

U.S. AI-driven Diabetic Retinopathy Screening Market Size, Share & Trends Analysis Report By Component (Software, Hardware, Services), By Screening (Autonomous AI Screening, AI-Assisted Screening), By Deployment Mode, By End Use, And Segment Forecasts, 2026 - 2033

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Abstracts

The U.S. AI-driven diabetic retinopathy screening market size was estimated at USD 190.01 million in 2025 and is projected to reach USD 881.74 million by 2033, growing at a CAGR of 21.18% from 2026 to 2033. Rising prevalence of diabetes, favorable reimbursement pathways, and shortage of ophthalmologists and access gaps are significant factors contributing to market growth.

The country faces a growing public health challenge from diabetes, thereby increasing the population at risk of diabetic retinopathy. For instance, according to the data published by the U.S. Centers for Disease Control and Prevention in May 2024, around 38.4 million people were affected by diabetes, accounting for 11.6% of the total U.S. population. Furthermore, the American Academy of Ophthalmology reports that nearly 60 percent of individuals with diabetes do not attend their recommended annual dilated eye examinations, despite established clinical guidelines. This discrepancy between recommended care and actual adherence substantially elevates the risk of undiagnosed disease progression and preventable vision loss.

Diabetic patients are commonly managed in primary care or endocrinology settings, where retinal screening is frequently unavailable. As the prevalence of diabetes increases, the demand for annual eye examinations surpasses the capacity of available specialists. This results in a screening burden that conventional healthcare systems

cannot address efficiently. Artificial intelligence-enabled diabetic retinopathy screening systems provide scalable, point-of-care solutions that do not require immediate specialist intervention. AI addresses detection gaps through autonomous and rapid diagnostics. Moreover, primary care integration expands access beyond specialists, enabling early intervention to prevent vision loss and comorbidities. For instance, in July 2023, Mount Sinai launched the Center for Ophthalmic Artificial Intelligence and Human Health, the first in New York, to advance AI in ophthalmology for timely diagnosis of macular degeneration, diabetic retinopathy, glaucoma, hypertensive retinopathy, and retinal tumors. Partnering with the Windreich Department of AI and Human Health, it targets tele-retina, tele-ophthalmology, and eye stroke services using validated AI models.

Furthermore, in 2021, AI-driven eye disease diagnosis advanced significantly with the introduction of a new reimbursement code for AI-based diabetic retinopathy screening in the U.S. Medicare reimbursement accelerated the adoption of AI-based diabetic retinopathy screening in the country through CPT 92229, the first AI-specific code allowing primary care billing without specialist oversight. For instance, LumineticsCore (Digital Diagnostics), EyeArt (Eyenuk), and AEYE-DS (AEYE Health) have each received coverage as autonomous diagnostic systems. By authorizing reimbursement without direct physician interpretation, the Centers for Medicare & Medicaid Services (CMS) has recognized AI as a reimbursable clinical service rather than an experimental adjunct. These policy changes support workflow decentralization and enable screening at the point of care during routine diabetes visits. As a result, providers are more willing to invest in AI-enabled retinal imaging systems, since these services generate predictable revenue and advance quality care objectives.

U.S. AI-driven Diabetic Retinopathy Screening Market Report Segmentation

This report forecasts, revenue growth at country level and provides an analysis of the latest industry trends in each of the sub-segments from 2021 to 2033. For this study, Grand View Research has segmented U.S. AI-driven diabetic retinopathy screening market report based on component, deployment mode, screening, and end use.

Component Outlook (Revenue, USD Million, 2021 - 2033)

Software

Hardware

Services

Deployment Mode Outlook (Revenue, USD Million, 2021 - 2033)

Cloud-Based

On-Premise

Hybrid

Screening Outlook (Revenue, USD Million, 2021 - 2033)

Autonomous AI Screening

AI-Assisted Screening

Teleophthalmology-Based Screening

End Use Outlook (Revenue, USD Million, 2021 - 2033)

Primary Care Settings

Hospitals

Ophthalmic Clinics

Teleophthalmology Providers

Others

This report can be delivered to the clients within 3 Business Days

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