



DISA Limited  
(Company Registration No. 197501110N)  
(Incorporated in the Republic of Singapore)

## **NEWS RELEASE:**

### **DIGITAL LIFE LINE PTE. LTD. SIGNED LICENSING AGREEMENT WITH NATIONAL UNIVERSITY HOSPITAL AND NATIONAL UNIVERSITY OF SINGAPORE TO COMMERCIALISE AUTOMATED VISUAL ACUITY AND VISUAL FIELD TESTING DEVICE**

**SINGAPORE – June 20, 2023** — Digital Life Line Pte. Ltd., an associate company of DiSa Digital Safety Pte. Ltd., has signed a tri-party licensing agreement with the National University Hospital (“**NUH**”) and National University of Singapore (“**NUS**”) on 19 June 2023 to commercialize the Automated Visual Acuity Test device (“**AVAT**”), which measures eyes’ ability to distinguish shapes at a distance and Smart, User-friendly Portable Reliable Automated perimetry device (“**SUPRA**”), which tests visual fields.

Developed by the Department of Ophthalmology and Centre for Innovation and Precision Eye Health at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine) and further refined after testing in the clinical setting at NUH, these portable devices address the increasing demand to decentralize the current care model of conducting eye screening and monitoring of eye diseases and scale up the testing phase with minimal costs and manpower resources. Community deployment of such devices will allow people to get eye screening more regularly and conveniently in primary care settings such as polyclinics or optical shops.

Visual acuity testing is one of the most common eye procedures performed at eye specialist clinics that requires a trained staff which creates a major bottleneck in the clinical workflow. In addition, a minimum of 6 meters between the patient and the Snellen chart is required to conduct the visual acuity testing, where not all polyclinic or optometrist have the privilege of space to conduct the eye screening.

AVAT relies on optical components that significantly shorten the distance between the individual and the display, while ensuring comparable results of that with a Snellen chart which has a minimum requirement of distance. The AVAT device can fit on a desk that is about half the size of an office table and also incorporates an interactive interface that displays test characters after analyzing user input.

SUPRA is an AI-based portable visual field-testing device that allows diagnosis of perimetric glaucoma, retinal or neuro-ophthalmological diseases. Current visual field tests are subjective, time consuming, tedious and uncomfortable for patients. Unlike the Gold Standard Machine Humphrey’s Field Analyzer, which is expensive and not user-friendly, SUPRA is able to control the display characters based on user input, as well as record and monitor eye movement.



By incorporating AI algorithms, AVAT and SUPRA represent an emerging trend of devices that can allow visual testing to be self-administered or with minimal help from a trained operator. With AVAT and SUPRA, an operator can now monitor up to 3 units or more devices simultaneously, which is expected to maximize labour efficiency. Existing eye specialist clinics require dedicated area rooms for visual acuity testing. With these new devices, it would be easier for the polyclinics to accommodate, making eye healthcare more accessible and affordable for the population.

In addition to the introduction of AVAT and SUPRA devices, the Centre for Innovation and Precision Eye Health that is being set up by NUS Medicine and National University Health System (NUHS) will also leverage on big data analytics and AI technologies to develop more cost-effective algorithms to screen and detect eye diseases and to help to meet the increasing demands of eye care in the community.

As Singapore faces an ageing population, eye care needs to be included as a crucial component of healthcare for the elderly. There is an immediate need to bring specialist diagnosis to the community for early detection and identification of eye diseases. In Singapore, approximately 180,000 people aged above 60 have some kind of visual impairment, they are either unaware of the eye diseases or put off by the inconvenience of requiring a referral from a polyclinic before waiting to be assessed by an eye specialist<sup>1</sup>. According to the World Health Organization, globally, at least 2.2 billion people have a near or distance vision impairment. In that, at least 1 billion or almost half of these cases, vision impairment could have been prevented or has yet to be addressed<sup>2</sup>.

"We are pleased to work with NUHS and NUS to commercialize AVAT in Singapore and hopefully, regionally in the near future. AVAT and SUPRA are only the first step; we will continue to work closely to provide additional value-added testing capabilities into these devices." said Mr. Eddie Chng, the Managing Director and CEO of DLL, "AVAT reduces waiting time and overcomes the labour and space constraints faced by the hospitals, polyclinics, optical shops, etc. The demand for the eye healthcare is increasing globally and it is important to make diagnosis and treatment of eye diseases widely available and affordable for the community. With AVAT, we can digitalize the visual acuity test process and thereby saving time, space and eliminate any possible human errors during the process. Our target is to deploy at least 40 AVAT across polyclinics and optical shops in Singapore in the next 2 to 3 years."

"This collaboration is in line with our goal to prioritize preventive care through translational research work, to meet the increasing demands of eye care in our ageing population. AVAT and SUPRA are novel portable ophthalmic devices designed to supplement commonly performed investigations which are already being used in outpatient ophthalmology clinics. For example, AVAT enables self-checking of visual acuity with reduced supervision and space requirements. We hope that the utilization of such innovative products will have a positive impact by reducing waiting times in high-patient volume outpatient clinics," said Associate Professor Victor Koh, Head, Department of Ophthalmology at NUH and NUS Medicine.

<sup>1</sup> Source: <https://www.straitstimes.com/singapore/glaucoma-tests-at-polyclinics-gene-therapy-research-announced-at-launch-of-new-eye-health-centre>

<sup>2</sup> Source: <https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment>

### **About Digital Life Line Pte. Ltd.**

Digital Life Line Pte. Ltd. is a healthcare digitalization company that aims to transform the field of point-of-care testing by leveraging its proprietary on-kit signal amplification platform to enhance the detection sensitivity of rapid diagnostic kits, as well as an ecosystem of scalable, serialized diagnostics to facilitate result tracing and reporting. We are focusing on the manufacturing and distribution of reader-free, low-cost signal amplification tools that can be seamlessly adapted to existing and future antigen rapid test (ART) kits for the healthcare industry and at-home testing.

### **About DiSa Digital Safety Pte. Ltd.**

DiSa, a wholly owned subsidiary of DISA Limited, is a Singapore-based technology solution provider that specializes in research and development of cutting-edge digital security solution (“**DiSa Asset Protection System**”). With its single scan technology and seamless integration, DiSa has been able to provide item level tracking and data with no disruption to the sales process. This technology is now protecting products and categories previously unachievable with traditional serialization methods, saving millions of dollars in prevented returns.

DiSa entered the US market in 2014 launching its Smart Solutions within the largest retailer in the world with a limited store test. After rigorous testing by the Loss Prevention Research Council, USA, DiSa rolled out its Smart Solutions nationwide in 2017.

### **About DISA Limited**

DISA Limited (SGX: 532), is a publicly traded company on the Singapore Catalist Stock Exchange. More information is available at <http://www.digital-safety.com>.

*This announcement has been reviewed by the Company’s sponsor, SAC Capital Private Limited (“**Sponsor**”). This announcement has not been examined or approved by the Singapore Exchange Securities Trading Limited (“**SGX-ST**”) and the SGX-ST assumes no responsibility for the contents of this announcement including the correctness of any of the statements or opinions made or reports contained in this announcement.*

*The contact person for the Sponsor is Mr. Ong Hwee Li (Registered Professional, SAC Capital Private Limited)*

*Address: 1 Robinson Road, #21-00 AIA Tower, Singapore 048542.*

*Telephone number: +65 6232 3210*