



ENGINEERING AFFORDABLE PHILIPPINE HEALTH TECHNOLOGIES

BIOMEDICAL DEVICES AND HEALTH TECHNOLOGIES



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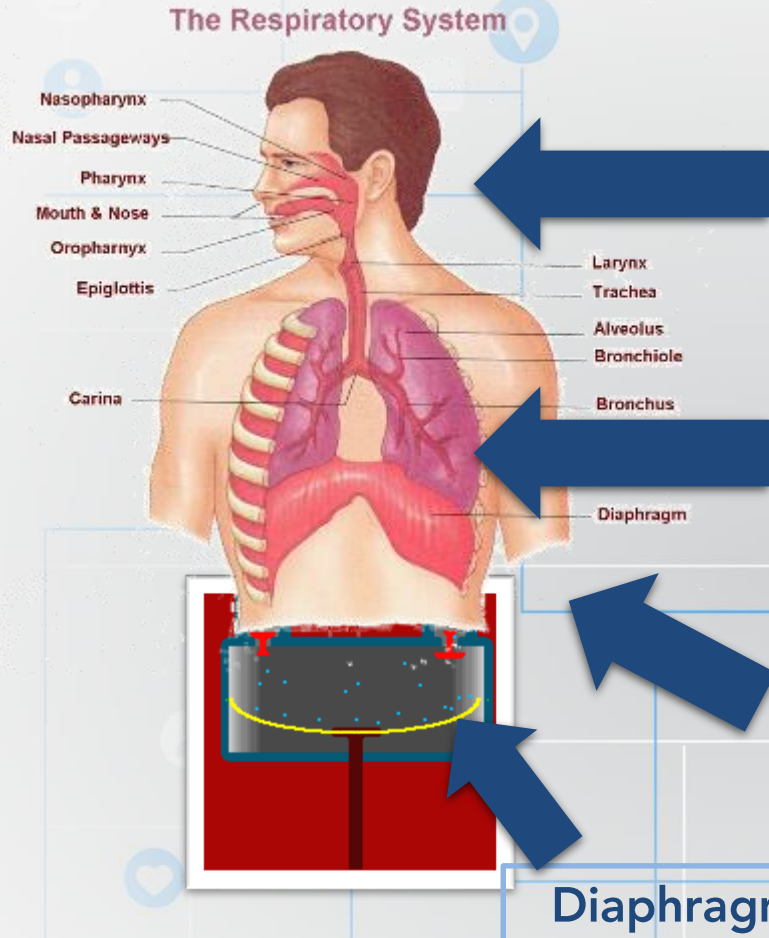


Sir Elton John
implanted in 1977

Arne Larsson, the first pacemaker user



RESPIRATORY FAILURE



Failure to ventilate

Failure to maintain airway

Failure to oxygenate

Diaphragm

**50% OF ICU PATIENTS
NEED A VENTILATOR**



LACK OF AFFORDABLE MEDICAL DEVICES



High cost of
available medical
devices



Highly
dependent on
imports



SOME PATIENTS DIE WITHOUT
PROPER BREATHING SUPPORT

BIOMEDICAL ENGINEERING AND HEALTH TECHNOLOGIES



OBJECTIVES:

- ✓ Development of **affordable, safe, and reliable** hospital equipment and biomedical devices
- ✓ Develop **skills** and **expertise** in biomedical engineering and related areas
- ✓ Develop **support systems** towards a Philippine Biomedical devices industry



BIOMEDICAL DEVICES AND HEALTH TECHNOLOGIES THAT ARE:



- ✓ Safe and effective
- ✓ Affordable
- ✓ Easy to operate
- ✓ Accessible
- ✓ Fit for Filipinos
- ✓ Innovative

*Photo credits to: retireinasia.com



PRIORITY AREAS

Respiratory Support

Rehabilitation Medicine Devices

Prosthesis

Minimally-invasive surgical
equipment



RESPIRATORY SUPPORT

RELIEFVENT

University of the Philippines Manila
PROJECT COST: PhP8M
2014 – 2019

UP Manila and DLSU Development Team:

- Critical Care specialists
- Biomedical engineers
- Software specialists
- Biomed technicians



REHABILITATION MEDICINE

AGAPAY

*A Robotic Exoskeleton
for Upper Extremity
Rehabilitation*

De La Salle University

PROJECT COST: P13.2M

DURATION: 2017 – 2019



TAYO

*Robotic Rehabilitation for
the Lower Extremity*

De La Salle University

PROJECT COST: P24.7M

DURATION: 2018 – 2020



REHABILITATION MEDICINE

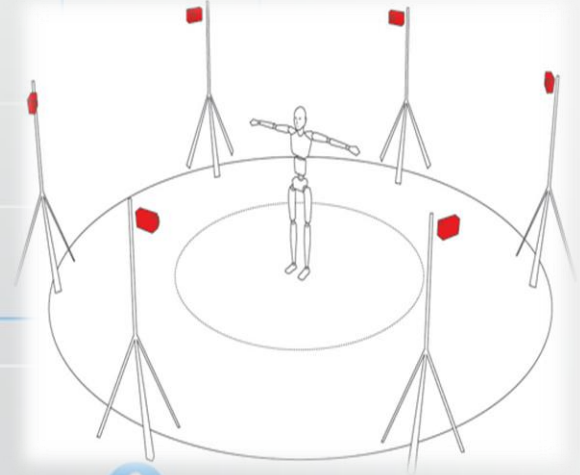
GAIT

Development and Comparison of Quantitative Gait Assessment Methods of Normal and Hemiplegic Gait using 3D Motion Capture and Wearable Inertial Sensors

University of Santo Tomas

PROJECT COST: PhP 7.3M

DURATION: 2017 – 2019



INSOLE

Development of an Insole Pressure Sensing System with Inertial Measuring Unit for the Prevention of Foot Ulcers in Diabetic Mellitus

University of Santo Tomas

PROJECT COST: PhP 6.5M

DURATION: 2018 – 2020



REHABILITATION MEDICINE



BOAT

Balance-on-Action-Team
Ateneo De Manila
University

PROJECT COST: PhP 3.8M
DURATION: 2017 – 2019



T

AXIS™

KNEE SYSTEM



268
Surgeons Trained



P250k-P350k
Total Knee Cost Estimate in
Selected Hospitals



Available in
88 Hospitals in
14 Regions
nationwide



More than
500
Total knee replacement
surgeries

Price
40

For inquiries
(632) 885



TM
SYSTEM

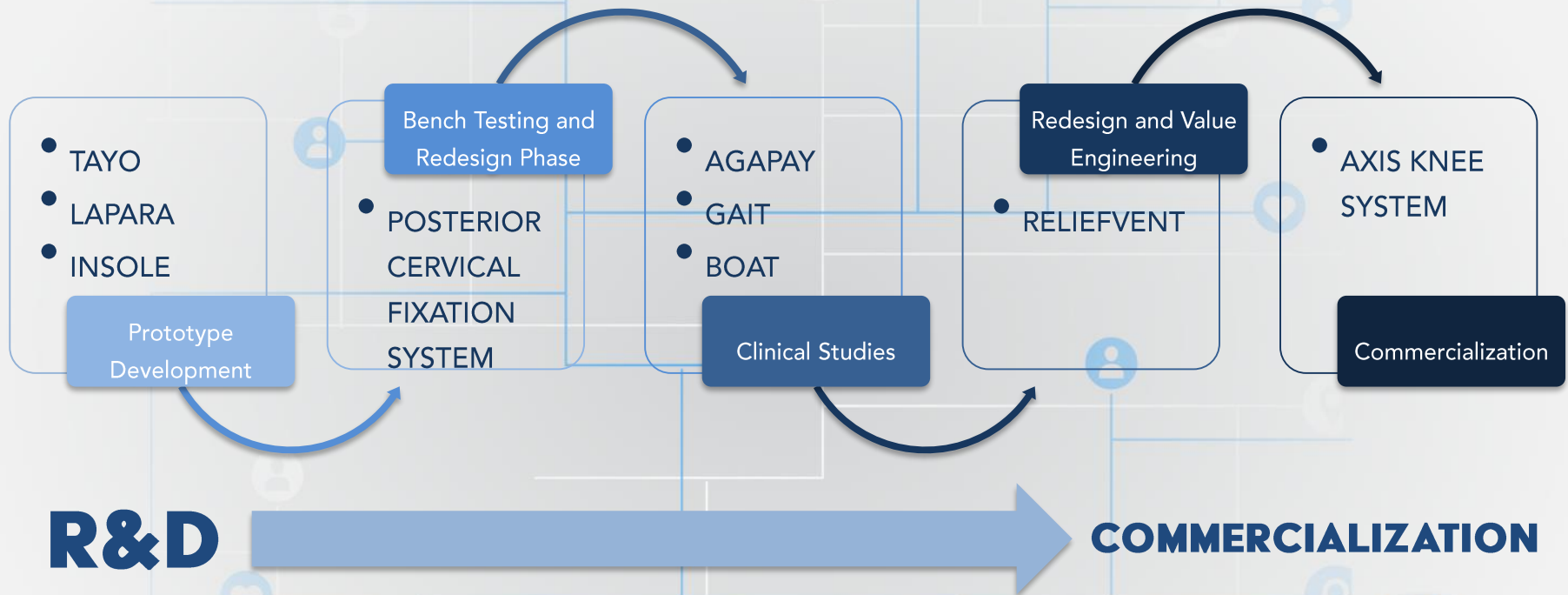
MINIMALLY INVASIVE SURGICAL EQUIPMENT AND DEVICES

LAPARA

*Robotic Articulating
Laparoscopic Instrument*
De La Salle University
PROJECT COST: PhP 14.1M
DURATION: 2018 – 2020



BIOMEDICAL ENGINEERING AND HEALTH TECHNOLOGIES



The total R&D investment for the BEHT program is **P125.4M.**



TUKLAS LUNAS

Clinical testing Reg fixed
dose and that program
through tuklas possible
Development Center is
(Expected) and start this
2019 facilities established



The total R&D investment for
Tuklas Lunas is **~PHP 1 B**



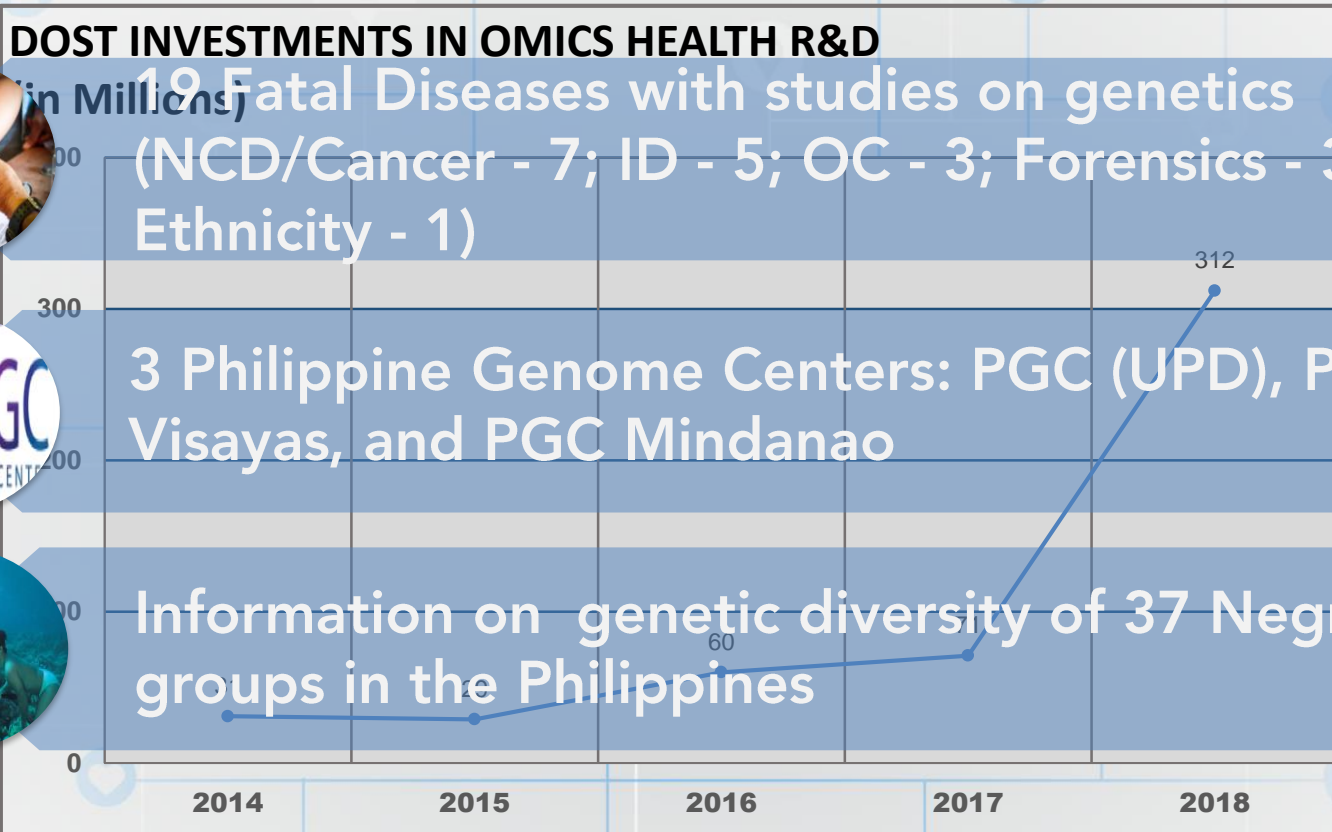
OMIC TECHNOLOGIES FOR HEALTH

DOST INVESTMENTS IN OMICS HEALTH R&D

19 Fatal Diseases with studies on genetics
(NCD/Cancer - 7; ID - 5; OC - 3; Forensics - 3;
Ethnicity - 1)

3 Philippine Genome Centers: PGC (UPD), PGC
Visayas, and PGC Mindanao

Information on genetic diversity of 37 Negrito
groups in the Philippines



The total R&D investment is
PHP 504 M since 2014



ICT IN HEALTH



DIAGNOSTICS



Development of Rapid Diagnostic for Detective Urgently on the Phase 2 of distribution of Biotech, which will provide than **affordable** and **accurate** POC diagnostic kit



DENGUE AND OTHER ARBOVIRUSES

Institut Pasteur Work Packages (WPs)



WP1: Aedes Genome Project

WP2: Auto-dissemination of Insecticides program

WP3: Identification of dengue mosquito reservoirs



FUNCTIONAL FOOD



A study on bioactive compounds in mangoes for prevention of high risk diseases (ie. prevention of cardiovascular disease) hypertension



DRR AND CCA IN HEALTH



52 Proposals
Submitted from the
Regional Workshops



9 Proposals
approved for funding





PCHRD:

Making your life better