

# → Intelligent healthcare radio diagnosis decision support system



## ISSUE BEING ADDRESSED:

Developing nations like India often suffer from inaccessibility of healthcare support to the common public which is most pronounced in rural and suburban areas. Apart from this, cost and unavailability of trained professionals in areas such as radio diagnosis add to the wide variety of problems faced by the citizens in the area of healthcare delivery. Most affected are underserved communities, including but not limited to, women and girls, ethnic minorities, people with disabilities, and older adults are often disproportionately affected. They not only suffer from diseases but from mental agony and pain and undergo high stress levels which deters their health and increases the cases of mortality.



## TECHNOLOGY ENABLED SOLUTION:

An artificial intelligence powered health-tech SaaS platform which uses deep neural technologies to provide accurate diagnoses for various diseases like melanoma, stroke, heart attack, pneumonia, and ailments related to liver and kidney. The AI model processes various medical scans and produces diagnostic reports which indicate various health parameters. Additionally, the model provides early diagnoses and pre-screens diseases in less than a minute. This tool for early and affordable screening serves as an early warning system for patient health. The AI model is trained on over 4.2 million scans and has an accuracy rate of 99.31%.

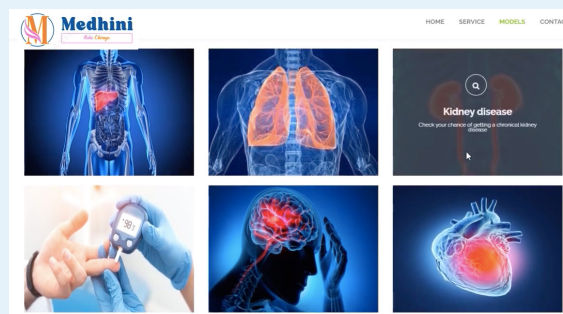


## TECHNOLOGY END USER:

Hospitals, Healthcare centres, Diagnostic labs, Nursing homes, Insurance sector

**Product name:** Medhini

**Startup name:** Arficus Private Limited



## Commercialization status:

The technology is already commercialised with 130 active clients across 8 countries including India, UK, Nigeria, Cambodia, Malaysia, Kenya and Tanzania.

## Support from DRISHTI CPS:

Support in integrating the solution with digital twin platform of DRISHTI CPS  
Funding support under PRAYAS scheme

## Impact of the solution:

Technology Readiness Level: **8**  
Employment generated: **28**  
Follow-on funding: **USD 3 million**

## Achievement:

Medhini with its solution has touched **17.6 million** lives so far with a mission - impact driven and creating sustainable ecosystem.



## Founders:

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## → An affordable, accessible and accurate point of care testing device



### ISSUE BEING ADDRESSED:

In the field of medical devices, blood testing is performed either by semi-automated biochemistry analyser or fully automated analyser which costs INR 5,00,000 or more. There are dedicated laboratories where these tests are performed using these instruments. However, these facilities are both heavy on capital and operating expenditures which makes it economically unviable to be used in rural and remote areas. People have to travel several hundred kilometres to get basic blood testing done, which becomes very critical in case of emergency and vector borne diseases. In regular scenario as well, due to inaccessibility as well as high cost, economically weaker class people do not go for blood testing which deprives them from the correct diagnosis and medical aid on time.



### TECHNOLOGY ENABLED SOLUTION:

A portable multi-diagnostic device which analyses twenty-five health parameters for diagnosing kidney, liver, pancreas and heart ailments is developed. The device is linked to an IoT enabled platform which generates reports in real time, and displays the patient's data profile and electronic health records. The algorithms provide health insights which are vital for disease management. This technology has resulted in major cost reductions for these tests and has allowed efficient point of care testing.



### TECHNOLOGY END USER:

Hospitals, Healthcare centres, Diagnostic labs, Nursing homes.



#### Founders:

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**Product name:** Mobilab

**Startup name:** Primary Healthtech Private Limited



### Commercialization status:

It is a pre-revenue startup, and currently awaiting the necessary approvals for commercialization. It is currently under testing at multiple tertiary hospitals with heavy patient loads to gather data and consequently improve upon the efficiency of the product.

### Support from DRISHTI CPS:

Integration of the product with the digital twin platform of DRISHTI CPS

Funding support under Seed Support scheme

### Impact of the solution:

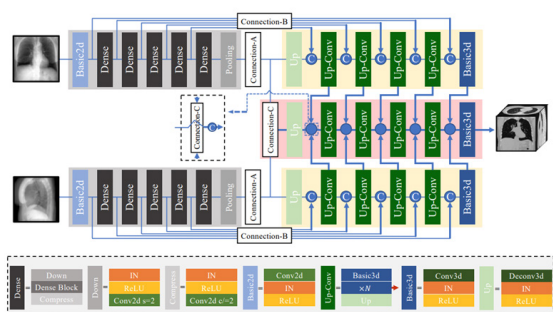
Technology Readiness Level: **7**  
Employment generated: **30**  
Follow-on funding: **INR 10 million**

# ➔ An easy and affordable solution for 3-D imaging of teeth



## ISSUE BEING ADDRESSED:

Two-dimensional (2D) radiography falls short in adequately diagnosing and planning treatments, particularly in endodontics where knowledge of tooth's three-dimensional (3D) internal anatomy is vital. While it offers some insights, it lacks the ability to accurately depict the intricate internal structure of a tooth. To address this, Cone Beam Computed Tomography (CBCT) has emerged as an advanced imaging technique. However, CBCT presents challenges. It can be 10 to 20 times expensive, has limiting accessibility especially in suburban and rural areas, and exposes patients to higher radiation doses than traditional radiography. Striving for a balance between diagnostic value, cost and radiation exposure is important.



## TECHNOLOGY ENABLED SOLUTION:

A 3D image reconstruction and visualization technology which converts 2D dental images into intuitive 3D volumes using the algorithms of the normal and diseased tooth anatomy is developed. The product uses advanced generative deep-learning methods combined with statistical shape models for the reconstructed 3D image. The technology uses images from the existing database of health professional and eliminates the need to capture more images for displaying a better tooth anatomy, thereby greatly reducing the exposure of patients to x-rays. The use of this technology also reduces the costs associated with the usage of CBCT system for dental imaging. The aim is to build the image in the form of a simplified mobile application thus offering doctors across boundaries easy access and actionable information for better planned dental procedures.



## TECHNOLOGY END USER:

Dentists, Dental clinics, Hospitals, Dental colleges, Dental training institutes



**GV Black DenTech**  
Pvt Ltd

### Founders:

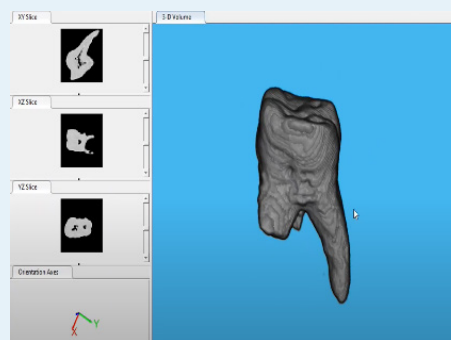
Vinamra Jain  
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Manas Tiwari

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**Product Name:** XClick3D

**Startup Name:** GV Black Dentech Pvt. Ltd.



### Commercialization Status:

Prototype is ready. Further improvement and field trials are in progress. Solution is being developed by a team comprising of dental practitioners and engineers working in the laboratory of IIT Delhi.

### Support from DRISHTI CPS:

Technology upgradation and integration.  
Funding support under PRAYAS Scheme

### Impact of Solution:

Technology Readiness Level: **4**  
Employment generated: **3**