventilation systems and maintenance. Surgical care is often non-existent in conflict/disaster zones and low-and-middle-income countries (LMICs). Even when it is, up to two-thirds of patients develop deep wound infections – 80% of which result from unsterile, intraoperative conditions. Infections double hospital stay durations, prevent critical procedures and triple patient mortality. In addition, each year, 85,000 providers – 90% Of whom are working in LMICs – are infected by patient bodily fluids. SurgiBox is an ultraportable operating room that fits in a 30L backpack. Surgical teams seal a clear enclosure to the patient's skin and operate through ports. The enclosure stays

	<p>clean through a battery-powered, HEPA-filtered, airflow system, and the physical barrier shields providers from infectious particles transmitted through splatters from the patient’s wound.</p> <p>SurgiBox offers state-of-art levels of protection to patients and providers in low-resource and disaster/conflict-affected settings. Its non-reliance on infrastructure means that providers can strap on a backpack with the SurgiBox system and get to patients immediately. Setup to incision is in under two minutes. Testing with surgeons from Mass General Hospital and MSF-Switzerland has shown it to be four times cleaner than gold-standard operating rooms in the US.</p> <p>SurgiBox makes safe and accessible surgery widely available by drastically reducing the cost of surgery. Through partnerships with MSF-Switzerland and other NGOs, SurgiBox can provide access to life and limb-saving surgeries at a price that has not been achievable until now. These partnerships will also help to ensure sustainability.</p> <p>For providers, SurgiBox means that infectious particles from patient bodily fluid splatters can be fully blocked. Especially relevant during COVID-19 pandemic, SurgiBox offers two critical benefits to providers. First, it can potentially reduce PPE requirements for each procedure because the enclosure itself shields providers. Second, SurgiBox provides a barrier protection for patients’ incisions and for providers against bodily fluids.</p> <p>This project aims to help SurgiBox complete production and regulatory requirements to reach patients. It also aims to find ways in which SurgiBox can collaborate with Rotary clubs to deploy SurgiBox where it can save as many lives of patients and providers as possible. This collaboration could take the part of linking up efforts with Rotary clubs operating or supporting efforts in conflict and disaster settings and/or remote parts of LMICs. For Rotary clubs actively participating in disaster relief, SurgiBox could be part of an early response kit.</p>
<p>Beneficiaries: Who are the beneficiares? Please include the estimated number of direct beneficiaries</p>	<p>Pending regulatory approval and finalization of manufacturing (currently taking place), we estimate that in its first year of operation, SurgiBox will save the lives of 100,000 patients - and protect the lives of half a million providers.</p> <p>In addition, as roughly 297,000 women from LMICs die in child-birth annually and improved access to safe surgery could reduce up to 70% of those deaths, SurgiBox also specifically aims to save the lives of women undergoing emergency obstetric surgery.</p>

