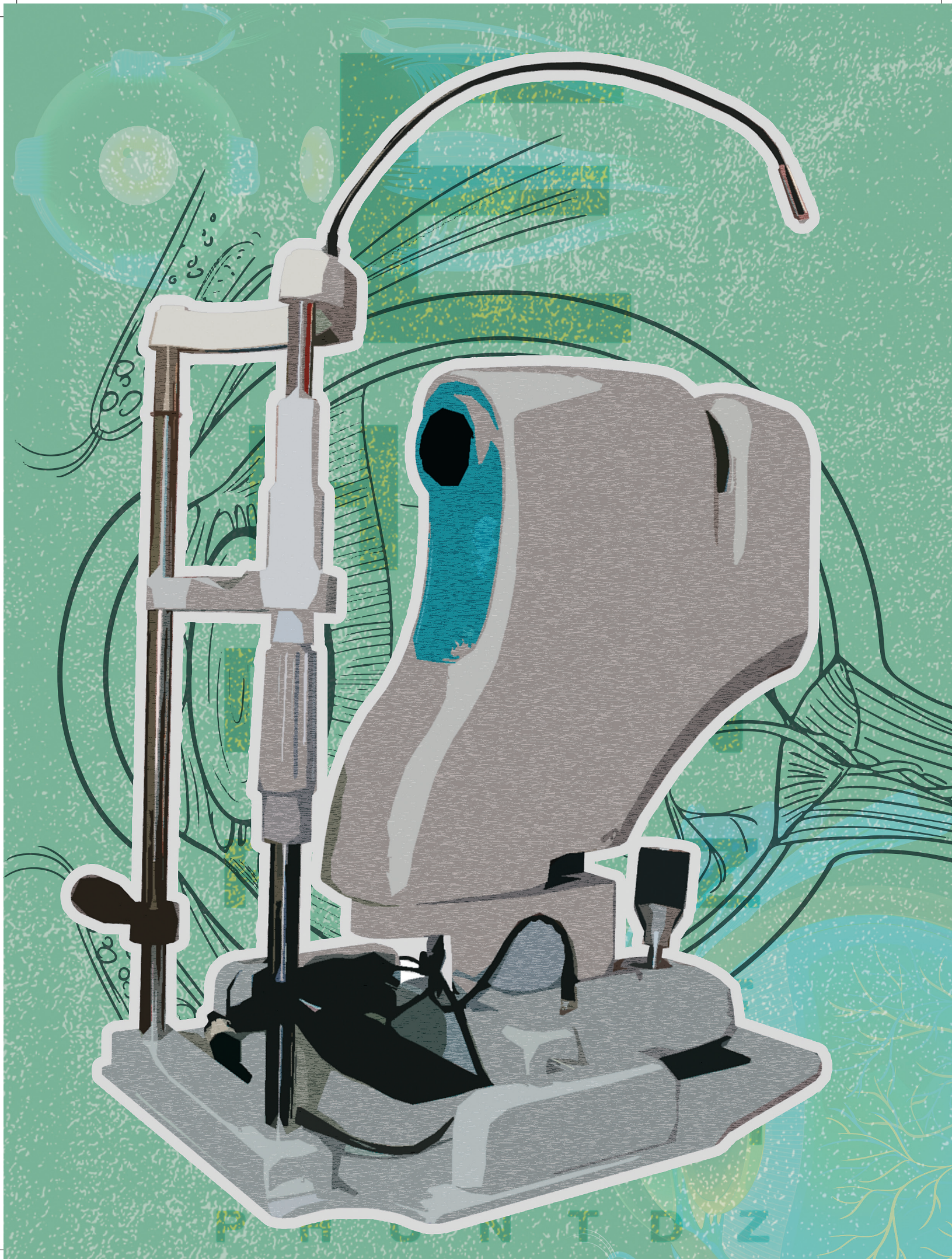




Vision of Hope

The need to create better facilities for eye care in India motivated K Chandrasekhar, Founder and CEO of Forus Health, to design 3nethra, which has been successfully addressing the issue of preventable blindness.

WE WERE WORKING for Philips and our organisation had organised a panel discussion on innovation. One of the speakers was Dr. Aravind of Aravind Eye Hospital at Madurai in the state of Tamil Nadu. He spoke about the prevalence of blindness, and the innovative methods the hospital was taking to address this issue. This is when we first realised how big this problem is. India has one-third of the blind population of the world, of which 80% cases can be prevented. The fact that the country has only 20,000 ophthalmologists for a population of around 1.3 billion makes it almost impossible to reach the rural and remote parts of the country. So we felt technology is one way to solve this issue.

THE INITIAL PHASE

We strongly felt that since this problem exists in India, it is important that a solution is arrived at in the country itself. We wanted to do everything in-house with a little external help in terms of expertise. So one had to not only focus on the product but also on the scenario in which the product had to be used, and how to make it easily accessible to all. Being present in the place where the problem exists gives you a clear understanding of our strengths and limitations, and how to seamlessly integrate these with what we are doing on a day-to-day basis. Initially, we sought the support of a few universities and small companies, who helped us subsidise the cost of development. It took us nearly 18 months to make the first prototype and the market-ready version took another nine months.

THE JOURNEY SO FAR

Our first customer was Aravind Eye Hospital and appropriately so. The entire inspiration came from Dr.



3nethra comprises an integrated telemedicine module which is on the cloud, which makes remote diagnosis by a doctor a possibility.

K Chandrasekhar, Founder and CEO, Forus Health

Govindappa Venkataswamy, founder of Aravind Eye Hospital, and we gave our first prototype to Dr. Aravind on Dr. Venkataswamy's birthday. At present, we have about 1,200 cameras across 26 countries and a reach of up to 2 million people, since the launch four-and-a-half years ago. In the first two years, we focused solely on our first product. In 2013, we launched our second product 3nethra Royal, and came out with 3nethra Flora by the end of 2015. This year, we will be launching three new products—3nethra Neo, Kiddo and Specto.

THE CHALLENGES

When you start to work on a mission to eradicate preventable blindness, every stage has unique challenges. But whether the proposed solution is appropriate or not is the first million-dollar question. This is the first challenge we faced—whether our innovation will be accepted and adopted. The second was about doing everything in house. The third and most important challenge was getting the resources, both in terms of people and money. No revenue is incurred during the process of making the product, and there is a reasonably long gestation period between a prototype and a finished product ready for sale; and so survival during this phase is the bigger challenge.



Top: A model for urban slums where the entire equipment is set on a motorcycle; and (right) 3nethra Classic is compact and portable, and works on any Windows laptop or PC.

Also, one has to face the challenge of deciding on how to build and create the product. I think a lot of people, especially startups, tend to believe that prototyping or the first manufactured product is the be-all and end-all. At the end of the day, what matters is your ability to consistently build products of high quality at low cost by using the best manufacturing practices, and to optimise resources and scale them. Also, the product should be designed in such a way that it can be replicated by maximum number of people and not just engineers. Taking the product to the market and selling it is another challenge. One also has to make efforts to build trust and confidence in the buyers, especially the early adopters and make sure they get value for their money.

It is important to ensure that you are not a single-product company, but one that continuously innovates on a series of products, by leveraging existing competency skills, sales and distribution channels, and is in line with your mission. This ability to grow and scale new heights persistently is the ultimate challenge of all.

THE DEFINING EDGE

We founded this company to solve the problem of preventable blindness, and developed the medical device 3nethra to cater to the community's needs. Another factor that sets us apart is that we continue to ensure that our products are built in such a way that they meet the behavioural and usability benchmarks; they are portable and can be used both indoors—in clinics and hospitals—as well as in the rugged outdoors for medical camps in the most remote areas of the country. 3nethra comprises an integrated telemedicine module which is on the cloud, which makes remote diagnosis by a doctor a possibility. Therefore, we are not a company just

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making a product; we provide end-to-end solutions and these enable us to meet the social objective of addressing preventable blindness as a whole.

EXPERIENCE ABROAD

When we conceived Forus Health—which breaks down into 'For Us' health—it was aimed at addressing problems in the Indian context. But we soon discovered that similar problems existed in countries like ours. So we started by spreading awareness and helping them understand what we are doing in India, both from a product perspective and also about how hospitals such as Aravind Eye Hospitals, Sankara Nethralaya, and Narayana Nethralaya are tackling the problem in India.

Our dream of expanding 3nethra globally became a reality when people abroad were convinced about the capability of the device and agreed to deploy it in their countries. Even developed countries showed interest since our product delivers true value for money and is affordable. It has been a pleasant experience overall



Photo: Shutterstock

and we derive great satisfaction in knowing that what we had created for our community is being used by the global community. I strongly believe that while our Indian base will continue to expand, the global base, percentage wise, will keep going up too.

HEALTHCARE SOLUTIONS IN EMERGING COUNTRIES

I think Indian doctors are the most innovative in how they deal with and address people. The number of ophthalmologists in the country is low compared to the population; the ratio comes down to around 60,000 to 70,000 people per ophthalmologist. Hence, emerging countries like ours have to be different both in terms of development as well as deployment of healthcare solutions. It is important that you actually do demonstrations and show people the working of the product so that they can participate too. For example, we made a model for urban slums where the entire equipment is set on a motorcycle; it can easily navigate through the bylanes, like a pizza delivery service. It can be easily placed on a table in an *anganwadi* school too. You can screen people and upload the images on the cloud and then move to the next location. So you have to visualise and create everything from scratch so that the entire model works well. You also have to consider the minutest details. For this portable model, we had to design it in such a way that it can withstand the vibrations and shocks while travelling on a motorcycle since any optical equipment can easily lose its alignment. So

you have to take the total business environment into consideration while designing a product.

THE WAY AHEAD

By the end of this year, we should have a total of six products ready. 3nethra Classic, our flagship product that is more than a 1,000 installations old, does anterior and posterior imaging. 3nethra Royal has similar functions as Classic but it also does refraction. 3nethra Flora does fluorescing angiography. 3nethra Neo, which we recently launched, is a device for neonatal screening of Retinopathy of Prematurity (RoP). We are also planning to come up with 3nethra Kiddo, which will help screen children between 8 and 10 years for refractive errors, lazy eyes, and squint. We are also coming up with the world's first wearable phoropter. You wear it like a pair of glasses and it is connected to an Android app through Bluetooth. This gives a digital prescription for the glasses. This device will be the first of its kind in the world and we intend to launch it somewhere at the end of the year.

The plan ahead is also to work towards creating affordable technologies, which can help reach maximum people and take us forward on this journey of preventing blindness. We also want to focus on creating business model innovations that will help us increase our social and economic impact. At the end of the day, even technological innovation is critical. I think these will be the three key things we will continue to focus on in the next few years. ■