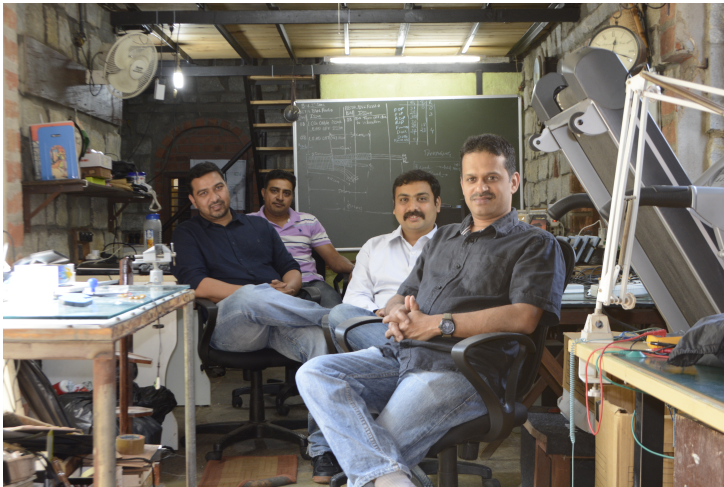# Hot Start-ups: Disrupting Indian cardiac diagnostics

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Hot Start-ups: Disrupting Indian cardiac diagnostics

In the Indian clinical landscape, other than large hospitals or specialty centers, the ability to do a proper cardiac diagnosis is mostly absent.

"This is the case globally in all emerging markets," reveals Mr Anand Madanagopal, the CEO of CDL. "There is no frontline devices for diagnosing Arrhythmia and Coronary Artery Diseases (CAD) other than Resting Electrocardiogram (ECG) in smaller hospitals."

He feels, the 10-second Resting ECG is an inadequate tool to diagnose the above conditions effectively.

"Both these conditions require ECG taken during ambulatory mode for comprehensive analysis," he says.

With higher number of patients suffering from heart diseases, and the available specialized products in cardiac diagnosis are operable only in tertiary care centers, the reach of precision diagnosis is limited.

Mr Madanagopal points that the whole cardiac care system is tedious and expensive.

"Thus, we built a solution that gives the power to cardiologists to do better diagnostics and help take quick decisions based on in-depth, validated information, without the need of being present near the patient, and still be able to run this kind of comprehensive analysis in small and medium hospitals. This will completely change the cardiac diagnostics scenario," he highlights.

Currently, no Rhythmanalysis is feasible in smaller hospitals where large number of cardiac patients go in today.

Mr Madanagopal emphasizes, "Even when products are available -- like large hospitals -- it is expensive to operate because

of the need to run heavy, back-end teams. Post-operative monitoring is also very limited when it comes to smaller hospitals."

The start-up has created a first-of-its-kind, advanced cardiac diagnostic products to be used in smaller settings.

"This will enable larger population to be tested in early stages for better management of the disease. Earlier, all diagnostics had to be done strictly at a hospital. Now, technology allows us to perform diagnostics at home," voices Mr Madanagopal.

CDL's team consists of 3 founders including Mr Anand Madanagopal the CEO; Mr Praveen L Murthy heads the Hardware and Production; Mr Mosin Badkar as the head of R&D and Engineering; and a fourth team member Mr Ravi B Kaushik, who leads the start-up's Business Development.

The team is a mix of experienced professionals including engineers and doctors having vast knowledge in product design and ambulatory ECG analysis.

CDL's potential is in instrumentation engineering for clinical application in all the associated areas of R&D.

Its key products include MIRCaM 12-Lead multifunction diagnostic platform and its award-winning MIRCaM Diagnostic Patch.

MIRCaM stands for Mobile Intelligent Remote Cardiac Monitoring.

The start-up claims that MIRCaM is the only solution in the world to provide comprehensive real-time, 12-Lead ECG diagnostics as cardiac events occur, and from remote locations.

Currently, the products are offered as a service on a pay-per-use model.

The start-up's area of expertise encompasses R&D, manufacturing, clinical engineering, mathematics and marketing.

The plan of action began with the building of prototype and proving its feasibility.

This was followed by creating algorithms and building the diagnostics part.

Later, the feasibility of integrating with vendors who already had algorithms were worked upon.

This led to the next step of conducting product testing in various hospitals. Lastly, the team built the complete workflow, and launched in to the market.

Initially, the start-up met up with challenges unique to its own -- from building the algorithm to understanding the clinical requirements. to getting the right skillsets together.

The start-up has invested about US $2,50,000 capital investment, raised through Angel investors and well-wishers.

It has already collaborated with leading Universities, silicon manufacturers and healthcare firms.

The start-up targets a revenue of Rs 5 crore in the next couple years.

All Mr Madanagopal requests the Government to do is to generate an eco-system for testing in Government hospitals, and providing grants for deployment and testing.

Mr Madanagopal says that intelligent healthcare will be a prime area for start-ups to look at moving forward.

He advocates raising funds from Angel investors from known circles, and as well as customers, as an ideal way to build a Life Sciences start-up.

According to him, what kills a start-up? "A bad team will definitely harm any start-up. Irresponsible spending and raising money quickly are other factors," he concludes.

Raining Milestones:

ï,§ Winner of 'Grand Jury Prize' at StartupIndia Launchpad 2016 by Google
ï,§ Winner of 'Popular Choice and Impact' award at IoTNext 2015
ï,§ Winner of 'Best IoT Startup 2015' award
ï,§ Winner of 'Walk The Talk' competition at Intel Conference 2015
ï,§ MIRCaM awarded 'The Most Innovative Product' at IESA Technovation Awards 2014

Major Clients:

ï,§ Heart & Rhythm Clinic
ï,§ Sri Sri College of Ayurvedic Science and Research Hospital
ï,§ Telerad RxDx

Start-up Lessons Learnt:

ï,§ Being patient
ï,§ Bringing right people on board
ï,§ Good advisory team which is critical, wishes well
ï,§ Talking to the team about vision, journey

Handling Start-up Stress:

ï,§ Engaging with team (apart from mundane work)
ï,§ Ignoring negative energy advise
ï,§ Talking to well-wishers

Start-up Myths:

ï,§ Should be a service-based start-up to generate revenues quickly
ï,§ Should be an aggregator
ï,§ Should have a pedigree
ï,§ Should have a five-year revenue plan

Entrepreneurial Mistakes To Avoid:

ï,§ 'Make it all, do it all' attitude
ï,§ Unwisely choosing critical components
ï,§ Not integrating other vendor components
ï,§ Raising funds early from institutional investors

Desirable Qualities In Life Sciences Entrepreneurs:

ï,§ Ability in understanding medicine and engineering
ï,§ Bringing all skillsets together
ï,§ Sustaining for longer terms with limited budgets