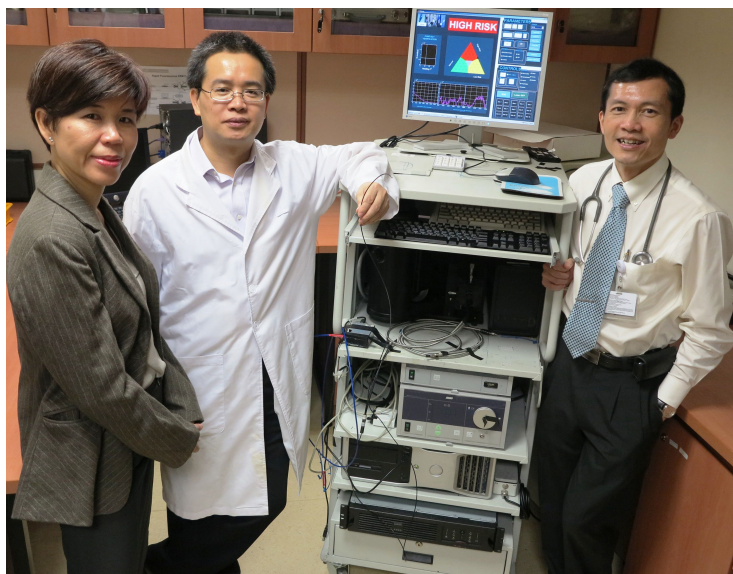


## Start-up Innovation: Real time cancer diagnosis

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**Singapore:** Endofotonics, a medical technology company spun off from National University of Singapore (NUS), has developed an in-vivo molecular diagnostic (IMDX) system that enables objective, cancer diagnosis to be available almost instantaneously during endoscopy.

Whilst the current process is highly dependent on the operator's skill and experience in recognising and evaluating tissues structure, clinical diagnosis from IMDX system is non-operator dependent. This is because it is based on molecular information of tissues which is unique and distinct. As the molecular information is analysed by a computer software, diagnosis is provided almost instantaneously during the gastroscopic examinations. This is in contrast to the waiting time of up to a week for current processes, an agonising time lapse that can cause extreme anxiety for patients and their care-givers.

The computer software ensures that diagnosis generated is entirely objective, minimising the dependence on the doctor's skill and experience. It also means that the IMDX system can be operated with minimal training.

The technology for the IMDX system, which was developed in the National University of Singapore, was licensed exclusively to Endofotonics by NUS Industry Liaison Office, part of NUS Enterprise. The NUS Industry Liaison Office has filed several patents on this technology.

"We are extremely excited at the prospect of bringing molecular diagnosis into the body. The objective real time diagnosis made possible will cause a paradigm shift in how diagnosis is made and significantly reduce cancer deaths and burden," said Ms Florence Leong, CEO and Co-founder of Endofotonics.

Endofotonics' other two Co-founders are Associate Professor Huang Zhiwei, from the Department of Biomedical Engineering, NUS Faculty of Engineering; and Professor Lawrence Ho, from the Department of Medicine, NUS Yong Loo Lin School of Medicine and National University Hospital. They collaborated to pioneer

the IMDX technology, built the IMDX system and used it in more than 500 cancer patients across a diverse range of cancer types. Preliminary data showed a diagnostic accuracy of more than 90 percent in gastric dysplasia, gastric cancer and oesophageal cancer.

Having built the lab prototype and obtained positive proof of effectiveness, the next milestone is to translate the lab prototype into a commercial prototype that can be manufactured in accordance to regulatory requirements.

"We are proud to have the support of Prof Lui Pao Chuen as Chairman of our Board and Associate Prof Louis Phee, Mr Jen Kwong Hwa and Mr Lu Yoh Chie as advisors to guide the company forward. We are also heartened by the early market interest from clinicians across the world expressing intent to buy the system, we hope to be able to fulfil market demand for the IMDX system by 2018," added Ms Florence Leong.

To date, the team has raised nearly S\$700,000 in the founding round. Endofotonics is currently applying for government grants to support the production of the IMDX system.

"NUS Enterprise is delighted that Endofotonics is commercialising this NUS technology - the world's first and only endoscopic device that can provide invivo, real-time, objective cancer diagnosis. This IMDXsystem has the potential to make tremendous impact on the way cancer is managed," said Dr Lily Chan, CEO NUS Enterprise.