New robust, affordable devise improves treatment of eye related diagnostics

A Bengaluru based company BioMedix Optotechnik & Devices Pvt. Ltd., in collaboration with the UK based Spectra Medical Ltd. and Gooch & Housego PLC has developed a low-cost and energy efficient optical biopsy device based on Optical Coherence Tomography (OCT) technology which is analogous to ultrasound imaging.

This device is an effective medical optical biopsy diagnostic tool (conducts ophthalmic imaging & measurement) that can help form powerful images of the retina with cross-sectional pictures of tissue structure on the micron scale in situ and in real time. Optical Coherence Tomography (OCT) is analogous to ultrasound imaging, except that it uses light instead of sound.

An alternative for invasive eye diagnostics, OCT technology is non-invasive and is routinely used to image the eyes of patients with glaucoma, macular degeneration and Keratoconus. This device involves AI assisted diagnostic support. Using improved algorithms, it increases the depth of scans and provides better image resolutions than those available till date. It is energy efficient and consumes lower power than contemporary machines.

The device was developed under the India United Kingdom Collaborative Industrial R&D Programme supported by Global Innovation & Technology Alliance (GITA). GITA is a Public-Private-Partnership between Technology Development Board (TDB) of the Department of Science & Technology (DST) and Confederation of Indian Industry (CII).

OCT is extremely helpful to monitor and measure the changes in a patient's eyes overtime before and after cataract operation. Due to the affordable, compact and robust nature of the device, it will be easy to adopt the technology in tier 2 and 3 cities.

Since the prognosis of surgical intervention in the treatment of these diseases is poor and very expensive, OCT will play a pivotal role in accelerating prevention of the diseases. Affordability

allows for this technology to be used in semi-urban areas where healthcare is of major concern. Improved algorithms allows for more precise clinical analysis which prevents instances of avoidable blindness due to diseases like age related macular degeneration or diabetic retinopathy as it will help in early detection leading to halting or slowing the escalation of the disease, thus improving quality of life.

The device is in alignment with national missions of the Government of India namely Digital India, Make in India and Health For All and also in tune with India's aim of achieving the Sustainable Development Goals -- Good Health and Well Being and Industry, Innovation and Infrastructure. To be future ready India!