

Investor Conference Presentation - July 2021

26 July 2021

ASX: 4DX

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Executive summary

4DMedical is a software company creating a step change in the capacity of physicians to diagnose and manage patients with lung disease via its four-dimensional lung imaging platform - XV Technology™

- Focused on commercialising our flagship XV Lung Ventilation Analysis Software (XV LVAS™), which utilises mathematical models and algorithms to convert X-ray images into quantitative scan data
- Clinically validated to provide non-invasive analysis of regional lung motion and airflow in real-time

Global respiratory diagnostic market represents a ~US\$31 billion per annum opportunity

- Approximately 377 million respiratory diagnostics tests performed per annum globally
- Existing lung diagnostics are decades out of date, not fit for purpose and ripe for displacement
- Initial focus on the U.S. respiratory diagnostic market worth US\$13.7 billion per annum

Company is well funded to execute on commercialisation strategy

- Offering is focused on improving hospital and patient outcomes with limited capex requirements
- Capital light business model with rapid SaaS deployment expected >90% gross margin
- Significant barriers to entry: first mover, strong IP portfolio and advanced product pipeline
- Strong balance sheet, with A\$80.9m cash in bank as at 30 June 2021





Respiratory Diagnostics Market Overview

~US\$31 billion global lung diagnostics market opportunity ripe for disruption

- Initial focus is on penetrating the U.S. and Australian markets representing a US\$13.7bn and US\$285m opportunity respectively
- Given the large market size, even low market penetration could lead to substantial revenue generation with high gross margin
- Respiratory diagnostic technologies are out of date having made insignificant advancements over the last 50 years
- Approximately 99% of all lung diagnostics are made up of thoracic X-ray, thoracic CT, PFTs and nuclear medicine
- Current diagnostics trade off accuracy, sensitivity, cost and radiation exposure, while failing to provide a comprehensive insight into the form and function of the patient's lungs

Global lung diagnostics market

Computed Tomography (CT)

Procedures

44.5m

Expenditur

US\$11.9bn

Nuclear Medicine

1.4m
Expenditure
US\$1.6bn

Pulmonary Function Tests

Procedures

78.9m

Expenditure

US\$3.4bn

X-ray Technology

Procedures

253.0m

Expenditure

US\$14.5bn



Spirometry & PFT

Accurate but insensitive

Overview

- Invented in 1846
- 1-dimensional technology
- Current benchmark in lung diagnostics
- #2 lung diagnostic in U.S. with ~12.2m tests performed in 2019 (~17% of all lung diagnostic procedures)



Average estimated cost*

Spirometry: US\$72

Complete PFT: US\$750

PRETING THE PRET

Advantages

- Functional
- Accurate
- Zero dose
- Non-invasive
- Low cost (Spirometry)

Limitations

- Insensitive (quantifies the whole of lung as one averaged measure)
- Non-specific: requires 20% variance to be clinically significant resulting in late diagnosis
- Complete PFT expensive and time consuming
- Effort dependent (repeatability issues)
- Not applicable to all patient cohorts

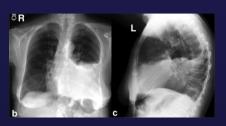
X-ray technology

Inexpensive, but tells us very little about airflow

Overview

- Invented in 1895
- 2-dimensional technology
- Widely used in clinics to determine changes in lung structure
- #1 lung diagnostic in U.S. with ~49.6m tests performed in 2019 (~67% of all lung diagnostic procedures)





Average estimated cost*

US\$120

Advantages

- 2-dimensional scan
- Ubiquitous
- Relatively inexpensive
- Low radiation dosage (0.1 mSv)

Limitations

- Measures structure rather than function
- Limited clinical value
- Overlapping anatomy means features can be hidden and be missed
- Poor record in screening applications (e.g. lung cancer, and occupational diseases)



Computed Tomography (CT)

Sensitive, but expensive and high radiation dose

Overview

- Invented in 1971
- Considered the current gold standard in lung diagnostic testing
- #3 lung diagnostic in U.S. with ~10.9m tests performed in 2019 (~15% of all lung diagnostic procedures)





Average estimated cost*

US\$525

Advantages

- 3-dimensional scan (can't miss features)
- Sensitive
- High-resolution detail of images

Limitations

- Expensive: 4 times the cost of an X-ray
- High radiation dose: 70 times an X-ray (7 mSv);
 cancer risk for recuring exposure
- High rate of false positives (~95% in NLCST vs 3% mortality for surgery)
- Measures structure rather than function (requires skilled radiologist to infer function)
- Very high rate of utilisation based on availability

Nuclear medicine

Capability to measure both ventilation and perfusion, but has significant limitations

Overview

- Invented in 1963
- Ventilation-perfusion (VQ) scan uses dual radioactive agents to examine airflow and blood flow in the lungs
- #4 lung diagnostic in U.S. with ~780k tests performed in 2019 (~1.1% of all lung diagnostic procedures).

Average estimated cost*

• VQ Scan: US\$1,503

Advantages

- Perfusion analysis capability
- Only modality that can identify ventilationperfusion mismatch
- Importance in treating pulmonary embolism & hypertension

25-26 27-28 — 29-30 — 31-32 — Sagittal — 87-48 — 40-50 — 51-52

Limitations

- High cost, poor resolution of outputs
- Time consuming (1 hour to complete)
- Use of dual radioactive particulate contrast agents raises toxicity concerns, particularly for those with pulmonary hypertension
- Expensive testing equipment needed
- Complex to administer, requires expert analysis, onerous safety precautions



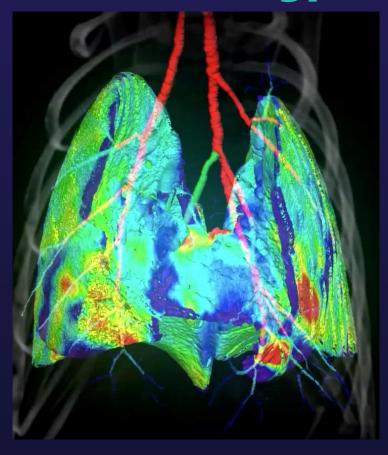


Introducing XV Technology™

Overview of XV Technology™

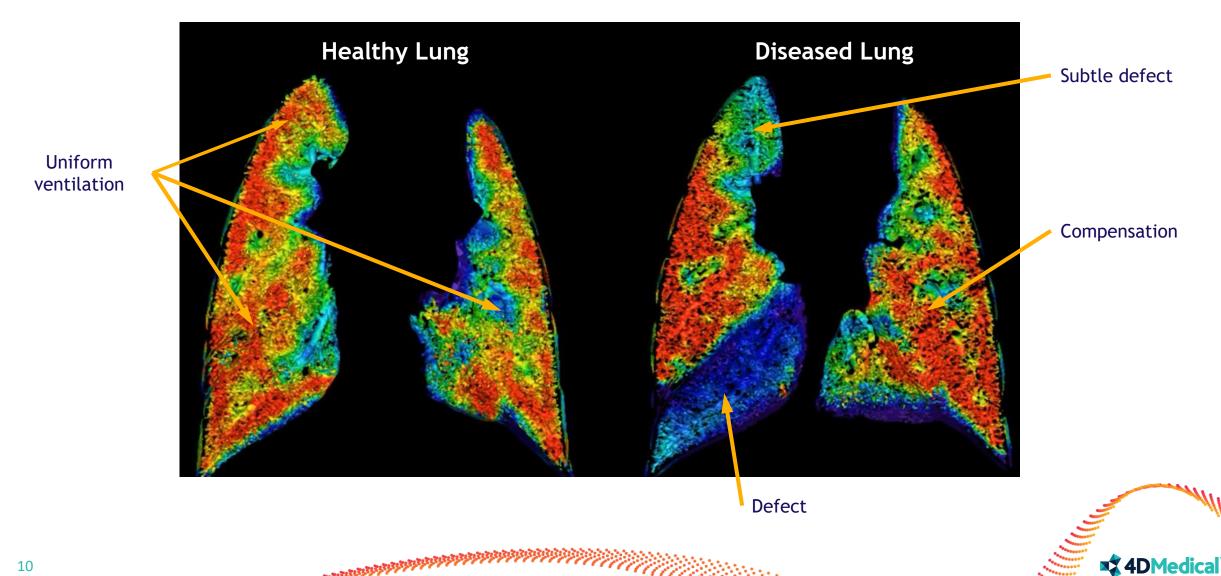
- XV Technology is 4DMedical's flagship, patented respiratory imaging platform allowing physicians to understand regional air flow in the lung, and identify respiratory deficiencies earlier and with greater sensitivity
- Utilising proven mathematical models and algorithms, XV Technology converts sequences of X-ray images into four-dimensional quantitative data (three dimensional + time)
- By operating through a cloud-based SaaS platform that fully integrates with existing X-ray equipment, XV Technology alleviates the requirement for hospitals and clinics to make a capital investment
- XV Technology combines the best features of existing modalities and delivers it in a single platform:
 - 1. Function insight of spirometry at a regional level
 - Comparable radiation dose to X-ray
 - 3. High-detail resolution of a CT scan

XV Technology™





XV Technology[™] demonstration



XV Technology[™] value proposition



Superior lung health analysis to existing modalities



Non-invasive and fast imaging protocol (~5 mins)



Earlier diagnosis provides improved patient outcomes



Seamless integration with radiology workstreams



Rapid integration (~5 days) leveraging existing hospital equipment



Cost effective for hospital with no additional capex



Low radiation dose and no contrast agents



Support from key opinion leaders



"4DMedical lung imaging technology provides a rare and exciting opportunity to improve lung health outcomes for patients globally."

Professor Greg Snell

Head of Lung Transplant Service, Alfred Hospital



"Overall pulmonary airflow measurements do not provide information on regional airflow...

[4DMedical's] technology will help physicians monitor the specific airways involved in asthma accurately, enabling us to understand and treat disease in a more targeted manner."

Kewal Asosingh Ph.D.

Associate Professor of Pathobiology, Cleveland Clinic



"[4DMedical's technology] is a breakthrough in understanding how the lungs work...

For the first time ever, we can look at lung structure and lung function together by visualising and measuring airflow at tiny levels in the lungs."

Professor Adam Jaffe

Professor of Pediatrics, University of New South Wales



"There are many advantages to
4DMedical's technology over existing
diagnostic techniques, including the
ability to estimate regional
ventilation, the high-level resolution
image outputs, reduced image
acquisition time and significant
reduction in radiation exposure and
no use of contrast agents."

Naresh Punjabi M.D. Ph.D.

Chief of Pulmonary, Critical and Sleep, University of Miami School of Medicine





Company Overview

Recent milestones & announcements

4DMedical has achieved several important commercial milestones in the last 12 months

August 2020

Successful Initial Public Offering (IPO) on the ASX, raising \$50 million

October 2020

AusIndustry approved finding to receive tax credits for up to 43.5% of eligible overseas R&D expenditure

December 2020

First commercial use of XV LVAS to a patient based in Victoria, Australia

February 2021

ALHI awarded \$28.9m of funding under MRFF Frontiers initiative.

Completed \$46 million Placement & SPP

May 2021

Commenced first clinical trial for its contrast-free Ventilation Perfusion (VQ) product

September 2020

Received TGA approval for XV LVAS for all respiratory indications

November 2020

Secured research partnership with University of Miami in the U.S.

January 2021

Secured first clinical pilot for XV LVAS at St. Joseph Hospital in the U.S.

March 2021

Streamlined access to U.S. Department of Defense & Veterans Affairs contracts

June 2021

Commenced XV LVAS clinical trial at Johns Hopkins, bringing the total number of active trials to eight



Product development principals

4DMedical's mission is to improve global health by providing revolutionary, non-invasive imaging technologies that enable unprecedented insight into pulmonary function

Our product principals drive the development of our pipeline products:

- XV LVAS
- 2. VQ
- XVD Scanner

Accessible Readily utilised within existing medical settings Non-invasive Affordable Reduced radiation or need for contrast agents Reach more patients, including the youngest & most frail

Broadest reach

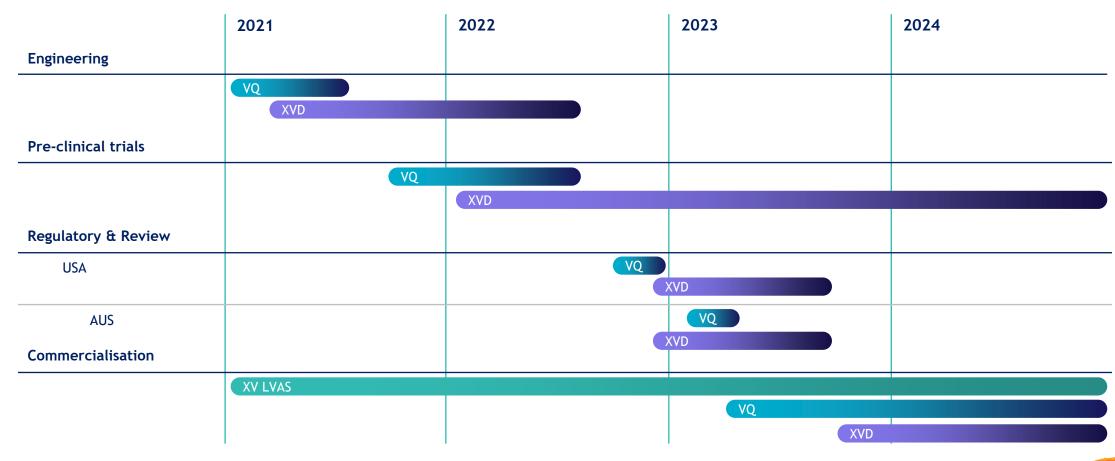
Product pipeline

4DMedical's products are designed to improve patient outcomes for lung disease sufferers

	1 XV LVAS XV Lung Ventilation Analysis Software	VQ Ventilation Perfusion	3 XVD Scanner XV Dedicated Lung Scanner	
Overview	 Quantifies regional lung function at all locations in the lungs during active breathing FDA-cleared and TGA approved 	 Evaluates airflow and blood flow in the lungs without the use of radioactive or contrast agents 	 The world's first dedicated lung function scanner enabling both XV LVAS and VQ outputs 	
Benefits	 Low barrier to market entry, utilising existing fluoroscopy equipment Lose dose, high-sensitivity data 	 Easy to administer, faster & simpler than existing diagnostic technology No contrast agent reduces patient harm 	 Leverages existing market take-up of XV Technology Reduced radiation dose, increased scanning throughput and broadened patient cohort 	
Use cases	 Asthma Cystic fibrosis Chronic obstructive pulmonary disease Chronic bronchitis Lung transplant Constrictive bronchiolitis 	Pulmonary embolismPulmonary hypertension	 Both XV LVAS and VQ indications in both adults and children 	
Competing technologies	X-rayComputed Tomography (CT)Pulmonary Function Tests (PFTs)	Nuclear V/Q scanCT Pulmonary Angiogram (CTPA)	X-rayNuclear V/Q scanCTCTPAPFTs	

Product milestones

Strategically planned to build upon the previous products target indications and market opportunity



Notes:

- XVD Scanner (Gen 1) milestones; and
- VQ product line includes CFPA capabilities.





Commercialisation Strategy

Commercialisation strategy

Two pillars of 4DMedical's commercialisation strategy to secure market share and scale

Clinical trials



Research partners delivering the body of scientific evidence for clinical use

Who

Eminent researchers & leading medical institutes

Why

Diagnostics, treatment efficacy, monitoring, disease progression & more

Outcome:

- Scientific investigation into case applications
- Publishing medical manuscripts and presenting research to industry

Study design: Full scientific method per researcher

Clinical pilots



Physicians gaining familiarity with XV Technology and insights for patient care

Who

GPs, respiratory specialists, imaging centres & hospitals

Why

Assess regional lung function for patient management

Outcome:

- Clinical familiarisation with XV Technology
- Feasible new use of existing X-ray equipment (imaging centres)

Pilot design: Tiered per facility & physician interest



Commercialisation roadmap

Each strategy supports broad market adoption and uptake of XV Technology





Clinical trial pipeline

Each trial is conducted to the highest scientific standards under ethics oversight by Institutional Review Boards (IRB)

Steps in each clinical trial:











IRB

Budget Approved



Patient Recruitment



First **Imaging**

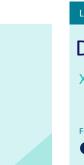


Final **Imaging**



Study Complete

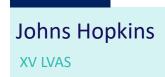




COPD





















Clinical pilot pipeline (AUS)

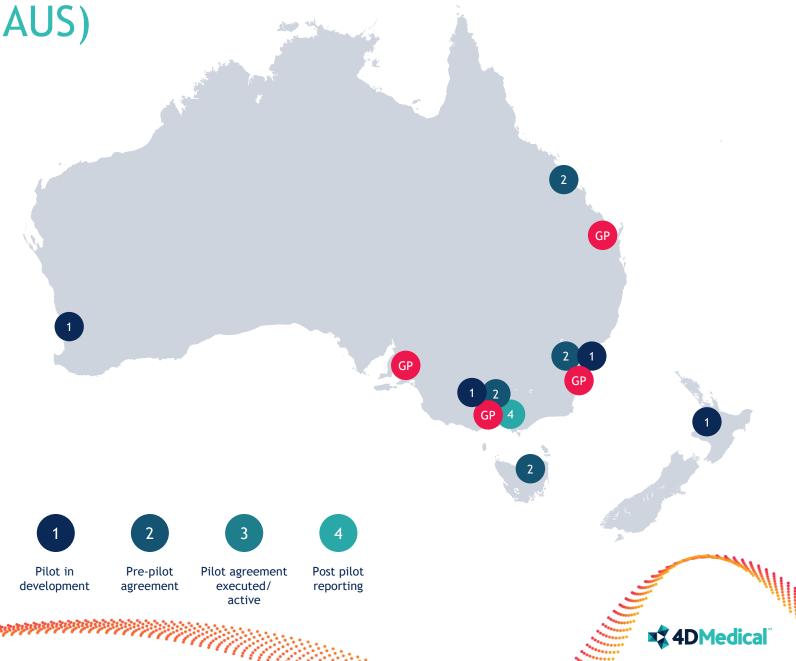
Primary care

project

Since expanding the sales team we have rapidly built a strong pipeline of clinical pilot demand

Types of pilot partners:

- Capital city hospitals
- Major regional hospitals
- National imaging centre
- Respiratory specialist health services
- GP practitioners

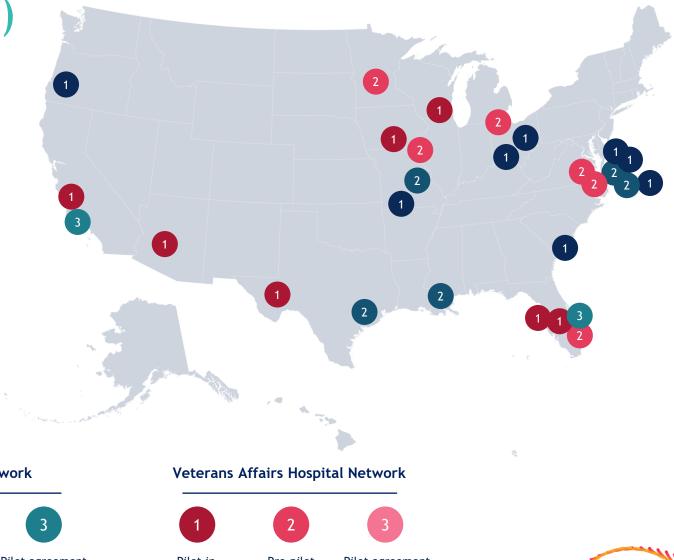


Clinical pilot pipeline (USA)

Since expanding the sales team we have rapidly built a strong pipeline of clinical pilot demand

Types of pilot partners:

- Capital city hospitals
- Major regional hospitals
- National imaging centre
- Respiratory specialist health services
- GP practitioners



Acute Hospital Network



Pilot in Pre-pilot development agreement



Pilot agreement executed/ active

Pilot in Pre-pilot development agreement

Pilot agreement executed/ active



Example case study (1)

Summary

Patient unable to complete spirometry. Strong pain on the right side. XV LVAS demonstrated an unexpected, dramatic loss of ventilation function in the right lung. Physician was then able to prescribe appropriate treatment.

Age 45
Sex

Indications

- Biopsy-proven silicosis
- Ex-smoker
- · Right-sided chest discomfort with breathing

Clinical observations

XV LVAS:

Asymmetry in regional lung ventilation, with relative reduction in peri-hilar hyperventilation on right side.

Ventilation heterogeneity

32.6 66.4 42.7

Small Total scale

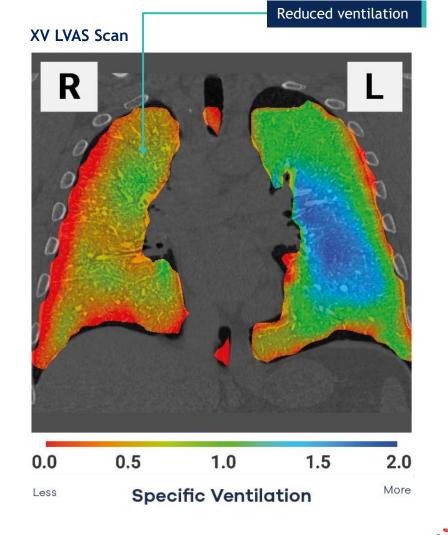
Large scale

VDP:

Tidal volume:

20.2%

0.41L



Example case study (2)

Summary

CT imaging indicated a large hiatus hernia. XV LVAS demonstrated a greater functional reduction in ventilation than expected from CT changes.

Age 69

$^{\circ}$ $^{\circ}$

Indications

- Past history of COVID-19
- Gastric Oesophageal Reflux Disease
- Recurrent chest infections

Clinical observations

XV LVAS:

Sex

Relative reduced ventilation in left lower zone due to masseffect from hernia (non-obstructive atelectasis). Not fully appreciated on CT scan.

Ventilation heterogeneity

46.6 91.9

54.0 Large scale

Small scale

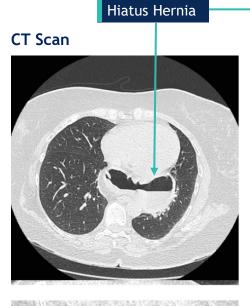
Total

VDP:

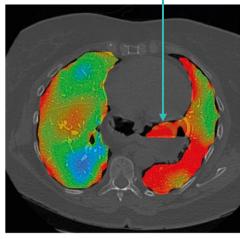
Tidal volume:

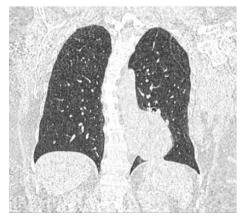
26.9%

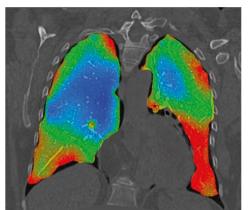
0.38L















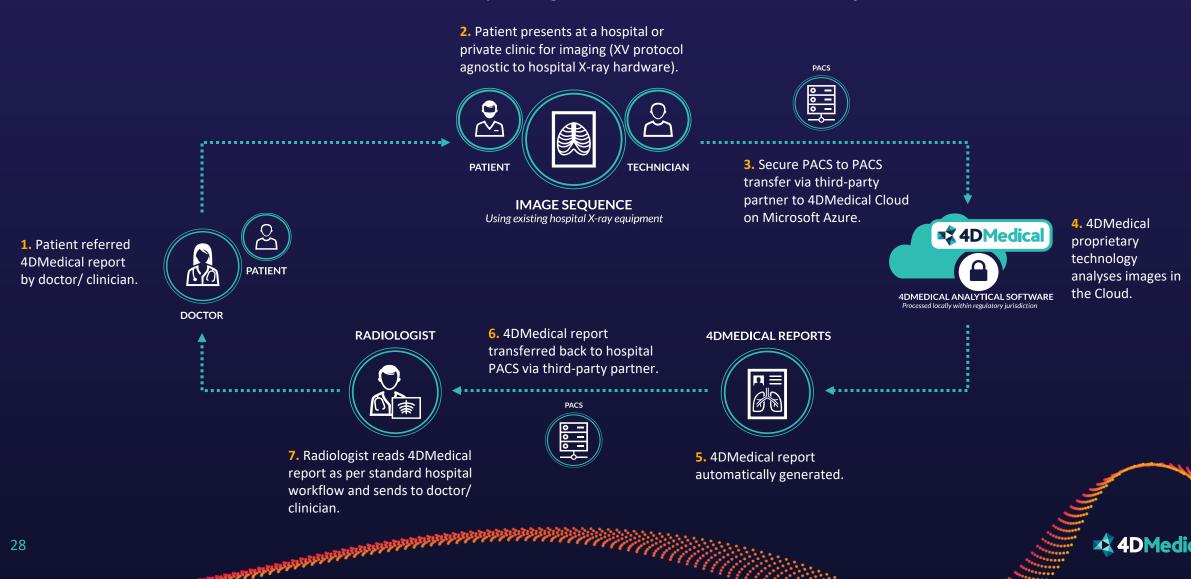
Investment summary

- 1 Founder-led software-as-a-service company, clinically validated to provide superior outcomes at a lower cost than incumbent diagnostics
- 2 Significant addressable market, with attractive growth driver, and regulatory clearance in the U.S. and Australia
- 3 Established relationships with some of the world's leading medical institutions and key opinion leaders
- 4 Compelling unit economics for customer with earlier detection leading the earlier intervention and lower disease management costs
- Business model underpinned by plug-and-play SaaS platform providing rapid and efficient deployment to healthcare providers
- 6 Product pipeline focused on enhancing technology moat, customer flexibility and delivering high margins
- Strong balance sheet to execute commercialisation strategy



Cloud-based workflow

4DMedical's cloud-based workflow seamlessly integrates with doctors' current practice



Technology comparison

	Spirometry & PFT	X-ray (Thoracic)	CT (Thoracic)	Nuclear Medicine	XV LVAS
Year technology invented	1846	1895	1971	1963	2012
# of procedures (U.S., p.a.)	12,200,000	49,590,000	10,888,664	778,000	-
\$ on procedures (U.S., p.a.)	US\$878 million	US\$5.95 billion	US\$5.76 billon	US\$1.17 billion	-
% share of U.S. lung diagnostic procedures	16.5%	66.9%	14.7%	1.1%	-
Av. price per diagnostic	Spirometry: US\$72 PFT: US\$750	US\$120	US\$525	US\$1,503	US\$175 + imaging US\$120
Resolution/ detail	Low	Low	High	Moderate	High
Level of accuracy	High	Low	High	Moderate	High
Output	1D	2D	3D	2D/3D	4D (3D + time)
Radiation dose	None	Low (0.1mSv)	High (7.0mSv)	Moderate (2.0mSv)	Low (0.2mSv)
Time to complete	Spirometry: 10 mins PFT: 1-2hrs	5 mins	20 mins	1-2 hrs	5 mins



4DMedical Board of Directors



Bruce Rathie
Chairman, Non-Executive
Director (Independent)

Experienced lawyer, Investment Banker and Company Director as current Non-Executive Director of PolyNovo Limited (PNV.ASX) and current Non-Executive Director of Netlinkz Limited (NET.ASX).



Lusia Guthrie Non-Executive Director (Independent)

Experienced executive and med-tech entrepreneur, former CEO of ASX listed LBT Innovations (LBT.ASX) and Chair of the BioMelbourne Network.



Andreas Fouras PhD
Group Managing Director &
Chief Executive Officer

Award-winning aerospace engineer and innovator responsible for the conception and development of 4DMedical's core technologies.



Lilian Bianchi

Non-Executive Director (Independent), Chair of the Audit & Risk Committee
Experienced contributor of business transformations for US-listed technology companies with a beneficial technology product expertise in Al and SaaS offerings.



Julian Sutton

Non-Executive Director

Chartered Financial Analyst who began his career as an actuarial analyst in Melbourne before moving into funds management with Schroders and Credit Suisse in London.

John Livingston

Non-Executive Director Chair, Remuneration & Nomination Committee

Founding partner of ASX listed Integral Diagnostics (IDX.ASX) and an industry leader in the implementation of PACS and RIS in radiological settings.



Dr Robert A. Figlin

Non-Executive Director (Independent)

Globally recognised leader in genitourinary and thoracic oncology, as well as Editor of the Kidney Cancer Journal and Spielberg Family Chair in Hematology/Oncology at Cedars Sinai.



Charlene Stahr
Company Secretary

Master of Engineering Science with experience in operations, finance, international research programs and technology development.

Advisory Board

Dr. Sam Hupert

Advisory Board Member

Co-founder and Chief Executive Officer of Pro Medicus Ltd (PME.ASX) which develops and markets health imaging software primarily for radiologist in the US, Europe and Australia.

Dr. Raymond Casciari, MD Advisory Board Member

Former Chief Medical Officer at St.
Joseph Hospital in Orange, CA with over
40 years' experience in Pulmonary
Disease, Internal Medicine and Intensive
Care Medicine.

Prof. Bruce Thompson

Advisory Board Member

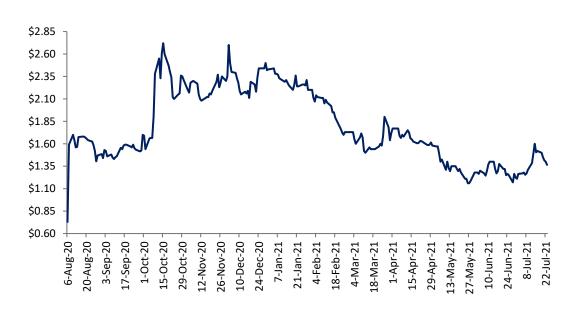
President of the Thoracic Society ANZ, Dean of the School of Health Sciences at Swinburne University, previously head of Physiology Services at the Alfred Hospital.



Corporate snapshot

Capital structure (ASX: 4DX)

Share price (23 July 2021)	\$1.37
Shares on issue	294.5 million
Options issued	20.6 million
Market capitalisation	\$403.5 million
Net cash balance	\$80.9 million



Senior Management Team

Andreas Fouras	Managing Director & CEO		
Heath Lee	Chief Financial Officer		
Craige Pendleton-Browne	Chief Information Officer		
Paul Cooke	SVP, Sales & Marketing		
Aidan Jamison	SVP, Engineering		
Jason Kirkness	VP, Medical & Clinical Affairs		
Rachael Tenkaten	VP, Product		
Jon Dusting	VP, Imaging Systems		
Charlene Stahr	Company Secretary		
Terence Walsh	Director of Quality & Regulatory Affairs		
Michael Curtis	Chief Software Architect		





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