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A portable digital microscope being showcased at Maker Mela 2018

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Designed for portability and stability, this microscope has all the features and functionality of conventional microscopes and can be carried to sites easily.



Maker Mela, a premier event for grassroot innovations in India, is a platform for like-minded people who bring life to diverse range of raw, unique and unconventional ideas. An initiative taken by Somaiya RiiDL (Research Innovation Incubation Design Laboratory), to accelerate the Maker Movement in India and to create a community of Makers, Maker Mela provides a platform for entrepreneurs to connect with other entrepreneurs, advisers, mentors, guides and incubators.

One such innovative and interesting project which will be presented at the third edition of Maker Mela, 2018 is the making of Portable digital microscope made by a twenty-eight year old man Mr. Samrat. Named as Cilika, it comprises an indigenously designed optical system that provides magnifications of up to 1500X. A mobile phone or tablet is used to display the magnified image. As the image is in digital format, it can be stored, transferred or processed.

This microscope has the ability to act as a substitute for conventional microscopes. Designed for portability and stability, this microscope has all the features and functionality of conventional microscopes and can be carried to sites easily. This could be really helpful especially in rural areas, where the use of Cilika by health workers can reduce the cost and time of disease diagnosis. It can help enable remote diagnosis in which digital images can be transferred from rural areas to cities, which can then be assessed by a technician. Cilika can also prove to be a powerful educational tool and teaching aid in schools and medical colleges.

Speaking about how this idea came, Mr. Samrat said “Very early on, we identified the potential of telemedicine in increasing the penetration of quality healthcare into rural areas. Although telemedicine is being implemented in terms of online consultations with physicians and vital parameter monitoring, equipment for remote analysis of diseases that requires microscopy (malaria, bacterial and fungal infections, cancer) is still lacking. Delayed diagnosis of diseases, increases the mortality rate and decreases the effect of the treatment. We decided to develop a product that can perform such tests remotely and at the point of care.”

Pointing out the challenges, Mr. Samrat said “one of the major challenges that we face from the interactions with our potential customers and decision makers and any innovative medical device company is the resistance to change. Experienced professionals, inspite of being extremely supportive of entrepreneurs, are often used to doing work in a certain way and are reluctant to stray away from the way they have been working for years. However, younger professionals are open to try new technologies.”

Spilling the secrets of his future plans, the twenty-eight year old entrepreneur tells “My future plans include completion of the ongoing validation studies, setting up of assembly-line for manufacturing of the device and to obtain necessary certifications such as ISO and CE.” “We have already started commercial sales”, he says before signing off.

Gaurang Shetty, Founder and Chief Innovative Catalyst, said "I am excited to meet the super awesome 200+ innovators from across the globe at Maker Mela 2018. Maker Mela is going to witness startup pitch

sessions, super cool projects and the most innovative people from our country.”