OptiScan

The Global Leader in Digital Microscopic Imaging

Company Snapshot

Optiscan Imaging Ltd (ASX:OIL)

- Global leader in ‘in vivo’ confocal cellular level imaging for medical, translational and pre-clinical applications
- Est. 1994, ASX listed medical device company
- Unique, patented cutting edge technology:
  - ✓ Sub-cellular, 3D live microscopic imaging
  - ✓ Real time clinical decision making
  - ✓ Earlier: detection, diagnosis & treatment
- Platform technology with broad applications:
  - ✓ Gastrointestinal, breast, oral and cervical

Financial Snapshot

HQ | Mulgrave, Victoria, Australia

Market cap | A$65m

Revenue FY21 | A$1.0m (+14% YoY)

Cash on hand[1] | A$4.5m

Last quarter burn[1] | A$1.4m

Institutional[2] | Clermont Group 14.4%

Price | A$0.12
12 Month High | A$0.24
Avg. (90 days) | 375k

1. Based on accounts for period ending 30 June 2022 2. Most recent capital raising occurred in Sept 2020, when A$9.8m was raised from Orchid Capital Investments (part of Clermont Group)

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Optiscan Board

Prof. Camile Farah
CEO & Managing Director

Dual trained physician and pathologist.

Clinical trial expertise

Worldwide top-ten ranked expert in Oral Medicine[1]

Robert Cooke
Chairman

40-year career in health industry

Executive leadership roles in healthcare companies in Australia, Asia and UK

Sean Gardiner
Non-Executive Director

Managing Director of Clermont Capital, Singapore

20 years' experience in equity research, senior roles at Morgan Stanley

Karen Borg
Non-Executive Director

Medtech leader who has held senior executive roles in private and public sector

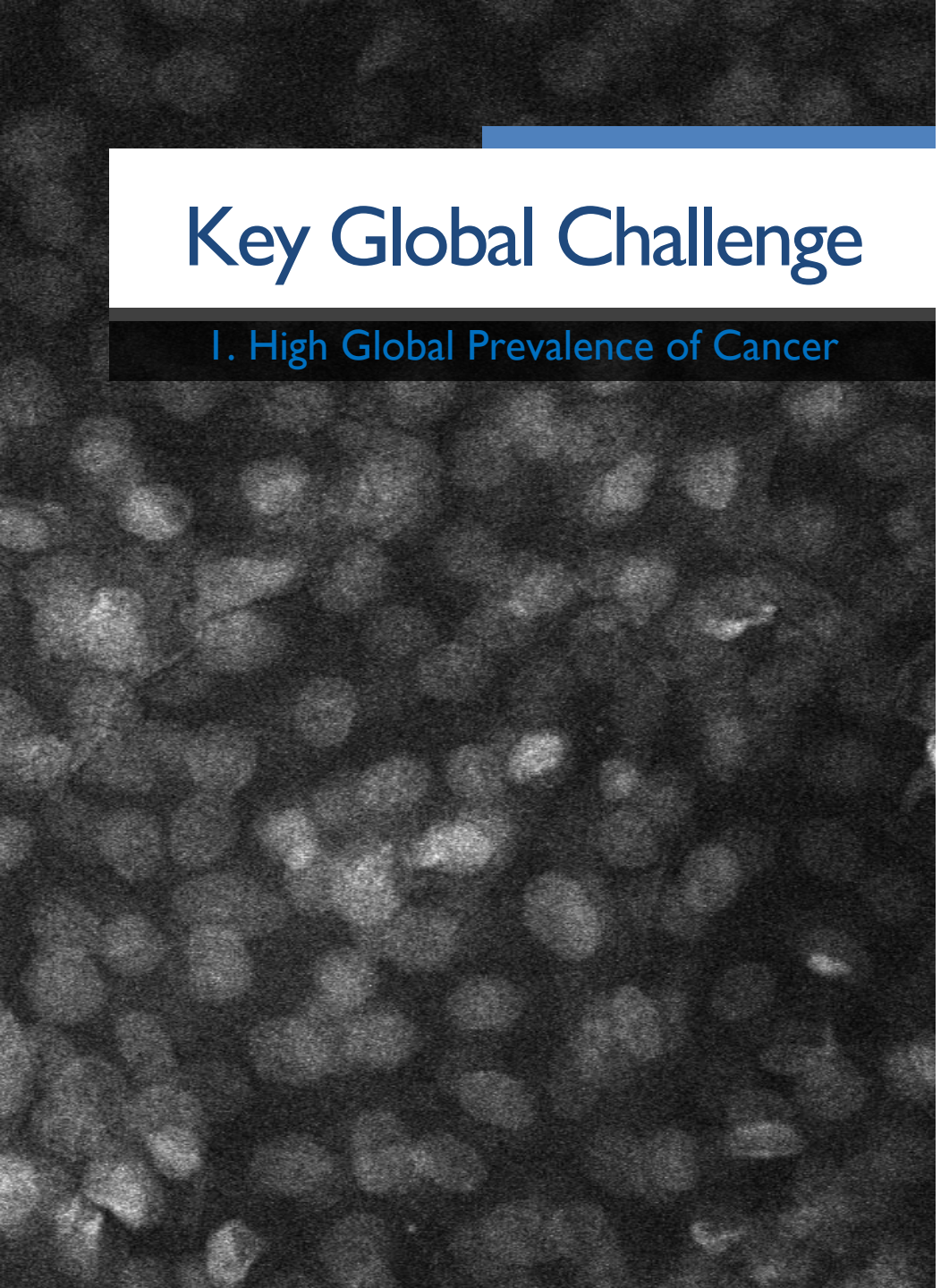
Formerly with Johnson & Johnson in US

Ron Song
Non-Executive Director

Track record of developing highly profitable ventures

Network of global contacts

1. Expertscape



Key Global Challenge

1. High Global Prevalence of Cancer

Oral Cancer: Key Facts[1]

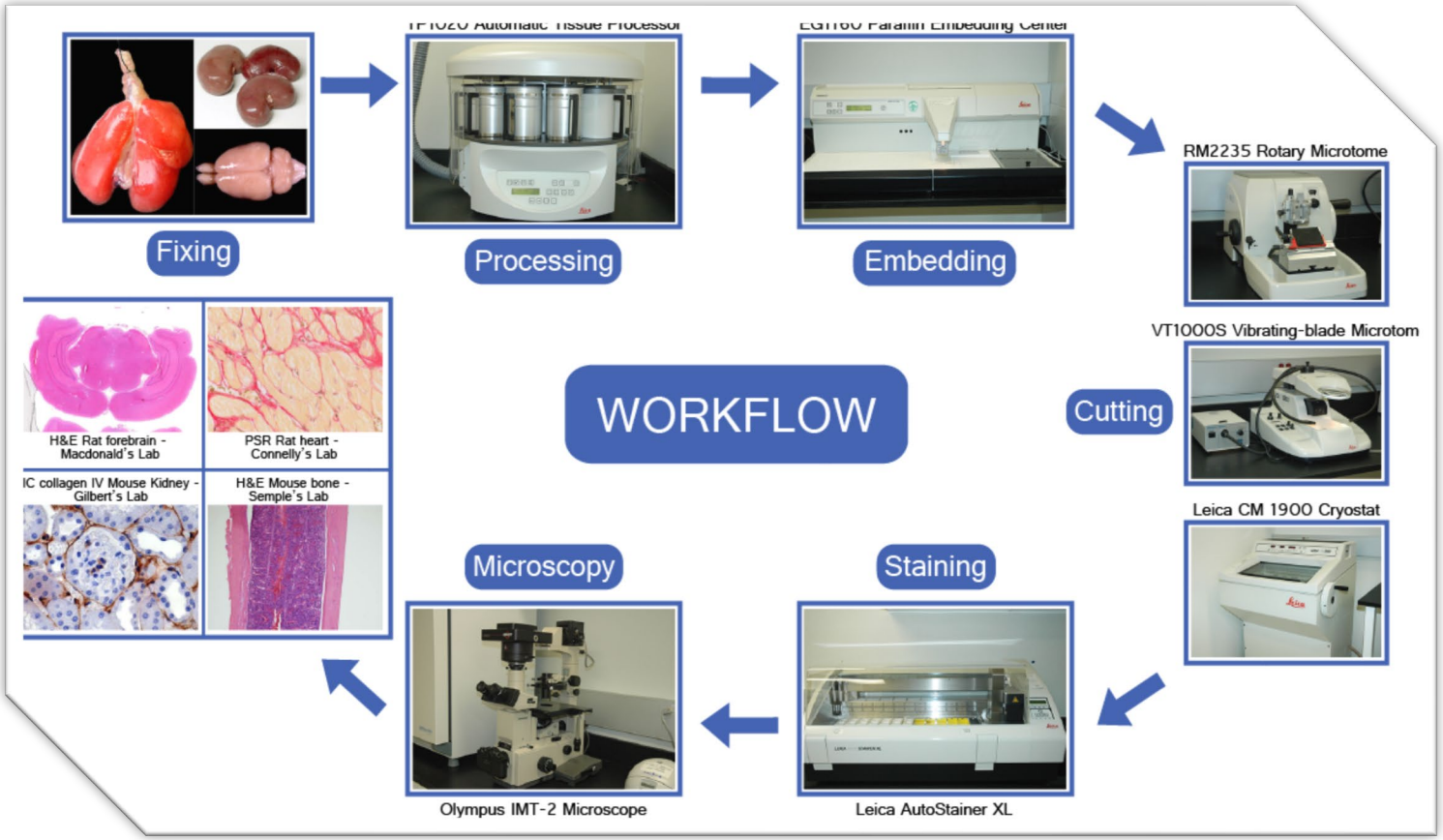
- 400m with abnormal oral tissue
- 12-20m with abnormal tissue will have oral cancer
- Annual incidence: 300k people
- Prevalence: 600k people
- 20% of adult population has an oral mucosal lesion, requiring investigation to avoid oral cancer progression

Solution: Early Detection, Diagnosis & Treatment

1. Based on Farah, C.S., et al., Oral Mucosal Malignancies, in Contemporary Oral Medicine: A Comprehensive Approach to Clinical Practice, C.S. Farah, R. Balasubramaniam, and M.J. McCullough, Editors. 2018, Springer International Publishing: Cham. p. 1-188. https://doi.org/10.1007/978-3-319-28100-1_21-1

Key Global Challenge

2. Traditional Histopathology Process



Sub-optimal, slow and too late

Traditional Histopathology vs. Optiscan Technology

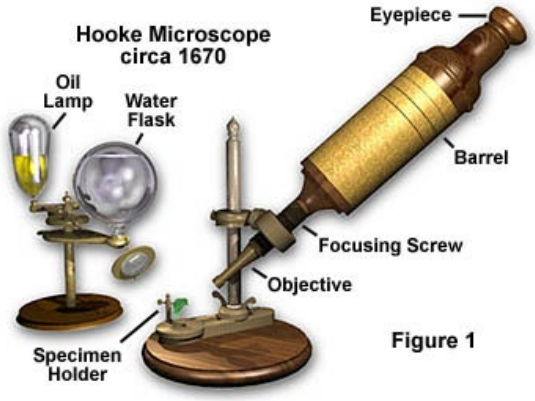


Figure 1

Traditional Histopathology: Challenges

- x Hours to days to receive clinical feedback
- x 'Single point in time' understanding of tissue status
- x Pathologist/Clinicians separated. Communication issues
- x Samples only a small fraction of possible diseased area

Traditional Histopathology: Impacts

- x Delayed clinical decisions
- x Negative patient outcomes
- x Increased healthcare system costs
- x Incomplete disease identification

Optiscan technology offers…

- ✓ Real time, *in vivo* clinical feedback. Non-invasive
- ✓ Monitor (same point) over time. Track treatment effects
- ✓ Pathologist / Clinician collaborate via digital workflow
- ✓ Unlimited sampling across diseased tissue

Optiscan technology enables…

- ✓ Immediate, informed clinical decisions & collaboration
- ✓ Improved patient outcomes
- ✓ Greater economic efficiencies in healthcare systems
- ✓ Opportunity to continuously image and monitor disease

Immediate Informed Decisions

1. Based on Farah, C.S., et al., Oral Mucosal Malignancies, in Contemporary Oral Medicine: A Comprehensive Approach to Clinical Practice, C.S. Farah, R. Balasubramaniam, and M.J. McCullough, Editors. 2018, Springer International Publishing: Cham. p. 1-188. https://doi.org/10.1007/978-3-319-28100-1_21-1

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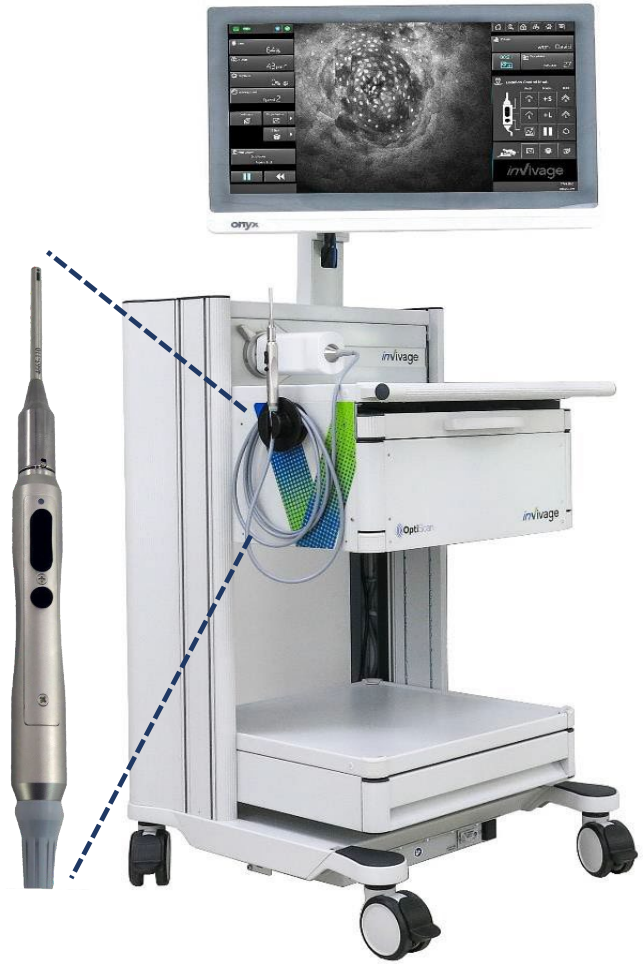
Product Range

ViewnVivo

Life Sciences - Research

invivage

Clinical – Oral Cancer (US launch 2023)



Optiscan Customer Value Proposition

Patients & Advocates

Enhanced accuracy of decision making and outcomes

Clinicians & hospital executives

Reduced negative impacts and cost savings

Markets & healthcare sector

Increased demand, maturity and readiness

Optiscan technology provides high resolution real-time digital images

Ability for non-invasive cellular imaging & surgical margin delineation

Digital platform allows efficient workflow solutions and AI-diagnostic

A new standard of care in digital pathology & precision surgery

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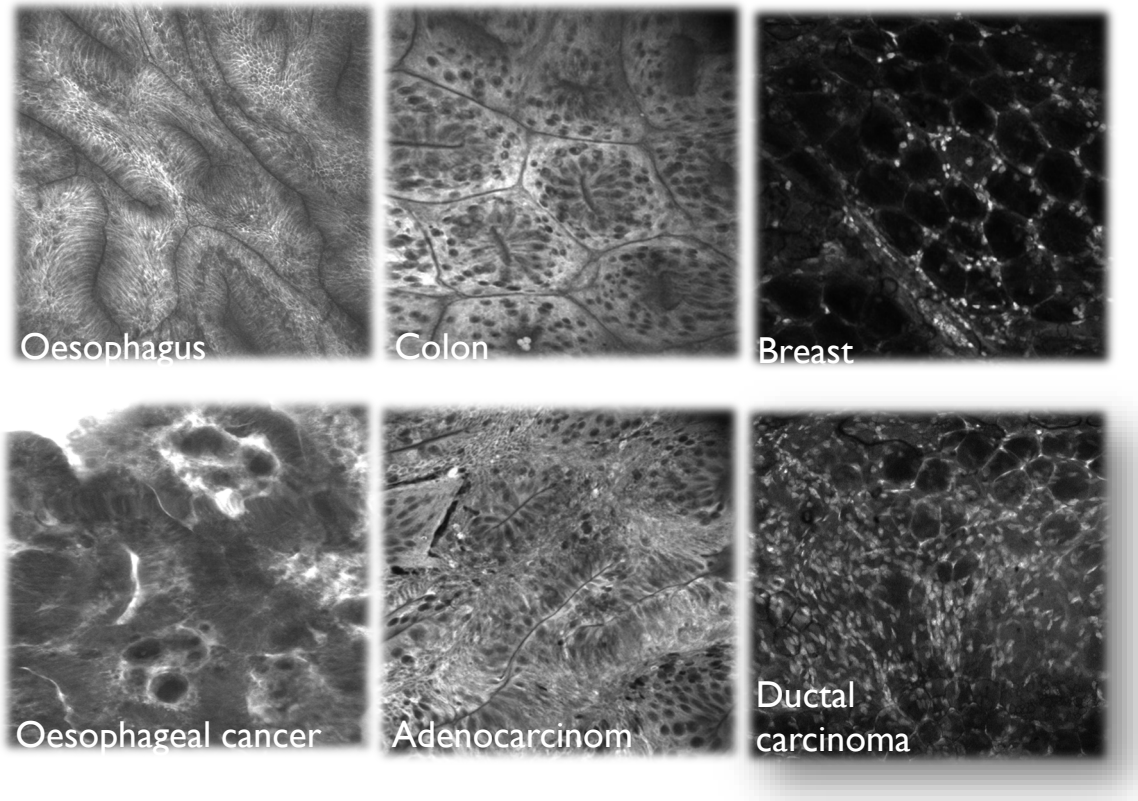
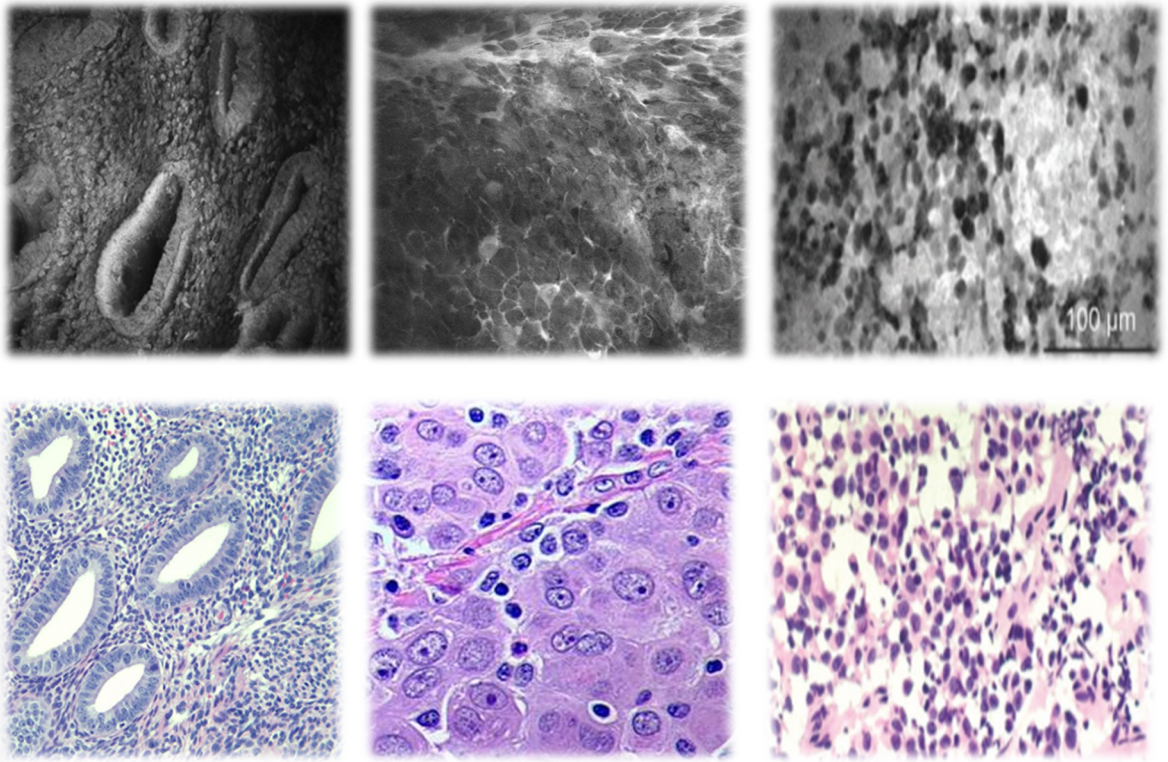
Excellent Correlation to Conventional Histopathology

Cancer vs normal



Correlation with Histopathology



Enabling a Digital Workflow within Health Systems

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Key Strategic Milestones

Legacy OEM Portfolio

Pentax *(historical)*

- Flexible endoscope opportunity

Carl Zeiss Meditec

- Currently manufacturing CONVIVO *(Neurosurgical)*

New Optiscan Imaging Portfolio

2 Hero Products

- ViewnVivo®: Life Sciences device, launched 2018.
- InVivage®: Clinical device (oral cancer) launching 2023

Technology Enhancements

- Enhanced resolution

Establish Strong Distribution Network

Distribution Partners

- Established presence and structure in Asia Pacific
- All partners trained, nurtured and engaged

Geo-Market Expansion

- US, EU and UK

Build Comprehensive Clinical Evidence Program

Clinical Trials

- Australia: WEHI, Melbourne Uni, Adelaide Uni, ACOORE, RMH, Epworth Hospital, Frances Perry House
- US: Barrow Neurological Institute (Arizona), and Memorial Sloan Kettering Cancer Center (NY)

Deliver Digital Pathology Solutions

Diagnostic Alignment with Frozen Section (31 tumours, 10.7k CLE images)

- Acc (94%), Sensitivity (94%), Specificity (100%)

Diagnostic Concordance (telepathology s/ware platform in neurology)

- 96% between CLE video & frozen section

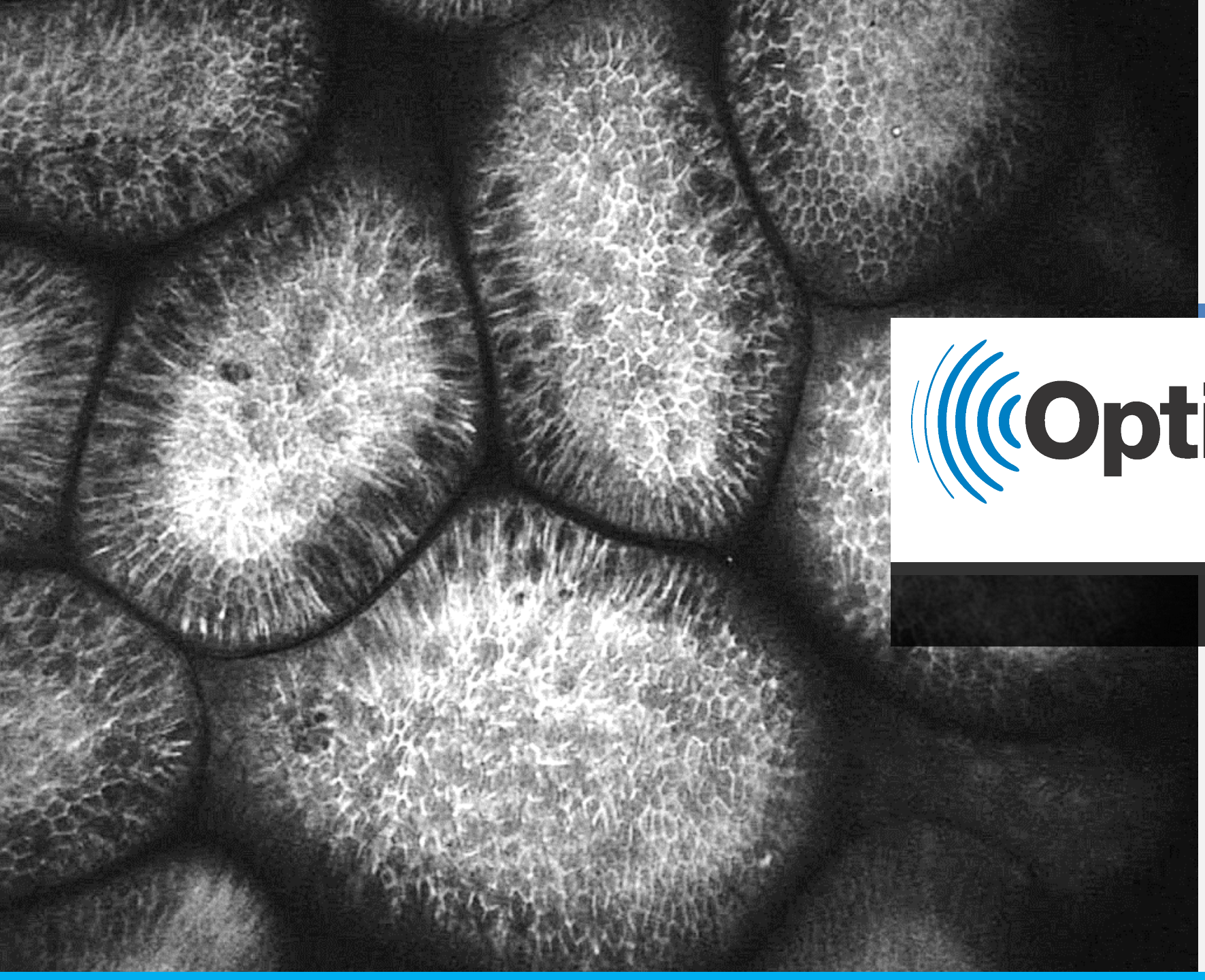
Royal Dental Hosp of Melb

- Imaging multiple oral tissues and lesions with topical fluorescein

Australian Centre for Oral Oncology Research & Ed

- 100% oral cancers diagnosed
- Immediate diagnostic capability of normal, dysplastic & cancer cells, residual cells, margin map, wound resection interrogation

Strategic evolution into pure-play medical device company | Rapid global expansion | Progress to a new standard of care in precision healthcare



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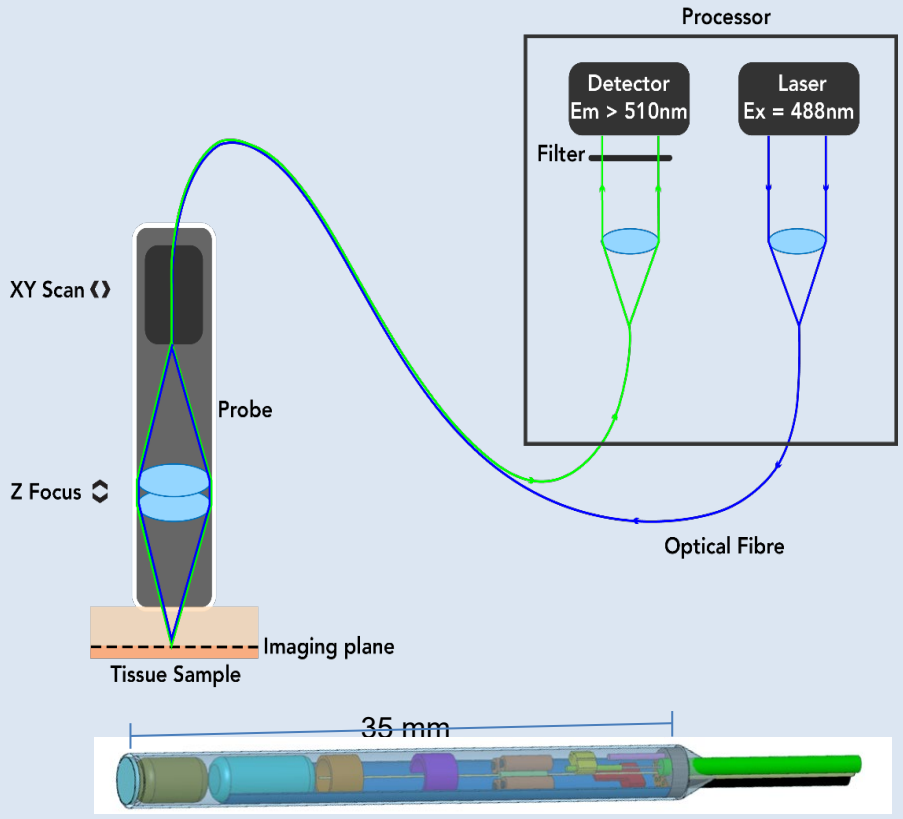
Technology Overview

How OptiScan technology works

PROCESS

- A single optical fibre projects a pinpoint of laser light into a ‘stained’ specimen in a scanned raster pattern
- Fluorescence is transmitted back to the detector

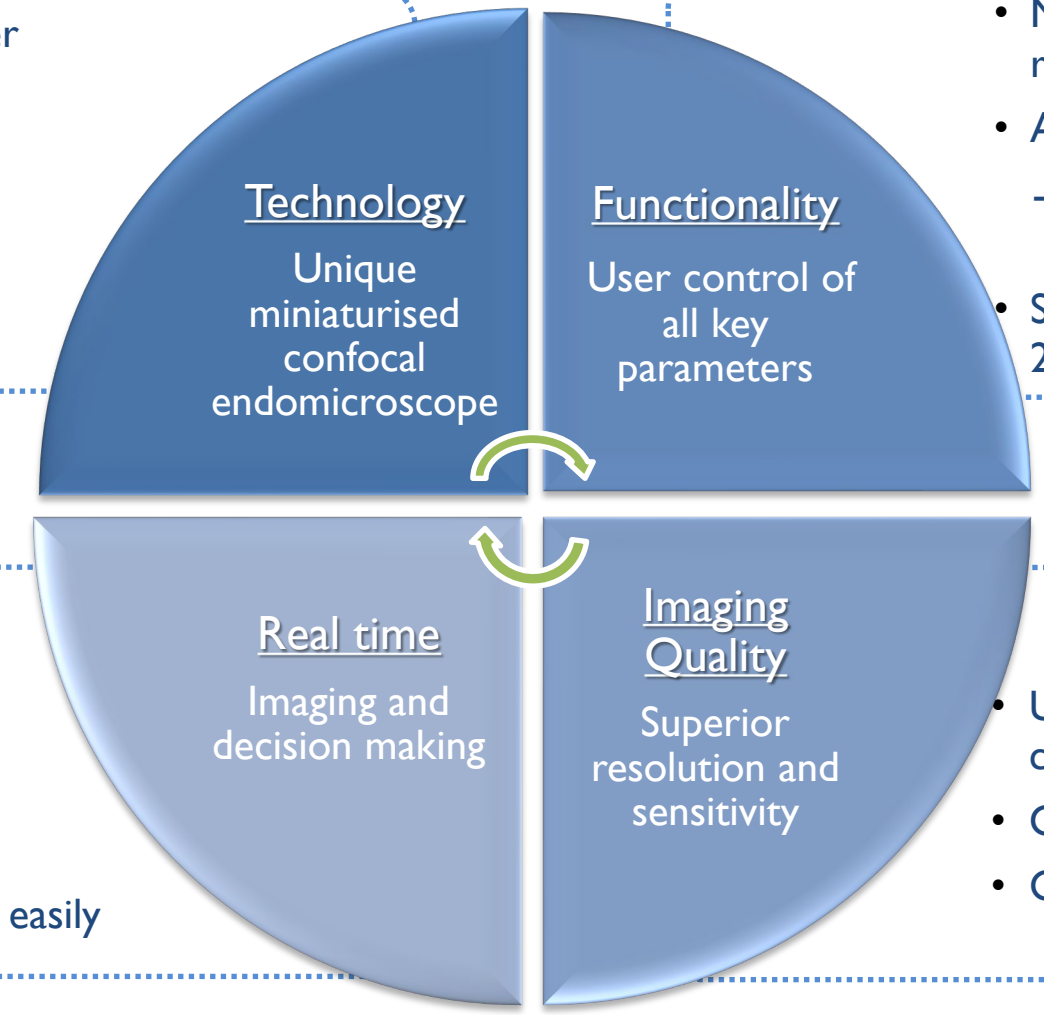


RESULT

- Fluorescence intensity variations are mapped, creating real-time microscopic images
- Moving lenses provide Z-Axis focus ability (3D imaging capability)

Technology Strengths

- Combination of low laser power ('safe') + high sensitivity
- Handheld probe option
  - Portable system
- Superior resolution via point scanning fibre



- Meet your protocol needs, not the reverse
- Advanced software functionality
  - Z-Stack, Rollback, Movie, 3D reconstructions
- Simple, easy to use - Operational in 2 mins

- Observe biological systems in totality & in real time
- Non-destructive
- Repeatable
  - Conduct longitudinal studies easily

- Unlimited image acquisition capability
- Optical sectioning - 'virtual biopsy'
- Cellular level details

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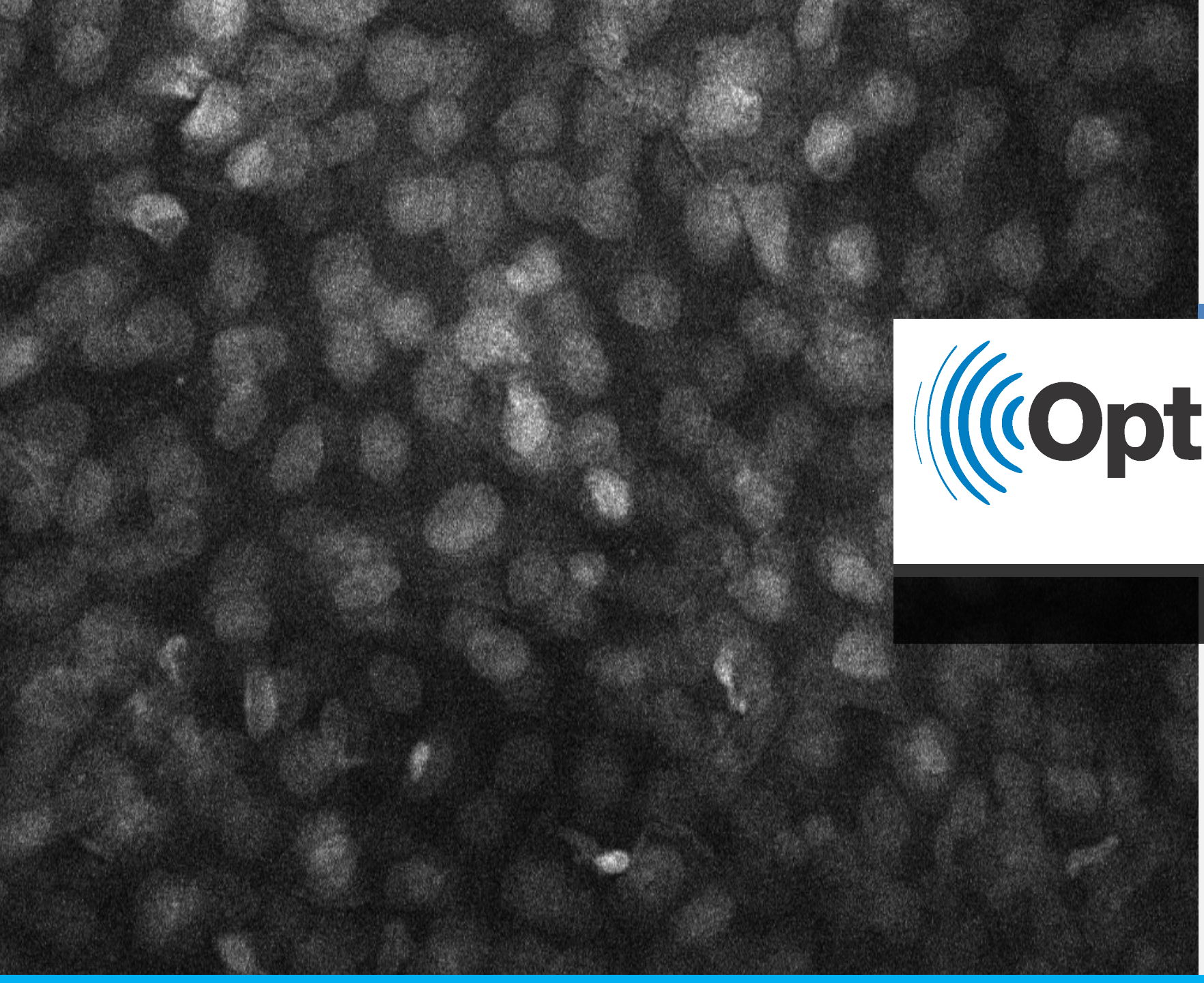

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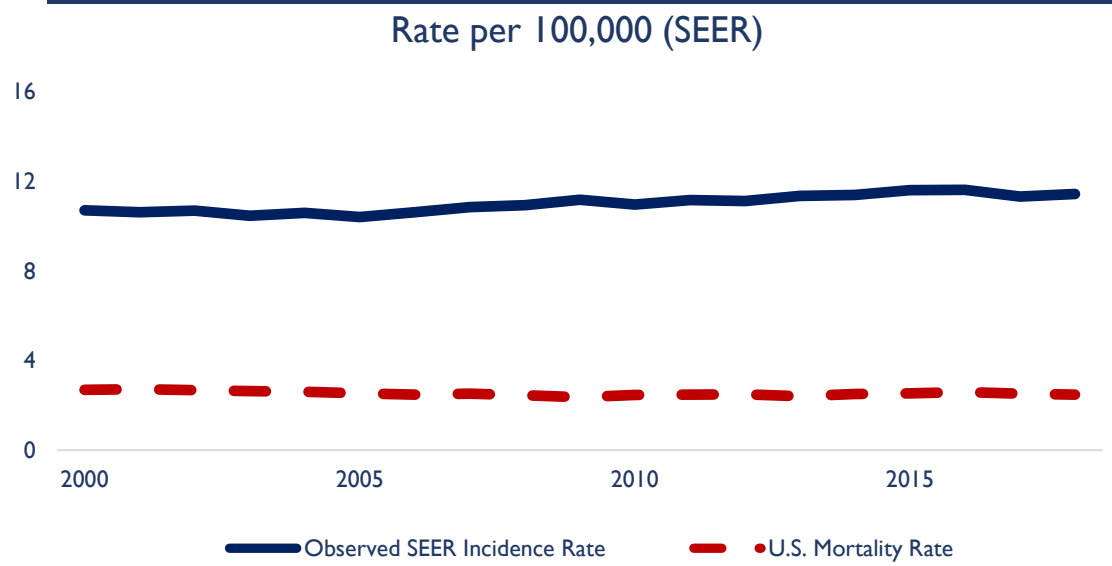
Oral Cancer in Focus

Primary Application: Head & Neck Cancer

KEY FINDINGS

- Head and neck (H&N) cancer is the sixth most common cancer worldwide, 750k patients, 300k deaths annually[1]
- US$16bn market in the US[2]
- High recurrence rates; 50-60% of patients develop a loco-regional recurrence within 2 years[3]
- H&N cancer incidence 65k cases annually (US), 13k deaths in 2020
- Annual rate of new cases of laryngeal cancer in US falling by 2-3% (fewer people smoking). Since 2012, declining mortality ~ 2%

US incidence and mortality for Oral Cavity and Pharynx



HIGH INCIDENCE & MORTALITY RATE MEANS EARLY DETECTION, DIAGNOSIS & TREATMENT VITAL

Optiscan technology

An attractive solution for monitoring post-surgery H&N cancers:
(1) High recurrence rates (2) Virtual biopsy approach - lower patient burden (3) Lower healthcare system costs

1. Kordbacheh F, Farah CS. Current and Emerging Molecular Therapies for Head and Neck Squamous Cell Carcinoma. Cancers (Basel).
2. Annual health care expenditure taking into account impact on patients and the health care system.
3. 'Follow-up in Head and Neck Cancer: Do More Does It Mean Do Better? A Systematic Review and Our Proposal Based on Our Experience'

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Solution - InVivage® Clinical Device

FEATURE

- Miniaturised hand-held rigid probe (4 mm diameter tip)
- Advanced software user interface
- High resolution images, 1000x real magnification
- DICOM-compatible/PACS-enabled

BENEFIT

- Virtual histology and biopsy within health systems
- Real-time, sub-cellular, live microscopic imaging, enabling immediate, informed decision making
- Improved patient outcomes with clearly defined, targeted cancer screening and surgical margin assessment
- Reduced need for traditional histopathology and surgical revision, generating efficiencies within healthcare systems

FDA 510(k) approval for use in oral screening expected 2023

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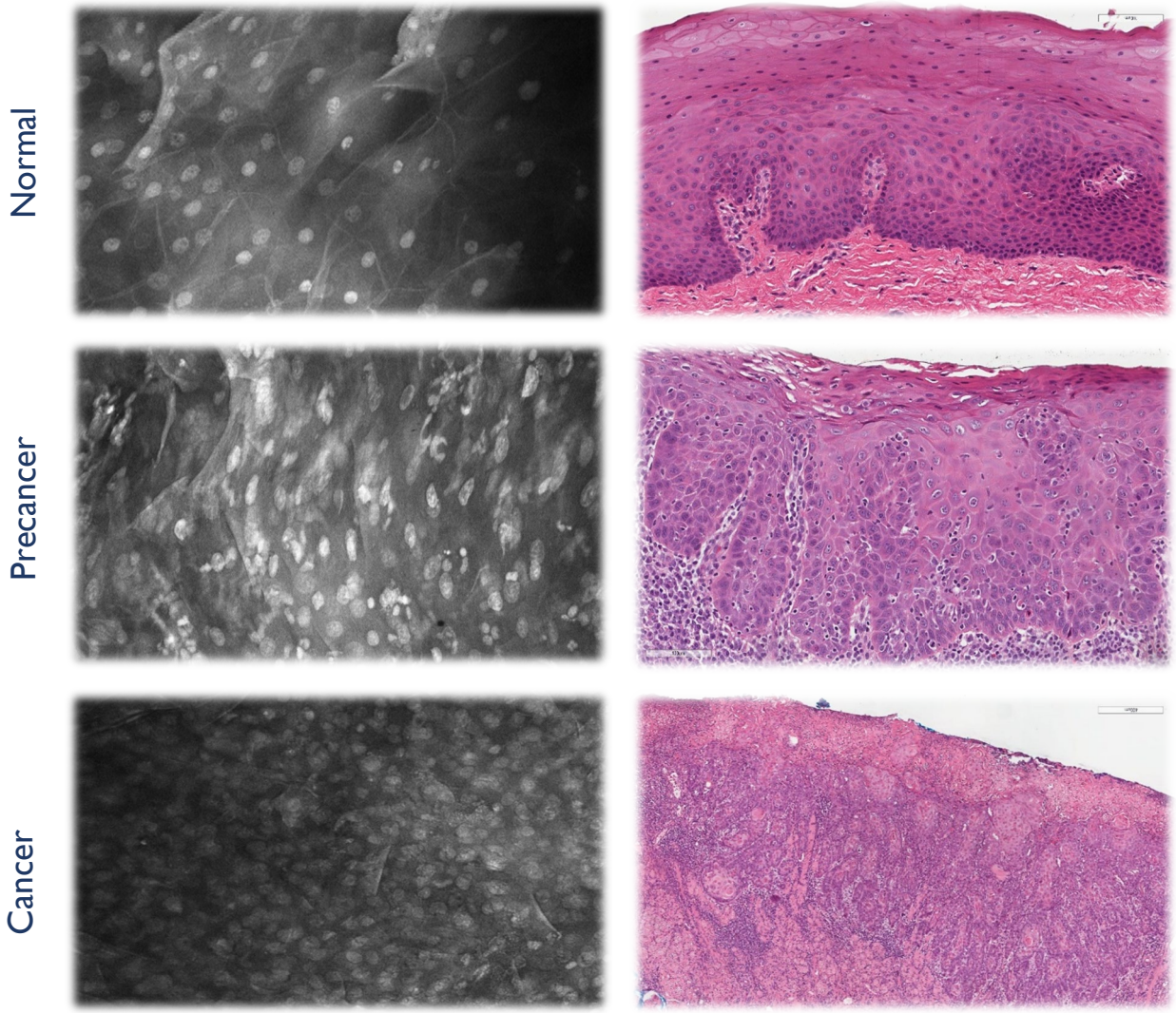
Proven Correlation for Instantaneous Oral Screening



Prof Camile Farah, Australian Centre for Oral Oncology Research & Education

- Using Optiscan technology, oral cancer can be differentiated from precancer and normal tissue
- Oral tissue/lesion microstructure correlates between confocal images and histopathology
- Future potential for AI applications and computer-assisted oral cancer detection

Competitors: Oral Segment

Blue light with natural tissue fluorescence provides less detail to support clinical decision making compared to Optiscan, however, offers wider field of view, being 'macro level detection'

Clinicians

- Have questioned value of competitor technology, due to lack of cellular level resolution

Competitors

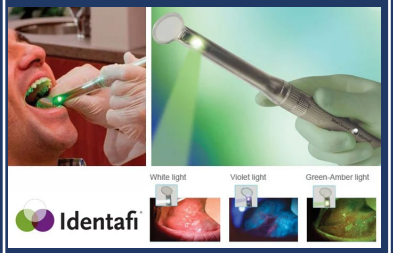
- Rely on blue light technology and natural tissue fluorescence. Do not use staining agent
- Technology has no visibility at the cellular level, reinforcing above perception of some clinicians

Cost

- Relatively inexpensive devices

Optiscan Technology

- InVivage® is differentiated in its miniaturisation and cellular level digital imaging capabilities

Product	VELSCOPE	IDENTAFI	ORALID	DOE SE
				
Technology	Autofluorescence imaging (AFI)	Multi-spectral fluorescence and reflectance (soft tissue)	Blue light fluorescence technology	Autofluorescence imaging (AFI)
Use	Detection of Natural Tissue Fluorescence; used in screening and surgery			
FDA Approval	Yes	Yes	Yes	Yes
Market positioning	Market leader in blue light	Uses "Multi-Spectral Fluorescence" as differentiator	Differentiates on price position, cheaper due to lower lifetime costs, less reliance on consumables	Perceived as inexpensive, quick to implement

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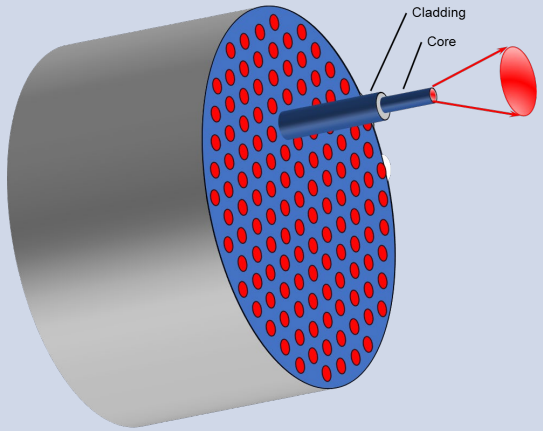
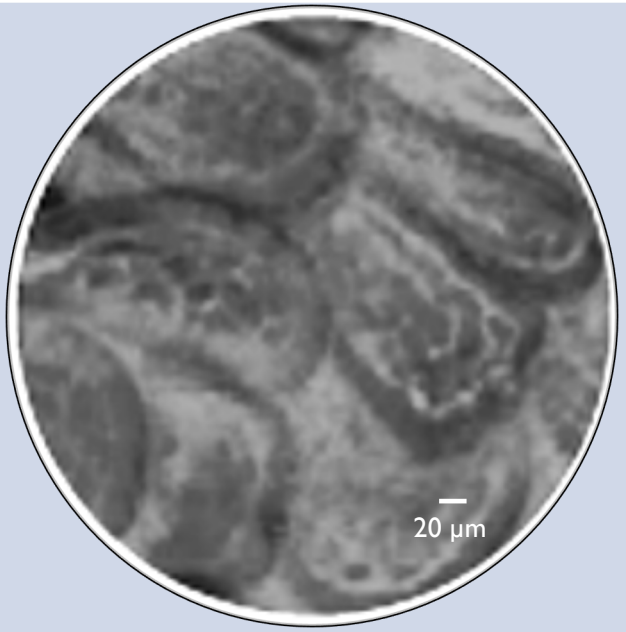
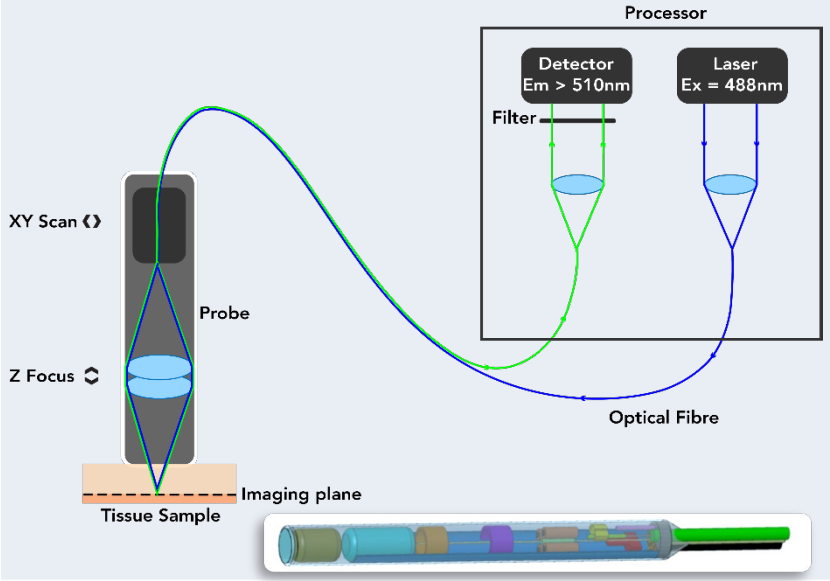
Competitors: Endomicroscopy Product Segment

Product	Technology	Image – Mouse Ilium	Comparison
CELLVIZIO Mauna Kea Technologies Ltd	Bundled Fibre 		X Bundled fibre, leaving gaps between fibre points with no image capture X Image is an array of spots, with critical data missing X Image is artificially 'smeared', transforming raw pixelated data to appear smooth. Unwanted image artifacts introduced X Sub-optimal image sampling X No Z-stack capability for image depth actuation
INVIVAGE® Optiscan Imaging Ltd	Scanned Fibre 		✓ Single fibre ✓ Whole imaging plane is scanned ✓ No blank spots, all critical clinical information displayed ✓ Sub-micron optical resolution with optimal image sampling ✓ Z-stack capability enables optical sectioning depth actuation

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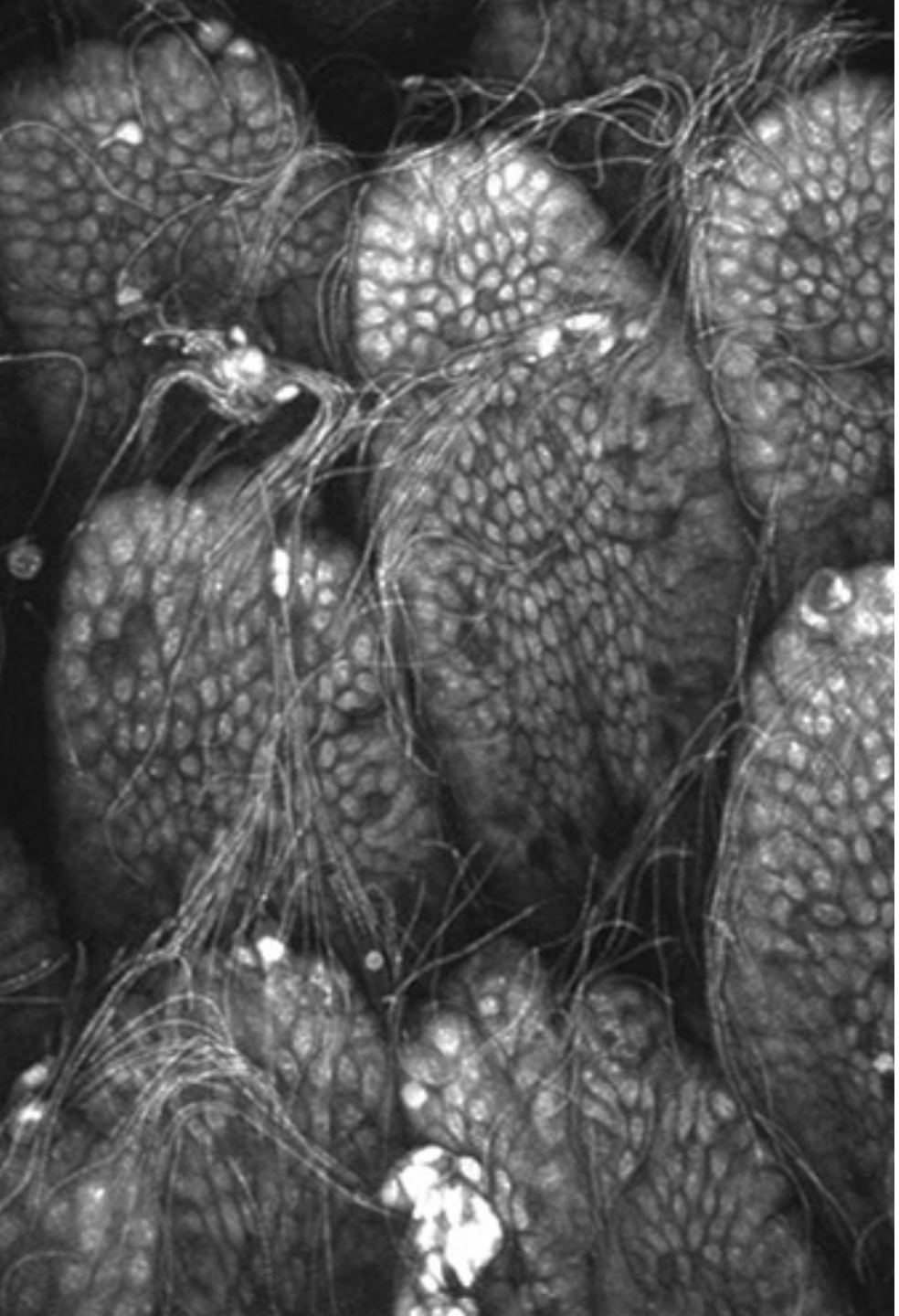
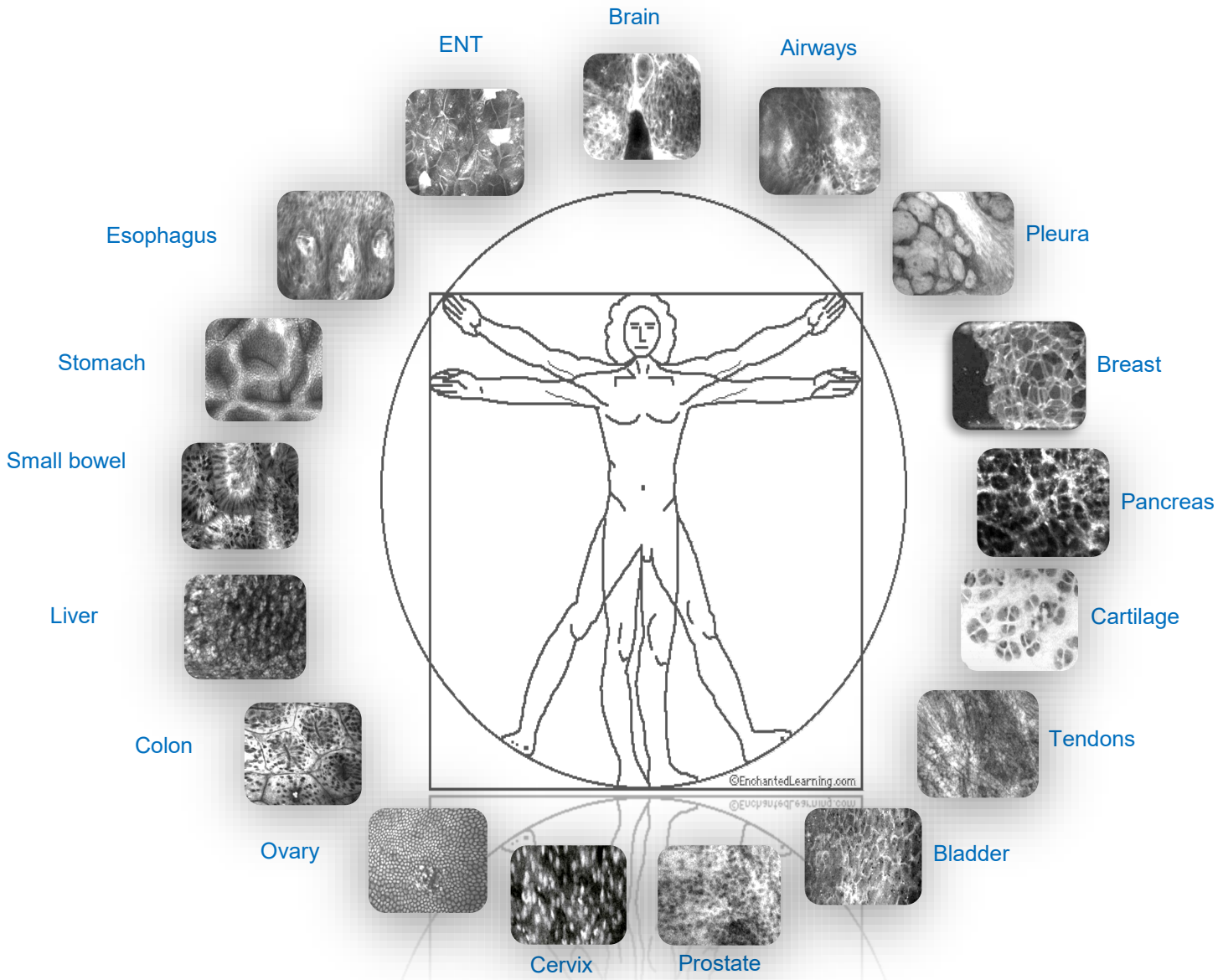
The Future



OptiScan: A Platform Technology



Extension Applications

Almost limitless where tissue light transmittance is possible

Current Associated Costs in US (2020)

- Oral and Head & Neck
- Breast: Technology enabled (ease of access – touch and see/record) encompassing in vivo or ex vivo tumour margin delineation (studies in progress)
- Cervical
- GI: Partnership opportunities with multiple global endoscope makers

Current Associated Costs in US (2020)

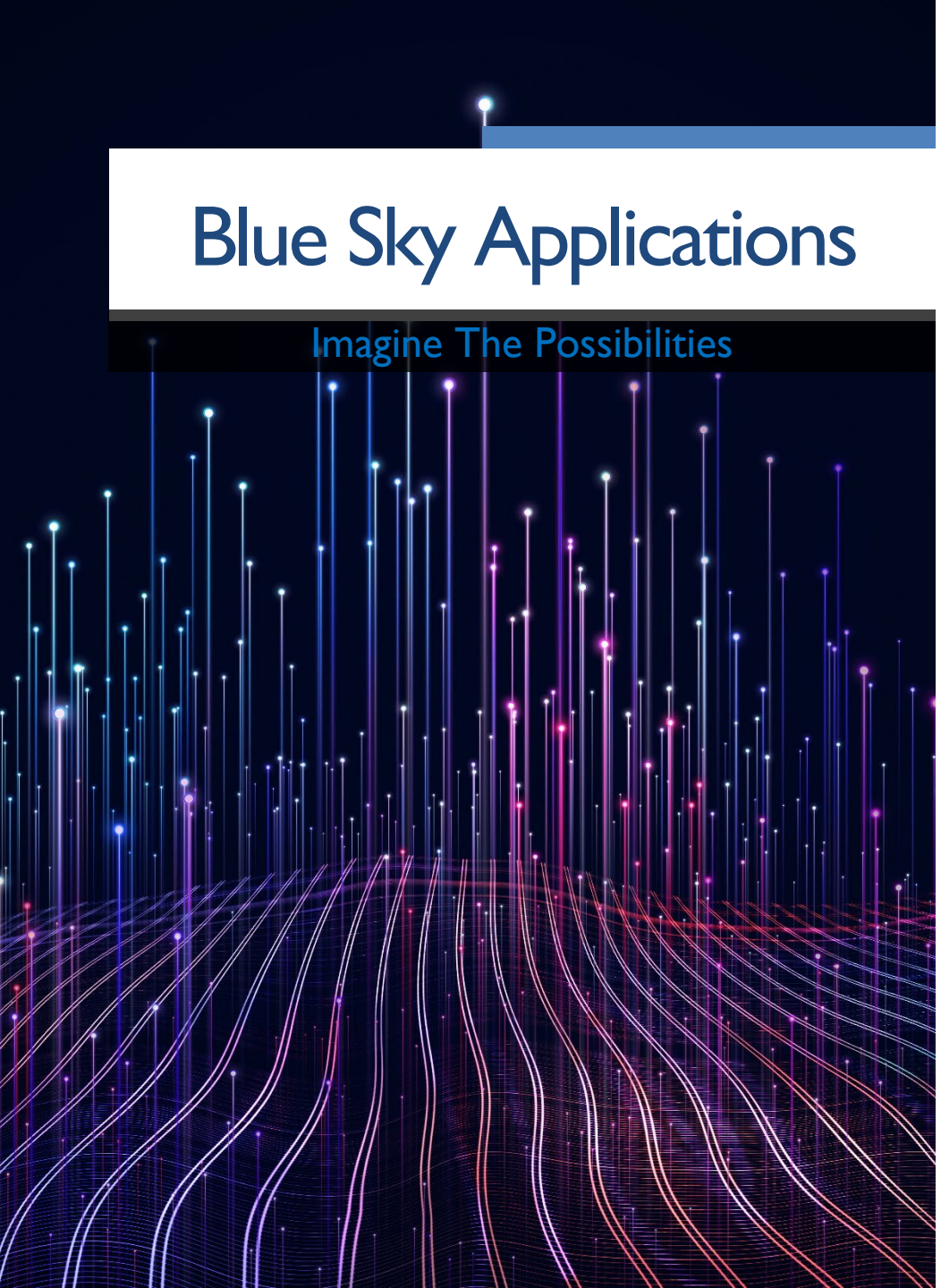
Measure	Breast	GI	H&N	Cervical	TOTAL
Total Healthcare Spend (USD)	$97b	$56b	$16b	$8b	$177b
Prevalence (cases)	3.6m	1.5m	50k	604k	5.75m
% Overall Cancer Cases	12%	19%	5%	3%	39%

OptiScan Technology

✓ Non-invasive, non-destructive, real-time, *in vivo*
✓ Repeatable – monitor disease progression & intervention outcomes
✓ Zero incremental cost per image
✓ Greater clinician collaboration

Blue Sky Applications

Imagine The Possibilities



- Real Time AI and algorithmic based identification & diagnostics
- Integration with current/future robotics systems
- Biopsy channel compatible devices
- Molecular imaging

Revolutionising Healthcare

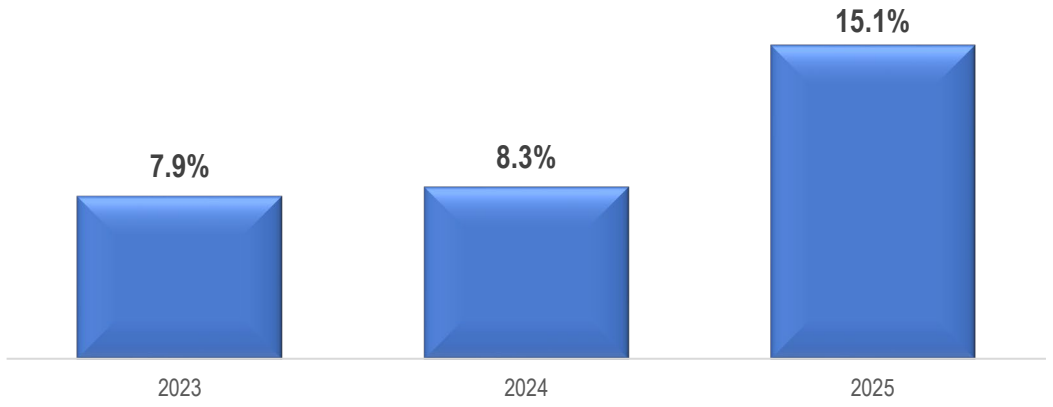
Financial Projection

Exciting outlook underpinned by multiple revenue streams

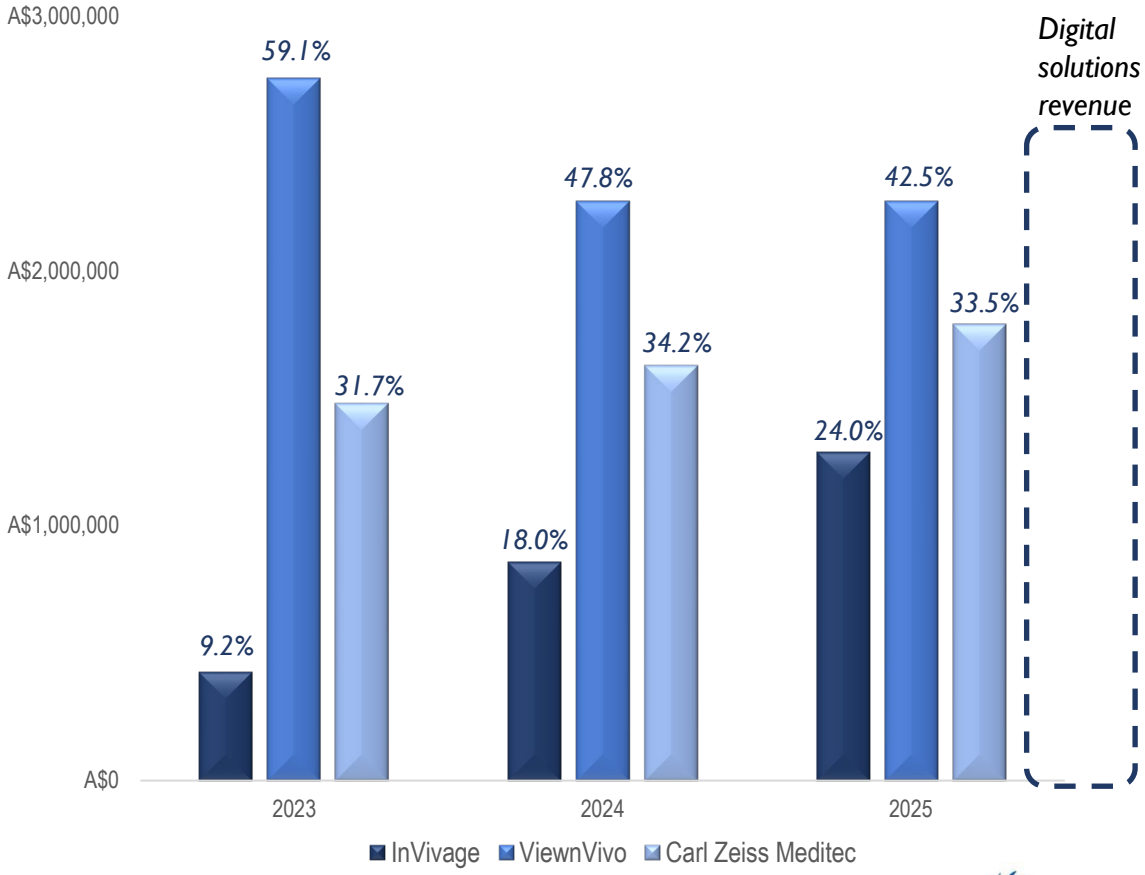
Summary

- Equity, grants, and R&D tax incentives to fund operations and growth strategy
- By 2025, no single product will dominate revenue generation
- Strong innovation contribution – 40% of cash invested into R&D
- No debt on balance sheet – retaining financial flexibility
- InVivage® >80% gross margin
- Future revenue stream being developed for digital and software

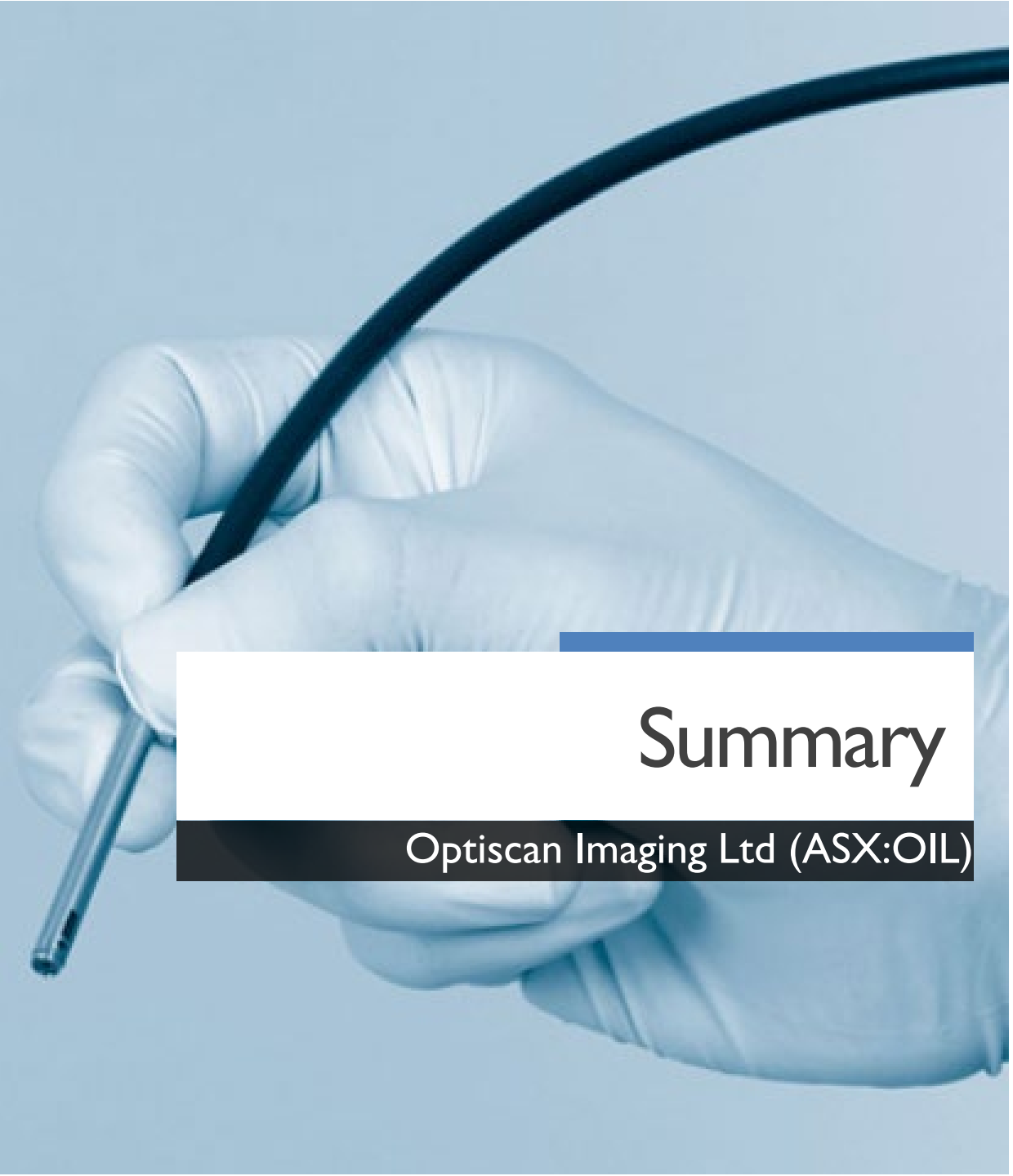
Total Operating EBITDA margin to increase[1]



Revenue generation – increasing product diversification



1. EBITDA excluding project expenses 2. According to Frost & Sullivan, by 2025, c.80% of healthcare business models will be driven by platform-based healthcare analytics and intelligence solutions



Summary

Optiscan Imaging Ltd (ASX:OIL)

- Global Leader in Digital Microscopic Imaging
- Immediate Informed Decisions
  - ✓ Earlier: Detection, Diagnosis, Treatment
  - ✓ Image-guided surgery
  - ✓ Digital telepathology workflow
  - ✓ Improved patient outcomes
  - ✓ Economic efficiencies for health systems
- Indication Expansion
  - ✓ Gastrointestinal, breast, oral and cervical
- Establishing Strategic Partnerships
  - ✓ Telepathology, Artificial Intelligence
  - ✓ Molecular Imaging, Robotics
- New Standard in Precision Healthcare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Thank You

Appendix

Optiscan Imaging Ltd (ASX:OIL) – Detailed Summary

Who	• Est. 1994. Unique patented protected technology. • Focus sectors: Life Science/Research and Clinical (tumour detection and margin detection)
What	• Commercialising core technology for the clinical segment • Platform technology delivering a 'digital pathology solution' to improve patient outcomes and theatre workflow throughput and lower overall healthcare system costs and disease burden • Significant doctor/patient benefits through a real-time 'virtual biopsy' approach – earlier detection focus • Proven technology (Carl Zeiss Meditec using Optiscan technology in neurosurgical device) • Clinical studies initiated in Oral and Breast. Potential applications in other Head/Neck, Cervical, GI.
Market	• Estimated at US$177b (Oral/Head & Neck, Breast, GI cancer-related costs)
Target Customers (Users)	• Surgeons, Physicians, Pathologists
Payers	• Hospital procurement (public, private)
Relationships	• Major medical institutions (MSKCC), Carl Zeiss Meditec, Pentax
Trends	• Artificial Intelligence (AI) applications, Telepathology, Molecular imaging/disease markers
Products	• InVivage® - Clinical handheld miniature microscope system • ViewnVivo® - for Life Science
Employees	• 22 FTE across engineering (electrical, software, design), clinical, commercial (marketing, sales), production, quality/safety, finance
Manufacturing	• Dedicated manufacturing facility in Melbourne, Victoria with clean room, research, production, warehousing & distribution
Relationships	• Substantial engagement and relationships with clinicians and institutions globally • Expanding via priming the market with raised awareness and new connections; building database through attending local and international conferences; building use cases via clinical evidence and publications
Distributors	• Existing, engaged APAC Distribution Partner network • In process of finalizing network for US, EU and UK
Regulatory	• FDA 510(k) submission (InVivage®) completed (Aug 2022) and under review

OptiScan

Product History

Current Product Range

F-900
Desktop Confocal

1995

Stratum
Skin Imaging Device

1999

PENTAX

Pentax ISC 1000
Pentax–Optiscan Collaboration

2006

FIVE1
Laboratory Flexible Confocal

2007

ViewnVivo
Laboratory Flexible Confocal

2018

ZEISS

Zeiss CONVIVO
Optiscan-Zeiss collaboration product for Neurosurgery

2018

InVivage
Oral Cancer Screening

FDA submission completed

2023

Transition from OEM Supplier into Pure-Play Medical Device Company

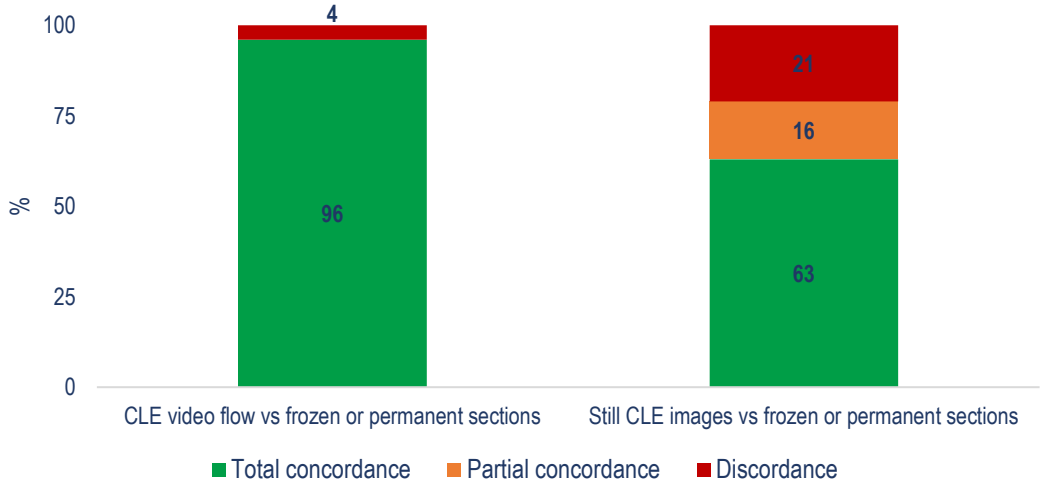
Technology in action: Real-time communication with neurosurgery and pathology

Game changing technology with proven benefits, enabling on-the-fly decision making

The opportunity

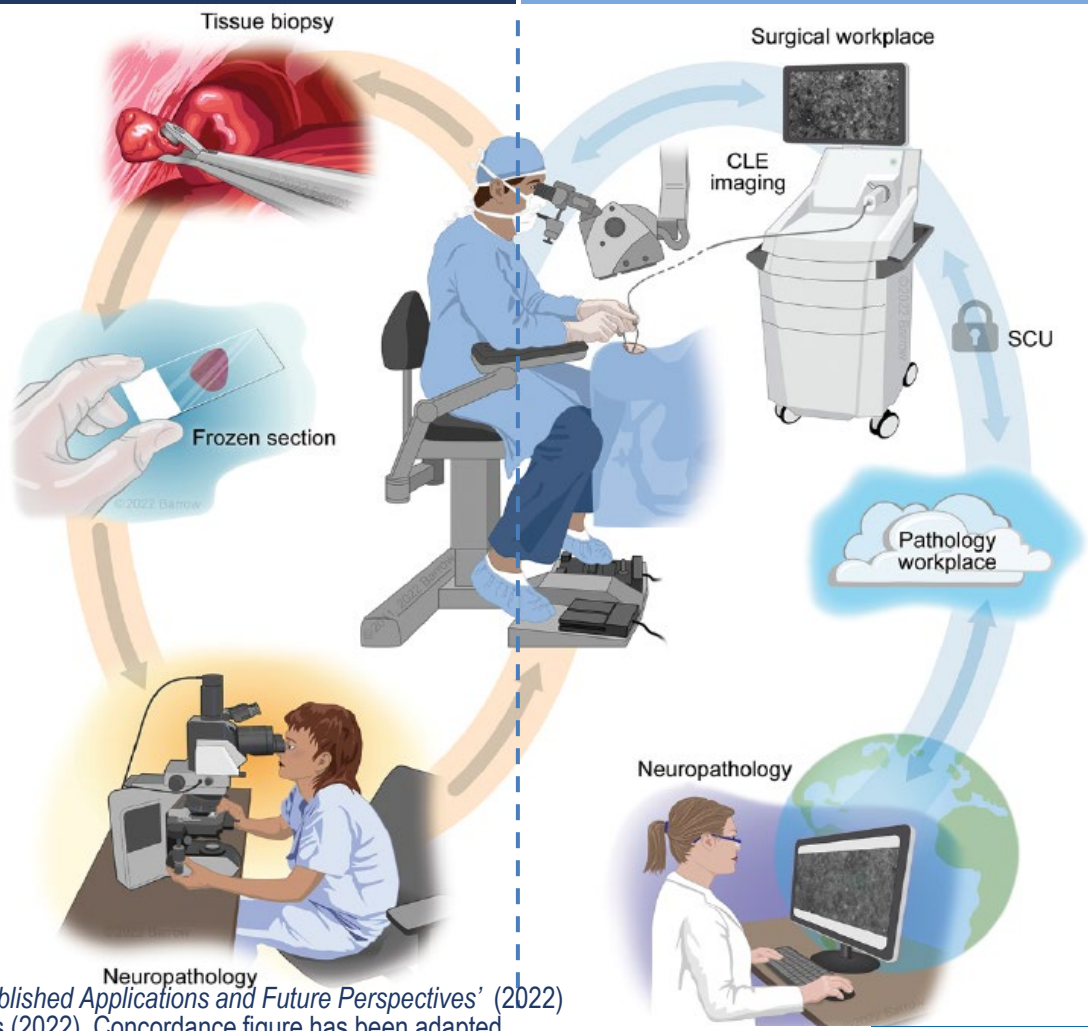
- Intraoperative tumor visualization represents one of the most important problems in neuro-oncological surgery[1]
- Recent studies have shown use of CLE in conjunction with surgical telepathology software, has significant workflow advantages over standard frozen section analysis[2]
  - ➢ Frozen sections processed within **~23mins vs. ~1min for CLE**
  - ➢ **96% concordance** achieved between CLE and H&E sections

Diagnostic concordance at an excellent level of 96%[2]



Frozen section processing

Use of CLE imaging



1. *'Editorial: Intraoperative Fluorescence Imaging and Diagnosis in Central and Peripheral Nervous System Tumors: Established Applications and Future Perspectives'* (2022)
2. *'Real-time intraoperative surgical telepathology using confocal laser endomicroscopy'* published in Neurosurgical Focus (2022). Concordance figure has been adapted.

How Optiscan will win in the marketplace

Optiscan is uniquely positioned with few competitors possessing the same capabilities

Overview

- **Optiscan Technology is hard to replicate and patent protected**
- Closest competitor is Paris/US-based Mauna Kea Technologies
- Point of distinction - Mauna Kea Technologies uses Fibre Bundle Imaging whereas single fibre for Optiscan
  - ➢ Optiscan imaging quality is generally superior

Competition in oral application

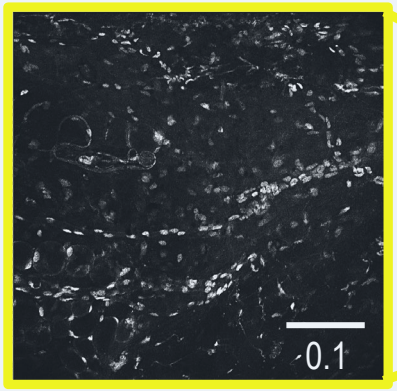
- Alternatives are blue light with natural tissue fluorescence which provides less detail to support clinical decision making compared to Optiscan, however offers wider field of view, being 'macro detection'
  - ➢ Lack of cellular level resolution detail compared to Optiscan
- Examples include: VELscope, Identafi, OralID, DOE SE

Competition in breast application

- Optiscan has advantage in higher resolution
- Examples of competitors identified: MarginProbe, OncoRes, Faxitron
  - ➢ OncoRes: picks up large compromised margins apparent with the naked eye but no data is available on how accurately it predicts cellular level residual cancer
  - ➢ Whereas Optiscan can visualise individual cells and characteristic patterns form when become cancerous, which patterns are very amenable to AI image analysis

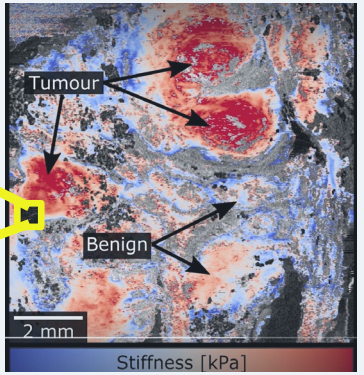
Competition in GI application

- The ability to interpret digital biopsies on-the-spot does not currently exist



Optiscan breast cancer trial image

Comparison of Optiscan image detail vs OncoRes image detail



OncoRes breast cancer trial image

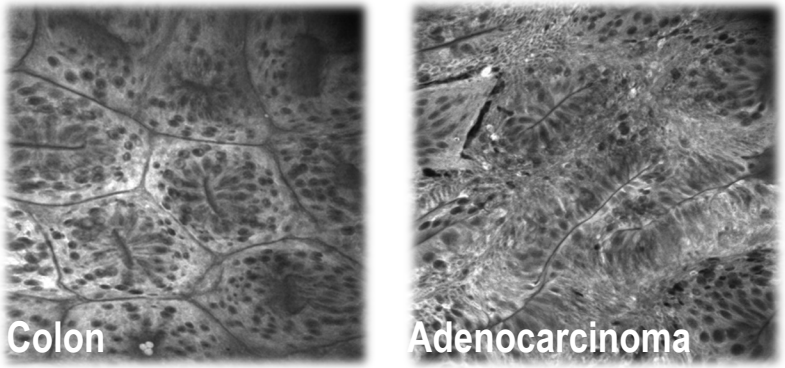
Example of new application: Human gastrointestinal (GI) disease

GI is one of the largest segments in cancer that can benefit from Optiscan's technology value-add

Global Overview

- High incidence in Western countries; especially in US, Australia, Europe
- Approx. 267k new cases of GI cancers, 242k GI deaths, in US p.a.
- GI accounts for 1 in 4 cancer cases, 1 in 3 cancer deaths globally
- International studies typically show high recurrence rates for GI cancer (China study – 60% post resection; European – 37%)
- GI cancer is the most common cancer in Australia
  - 1,174 deaths from stomach cancer alone in Australia (2019)
  - In Australia, low 5-year survival rates for GI, at 51%

Optiscan – proven ability to differentiate cancer



US example

- US$136bn market in the US to capitalise on by total expenditure
- Estimated 17.7m endoscopic procedures are performed annually in the United States (one procedure per 15 adults on average)
- A US stomach cancer patient will give up c.US$ 130k/year
- Among patients admitted to hospital for GI issues, one in seven will be readmitted within 30 days

The opportunity

- Optiscan was an early pioneer in endomicroscopy for GI
- A large proportion of procedures would benefit by way of time-saving and accuracy from having access to reliable, real-time microscopy
  - Optiscan tech helps decrease likelihood of repeat procedures that are associated with use of standard endoscopy alone, decreasing procedure times and minimising waste
- US CPT codes for real-time digital pathology will unlock significant savings for institutions and surgeons, also benefiting patients
  - Digital biopsy interpreting possible through remote, cloud-based workflow interactions between pathology and operating theatre

Optiscan tech is game-changing for gastroenterologists, patients and the healthcare system

OptiScan