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Fibrosis diagnosis takes a new turn

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Histoindex aims to bring revolutionary platform for fibrosis diagnosis

So far, biopsy has been the technology for diagnosis of fibrosis in patients. It has its limitation, and many times it fails to provide critical information about the severity of the disease to the pathologists.

Dr Dean Tai and Dr Gideon Ho founded HistoIndex, a spin-off company from Singapore's Agency for Science, Technology and Research (A*STAR) in 2010, to bring a revolutionary platform for the diagnosis of fibrosis to the market.

HistoIndex was formed to commercialize a proprietary photonic technology developed in the Institute of Bioengineering and Nanotechnology. For four years before the company was formed, the technology was validated first in animals and subsequently in humans.

HistoIndex has created new standards of diagnosis for fibrosis and cancer. Initially, it focused on liver and kidney tissues to automatically and accurately identify the disease and is now expanding its applications to include other tissues such as lung, skin, heart and cervix.

"HistoIndex is the first in the world to provide stain-free, three dimensional, quantitative imaging solutions for visualizing and staging fibrosis. This provides critical information that is not available to pathologists using existing stain-based imaging techniques. The laser-based imaging system, Genesis, is currently installed in our trial site hospitals and research labs," says Dr Giedon Ho, chief commercial officer, HistoIndex.

The difference that HistoIndex is bringing with its technology is the scalability into multiple organs and new harmonized standard of assessing the severity of fibrosis and cancer.

HistoIndex is using breakthrough photonic technology and digital image capturing system coupled with quantitative assessment capability and is providing products and services in medical diagnostics. The innovative system, Genesis, equips researchers with reliable cutting edge tools for their scientific work and clinicians with a stain-free, high throughput imaging platform to assist in speedy and accurate diagnosis of fibrosis and cancer. Genesis also provides pharma companies with specific morphological and extracellular matrix analysis and quantification for the accurate study of the progression of the disease and monitoring of any marginal improvement in treatment efficacy.

Since its establishment, HistoIndex has taken an active approach to enhance the reach of its technology. In 2011, the company joined hands with National Taiwan University Hospital and Taiwan-based Chang Gung Memorial Hospital to collaborate on research using the breakthrough imaging technology. It has also applied for approvals from European Conformity (CE) Mark.

For its innovative technology, HistoIndex was successful in getting a total grant of more than $0.77 million (S$1 million) from Singapore's premium board A*STAR, SPRING and Ministry of Information, Communications and the Arts, and equity financing from SPRING SEEDS and angel investors worth $1.5 million (S$2 million). HistoIndex also received grants in China, Taiwan and European Union for its product.

Taking an innovative approach to maintain revenue cycle, beginning 2012, HistoIndex instituted a pay-per-use model as a source of revenue. Through this model, clients can enlist HistoIndex's services to scan and issue reports on specific tissue samples.

Besides the revenue model, HistoIndex also intends to expand its regional reach and is looking to expand in China. This is in addition to its current Singapore headquarters, business development office in San Diego, US and a manufacturing site in Europe. In the next 18 months, HistoIndex plans to go beyond liver and kidney diseases and look into cervical and breast cancer where the processes of fibrosis are also extremely important. In the longer term, HistoIndex plans to add multi-modular imaging capabilities into its existing imaging platform.