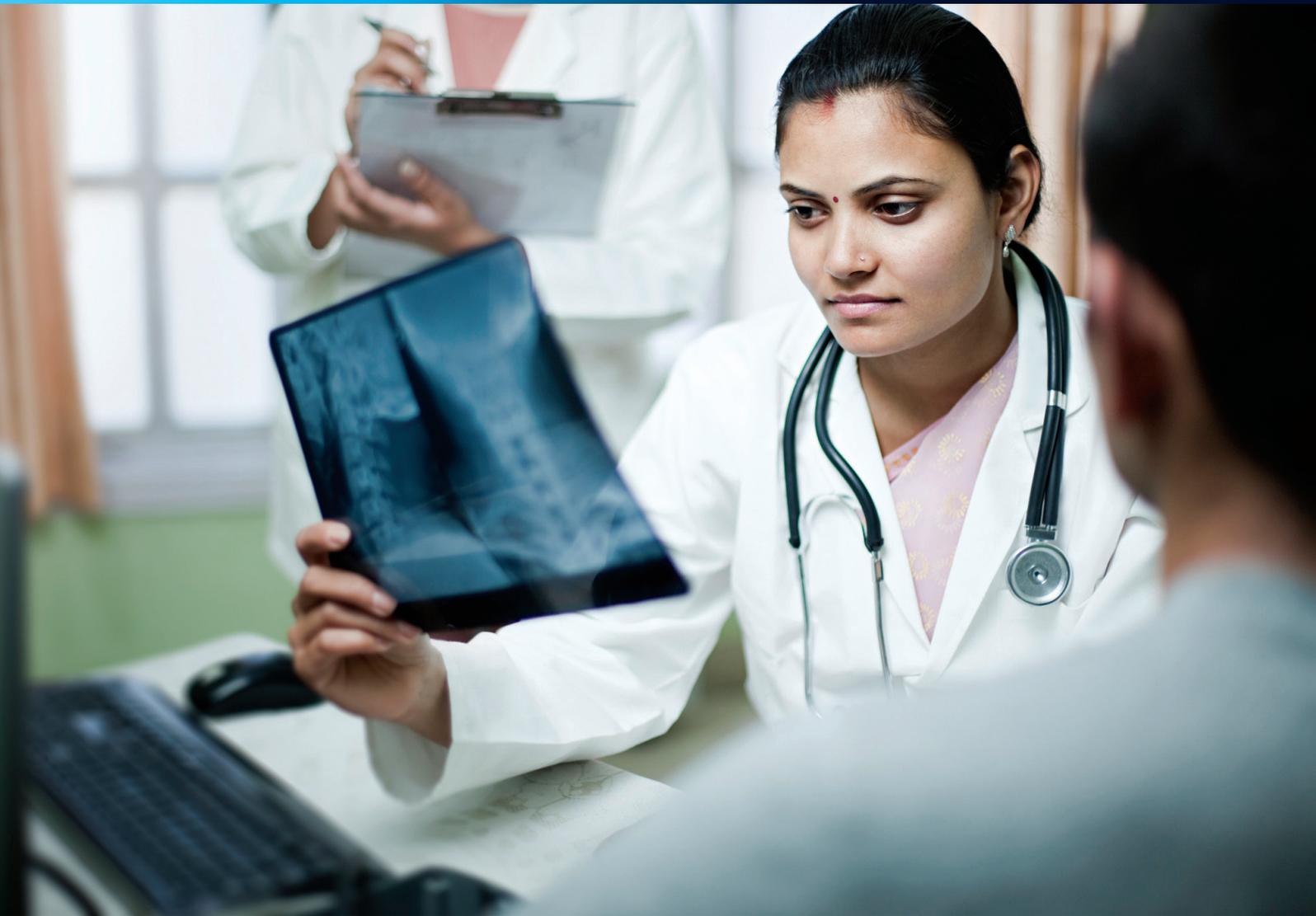




INDIA HEALTH  
**IMPACT**  
**REPORT**





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## About the TechEmerge Program and IFC

TechEmerge is an award-winning program that accelerates the adoption of technologies in emerging markets to drive sustainable innovation in regions that need it the most. We do this by matching innovative tech companies from around the world with local partners in emerging markets to conduct pilot projects and build commercial partnerships. These partnerships bring high-impact, proven technology solutions to corporates and other organizations in critical sectors. Not only does this create economic benefits, but also the potential for enormous social and development impact. For more information see [www.techemerge.org](http://www.techemerge.org). TechEmerge is an International Finance Corporation (IFC) initiative.

IFC, a member of the World Bank Group, is the largest global development institution focused on the private sector in emerging markets. We work with more than 2,000 businesses worldwide, using our capital, expertise, and influence to create markets and opportunities in areas of the world where it is needed most. In fiscal year 2018, we delivered more than \$23 billion in long-term financing for developing countries, leveraging the power of the private sector to help end extreme poverty and boost shared prosperity. For more information, visit [www.ifc.org](http://www.ifc.org).

TechEmerge Program is in partnership with:



# THE CHALLENGE

INNOVATIVE TECHNOLOGIES CAN TRANSFORM HOW DEVELOPMENT CHALLENGES ARE ADDRESSED – IF ONLY THEY WERE AVAILABLE WHERE THEY ARE NEEDED MOST.

Rapid technological change is fundamentally altering the way we live, connect, communicate and transact. New technologies and business models are disrupting the nature of healthcare, education, finance, the way we work, and the global economy overall. Technology also offers unprecedented opportunities to redefine and accelerate paths to development. Innovation will be critical to tackling poverty and driving sustainable growth. There are many examples of proven, effective, affordable solutions that can meet pressing development challenges, yet they are not getting into the hands of those that need them.

Uptake of new technologies in emerging markets is slow, largely because there is:

- **A lack of awareness** – among both tech users and tech suppliers. Tech users are often less aware of cutting-edge technologies in the rest of the world and tech suppliers are less aware of needs and opportunities in emerging markets.
- **A lack of know-how** – tech suppliers find it difficult to engage in emerging markets, not knowing the relevance of their solutions, how to access prospective clients, the market dynamics, business protocols, and local regulations. Tech users find it difficult to assess a wide range of tech options, including their maturity, validity, service level, and applicability to the local market.
- **A lack of financing** – tech users and tech suppliers alike often need to make significant upfront investment before a product can reach a wide audience in a new market.

To bridge these gaps, and help accelerate the adoption of new technologies in emerging markets, IFC launched TechEmerge in 2015. IFC's global presence in more than 100 countries, a network of more than 2,000 private sector clients, and connections with key industry players and technical experts give it unique access and insight into its development partner countries and can create opportunities where they are needed most. It also has a strong track record of investing in young companies with innovative technologies or business models with high impact potential in emerging markets.

## Our Approach

TechEmerge works to bring technologies to new markets and spur sustainable innovation and development in regions where they can have significant impact.

Our structured and highly curated approach sets us apart from other initiatives by ensuring that:

- There are committed tech users with defined needs – we first gain a deep understanding of the local context, identifying the needs and challenges facing local organizations. This is the starting point for our global search and careful selection of innovators with proven technology solutions that meet the local organizations' needs and that can be commercially viable.
- Bias and conflicts of interest are mitigated – we evaluate the technologies with a wide network of impartial experts to fairly select the technologies that are best suited to the defined needs.
- Financial and operational risks are minimized – after match-making we provide technical and financial support to field test and pilot the technologies. This helps both tech suppliers and users gain confidence and an understanding of the market and adoption risks.
- There is business and development impact – we leverage our 2,000 clients and strong global network to support the realization of business opportunities that can deliver development impact.

# HOW WE WORK

## ASSESS



We identify challenges and gaps in emerging markets, talking with local organizations to make sure we understand which technologies could best meet their needs.

## SOURCE



Based on organizations' expressed interests, we launch an open call for innovators around the world with relevant well-tested solutions to apply to join the program.

## SELECT



With the support of a network of expert advisors, we select high-performing innovators with proven technologies that can meet the needs of the participating local organizations.

## MATCH



Through a carefully curated process, we arrange events and meetings for the shortlisted innovators to meet the local organizations, demo their products, and discuss working together in pilot projects.

## PILOT



With our support, selected innovators and local organizations partner to test technologies in a local setting.

## COMMERCIALIZE



If the pilot is successful, the local organization and innovator may decide to enter into a commercial contract.

# INAUGURAL TECEMERGE PROGRAM: HEALTH INDIA

INDIA'S UNMET DEMAND FOR HEALTH SERVICES, ITS ATTRACTIVE MARKET FOR TECH COMPANIES AND STRONG IFC FOOTPRINT MADE IT A GOOD CANDIDATE FOR TECEMERGE'S INAUGURAL HEALTH PROGRAM.

## Market context

India, the second most populous country in the world, has experienced a surge in economic growth and prosperity in recent years. But its development needs remain a challenge, particularly in the healthcare sector.

Like many developing countries, it battles with a lingering burden of communicable diseases and, more recently, a rise in non-communicable conditions like heart disease, diabetes and cancer. This burden is compounded by a lack of access to basic healthcare, with just seven doctors per 10,000 people and a shortage of health infrastructure.

The public health system is overcrowded and underfunded. The private healthcare sector is responsible for the majority of healthcare in India. However, only 17 percent of the country's residents have health insurance. As a result, about 70 percent of healthcare expenditure is paid by people out of their own pockets, placing a significant burden on people and their families.

Despite these complex challenges, with 1.3 billion people, the opportunities in India are significant – insurance coverage is expected to expand and business models to meet the country's diverse needs will also evolve and spur growth. The Indian healthcare market is expected to reach \$280 billion in 2020, up from \$74 billion in 2011. This will mainly be driven by a steady rise in income – the Indian median income per household is expected to increase by 90 percent between 2015 and 2030 – giving people greater capacity to invest in preventative care and diagnostic procedures.

This presents opportunities for health technology innovators wanting to enter the Indian market. New technologies have the potential to disrupt the healthcare system and address key challenges in India as the country seeks to improve access and affordability.

**NCD**

Non-communicable diseases  
account for over  
**60%**  
of all deaths



**0.9** beds per **1,000** people  
(well below 3-5 beds recommended by WHO)



**1 billion**  
people uninsured



**73**  
million Indians  
live with diabetes



**40-45%**  
of population lack access to  
essential health services



Heart ailments caused over  
**2.1 million**  
deaths in India in 2015  
(more than a quarter of all deaths)

## Implementing TechEmerge Health in India

The TechEmerge Health India program was implemented over two years, starting in late 2015 and concluding in early 2018. The program was implemented in four phases.

### Phase 1: Local needs assessment

More than 20 of India's top private healthcare providers – serving both urban and rural areas in over 400 locations across the country, with over 60,000 beds – joined the program. Our team met with each provider in person and conducted an assessment of the organization's strategic objectives, and its challenges and needs. Using this information, we identified areas where technologies may be able to support their businesses, in both clinical and operational aspects.

Based on these discussions, we identified four main categories of technology of greatest interest to the healthcare providers:

- Point-of-care diagnostics that are portable, low-cost and improve efficiency.
- Patient engagement tools that connect patients with providers and improve communications and continuation of care.
- Remote monitoring systems to collect and share patient data.
- Clinical data analytics to analyze large amounts of data, identify trends and use this information to improve service delivery and effectiveness.

### Phase 2: Sourcing and screening of tech companies across the globe

In January 2016, we launched a global call for healthcare innovators with proven products or services that could meet the Indian market's needs. A total of 330 tech companies from 29 countries submitted applications to join the program.

With the help of our advisor network of 35 external experts including physicians, health tech investors and Indian healthcare specialists, we conducted a review of each application using key criteria and a scoring system to determine the top applicants. This included an assessment of the maturity of the technology, its market relevance and adaptability, the applicant's management capacity, and the solution's scalability.

By April 2016, we had identified 55 companies with relevant technologies that met the expressed needs of the Indian healthcare providers.

### Participating healthcare provider headquarters across India



**330** APPLICATIONS  
FROM 29 COUNTRIES

**110** LONGLISTED

**33** ATTENDING  
EVENT

**17** SELECTED  
TO PILOT

### Phase 3: Curated matching

We shared a curated shortlist of innovators with the healthcare providers. Each local organization received a customized list of companies best suited to its specific needs.

Once the providers determined which companies they wanted to meet, TechEmerge worked with innovators to prepare them for these meetings. The healthcare providers and the selected innovators then met at a two-day Innovation Summit in New Delhi in June 2016. More than 200 people attended the event, including senior executives from Indian healthcare providers and CEOs from tech companies from around the world.

The event enabled the 33 innovators invited to the summit to showcase their technologies to senior executives of the 20+ healthcare providers, and other strategic partners in the healthcare ecosystem who attend the event. The event also included 120 prearranged one-on-one meetings between healthcare providers and tech companies to discuss potential pilot opportunities.

### Phase 4: Local pilot projects

Following the Innovation Summit, we asked interested matched innovators and participating healthcare providers to submit jointly prepared pilot proposals. We received 42 proposals from a combination of healthcare providers and innovators wishing to work with each other.

With support from our Advisor Network, we carefully evaluated each proposal, assessing the quality of its design, technical feasibility, and potential for impact. Twenty-two pilot projects involving 17 innovators and 15 providers were selected to receive support to test and validate technologies in the local environment. We provided the pilot projects with financial support to offset out of pocket expenses and advisory support to resolve administrative and technical issues during pilot implementation.

We supported as many viable pilot projects as possible with the available resources (a total of \$1 million in grant funding). The projects selected reflected a range of operational areas within the health sector and covered both urban and rural areas across India. Each pilot project ran for between three and 10 months. The team monitored the progress of the pilots and, when needed, helped resolve implementation challenges.

Types of Technologies Piloted:



OPERATIONAL EFFICIENCY

<b>Micromedic</b> Life Saving Cancer Diagnostics	<b>Bodhi Health Education</b> Best, credible source of online medical education
<b>Dr Lal PathLabs</b>	<b>SRL Diagnostics</b> TRUSTED BY MILLIONS
<b>EYE</b>	<b>nephroplus</b> dialysis made easy



PATIENT ENGAGEMENT

<b>diabetacare</b> 24 x 7 DIABETES CARE	<b>WELLDOC</b>
<b>medanta</b> THE MEDICITY	<b>MAX HEALTHCARE</b>
<b>mfore</b>	<b>m</b>
<b>REGENCY HEALTHCARE</b> ENSURING WELLNESS - DRINKING LIVES	<b>Apollo HOSPITALS</b>



REMOTE MONITORING

<b>STASIS</b> CONTINUOUS CARE	<b>niosmedical</b>	<b>admetsys</b> ADVANCED METABOLIC SYSTEMS
<b>cloudnine</b>	<b>Narayana Health</b> Health for all. All for health.	<b>PORTEA</b> HEAL AT HOME
<b>REGENCY HEALTHCARE</b> ENSURING WELLNESS - DRINKING LIVES	<b>Fortis</b>	



PATIENT SAFETY

<b>chatr health</b>	<b>Narayana Health</b> Health for all. All for health.
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POINT OF CARE

<b>CEEABLE</b>	<b>OPTOMED</b>
<b>Dr. Agarwal's Eye Hospital</b> For eyes like new	<b>EYE</b>
<b>MobileODT</b> Mobile Optical Detection Technologies	<b>tricog</b>
<b>Apollo HOSPITALS</b>	<b>Cygnus</b>
<b>International Oncology Cancer Therapy Centres</b> PROVE • PROMISE • EMPOWER	<b>zilico</b> real-time medical diagnostics
<b>TRANSMURAL BIOTECH</b>	<b>International Oncology Cancer Therapy Centres</b> PROVE • PROMISE • EMPOWER
<b>cloudnine</b>	



TELEMEDICINE

<b>EQUATEL</b> It's your world	<b>MAX HEALTHCARE</b>
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**22 PILOTS**  
APPROVED FOR SUPPORT  
AND GRANT FUNDING

**17 INNOVATORS**

**15 PROVIDERS**

# STORIES FROM THE FIELD

## TURNING THE TIDE ON HEART ATTACKS USING CLOUD COMPUTING

MARCH – NOVEMBER 2017



Heart attack is the biggest cause of death globally. In India, someone has a heart attack every six seconds. The window for detecting and treating a heart attack is narrow – the likelihood of surviving is over 80 percent if action is taken within the first two hours. However, the average time between symptoms and treatment in India is three times that, at over six hours.

In India, 5 million people suffer from a heart attack each year, and 3 million do not survive. To address this challenge, Tricog Health Services, a medical tech company based in India, developed a smart ECG solution that allows doctors to remotely diagnose and respond to heart abnormalities in less than five minutes.

The product enables healthcare providers to reach underserved areas and detect patients at risk. Through our program, Tricog partnered with Cygnus Hospitals to test its solution in 30 clinics and medical centers across New Delhi and Haryana. Tricog's devices transmitted data to Cygnus, where specialists reviewed and interpreted the results within minutes. The doctors then sent their diagnoses back to the clinics in remote locations through SMS, mobile app or email.

During the pilot, Tricog conducted more than 8,000 ECGs and detected 527 critical cases (7%). Of these, 94 patients were transferred to hospital.

The pilot helped Tricog refine its business model and gain traction in the market. Since taking part in the program, Tricog has expanded to 1,700 centers in India, including working with two providers participating in TechEmerge. It has also expanded globally, working in 12 countries and serving over 2 million patients, with plans to continue its expansion.

*“Being selected in TechEmerge was a key turning point ... we took what we learned from the TechEmerge pilot project, replicated it in other markets, and have grown to serve over 2 million patients in 12 countries.”*

– Tricog Health Services

## MAKING WOMEN'S HEALTH A PRIORITY WITH BREAKTHROUGH TECHNOLOGY

### JANUARY – NOVEMBER 2017

Over 432 million women in India are at risk of developing cervical cancer, yet only 3 percent of women undergo screening. Socioeconomic conditions and lack of equipment and qualified colposcopists contribute to these low screening numbers. Even when women are screened for the human papilloma virus (the virus known to cause cervical cancer) or undergo a pap smear, up to 80 percent of those with positive results do not return for treatment. This lack of follow-up treatment can have deadly results for a form of cancer that is highly treatable if caught early.

To address these gaps, and ensure patients in underserved areas have access to advanced, cost-effective diagnostic tools, MobileODT, an Israeli company, developed a ground-breaking product for detecting cervical cancer – the EVA (Enhanced Visual Assessment) System – which combines advanced optical technology with smartphone capabilities to make cervical cancer detection more accessible.

Traditional screening technology is bulky and expensive, while the EVA system is smaller, more portable, and more cost effective by comparison, making it easier to deploy at scale. Using EVA, a nurse or health worker can go into communities and screen for cervical cancer. They can track patients through built-in software that syncs to secure online storage, enabling quick diagnoses and ongoing engagement, increasing the chances of early detection and treatment.

Through the TechEmerge program, MobileODT and Apollo Hospitals partnered to test the EVA system across seven medical centers in four Indian states. The pilot

reached both urban and rural areas spanning a range of income groups. The project also helped to demonstrate the EVA system's ability to meet quality screening standards, in addition to assessing the skill level and consistency in approach among practitioners at the various centers.

In the seven sites, 579 women were screened with both traditional pap smears, and using the EVA system as an additional tool. Twenty of the 579 patients enrolled in the study had cancerous or pre-cancerous results using the pap smear test. In comparison, 51 women were assessed to have pre-cancer or cancer with the EVA system, which means MobileODT's technology diagnosed 31 more women, who were able to receive life-saving treatment as a result.

The surveyed healthcare providers participating in the project rated EVA highly for its ease of use and for improving patient engagement. The providers noted that the EVA system helped them explain images, concepts, and risks to women.

Since joining the program, MobileODT has signed a local partner to distribute the EVA system in India. MobileODT and Apollo continue to work together and aim to conduct the first large-scale pilot of augmented intelligence in cervical cancer screening. This project will give healthcare professionals cutting-edge, low-cost mobile technology to reach millions of women across India who previously had limited access to life-saving cervical exams.



*“The TechEmerge program was an unparalleled opportunity to work with leading key opinion leaders and institutions, with strong reputations and influence across India. Since the beginning of the program we have received significant interest for purchase and commercial partnership from the public and private healthcare sectors.”*

– MobileODT

## LOW-COST EYE-CARE SOLUTION SETS SIGHTS ON INDIA

JANUARY – AUGUST 2017



Diabetes-related eye disease is the leading cause of blindness in people between 20 and 55 years of age. India, which is considered the diabetic capital of the world, has more than 73 million people with diabetes, with very limited screening facilities for eye diseases.

Screening and management of diabetic retinopathy, and other sight-threatening diseases, is largely dependent on the availability of retinal specialists and specialized imaging/camera technology. The weight and immobility of traditional tabletop cameras makes it very difficult to screen patients outside of the clinical setting, and to capture clear images in patients that are unable to sit up.

To address these issues Optomed Oy, a Finland-based company, has created low-cost, portable, easy-to-use, retinal imaging devices and solutions. The products screen and diagnose various eye diseases, such as diabetic retinopathy, glaucoma and macular degeneration.

Through the TechEmerge program, Optomed partnered with EyeQ Hospitals – a super specialty eye care hospital chain committed to providing high-quality and affordable eye-care services across India. The pilot gave EyeQ the opportunity to do a comparative performance analysis of Optomed's cloud-based, low-cost, portable Smartscope PRO and Smartscope FA (fluorescein angiography) solution versus expensive stationary desktop fundus cameras.

Optomed's Smartscope PRO, a modular handheld retinal camera, and the conventional method of examination were both used to take retinal images of 383 patients across four EyeQ locations in India. Smartscope PRO was found to be better at identifying retinal disease than the conventional method – Optomed's camera detected 24 more patients with retinal diseases (91 patients versus 67 identified through conventional means).

Optomed's Smartscope FA product – a specialized camera for examining the eye using a fluorescent dye – performed well against the industry's gold standard, high-cost camera. Images for 46 patients were taken using both the Smartscope FA and the conventional gold standard camera. The study concluded that the Smartscope FA provided good objective parameters critical for clinical decisions, making Optomed's product a promising, low-cost portable alternative in the Indian market.

The pilot outcome was selected to be showcased at the 2018 World Ophthalmology Congress in Barcelona, and the study will be published in a peer-to-peer review.

At the end of the pilot, EyeQ and Optomed signed a commercial contract, to purchase and deploy some devices in EyeQ clinics. They are also in discussion about expanding the partnership to pilot Optomed's artificial intelligence solution in EyeQ hospitals in India.

*“The matchmaking really helped us to meet a very good client base in India ... We have benefited in many ways. We established very good relationships and futuristic goals with EyeQ Hospital. We have seen a brand value gain because of the pilot with an esteemed institution.”*

– Optomed

## IMPROVING PATIENT CARE THROUGH AN INTELLIGENT, DATA-DRIVEN SOLUTION FEBRUARY – SEPTEMBER 2017



Hospitals and clinics are under increasing pressure to manage more patients with fewer resources. To address this challenge, Vios Medical, a US-based company, has developed a wireless Internet of Things platform that provides virtual patient care services.

Vios provides continuous, real-time monitoring of vital signs through a wireless platform, and notifies care teams about actionable events. For example, the system measures heart and respiratory rates, which can be sent to the patient's physician and be accessed anywhere using the cloud, whether the physician is in the clinical setting or at home. The physician can discuss the results with a multi-disciplinary care team, which can also access the data remotely.

Through the TechEmerge program, Vios and Regency Hospital partnered to test the Vios Monitoring System in a 10-bed hospital ward. The technology, which uses sensors and medical-grade software, allowed clinicians to remotely monitor, manage, and provide care to patients.

During the pilot, which ran for about six months, the Vios solution was tested on 250 patients. Regency physicians gave positive feedback, finding the system to be accurate and reliable and noting improvements in operational efficiency and workflow. For Vios, the pilot helped it refine its approach, gain experience in the field, and identify areas for growth.

At the end of the project, Vios and Regency signed a commercial contract. Vios also met Max Hospitals through TechEmerge, which led to a partnership. Gaining experience with large hospital systems helped Vios gain credibility and momentum in India, making it an attractive prospect for investors.

Murata, a global manufacturer, acquired Vios for \$102 million during the TechEmerge program. Murata said that the Vios network in India was an important factor in its decision to acquire the company.

*“Our engagement with TechEmerge participants like Max Hospital played a key role in the investor’s interest in the Vios product ... IFC helped us gain momentum and was helpful in making introductions which made this acquisition possible.”*

– Vios Medical

# KEY OUTCOMES

The TechEmerge program's ultimate aim is to accelerate the commercial adoption of innovative technologies that can improve the lives of people and promote economic growth.

The TechEmerge team approved 22 pilot projects to receive support and grant funding to test and validate new technologies in India. Of these:

- Eighteen pilots were successfully completed (see details in the annex).
- Two pilots were terminated, and the grant funding was reallocated to help the innovators pilot their solutions with another participating healthcare provider (Max/Vios and Regency/Diabetacare). Both pilots were successfully completed and led to commercial contracts.
- Two pilots were terminated due to issues that could not be resolved during the project timeframe.

Based on introductions through the program, to date our work in India has led to tech innovators signing 22 commercial contracts worth almost \$1 million. The technologies deployed under these contracts are expected to benefit more than 300,000 people each year. More contracts as a result of direct connections made through TechEmerge are expected to be signed

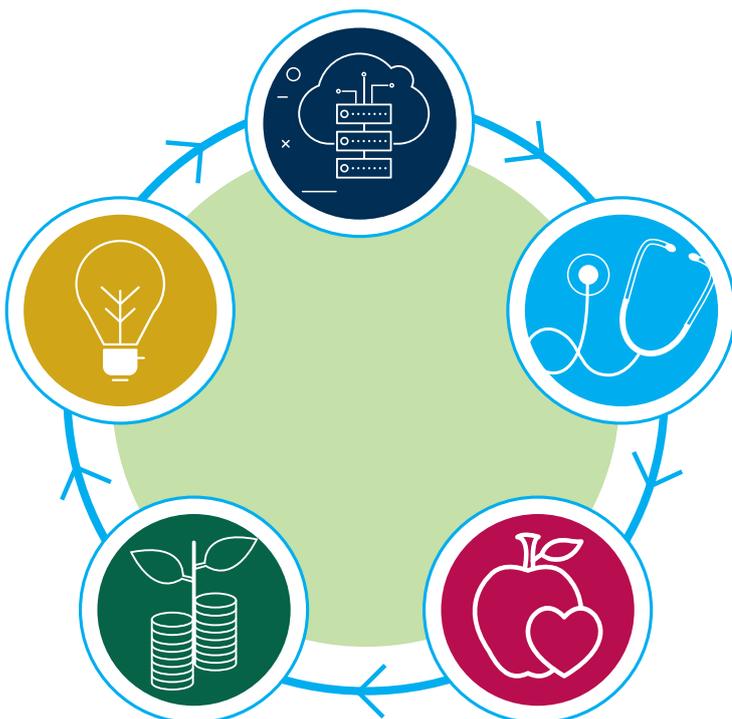
in the months and years ahead. We will continue to monitor commercial activity related to the program over the next two years. Innovators are also gaining traction in the local market, with increased sales to providers outside of the TechEmerge program.

Participating innovators also raised more than \$14.5 million in financing during the program, and one innovator was acquired for \$102 million. Many of the tech companies said that participating in TechEmerge, and the support to enter or further scale in India, contributed to investors' interest in their companies. In addition to the contracts with participating providers, four innovators signed with local distributors. Innovators said piloting under TechEmerge enabled them to work with leading Indian healthcare providers to collect local market data and validate their product, which facilitated partnerships with local distributors as well as other Indian healthcare providers beyond those participating in TechEmerge.

The program's participants found the experience to be highly beneficial. Innovators said that TechEmerge helped increase the credibility of their technology when talking with potential partners. It gave them access to key decision makers in the Indian market and allowed them to refine their products while working alongside potential customers.

TechEmerge helped the providers become aware of new technology, gain confidence in the products through the pilot projects, and made them more open to working with small technology companies in future. All of the participating Indian healthcare providers said they would take part if this program ran again, and they all felt that the platform should be available in India on an ongoing basis.

The program's outcomes to date are strong, but this is only the beginning. Our initial results indicate that TechEmerge's longer-term impact will be seen two to three years after implementation, as more people gain access to better services and the innovators scale up their businesses.



## TechEmerge Health India Highlights



**20+**  
Indian healthcare  
providers  
joined the program

**330+**  
Tech companies  
applied  
From 29 countries



**15**  
Indian providers



**MATCHED**

with top  
**17**  
tech companies



**20**  
Pilots implemented

**70**  
Clinical sites across India



**18 000**  
Patients reached

**22**  
Commercial contracts



**\$985k**  
In financial value



**300k+**  
Patients expected to  
benefit each year



MANY MORE COMMERCIALIZATION DISCUSSIONS STILL UNDER WAY

**\$14.5m+**  
Raised by tech companies  
during program

**\$102m**  
Acquisition of one company



# LESSONS LEARNED AND NEXT STEPS

LIKE THE PROGRAM'S FIELD TESTS, TECHEMERGE ITSELF WAS A PILOT PROJECT. IT WAS THE FIRST MATCHING AND TECHNOLOGY ACCELERATION PROGRAM OF ITS KIND FOR IFC AND THE TEAM LEARNED SEVERAL VALUABLE LESSONS IT CAN APPLY AS IT EXPANDS INTO NEW REGIONS AND SECTORS.

## There is a need

TechEmerge has a unique role to play, fulfilling the needs of both healthcare providers and technology innovators:

- Healthcare providers need innovative technology, but are unsure of the maturity and validity of products, the service level, potential of the technology, and the company's capability to adapt to the local market.
- Tech innovators want to enter emerging markets, but do not know how or where to engage, or if their product has relevance in local markets.

## TechEmerge adds value

The program plays an important convening and mobilizing role. Using a needs-based approach, it identifies innovative, affordable, and market-appropriate technologies that can enhance development impact in emerging markets. It also follows through – providing support to test and validate the technologies locally, which provides market validation. TechEmerge saves time and resources, minimizing market entry risk for innovators and technology adoption risk for tech users. But our role goes beyond that. As an IFC program, TechEmerge can leverage its access to a vast global network of IFC clients, development partners, technical specialists, and multinational corporations and investors.

## There is demand for continuity

All of the healthcare providers who took part in the India program asked TechEmerge to continue the initiative on an ongoing basis. There was also strong demand from other local organizations and global innovators. As a result, IFC is planning to introduce a platform that will continuously match the supply of and demand for innovative technologies, allowing tech companies to apply to the program on a rolling basis rather than through one-off event-driven projects. The platform will form the backbone of the TechEmerge program as it grows into new markets and sectors.

## Partner diversity can further enhance development impact

TechEmerge aims to diversify its partners to include the public sector. Helping governments gain access to cutting-edge technologies has the potential to deliver significant development impact in emerging economies. We are exploring the best approach to navigating regulatory and procurement barriers and adapting our model for the public sector.

## We can adapt and scale up

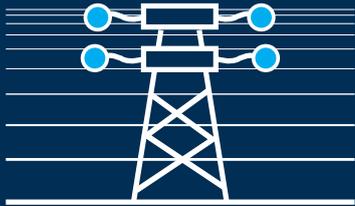
The TechEmerge model has proven to be highly adaptable, with growing demand for the program in other regions. Building on the success of the India program, TechEmerge launched a healthcare program in Brazil in late 2017. This initiative is already showing promising results. Using a similar structured process, we matched 15 Brazilian healthcare providers with 20 innovators from 7 countries, and over 20 pilot projects are under way.

In 2019 we are launching a health program in Africa, with hubs in East, Southern and West Africa. Like the programs in India and Brazil, TechEmerge will focus on hospitals, clinics, labs, and insurers, but it will also expand its scope to include pharmacies, and explore engaging telecommunication companies and large corporates offering healthcare services to their supply chain. We are also in discussions with our World Bank colleagues on how best to engage the public sector in the TechEmerge Health Africa program.

## The need is across all sectors

New technologies are driving change in almost every major industry. Feedback received from a wide range of stakeholders that supported, monitored, and/or participated in the India program has clearly indicated that the TechEmerge model is needed across all sectors where innovative technologies can make a big difference in tackling development challenges. Consequently, TechEmerge is now exploring opportunities to bring high-impact tech solutions to technology users in other sectors.

## Future focus areas



### Energy:

Smart grid tech, Internet of Things, energy storage



### Transport & mobility:

Intelligent traffic systems, shared mobility, remote infrastructure monitoring



### Education:

Distance learning, alternative learning tools, augmented reality



### Agriculture:

Drones and robotics, irrigation tech, seeds & feed

# APPENDIX:

## COMPLETED PILOT PROJECTS

### Completed TechEmerg Health India pilot projects

PARTNERS	PROJECT
 	<p>Bodhi Health Education's learning management system deployed training solutions for technicians at EyeQ. In this pilot, online training modules were used to standardize the training process, conduct assessments, and track learner performance.</p>
 	<p>Bodhi Health Education's learning management system deployed standardized training solutions for Nephroplus staff. The pilot implemented online dialysis training modules at Nephroplus' corporate training facility.</p>
 	<p>Ceeable piloted its mobile digital health 3D Visual Field Analyzer (CVFA) at Dr. Agarwal's Eye Hospital. CVFA is a comprehensive, non-invasive, low-cost web-based screening and dynamic classification system that detects early changes in visual function.</p>
 	<p>ChatrHealth implemented standardized checklists and protocols to improve efficiency and ensure safety before, during and after medical procedures at Narayana Health operating rooms.</p>
 	<p>mfore brought registration, scheduling, and treatment plan services to Regency Healthcare. mfore used mobile messaging to efficiently engage Regency Healthcare's patients based on their specific care plans.</p>
 	<p>mTatva provided a prescription digitization technology with mobile messaging reminders and a customized dashboard for patient follow up. mTatva's technology scanned and digitized details of investigations to be done, medicines, and reviews, providing SMS reminders to increase patient engagement at Apollo Hospital.</p>
 	<p>The pilot tested the efficacy, utility, and usability of CellDetect in Dr. Lal's pathology laboratory. CellDetect is a staining technology that combines color and morphology to screen women who are at risk of developing cervical cancer. It simplifies and expedites the interpretation of microscopic slides to boost the detection of early-stage and pre-cancer lesions.</p>
 	<p>The pilot tested the efficacy, utility, and usability of CellDetect in SRL Diagnostics' reference pathology laboratory. CellDetect is a staining technology that combines color and morphology to screen women who are at risk of developing cervical cancer. It simplifies and expedites the interpretation of microscopic slides to boost the detection of early-stage and pre-cancer lesions.</p>

PARTNERS		PROJECT
 Mobile Optical Detection Technologies	 TOUCHING LIVES	The pilot aimed to evaluate the effectiveness of MobileODT's EVA (Enhanced Visual Assessment) system in comparison with existing cervical cancer screening techniques at various Apollo Hospital centers.
 Mobile Optical Detection Technologies	 HOPE • COMPASSION • EMPATHY	The pilot aimed to evaluate the effectiveness of MobileODT's EVA system in comparison with existing cervical cancer screening techniques at centers within the International Oncology network.
		The pilot evaluated the performance of Optomed's handheld, cloud-connected medical cameras that diagnose a variety of eye conditions at EyeQ locations, and compared the image quality, diagnostic ability, and overall utility with that of conventional cameras.
 CONTINUOUS CARE		Stasis Labs offers a cloud-based bedside monitoring system and portable tablet that allows continuous vitals monitoring. The pilot evaluated the impact of the monitoring system and how it improves workflow and productivity for providers at Cloudnine hospitals.
 CONTINUOUS CARE	 Health for all. All for health.	Stasis Labs offers a cloud-based bedside monitoring system and portable tablet that allows continuous vitals monitoring. The pilot evaluated the impact of the monitoring system and how it improves workflow and productivity for providers at Narayana Health.
		The pilot tested Transmural Biotech's quantusFLM, a non-invasive, fast, and easy-to-use fetal lung maturity test, in three of Cloudnine's hospitals.
		The pilot deployed the Tricog system in Cygnus hospital and surrounding medical centers to test its efficacy, utility, and overall usability. The Tricog system is a platform that includes a cloud-enabled, FDA-approved ECG machine, which enables rapid diagnosis of heart abnormalities.
	 ENSURING WELLNESS • ENRICHING LIVES	Vios implemented its remote monitoring systems in general medical-surgical wards at Regency Healthcare, allowing clinicians to monitor, manage, and provide care to patients remotely.
		The pilot evaluated the effectiveness of WellDoc's BlueStar program, a mobile health monitoring tool that helps adults living with type 2 diabetes and their doctors drive behavioral and clinical change.
 real-time medical diagnostics	 HOPE • COMPASSION • EMPATHY	Zilico's ZedScan uses Electrical Impedance Spectroscopy (EIS) to improve the detection of cervical cancer following an abnormal smear result, increasing diagnostic accuracy. The pilot aimed to increase the detection of high-grade cervical pre-cancer and cancer among patients within the International Oncology network.



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