SHIFA TECHNOLOGIES

A COVID-19 Response Company

The ShiVent

A Low-Cost, Non-Electric Non-Invasive Ventilator

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Team

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- Co-Founder

Ricardo O' Nascimento
- Co-Founder

Pawel Nycz
- Co-Founder

Advisors:

Dr Sanjiv Nichani - Consultant Paediatric Intensivist at Leicester Royal Infirmary and Founder, Healing Little Hearts Foundation.

Dr Andrew Hall - Consultant Anaesthetist and Chief Clinician for Sleep Disorders, University Hospitals Leicester.

Partners:

Air Liquide bluefrog design Loughborough University MEDILINK UNIVERSITY OF LEICESTER UNIVERSITY OF Global Health EQUITY UNLEASH Bucks HSC Ventures

The Problem - Case Study

- Think about **Dr Valentine Egbadon, a young Medical Doctor at the forefront of the battle against COVID-19.**
- Contracted COVID-19 in his line of work.
- Dr Valentine developed difficulty breathing.
- With only about 500 ventilators serving 200 million people in Nigeria, Doctors could hardly give their colleague the treatment he deserved. One they know is effective and exists in other parts of the world but is often too expensive, requires specialist manpower to operate.
- Dr Val died on 1st of November, 2020 from respiratory complications that could have been averted.

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Our Solution - The ShiVent

ShiVent is a Bubble CPAP (Continuous Positive Airway Pressure) kit that offers a **non-invasive mode of ventilation** to patients with breathing difficulties.

- It is **Simple to use** by the average health workers and takes only 30 minutes of training.
- **It is Low-Cost** - can be produced at a very small fraction of the price of the average ventilator.
- **It is Non-Electric** - making it suitable for hospital settings with unreliable power.
- **It is Oxygen-Efficient** - requiring almost as little as a third of the average oxygen consumption of High Flow Oxygen systems.

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How Does It Work?

- In patients who are seriously ill with COVID-19 but are still able to breathe by themselves, the system does the following:

1. Connects to an existing oxygen source in the hospital setting.
2. Blends air with the high flow oxygen supply with a venturi-type air blender creating blended air safer for the patient.
3. Patient inhales oxygen to fill up the lungs and then exhales into a water column creating back end pressure that keeps the airway open.

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Market Size & Business Model

- **Market Size -** Total Addressable Market - Nigeria- sub saharan Africa, India and Brazil = > **1M Active COVID cases**.
- **Initial Target Market -** Nigeria - >23,929 active COVID-19 cases in Private and Public Hospitals in Nigeria
- **Customer -** Governments, Donor Agencies, Non-Governmental Organisations, Hospital Administrators
- **Beneficiary** - Patients - adults and neonates with respiratory distress
- **Potential Use** - in neonates with respiratory distress

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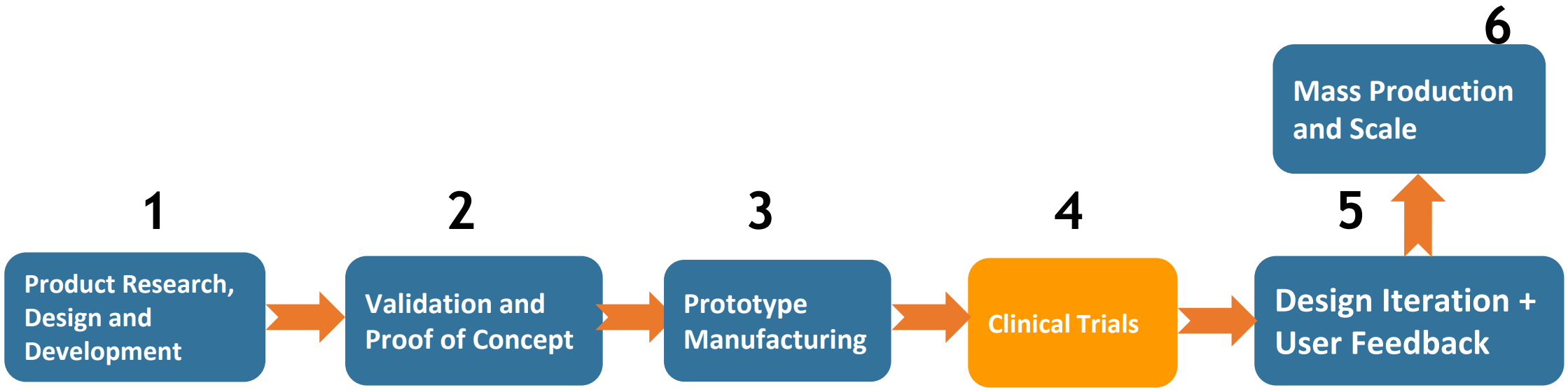
Traction



Research, Design and Development - commenced 18th March 2020

Product Launch - 23rd May, 2020 after it passed the first functionality at the National Center for Sports and Exercise Medicine and subsequently passed another at Leicester Royal Infirmary Hospital on **June 10th, 2020.**
Redesign for Manufacture - Sept - Oct, 2020
Final Functionality Test - Oct 23rd, 2020 at National Centre for Sports and Exercise Medicine
Clinical Feasibility Test on Healthy Volunteers on 11th December, 2020 - Glenfield Cardio-Respiratory Hospital, Leicester
Product Demonstration- 24th May 2021- Lagos University Teaching Hospital (LUTH), Lagos-Nigeria. LUTH has committed to procure units for the new Intensive Care Unit once we complete clinical trial and acquire the relevant regulatory approvals.
Trade Channels- Partnerships with Pneuma Health Care, Nigeria

Next Step - Clinical Trial in Nigerian, Rwanda and Indian Public and Private Facilities dealing with COVID-19 and other respiratory cases.

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Comparative Advantage

	COST	ENERGY	OXYGEN REQUIREMENT	USABILITY
ShiVent	Affordable	Non Electric	Low	No specialist manpower required
Ventura	Expensive (£2003)	Non Electric	High	Specialist required
Fisher & Paykel	Expensive ($2,500)	Electricity Dependent	High	Specialist required

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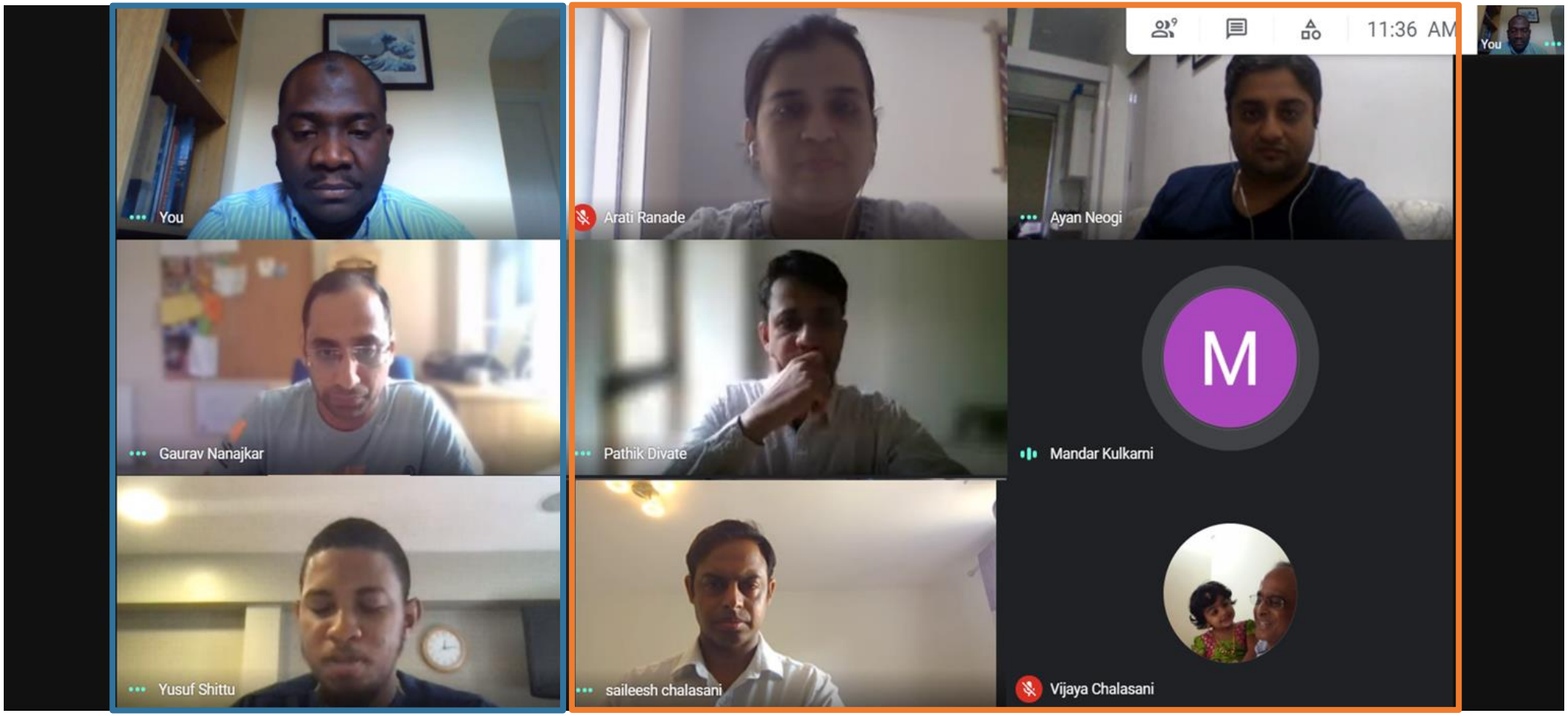
Africa Prize- Royal Academy of Engineering

We have won the One to Watch award from the prestigious Africa Prize by the Royal Academy of Engineering

Leicestershire Live- Innovation Awards

Clinical Trial India meeting

Queen NRI is a well established hospital in India. on the 6th May 2021, the hospital approached us in response to the April/ May 2021 cases in India. We are presently working with the team and will be sending 3 units of our product for clinical trials in June 2021.



Shifa Technologies Team

Queen NRI and Clinical Research Team, India

Product Demonstration- Nigeria

We carried out a product demonstration at Lagos University Teaching Hospital, with leading medical practitioners in attendance. The medical doctors were pleased with the safety and performance of the Shivent and do look forward to usage of our ventilators. We are to carry out 4 more demonstrations across Teaching Hospitals in Nigeria while we begin our clinical trials for IRB approval.

Product Demonstration- Nigeria

We carried out our 2nd product demonstration at EHA Hospital, Abuja with leading medical practitioners in attendance. The medical practitioners were pleased with the safety and performance of the Shivent and do look forward to usage of our ventilators.

For more information and inquiry - admin@shifatech.com | +44(0)7492535908