इलेक्ट्रॉनिकी एवं
सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF
ELECTRONICS AND
INFORMATION TECHNOLOGY

सत्यमेव जयते

SAMEER

'ROSHANI' OCT Imaging System

Optical Coherence Tomography (OCT) is a revolutionary non-invasive imaging technique using infrared light for unmatched axial resolution, independent of transverse resolution. With high sensitivity, OCT is transforming in vivo diagnostics, especially in ophthalmology, and expanding across medical fields.

It is also very useful in non medical applications in industrial sector like food & agro, pharma manufacturing etc.







APPLICATIONS:

- Glaucoma Diagnosis
- Diabetic Retinopathy
- Age related macular degeneration
- Retinopathy of prematurity
- Cataract surgery planner

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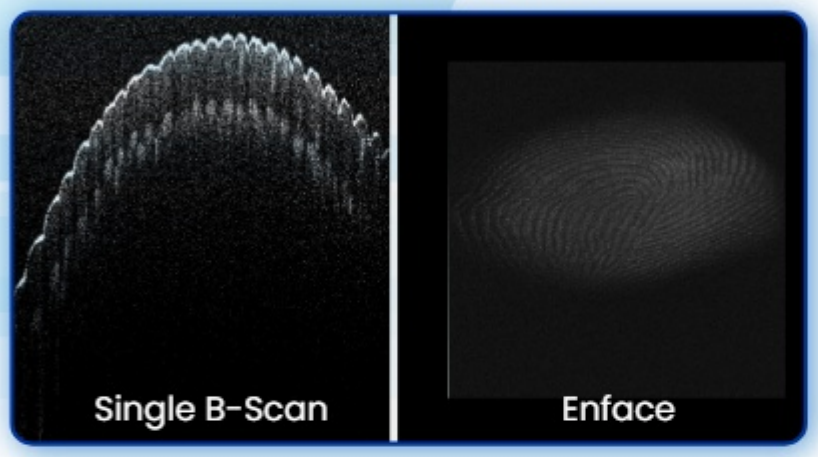
'ROSHANI' OCT Imaging System

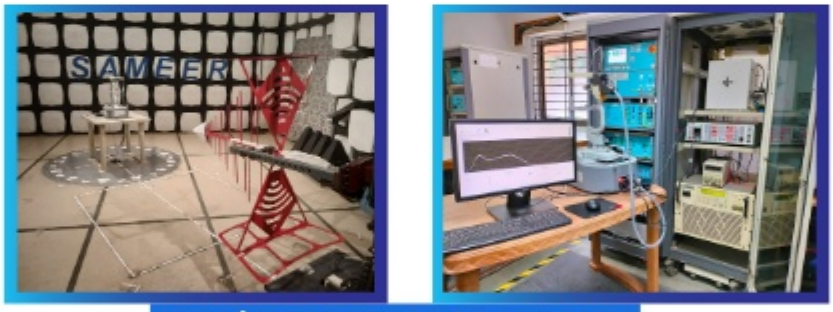
Retina B-Scan with enface image



ONH Image



- ROSHANI has cleared the EMI/ EMC compliances test viz. IEC 6100-4-2,4-3,4-4, 4-5,4-6,4-8,4-11,4-29; CISPR/11/22.



EMI/EMC Testing of ROSHANI

SYSTEM SPECIFICATIONS:

PARAMETERS	SPECIFICATIONS
Scan Speed	80,000 A-scans per sec
Axial resolution	5.0 µm in tissue
Lateral resolution	14 µm in tissue
Scan depth	2.8 mm in tissue
Field of View	7mm x 7mm (≥45°)
Light Source	SLED wavelength 840 nm

- This prototype has been developed in collaboration with VIT, Vellore under the project funded by Department of Science and Technology(DST), New Delhi.

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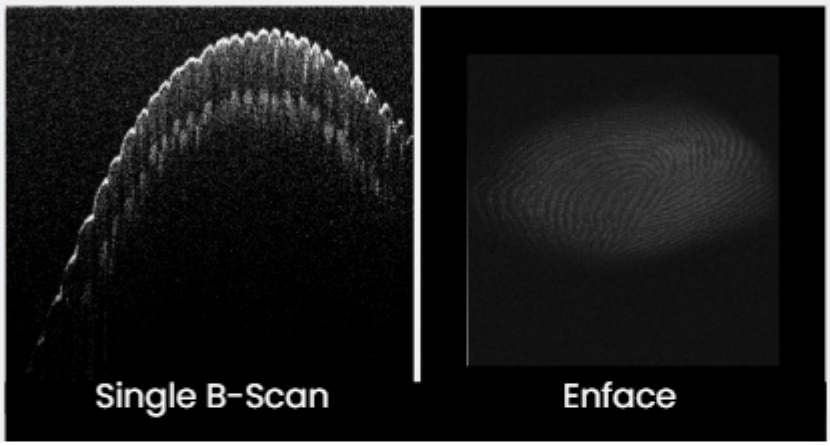
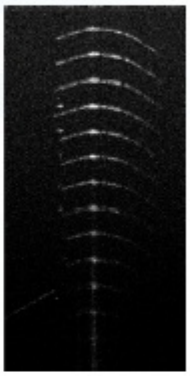
Other Applications of 'ROSHANI'

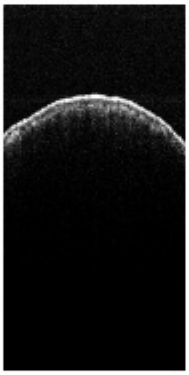
Enhanced Biometric Security

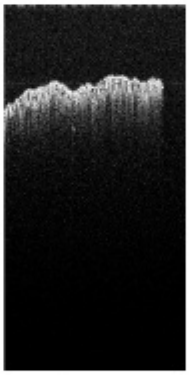




Multilayered Object Image

Sugar Cane Stalk Image





Paddy Leaf Image

Industrial & Agro Applications :

- Coating Thickness Determination in Pharma & Aviation Sector
- Non Contact Scanning of Food & Plants in Food & Agro Sector
- Manufacturing Sector
- Enhanced Biometrics based Security

Biomedical Applications :

- Early Oral Cancer Detection
- Dermatology
- Cardiology

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