

Arafura

Sea





Gastric Cancer Statistics

Stomach Cancer, an Asian issue



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Endofotonics



Vision - Mission

			<u>ر ا</u>	Gastric
Vision			1	Oesophagus
				Colon
Reduce	Early Cancer Detection Rate	Sensitivity	Specificity	Lung
Mission				Larynx
1011551011				Pharynx
Provide				Nose
	Spectra IMDx™			Ear
	System	88 %	98 %	Cervix
	System			Brain
				SKIN
	White Light	18 %	67 %	
	Endoscopy (Wle)		07 /0	

Improve Early Cancer Detection Rate

Endofotonics History



Board of Directors





Prof Lawrence Ho CMO / Founder

Sim Giok Lak Chairman, Zicom Group Ltd



Prof Lui Pao Chuen Advisor to National Research Foundation, Singapore

Prof Lawrence Ho

CMO/ Founder

- Prof Ho is an accomplished endoscopist; invited to perform live case demonstrations multiple international endoscopy in workshops.
- Chairs the Asian Endoscopic Ultrasound Group, which is a platform for leading EUS experts in the Asian region.
- President of Gastroenterological Society of Singapore in 2005-6.
- Published more than 180 peer-reviewed papers, more than 10 book chapters, coedited 2 books, and held 15 patents in translational products.
- Awarded the President's Technology Award; highest honor bestowed on exceptional research scientists and engineers in Singapore

Sim Giok Lak

Chairman, Zicom Group Ltd

- its Group Chairman and Managing Director.
- Experienced entrepreneur and business executive knowledgeable with expertise in public accounting, corporate development, financial and industrial management and international trade.
- Recipient of the EY Entrepreneur of the Year 2008.
- Zicom Group was the lead investor for pre-Series A round that closed Q4 2016.



Sim Kok Hwee **Director, Zicom Group Ltd**



Jen Kwong Hwa Venture Partner, Get2Volume Accelerator

Prof Lui Pao Chuen

Advisor to National Research Foundation, Singapore

- Founded Zicom Group in 1978 and is Advisor to the National Research Foundation, Prime Minister's Office and to six other Ministries.
 - He is also a member of the board of trustees of SUTD.
 - Was Chief Defence Strategist in MINDEF.
 - · Board member at Tropical Marine Science Institute and the Centre for Remote Imaging, Sensing and Processing (CRISP) in NUSST Kinetics and ST Electronics.
 - · NUS High School Board of Governors; and the Centre of Quantum Technologies.
 - Chairman of Singapore Technologies Dynamics, Sembcorp Design and Construction and board member of
 - Received the Defence Technology Medal (Outstanding Service)
 - Public Administration Gold Medal in 1992
 - Long Service Award in 1997
 - National Science & Technology Medal in 2002

Global Key Opinion Leaders





Visual / Imaging Display

m-NBI (Olympus)

Blue Laser Imaging (Fujinon)



Magnetic capsule endoscopy (Ankon)



Confocal Laser Endomicroscopy (Cellvizio)





Chromoendoscopy

Molecular / Cellular Information

In vivo IMDx Raman Spectra



IMDx Δ Raman Spectra

Normal-Intestinal met. Normal-dysplasia Normal-adenocarcinoma Intest. Met-dysplasia Intest. Met-adenocarcinoma

Dysplasia-adenocarcinoma

900 12001500 3000 3300 3600 Raman shift cm⁻¹









Spectra IMDx[™] Value Proposition

- 1. Real time feedback provide physicians with actionable information
- 2. No need for long hours of training









Visual

Manual Analysis based on Visual Images



Spectral

ML analysis based on **Molecular Information**

Video – Endoscopy Procedure Using Spectra IMDx G9000



Platform Solution for In-Vivo Application



New Development Plans



Technology Needs

Key Technology Areas

- Pattern based Fibre Bundling
- Optical Coating at Micron level for optical fibres / bundles
- High heat resistant Lithography masking for Optical Coating at Micron Level
- Micro-Optics for Fused silica element mass manufacturing
- Sub 100 micron High efficiency micro reflective mirrors

Open Innovation Needs

- Functional coating material insensitive to Raman scattering signature
- Low cost HIFI CW NIR laser; 250 mW \sim 400 mW
- Low cost compact HIFI spectrometer:
 - NIR sensitive detector
 - spectral resolution of 10 cm-1 or 1 nm
 - spectral range coverage of 250 to 300 nm in NIR

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Endofotonics

Vision

Reduce cancer burden through earlier detection

Mission

Provide real time early GI cancer detection

Quantitative Raman Spectral Analysis • Real Time Feedback • Improve Early Cancer Detection Rate

Thank You & Good Health !

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This presentation was presented at EPIC World Photonics Technology Summit 2019

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