



# CASE STUDY

**Artelus** AI-Powered Retinal Screening Camps



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# OBJECTIVE

The primary objective of the Artelus screening camps are to:



- Support healthcare professionals with AI-assisted diagnosis in real-world settings
- Enable early detection of retinal diseases such as diabetic retinopathy, DME, and other retinal conditions
- Improve access to quality retinal screening in remote and semi-urban regions
- Reduce the burden of preventable blindness through timely referral and intervention



# CHALLENGES



- Limited access to ophthalmologists in rural and underserved areas
- Low awareness of diabetic eye diseases among high-risk populations
- Lack of advanced retinal imaging infrastructure in outreach settings
- Time-consuming manual screening processes

## India's Eye and Diabetes Care Challenges at a Glance

- **Specialist shortage:** Only **1 ophthalmologist per 65,000** people, limiting access to timely eye screening and diagnosis.
- **Massive diabetes burden:** India has the second-highest number of people with diabetes globally, with **101+ million** living with diabetes and **136+ million with prediabetes**.
- **High prevalence:** The ICMR-INDIAB study reports a **11.4% diabetes** prevalence, underscoring the scale and urgency of the problem.
- **Rising risk of preventable blindness:** A growing diabetic population combined with limited specialist availability leads to delayed detection of diabetic retinopathy and other retinal diseases, many of which are preventable with early screening.

# SOLUTION



Designed for real-world healthcare, **Artelus** empowers healthcare professionals with portable, operator-independent, AI-powered diagnostics for clinics, community screenings, and outreach programs enabling early detection of retinal diseases and extending quality eye care to the forgotten billions.

## Artelus Bridging the Eye Care Gap

Artelus designed and implemented AI-enabled retinal screening camps using:

- **Artelus Fundus Camera:** Portable, economical, and operator-independent device for high-quality fundus imaging in outreach settings
- **EZZential™ OCT:** Advanced OCT system for detailed retinal layer analysis and clinical assessment
- **DRISTI AI:** Medical-grade deep learning system for accurate analysis of fundus and OCT images to detect retinal diseases
- **Integrated Workflow:** Enables rapid image capture, on-device or cloud-based AI analysis, and instant screening reports to support clinicians in timely decision-making



# IMPLEMENTATION

Screening camps were implemented across diverse care delivery environments in collaboration with hospitals, NGOs, corporate wellness programs, and public health initiatives. These programs were designed to extend retinal screening beyond traditional clinical settings and improve early detection at the community and workplace level.

## Screening Workflow

### **Step 1: Image Acquisition**

Trained technicians captured high-quality fundus and OCT images using portable Artelus devices, enabling consistent screening in both clinical and non-clinical settings.

### **Step 2: AI-Based Analysis**

DRISTi AI analyzed the captured images in real time to identify referable and non-referable cases, supporting fast and standardized clinical decision-making.

### **Step 3: Care Guidance**

Patients identified as requiring further evaluation or treatment were advised to consult an ophthalmologist at their convenience, supporting timely specialist assessment and continuity of care.

# SCREENING CAMP DATA

The following data represents the scale and clinical outcomes of Artelus-led, government-supported retinal screening camps conducted across multiple regions.

Patients  
screened

204474

Screening camps  
conducted

14878

DR cases  
identified

48760



# GOVERNMENT-LED IMPACT



Aligned with national diabetic eye care priorities, **Artelus** screening camps demonstrate the effectiveness of government-supported programs in scaling early detection of diabetic retinopathy. This government-led model leverages Made In India Artificial Intelligence to enable rapid, decentralized screening and strengthen referral pathways.

By extending quality retinal screening to underserved and hard-to-reach communities, Artelus helps bring eye care to the forgotten billions, supporting the national mission of reducing avoidable blindness and improving equitable access to healthcare.



## Impact:

- Screened high patient volumes efficiently in a single day
- Detected diabetic retinopathy and other retinal diseases early, even in asymptomatic patients
- Minimized reliance on specialists for initial screening
- Enhanced clinical decision-making for healthcare professionals
- Raised awareness of retinal health and diabetes-related eye risks

## Key Outcomes

- Captured high-quality retinal images in non-clinical settings
- Achieved faster screening turnaround than traditional methods
- Enabled a scalable model for nationwide retinal screening
- Built clinician trust with reliable AI-based analysis

# CONCLUSION

Artelus is redefining eye care through AI-driven innovations that make retinal screening accessible, accurate, and cost-effective. With solutions such as Artelus NFC Fundus, DRISTi AI, and EZZential™ OCT, clinicians can detect diabetic retinopathy, DME, and other retinal diseases at an early stage, enabling timely intervention and helping prevent avoidable blindness. Designed for real-world clinical environments, these technologies are portable, operator-independent, economical, and dependable, delivering fast, high-quality imaging and AI-powered analysis to support healthcare professionals at every level of care.

Through targeted screening camps, Artelus strengthens early detection efforts among high-risk and underserved populations, enabling timely referrals and appropriate clinical intervention. This approach leads to improved patient outcomes while addressing the global burden of preventable blindness and contributing meaningfully to the United Nations Sustainable Development Goals on health and well-being. Advanced eye care is no longer a privilege; it is an accessible and affordable reality for all.





**Protect Your Vision — It's Our Mission  
Get Screened Today**



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