

Lapara Project

Robotic articulating laparoscopic instrument



Business Summary

LAPARA is a precise modular surgical robot system that creates an experience of touch for the surgeon and is cost-effective. It bridges the gap between the conventional laparoscopic tools and fully robotic surgical systems. Our potential clients are Medical Institutions who are in need of affordable robotic surgical instruments.

Customer Problem

Conventional laparoscopic instruments are stressful to use due to the lack of tool mobility while available robotic surgical solutions are too expensive for local hospitals.

Our Solution

LAPARA was designed to be a more adaptive and more accurate robotic surgical system that will be ergonomic for surgeons and cost-effective for medical institutions.

Target market

LAPARA aims to initially market to local Medical institutions in the Philippines and then expand to other countries. There is potential in the Philippine market, given that the largest public hospital in the country have had at least 893 cholecystectomies with 50% done with laparoscopic procedures from a report in 2014 while other institutions would have a higher rate. While, from a global perspective, the market size for surgical robots would be at 1,463 M USD in 2018 with a projected value amounting to 6,875.1 M USD by 2026, making it a potential market as well.

Competitors

Table comparison of LAPARA versus other competitors:

LAPARA VS. DA VINCI		LAPARA VS. REVO		LAPARA VS. SEHANCE & SPORTS SURGICAL		LAPARA VS. SOLO ASSIST II	
Articulation Technology		No. of Arms		Profile Size		Feedback System	
Joint	Wrist	Single	Multiple	Medium	Large	HD Visual + 3D Haptics	HD Visual

Competitive Advantage

The 3D haptics feedback will give the surgeons a sense of touch, for more immersion and better decision making. The modular design makes the system compact and less bulky, it makes setup and operations faster. The Free-move Mode makes the operation setup fast. Robotic arms and the articulating joint, not only focuses on mimicking the wrist, but arms and hand movements for precise movement.

Customers & Partners

Potential Customers:

In the Philippines, there are over 1121 level 3 and level 4 hospitals that are capable of doing major surgery and have the capacity for intensive care units.

Our partners are:



Revenue Model

It will follow a blades and razor model. The target price of our system is at 500K USD for an initial one-time payment inclusive of the installation of the main manipulator, console, initial consumables and training of initial staff. While, recurring revenues come from the disposable end effectors and other consumables, and training of new specialists. All manufacturing will be outsourced to partner manufacturing firms.

Exit Strategy

The exit strategy is to license the design to the companies.

Financials

Project is currently in R&D, not yet for commercial sale.

Management

CTO: Prof. Nilo T. Bugtai, PhD
LAPARA Project Leader

Advisory Board

Dr. Kim Shi Tan, MD, FPSGS, FPALES, FPCS
Founding President of the Philippine Society of Laparoscopic Surgeons
Professor Federico Gonzalez
Executive Director, Animo Labs
CEO of the Philippine Emerging Start-ups Open, Inc.
Dr. Gonzalo Serafica, PhD
Co-Founder, VP Technology & Intellectual Property (IP)
Xylos Corporation, Langhorne PA, USA

Achievements

2011: Joint Articulating Laparoscopic Tool (JALT), a precursor of LAPARA, won the Intel Asia Pacific Challenge awarded 15K USD.
2015: JALT evolved to Semi-Automated Laparoscopic Instrument (SALI) with fewer part and earned a spot at the LIF 2017 Cohort.
2018: SALI won the James Dyson Award – The Philippine National Winner and awarded 2.5K GBP.
2018: SALI evolved to LAPARA.

General Information

Sector: Medical Robotics
Stage: R&D
Year Established: 2018
Number of Staff: 8

Funding

In 2018, LAPARA received funding from the Department of Science and Technology – Philippine Council for Health Research and Development for 225K GBP to develop the Prototype. Currently, it is funded for 320K GBP in order to conduct Pre-Clinical Studies.

Country of origin



The Philippines

Contact

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