

The EYES have it, Early Stage Detection of Diabetes and Cardiovascular Disease

written by InvestorNews | December 1, 2021

Using Artificial Intelligence (AI) to better image and analyze the retina of the eye to detect early stage disease is a potential game changer in the prevention of blindness and cardiovascular diseases such as stroke, heart attack, and diabetic related disease.

Today's company is pioneering its work in this field with [USA clinical trials](#) commencing soon and a global commercialization rollout already underway. The company is [Diagnos Inc.](#) (TSXV: ADK | OTCQB: DGNOF) ("DIAGNOS").

DIAGNOS has developed an Artificial Intelligence (AI) tele-ophthalmology platform, which uses Computer Assisted Retina Analysis (CARA) to examine a patient's retina (back of the eye) for the early detection of diseases, such as diabetes, and conditions such as cardiovascular disease, hypertension and stroke. CARA's image enhancement algorithms provide sharper, clearer and, thus, easier-to-analyze retinal images.

CARA has been cleared for commercialization by the following regulators: Health Canada, the FDA (USA), CE (Europe), COFEPRIS (Mexico) and Saudi FDA (Saudi Arabia). DIAGNOS already operates in [16 countries](#), with 131 screening sites, has 222,034 patients under their care, and has performed more than [400,000](#) retinographies around the world. DIAGNOS' CARA achieves great precision in diabetic retinopathy pre-diagnoses, reaching a sensitivity of 98.4%, specificity of 97.6% and [a certainty of 97.9%](#).

DIAGNOS uses an AI technology know as CARA to better analyze the retina of the eye, a key way to detect early cardiovascular disease



Source: [DIAGNOS website](#)

DIAGNOS achieves two firsts and an eight at the GAMMA (Glaucoma grAding from Multi-Modality imAges) contest

At the recent GAMMA competition, DIAGNOS achieved some stunning results including [two firsts and an eighth place out of a total of 566 teams](#). Now that's super impressive!

The October 28, 2021 announcement [stated](#): "DIAGNOS was the only one, of the top 8 teams, that competed with a marketed, commercialized system. DIAGNOS used the same platform that it currently uses for diabetic retinopathy screening, which is marketed worldwide, while the others were principally from academic institutions."

Key results included:

- [Localization of macula fovea in fundus images.](#) (**DIAGNOS placed 1st overall**)
- [Segmentation of optic disc and cup in fundus images.](#) (**DIAGNOS placed 1st overall**)
- [Grading glaucoma using multi-modality data.](#) (**DIAGNOS placed 8th overall**)

USA clinical trial for the early detection and prevention of stroke using CARA-STROKE

On November 23 DIAGNOS [announced](#): "DIAGNOS will start a clinical trial study in the USA commencing December 6th, 2021 for early

detection and prevention of stroke using CARA-STROKE.” The trial aims to confirm early Proof-of-Concept results that showed a strong potential in the early detection of stroke through the inspection and micro circulation analysis of the retina.

The upcoming USA clinic trial at the CommonSpirit Health Research Institute, Chattanooga Center for Neurologic Research LLC, is intended to further prove the effectiveness of DIAGNOS’s CARA technology.

Note: CommonSpirit Health is a non-profit national Catholic healthcare system that operates 137 hospitals and more than 1,000 care sites across 21 states of the USA.

Some facts about cardiovascular disease including stroke

- Stroke causes 1 out of every 20 deaths.
- The management of stroke represents a cost of around US\$34 billion per year in the United States.
- According to the WHO, 15 million people suffer a stroke worldwide each year. Of these, 5 million die and another 5 million are permanently disabled.
- Europe averages approximately 650,000 stroke related deaths each year.
- Worldwide Research Institutes says that the worldwide market size for stroke management will hit over \$66 billion by 2023.

Source: [DIAGNOS announcement](#)

Clearly, the above facts speak volumes as to the need to diagnose cardiovascular disease early. And that is exactly what DIAGNOS does.

Not just an idea, commercialization has begun

As previously discussed in some detail [here](#), DIAGNOS

commercialization is gaining momentum. Some examples include:

- [July 22, 2021](#) – DIAGNOS announced the official opening of the AI Assisted screening clinic at Magrabi Hospital in Saudi Arabia. Magrabi Hospitals and Centers has **thirty-four branches in the Middle East**.
- [July 28, 2021](#) – DIAGNOS announced a pilot in Spain with three franchisees from Opticalia Group.
- [August 16, 2021](#) – DIAGNOS announced signing a Memorandum of Understanding (MoU) for a distribution agreement with Essilor International. **Essilor International is the world's leading ophthalmic optics company**.
- [September 2, 2021](#) – DIAGNOS announced a three-year contract renewal with Optina Diagnostics providing a Telemedicine Platform to support their early detection of Alzheimer's Disease.
- [September 14, 2021](#) – DIAGNOS announced a 3-year contract with Cielo Vista Eye Clinic in Mexico.
- [September 16, 2021](#) – DIAGNOS announced a multi-year contract with Juarez Health & Medical Tourism Cluster in Mexico, who focuses on medical tourism and **serves between 10-12,000 patients a day**.

Closing remarks

DIAGNOS's CARA technology is clearly a winner. It has already won numerous global contracts and the recent GAMMA competition. Any potentially positive results from the upcoming CommonSpirit Health Research Institute clinical trial would just be icing on the cake.

With 15 million people suffering a stroke worldwide each year the time has come for better early diagnosis to allow earlier treatment and prevention, potentially reducing this terrible statistic.

Diagnos Inc. trades on a market cap of just [C\\$30 million](#) which seems very small when compared to the massive market for cardiovascular disease diagnosis. One to follow closely in the years ahead.

Eyes on DIAGNOS as commercialization gains momentum

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The best time to buy an emerging company is when it begins commercialization. At this stage all the hard years of product development and certification are done and, if successful, the revenues are about to flow. Today's company looks to be in just that stage.

[Diagnos Inc.](#) (TSXV: ADK | OTCQB: DGNOF) ("DIAGNOS") has developed its FLAIRE Artificial Intelligence (AI) tele-ophthalmology platform, which uses Computer Assisted Retina Analysis (CARA) to examine a patient's retinas in their eyes for the early detection of diseases, such as diabetes, and of conditions such as cardiac hypertension and stroke. CARA's image enhancement algorithms provide sharper, clearer and easier-to-analyze retinal images.

CARA has been cleared for commercialization by the following regulators: Health Canada, the FDA (USA), CE (Europe), COFEPRIS (Mexico) and Saudi FDA (Saudi Arabia). DIAGNOS already operates in [16 countries](#), 131 screening sites, has 222,034 patients under

their care, and has performed more than [400,000](#) retinographies around the world. DIAGNOS' CARA achieves great precision of diabetic retinopathy pre-diagnoses, reaching a sensitivity of 98.4%, specificity of 97.6% and [a certainty of 97.9%](#).

DIAGNOS has a significant and growing global business



Source: [DIAGNOS website](#)

DIAGNOS commercialization is gaining momentum

The following recent news items give a feel for how fast DIAGNOS is moving in their global rollout:

- [July 22, 2021](#) – DIAGNOS announced the official opening of the AI Assisted screening clinic at Magrabi Hospital in Saudi Arabia. In the country the incidence of diabetes is about 27% of the population, hence the clinic hopes to play a key role in the diagnosis of diabetic retinopathy which can lead to gradual complete loss of vision. Magrabi Hospitals and Centers has thirty-four branches in the Middle East. DIAGNOS President, André Larente, [stated](#): “We extend our best wishes to Magrabi hospitals. We would also like to thank everyone in attendance for their time and efforts in making this project a reality. The main beneficiaries will be many thousands of diabetic patients whose vision can now be protected through this collaboration.”
- [July 28, 2021](#) – DIAGNOS announced a pilot in Spain with three franchisees from Opticalia Group.
- [August 16, 2021](#) – DIAGNOS announced signing a Memorandum of Understanding (MoU) with Essilor International. The MoU is non-binding and **forms the basis of a potential distribution agreement with Essilor International for**

DIAGNOS' CARA platform. Essilor International is the world's leading ophthalmic optics company. Essilor designs, manufactures and markets a wide range of lenses and diagnostic ophthalmic instruments. DIAGNOS President Larente [commented](#): "DIAGNOS is focused on its commercialization strategy and pursuing opportunities with potential partners. **We are very pleased that our AI-based technology has attracted the attention of global eyecare sector leaders such as Essilor International** and we are looking forward to our discussions with respect to a mutually beneficial potential worldwide distribution agreement."

- [September 2, 2021](#) – DIAGNOS announced a three-year contract renewal with Optina Diagnostics providing a Telemedicine Platform to support their early detection of Alzheimer's Disease.
- [September 14, 2021](#) – DIAGNOS announced a 3-year contract with Cielo Vista Eye Clinic in Mexico. DIAGNOS will supply its CARA platform and enable Cielo to screen its patients for Diabetic Macular Edema and Diabetic Retinopathy.
- [September 16, 2021](#) – DIAGNOS announced a multi-year contract with Juarez Health & Medical Tourism Cluster in Mexico. The Cluster is the only certified health network in the country of Mexico, focuses on medical tourism, and serves between 10-12,000 patients a day.

Magrabi Hospitals launches initiative for early screening for diabetic retinopathy using DIAGNOS's CARA platform in Saudi Arabia



Source: [Diagnos Inc.](#)

Other earlier commercialization deals have been done with [Óptica](#)

[Central](#) (third largest optical retailer in Costa Rica), a distribution agreement in Europe with [Diagnos Europe GmbH](#), and [IRIS The Visual Group Inc.](#) (Canada) including the New Look Vision network (North America).

Revenues forecast to soar from now to 2023

As you can see just from the recent news above, DIAGNOS is having significant success in commercializing its products globally. As a result of this, revenue is forecast to increase dramatically from C\$270,000 in 2021 to C\$800,000 in 2022, and [C\\$7,920,000 in 2023](#). If achieved the Company is forecast to be profitable and trade on a [forecast 2023 PE of 16.0](#).

Closing remarks

DIAGNOS Inc. trades on a current market cap of [C\\$33 million](#). Global commercialization of their FLAIRE/CARA ophthalmology platform is clearly gaining momentum which should lead to rapidly growing revenues. The medical technology space can exhibit rapid growth once a new technology gains market share or becomes a leader. Stay tuned.