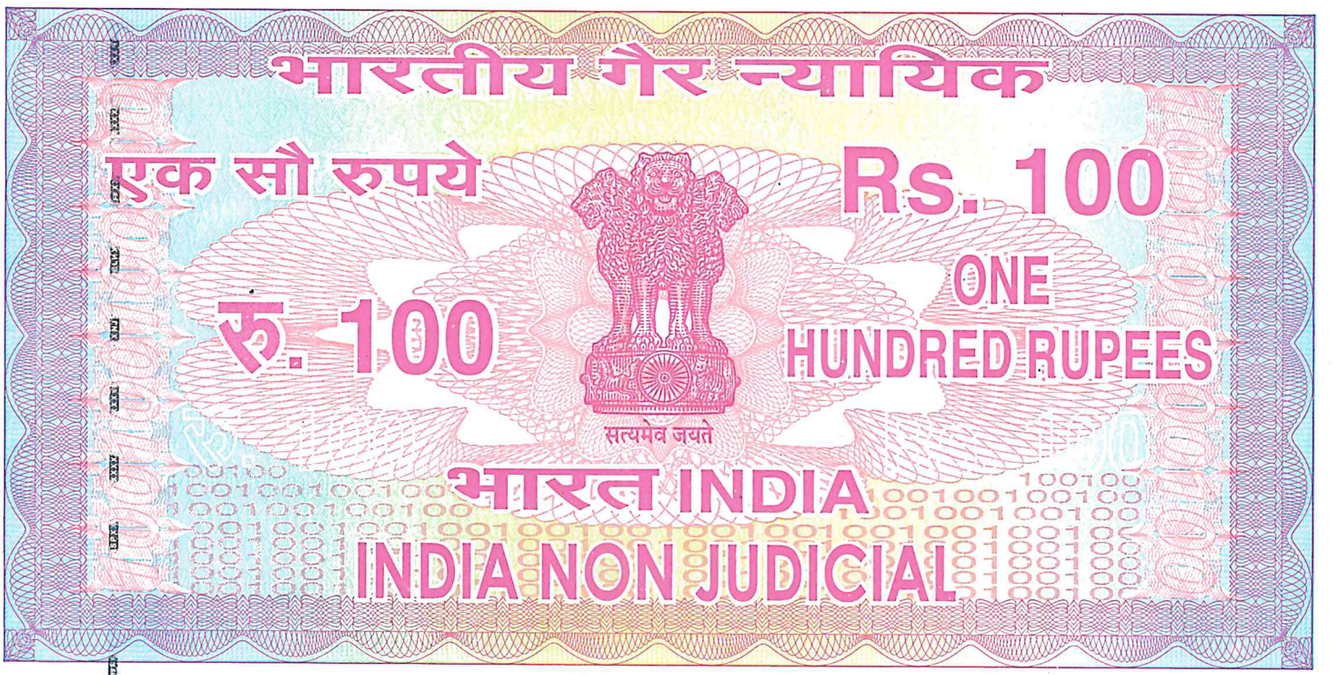

தமிழ்நாடு तमिलनाडु TAMILNADU

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VIT, Vellore

V. வினோத்குமார்
முத்திரைத்தாள் விற்பனையாளர்
L No 18/VLR/2021
தாராபடவேடு, காட்பாடி
வேலூர் மாவட்டம் - 632 007.

16-10-23
2010

MEMORANDUM OF UNDERSTANDING

This agreement is herewith entered on 16th day of October, 2023 between **Vellore Institute of Technology (VIT)**, a deemed to be University Under Sec 3 of UGC Act, having office at **Tiruvalam-Katpadi Road, Vellore, Tamil Nadu – 632 014.** Rep by its **Registrar, Dr. T. Jayabharathi** (hereinafter referred to as VIT).

And

Aravind Eye Care System having a branch office at **Cuddalore Main Road, Thavalakuppam, Puducherry – 605 007.** Rep by its **Chief Medical Officer (Aravind Eye Hospital, Pondicherry), Dr. R. Venkatesh** (hereinafter referred to as Aravind).

T. Jayab
16/10/2023

Vellore Institute of Technology
Vellore-632 014, Tamil Nadu, India

R Venkatesh

About VIT

VIT was established with the aim of providing quality higher education on par with international standards. It persistently seeks and adopts innovative methods to improve the quality of higher education on a consistent basis. The campus has a cosmopolitan atmosphere with students from all corners of the globe. Experienced and learned teachers are strongly encouraged to nurture the students. The global standards set at VIT in the field of teaching and research spur us on in our relentless pursuit of excellence. In fact, it has become a way of life for us. The highly motivated youngsters on the campus are a constant source of pride. Our Memoranda of Understanding with various international universities are our major strength. They provide for an exchange of students and faculty and encourage joint research projects for the mutual benefit of these universities. Many of our students, who pursue their research projects in foreign universities, bring high quality to their work and esteem to India and have done us proud. With steady steps, we continue our march forward. Research centres are also part of the schools, encouraging interdepartmental collaboration and opportunity for students to participate in exciting research projects. VIT Group of Institutions offer 66 Undergraduate, 58 Postgraduate, 15 Integrated Programmes, 2 Research programmes and 2 M.Tech Industrial Programmes. In addition to full-time Ph.D Degrees in Engineering and Management Disciplines, Ph.D. in Science and Languages and Integrated Ph.D. programmes in engineering disciplines. Research Centers, integral of respective schools encourage inter-departmental collaborative participation of students in exciting research projects. A student admitted should register in one of the schools depending on the degree/ programme selected to pursue.

About Aravind

In 1976, Dr. Govindappa Venkataswamy (popularly referred as Dr. V) opened an 11-bed eye clinic in a rented house in Madurai, India, with the mission to eliminate needless blindness.

Of the world's 39 million blind people, 12 million are in India, where the main cause of blindness is cataracts, which are curable, and yet the poor are often unable to access the cataract surgical services on account of being unable to afford and other reasons. To respond to this enormous challenge, Dr. V pioneered a new health care model that reaches out to the communities and combines high quality and high volume along with low cost. Aravind's unique assembly-line approach increases productivity tenfold. It is not just limited to

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R Venkatesan

cataracts, Aravind offers a full range of eye care services, from providing glasses to corneal transplants, diabetic retinopathy and other retinal disorders.

Aravind operates a growing network of 14+ hospitals in Southern India where over 7 lakh eye surgeries and procedures are performed a year, making it the largest eye care provider in the world. Since its inception, Aravind has handled more than 7.8 crore (78 Million) outpatient visits and performed more than 94 lakh (9.4 million) surgeries - with over 50% provided free or subsidized to the poor. The costs and finances are managed in such a way that revenue from paying patients makes the organization financially self-sustainable.

Aravind has a chain of hospitals located at Madurai, Tirunelveli, Coimbatore, Pondicherry, Chennai, Tirupathi, Salem, Theni, Dindigul, Tirupur, Tuticorin, Udumalpet and Kovilpatti. Along with 6 Community/city centres, 108 Primary Eye Care centres and 2850+ regular outreach camps a year.

1. Objectives of the MOU

The Objectives of the MOU are:

I. To establish a strong collaboration between technical and medical institutions.

II. To strengthen implementation of engineering projects in real world application and deliver solutions.

III. To nurture excellent students by providing practical knowledge sharing platform and developing co-creation skills.

IV. Provide support system for doctors in technical development of ideas and realisation of prototypes and products.

V. Develop an eco-system for co-creation between stakeholders from different fields - clinicians, academicians, designers and industrials to solve challenging problems with sustainable and human centric solutions.

2. Areas of Collaboration

I. Project Consultancy.

II. Research & Development.

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3. Proposed Modes of Collaboration

I. Seek mutual technical advice, **knowledge sharing** and support in planning and executing ideas promoting excellence in respective areas of research and project activities;

II. Access for faculty, staff and students of VIT to clinical settings at Aravind for observation and discussion.

III. Encourage and support students to undertake entrepreneurial initiatives for commercialisation of technology developed.

IV. Facilitate students for clinical visits, for conducting trails at hospitals and for getting feedback.

V. Share the library and scientific literature facilities mutually by giving access to library and other software resources of the VIT

VI. Encourage VIT students, staff and research scholars to visit the Aravind for the short durations for getting research inputs and guidance upon recommendation from research guides/faculty;

VII. Facilitate visits for project purpose from either party by providing boarding and lodging facilities for visiting members.

VIII. Aravind is willing to provide clinical data that may be required for training algorithms or data analytics. And also will facilitate multi-centric trails and visits that may be required for different projects. Since patient data is governed by confidentiality guidelines, sharing of data will need to follow due process. It is similar for research studies in that they will need to be cleared by Research Committee and approved by IRB.

IX. Developing **knowledge skill of individuals** of both institutions through successful and active implementation of MOU

4. Facilities Available with VIT

a) Central Library with facility to online and offline resources

b) BIRAC Bio-nest Lab (supported by Govt. of India)

Electronics, optics, mechanical fabrication and bio related tools and instruments for product development.

c) Digital Manufacturing lab

Multiple 3D printers for rapid prototyping

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d) All Schools and Research Centre facilities required for any Research activities under collaborative project will be made available.

5. Facilities Available with Aravind

a) Dr. G. Venkataswamy Eye Research Institute: Dr.G. Venkataswamy Eye Research Institute was formed to investigate basic causes, evaluate treatment options for various eye diseases and address challenges related to delivery of eye care. The research activities at Aravind reflect Aravind's commitment to finding new ways to reduce the burden of blindness.

b) Education and Training: The institute offers education and training programmes for different cadres of eye care professionals. Over 12,200 eye care personnel from 116 countries have undergone clinical and management training at Aravind.

c) Speciality clinics: Retina & Vitreous, Cataract, Neuro Ophthalmology, Children's Eye Care, Orbit, Oculoplasty & Ocular Oncology, Glaucoma, Uvea, Corneal and refractive surgery, Low Vision & Visual Rehabilitation.

d) Clinical diagnostic units, labs and Operation theatres.

e) Aurolab - Making Ophthalmic Consumables Affordable: The intraocular lens (IOL) implanted during cataract surgery improves visual outcomes and, thereby, quality of life. However, the high cost threatened Aravind's ability to provide IOLs to its poorer patients in the late 1980s. This led to Aravind establishing Aurolab, a manufacturing facility, which introduced IOLs at $10 while others were selling them at $60-$100. Aurolab now manufactures a little more than two million lenses annually and exports to 160 countries. About 60% of Aurolab's sales go to non-profit organizations. Aurolab now produces high quality IOLs, sutures, blades, pharmaceuticals and equipment at a fraction of their cost in the west, enabling Aravind and other providers to maintain quality and equity in care. Aurolab now meets over 10% of developing countries' needs.

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f) LAICO - Developing Eye Hospitals Worldwide: In order to truly realize its mission of eliminating needless blindness, Aravind needed to go beyond the state of Tamil Nadu in India that it primarily serves. While Aravind was informally involved in advising and supporting the development of other eye hospitals, with a generous grant initially from the Lions, the Lions Aravind Institute for Community Ophthalmology (LAICO) was established in 1992 to proactively and systematically promote best organizational practices through training and consultancy. Till date, LAICO has mentored 380 eye hospitals in 29 countries through a collaborative process of capacity building resulting in most of these hospitals doubling their output within two years of engagement.

g) Primary eye care centres and community eye clinics, camps and other outreach programmes.

h) Aravind Eye Banks: Eye banks across the Aravind centres help reduce corneal blindness. Till March 2023, more than 86, 670 eyes were collected and 38,500 corneas were utilized for surgery.

i) Aravind Centre for Eye-care Innovations (ACEi lab)

3D printing facility and hand tools, with access to instruments.

6. Co-ordinators & Team lead

a) From Aravind Eye Hospital

I. Dr. R. Venkatesh, CMO, AEH - Pondicherry

II. Dr. Kunal Mandlik, Medical Consultant, AEH - Pondicherry

III. Dr. Sathya T Ravilla, Medical Consultant, SVAEH - Tirupati

IV. Mr. B. Udayakumar, Senior Faculty, LAICO – Madurai

b) From VIT University

I. Dr. P. Arulmozhivarman, Dean - Academic Research, VIT

II. Dr. A. Balachandran, Senior Manager, TBI Manager, VIT

III. Dr. M. Rasool, Director - Sponsored Research, VIT

IV. Dr. Amitava Mukherjee, Director IPR & Technology Transfer Cell, VIT

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R Venkatesh

7. Confidentiality

VIT and Aravind agree to hold in confidence all information/data designated by the both as being confidential which is obtained from either or created during the performance of the MOU and will not disclose the same to any third party without written consent.

8. Intellectual property rights

All the Intellectual Property rights and commercial benefits if any arising out of project, a separate project specific agreement shall be made (based on various aspects like who proposed the idea, came up with solution and implemented in POC) to address IPR related issues on case to case basis. Based on idea emergence and roles of various stakeholders a joint patent or publication may be filed after mutual agreement as given below.

- If problem given by Aravind and solution arising with the help of VIT both can jointly file the patent.
- If every aspect of the problem and complete solution direction given by Aravind and only execution by VIT then Aravind will file patent, and VIT will be consultant for the project.
- In case VIT coming out of problem and solution but using only clinical support from Aravind, then VIT will file patent and giving acknowledgement to Aravind for the support.

9. Other terms and Conditions

I. This MOU, unless extended by mutual written consent, shall expire in FIVE years after the effective date specified in the opening paragraph. However, on review, the MOU shall be extended by mutual consent.

II. The MOU not meeting in line with the requirements will be liable for rejection

III. Due to any unforeseen condition, if either party intends to or is forced to discontinue the agreement, it may be discussed and mutually close the agreement with ONE MONTH notice by either party in writing

IV. Technology transfer and new product development arising out of collaborative work will be undertaken by student start-ups incubated at VIT-Technology Business Incubator.

V. Specific requirements in terms of finance and resources for various projects will be dealt on case to case basis.

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R Venkatraman

VI. VIT student's start-up, Alfaleus Technology Private Limited, incubated at VIT-Technology Business Incubator, will assist in project management and coordination and will have preferential right for technology commercialization.

VII. Each set of problem being worked upon will be added in this document as project statement.

In witness whereof VIT and Aravind hereto have signed, sealed and delivered this MOU on this day, month and year first above written in presence of:

For Aravind Eye Care System	**For Vellore Institute of Technology, VIT**
Authorized Signatory	Authorized Signatory
Dr. R. Venkatesh Chief Medical Officer, Aravind Eye Hospital, Pondicherry	**T. Jayabharathi** Registrar, VIT University, Vellore REGISTRAR Vellore Institute of Technology (VIT) (Deemed to be University under section 3 of UGC Act, 1956) Vellore-632 014, Tamil Nadu, India
Witness	Witness
Dr. Kunal Mandlik, Medical Consultant, AEH – Pondicherry	**Dr. P. Arulmozhivarman** Professor and Dean Academic Research ,VIT, Vellore
Dr. Sathya T Ravilla, Medical Consultant, SVAEH - Tirupati	**Dr. A. Balachandran,** Senior Manager, TBI Manager, VIT, Vellore