



# ASX Release

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## EMVISION PRESENTING AT MORGANS SCONE VALUE IN THE VINES CONFERENCE

**EMVision Medical Devices Limited (ASX:EMV)** (“EMVision” or the “Company”), a medical device company focused on the development and commercialisation of portable medical imaging technology, is pleased to provide a presentation to be given by EMVision’s CEO and Managing Director, Dr Ron Weinberger and Executive Director and Co-founder Scott Kirkland at the 6<sup>th</sup> Annual Morgans Scone Value in the Vines conference October 2021.

Authorised for release by the Board of the Company.

### [ENDS]

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### About EMVision Medical Devices

EMVision Medical Devices Limited is focused on the development and commercialisation of medical imaging technology. The Company is developing and seeking to commercialise a potentially cost effective, portable, medical imaging device using electromagnetic microwave imaging for diagnosis and monitoring of stroke and other medical applications. The technology is the result of over 10 years of development by researchers at the University of Queensland. The team of approximately 20 researchers is led by co-inventor Professor Amin Abbosh, who is considered a global leader in electromagnetic microwave imaging. EMVision’s Chief Scientific Officer is Professor Stuart Crozier, who is a co-inventor and is globally renowned for creating technology central to most MRI machines manufactured since 1997. EMVision’s CEO, Dr Ron Weinberger, is the Former Executive Director and CEO of Nanosonics’ (ASX:NAN), a \$2 billion market cap healthcare company. Dr Weinberger has over 25-years’ experience developing and commercialising medical devices. During his time at Nanosonics, Dr Weinberger co-developed the company’s platform technology and launched their breakthrough product ‘Tropon’ globally, which would go on to become the gold standard for infection prevention. Dr Weinberger was instrumental in transforming Nanosonics from a research and development company to one of Australia’s leading medical device commercialisation success stories.

### Forward-looking Statements

This release may contain certain forward-looking statements with respect to matters including but not limited to the financial condition, results of operations and business of EMVision and certain of the plans and objectives of EMVision with respect to these items. These forward-looking statements are not historical facts but rather are based on EMVision’s current expectations, estimates and projections about the industry in

which EMvision operates, and its beliefs and assumptions. Words such as "anticipates," "expects," "intends," "plans," "believes," "seeks," "estimates", "guidance" and similar expressions are intended to identify forward looking statements and should be considered an at-risk statement. Such statements are subject to certain risks and uncertainties, particularly those risks or uncertainties inherent in the process of developing technology and in the endeavour of building a business around such products and services. These statements are not guarantees of future performance and are subject to known and unknown risks, uncertainties and other factors, some of which are beyond the control of EMvision, are difficult to predict and could cause actual results to differ materially from those expressed or forecasted in the forward looking statements. EMvision cautions shareholders and prospective shareholders not to place undue reliance on these forward-looking statements, which reflect the view of EMvision only as of the date of this release. The forward-looking statements made in this announcement relate only to events as of the date on which the statements are made. EMvision will not undertake any obligation to release publicly any revisions or updates to these forward-looking statements to reflect events, circumstances or unanticipated events occurring after the date of this announcement except as required by law or by any appropriate regulatory authority.

**EM** VISION

# EMV:ASX Value in the Vines

October 2021



| ASX CODE | SHARES<br>ON ISSUE | CASH BALANCE<br>(30 JUNE 2021) | ASA STAGED<br>GRANT | 52 WEEK<br>HIGH | SHARE<br>PRICE | MARKET<br>CAPITALISATION | ENTERPRISE<br>VALUE |
|----------|--------------------|--------------------------------|---------------------|-----------------|----------------|--------------------------|---------------------|
| ASX:EMV  | 73.09M             | \$9.7M                         | \$8M                | \$4.20          | \$2.97*        | \$217M*                  | \$207.3M*           |

\* Undiluted market cap based on closing price of \$2.97 20th October 2021

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# EMVISION IS CREATING A WORLD FIRST PORTABLE BRAIN SCANNER



Neuroimaging as is accessible today



EMV 1<sup>ST</sup> Gen, Neuroimaging anywhere



# BRINGING NEUROIMAGING TO THE PATIENT, WHEREVER THEY ARE

FAST – 30 SECOND SCAN TIME



SAFE – NO IONIZING RADIATION



PORTABLE – CART ULTRASOUND SIZE



ACCESSIBLE – EASY TO OPERATE



AFFORDABLE – COST EFFECTIVE



AI POWERED – DECISION SUPPORT



BEDSIDE - MONITORING



FIRST CLINICAL USE – STROKE CARE

# BRINGING IMAGING TO WHERE STROKE OCCURS WILL SAVE LIVES



STROKE IS A GLOBAL SOCIETAL & HEALTH ECONOMIC BURDEN



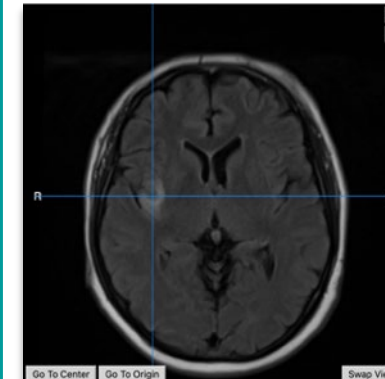
THERE ARE EFFECTIVE TREATMENTS AVAILABLE



THEY ARE TIME SENSITIVE



WHAT CLINICIANS NEED TO KNOW...



**CLOT**  
(ISCHAEMIC)



**BLEED**  
(HAEMORRHAGIC)

ACUTE ISCHAEMIC STROKE PATIENTS CAN BENEFIT FROM CLOT DISSOLVING DRUGS (tPA) IF GIVEN WITHIN HOURS, BUT THESE DRUGS WORSEN BLEEDING IF THE STROKE IS DUE TO A HAEMORRHAGE. THE ABILITY TO DISTINGUISH STROKE TYPE, SIZE, SEVERITY AND LOCATION AT THE POINT OF CARE ARE SOME OF THE POTENTIAL UTILITIES OF THE EMVISION DEVICE.



## 1<sup>ST</sup> GENERATION DEVICE

Detect clinically significant changes, at the bedside, when time matters.



## 2<sup>ND</sup> GENERATION DEVICE

Ultra light weight device embedded in standard road and air ambulances to deliver pre-hospital stroke diagnosis and care to patients regardless of location.

# UNMET NEED FOR PRE-HOSPITAL AND BEDSIDE IMAGING WHERE THERE ARE NO ALTERNATIVE SOLUTIONS READILY ACCESSIBLE

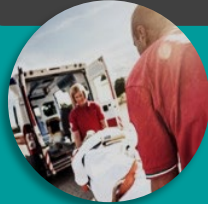
Stroke Onset



TIME IS BRAIN

A TYPICAL  
PATIENT  
JOURNEY  
& TIMELINE

EM VISION  
15 mins to 2.5 hours



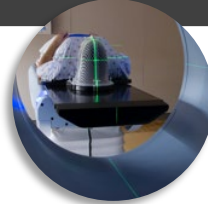
Pre-hospital

< 2.5 hours



Hospital ED

< 3 hours



CT Image Studies

EM VISION  
< 24 hours



Intervention

EM VISION  
<24 hours - 3 weeks



Bedside  
Monitoring

<3 weeks - 3 years+



Rehabilitation

OPPORTUNITY  
TO SOLVE  
UNMET  
CLINICAL NEEDS

Ultra light weight stand alone  
headset, telehealth enabled



2<sup>ND</sup> GEN



1<sup>ST</sup> GEN

Monitor progress of patients'  
response to therapy or surgical  
intervention, complications and  
decision support where CT or MRI are  
not accessible or practical

EXAMPLES OF  
POTENTIAL  
ESSENTIAL  
CLINICAL \*  
USE CASES

Reliably segment LVOs for direct  
to Angio suite transport - assists  
decision making on whether a  
patient needs to be transported  
directly to a clot retrieval center  
versus their local stroke unit /  
nearest hospital.

Reliably distinguish between stroke or  
no stroke, haemorrhagic stroke  
versus ischaemic stroke to assist  
decision making. Future in-field tPA  
opportunity.

Post subarachnoid  
haemorrhage:  
monitoring for  
vasospasm induced  
ischaemic stroke

Detect secondary bleeding earlier  
Routine brain scan to assess for haemorrhagic  
transformation of ischaemic stroke

Monitoring for post stroke oedema to  
allow earlier clinical detection of  
worsening oedema

Monitoring response to reperfusion therapy including restoration of  
blood flow and complications (~10% sICH) after thrombectomy

*This is an artistic concept of a proposed first responder 2<sup>nd</sup> gen device which is subject to prototype development and clinical testing.  
1<sup>st</sup> Gen In-ward device under development and its potential clinical utility is also subject to successful clinical testing and validation.*



# CHALLENGES WITH TRADITIONAL NEUROIMAGING IN HOSPITALS



GOLD STANDARD NEUROIMAGING DEVICES, CT AND MRI, PROVIDE EXCELLENT IMAGES BUT ARE FOR THE MOST PART, STATIONARY

COMPLEX INFRASTRUCTURE REQUIREMENTS; SPECIALIST OPERATORS AND HIGH-COSTS LIMITS THEIR ACCESSIBILITY

UP TO 40% ADVERSE EVENT RATE\* AND LOGISTICAL CHALLENGES DURING PATIENT TRANSPORT, PARTICULARLY FROM ICU TO RADIOLOGY, FOR NEUROIMAGING

NO EASY, SIMPLE TO USE NEUROIMAGING SOLUTION AVAILABLE TODAY TO PROVIDE BEDSIDE DECISION SUPPORT & MONITORING

# ESTIMATED PORTABLE BRAIN SCANNER POTENTIAL FINANCIAL BENEFITS TO A PUBLIC HOSPITAL IN AUSTRALIA\*



\*Mid-range budget impact estimates for an Australian Public Hospital in AUD.

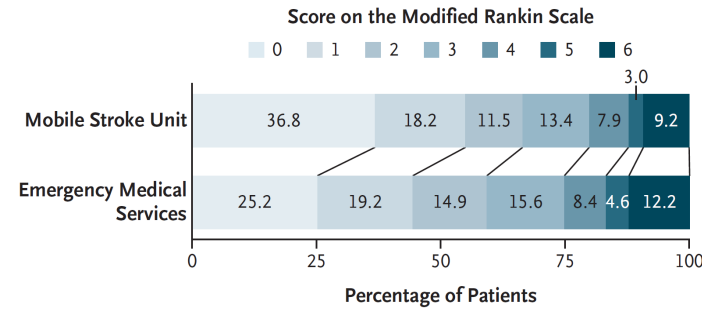
Research & Modelling conducted by;

# MORE LIVES COULD BE SAVED WITH A LIGHTWEIGHT SCALABLE IMAGING SOLUTION WITH TELEMEDICINE CAPABILITIES

Mobile Stroke Unit management results in substantially less disability for stroke patients who qualify for reperfusion treatment compared to standard management by EMS



A Mobile Stroke Unit (MSU) essentially brings the stroke unit to the patient



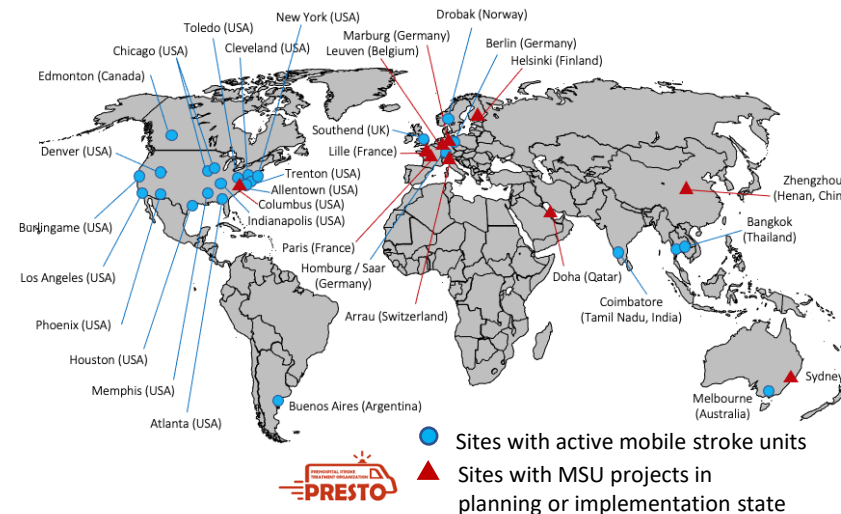
EMV 2<sup>ND</sup> GEN SOLUTION

- Ultra light
- Cost Effective
- Operated by trained paramedics
- Telemedicine enabled



Inside a multi-million-dollar MSU today

Modified Rankin Scale: 0 = No disability 5 = Severe Disability



EMVision and the Australian Stroke Alliance (ASA) have partnered to transform pre-hospital stroke care. ASA are providing EMVision with clinical expertise and \$8M in non-dilutive funding to support clinical validation and deployment.

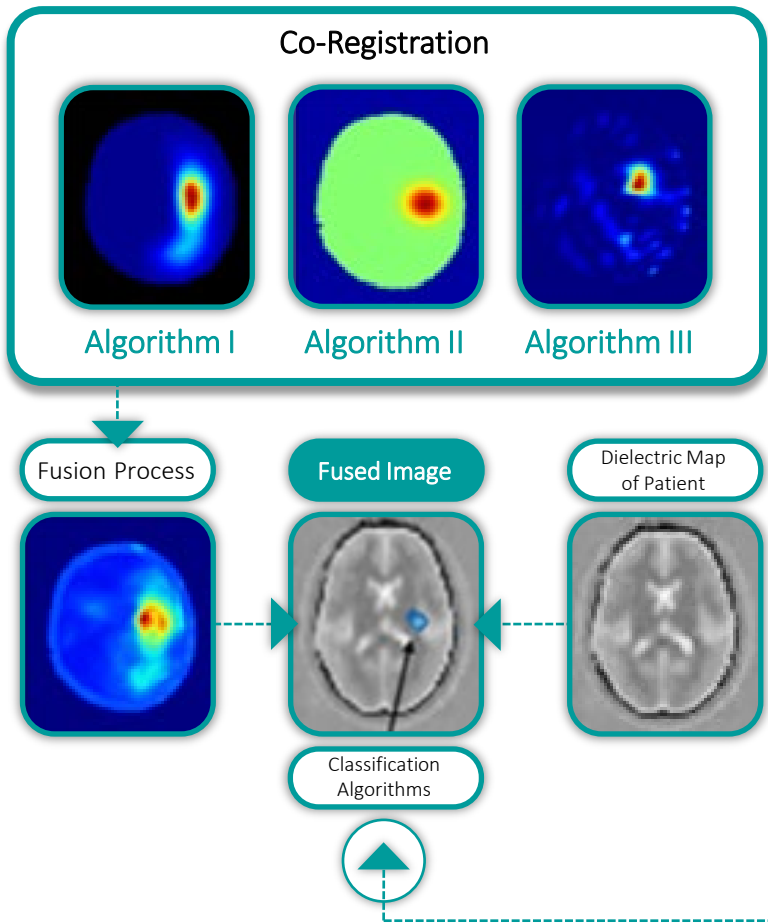
Sources: Grotta et al 2021. Presto

This is an artistic concept of a proposed first responder device which is subject to prototype development and clinical testing. See ASX release titled 'ASA & EMVision sign \$8m project agreement' for further information on ASA partnership and conditions of staged funding

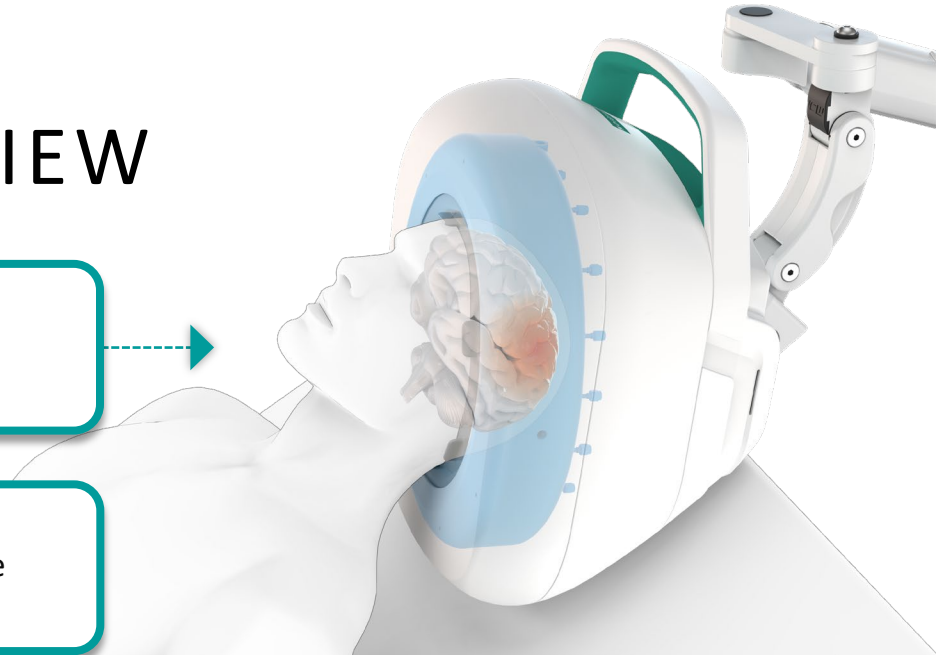


# TECHNOLOGY OVERVIEW

## EXAMPLE OF IMAGE PROCESSING



- 1 **Array of antennas** send pulses of low-power electromagnetic waves into the head
- 2 Waves penetrate tissue in a non-ionizing and harmless manner and get scattered based on the **electrical properties of tissue**
- 3 **Sensors in the helmet detect these complex interactions. Anatomical dielectric properties are mapped.**
- 4 A fusion of algorithms perform signal processing and reconstruct the image, localizing the pathology if present.
- 5 Embedded AI driven classification system (including stroke type with traffic light guidance) to assist in decision making



## SHARED UNDERLYING PRINCIPLES

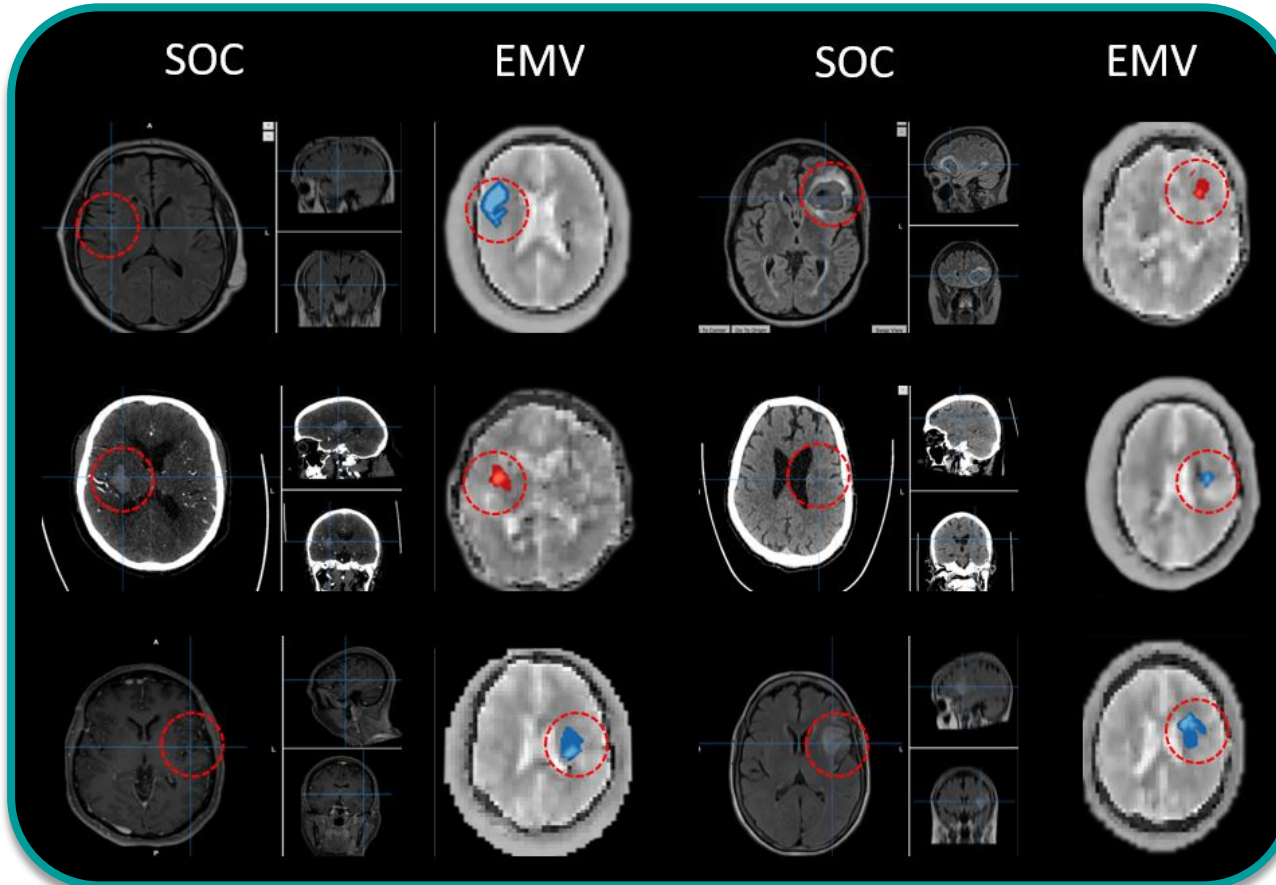
**NON-DESTRUCTIVE TESTING**  
Microwave frequency  
2 – 18 GHz

**SECURITY**  
Millimeter frequency  
10 - 80 GHz

**ELECTROMAGNETIC IMAGING**  
Microwave frequency  
500 MHz – 2 GHz+1

# VERY ENCOURAGING OUTCOMES FROM FOUNDATIONAL CLINICAL STUDY

Examples of EMVision (EMV) Brain Scanner imaging vs. Standard-of-Care (SOC) imaging in 6 Patients



Using a range of frequencies and combining information on permittivity and conductivity it is possible to contrast various tissues and classify various pathologies. In these patient examples pathologies highlighted blue are classified as ischemic stroke and those highlighted red are classified as hemorrhagic stroke.

THE EMVISION TECHNOLOGY WAS TRIALLED ON STROKE PATIENTS FOR THE FIRST TIME IN 2020 AT THE PRINCESS ALEXANDRA HOSPITAL, BRISBANE.

THE STUDY ENROLLED 30 STROKE PATIENTS (21 ISCHAEMIC AND 9 HAEMORRHAGIC) WITH A MEAN NIHSS SCORE OF 5.2.

THIS WAS AN OBSERVATIONAL, NON-INTERVENTIONAL STUDY TO COLLECT DATA TO INFORM PRODUCT DEVELOPMENT AND UNDERSTAND IMAGING CORRELATION WITH GROUND TRUTH SCANS.

PATIENTS WERE SCANNED WITH THE EMVISION DEVICE AT CLOSE PROXIMITY TO THEIR GOLD STANDARD CT AND/OR MRI IN THE PILOT STUDY.

THE EMVISION DEVICE WAS ABLE TO DIFFERENTIATE (93-96% ACCURACY) AND LOCALISE (86-96% ACCURACY) ISCHAEMIC AND HAEMORRHAGIC STROKES. AN ADDITIONAL 20 STROKE PATIENTS HAVE SINCE BEEN ENROLLED, WITH PROCESSING AND REPORTING ON THESE DATASETS DUE IN CY Q4 2021.



# CLINICAL INVESTIGATIONS ROADMAP

CY 22 H1

H2

## CLINICAL INVESTIGATIONS ROADMAP

1<sup>ST</sup> GEN DEVICES  
UNDERGOING  
VERIFICATION AND  
VALIDATION

### PRE-VALIDATION – SITE 1-2

1. Preliminary usability on 1<sup>st</sup> Gen in the clinic (ED & In-ward)
  - User rated hardware, software, accessories
  - Placement/alignment/repositioning

CENTRES: MULTI CENTRE LOCATION: EMERGENCY DEPARTMENT (ED) & WARDS  
Patient total # to be enrolled TBC: Anticipated ~ 100-300

### SENSITIVITY/SPECIFICITY SMALLER SCALE VALIDATION - FIRST SITES 1-2

1. Sensitivity and specificity
2. Safety
3. Usability

### SENSITIVITY/SPECIFICITY LARGER SCALE VALIDATION - 1-2 ADDITIONAL SITES

1. Sensitivity and specificity
2. Safety
3. Usability

Preparation  
for  
regulatory  
submissions

## STUDIES DESIGNED FOR MARKETING AUTHORISATION SUBMISSIONS

The indicative timetable is a guide of EMVision's intentions at the date of this presentation only. EMVision reserves the right to vary this timetable at its discretion, and further notes the above timings are subject to change due to circumstances outside of its control.

# FLEXIBLE & ATTRACTIVE REVENUE MODELS

## DIRECT OR DISTRIBUTOR

### MONTHLY SUBSCRIPTION MODEL

- Delivery of the unit
- Training
- Software updates
- New algorithm sequences as they come out
- Potential integration into PACS and EMR
- Access to cloud storage and viewing
- Routine maintenance included



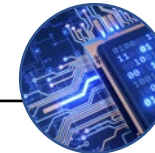
### CAPITAL EQUIPMENT & CONSUMABLES MODEL

#### Device Sales

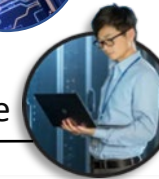
Target - ~\$150,000 USD



#### Software



#### Maintenance & Service



#### Consumables



Coupling medium

Target - ~\$20 USD per disposable cap

### 1<sup>st</sup> GEN ADDRESSABLE MARKET



US.



10,200

GER, FR, UK



5,960

AU



545

JAPAN



2,875

#### FIRST TARGETS

1,600 PSC / CSC

642 PSC / CSC

93 PSC / CSC

749 PSC / CSC

### 2<sup>nd</sup> GEN ADDRESSABLE MARKET

US.



60,000

EUROPE

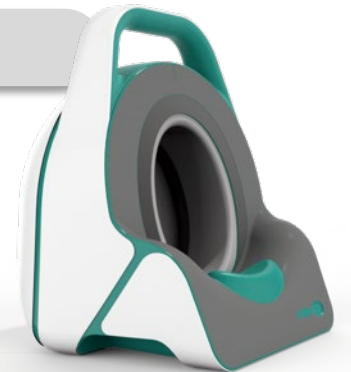


58,000

AU



5,200



PSC = Primary Stroke Centre  
CSC = Comprehensive Stroke Centre

EMV cautions investors that there are regulatory barriers and unique access challenges to each market and can be subject to varying rates of penetration. PSC/CSC estimates based on publicly available data.

# TEAM

Significant experience *developing and commercialising medical devices*



**Dr Ron Weinberger**  
*CEO & MD*  
Former Nanosonics MD  
(ASX:NAN)



**John Keep**  
*Non-Executive Chairman*  
Former CEO Queensland Diagnostic  
Imaging



**Scott Kirkland**  
*Executive Director*  
Co-Founder EMVision



**Prof Stuart Crozier**  
*Chief Scientific Officer*  
2/3<sup>rd</sup> MRIs use Prof Crozier  
developed IP



**Robert Tiller**  
*Head of Design*  
Founder Tiller Design



**Forough Khandan**  
*Head of Product Development*  
Former Nanosonics Program  
Manager



**Geoff Pocock**  
*Non-Executive Director*  
Former Hazer MD  
(ASX:HZR)



**Tony Keane**  
*Non-Executive Director*  
National Storage NED  
(ASX:NSR)



**Dr Philip Dubois**  
*Non-Executive Director*  
Neuroradiologist, Former  
CEO, imaging division, Sonic  
Healthcare Ltd (ASX:SHL)



**Emma Waldon**  
*Company Secretary*  
Capital markets and corporate  
governance expert



**Dr. Konstanty Bialkowski**  
*Head of Tech Development*  
EM Imaging expert and Co-  
Inventor



**Dr Merricc Edgar-Hughes**  
*Head of Quality & Regulatory  
Affairs*  
Former Manager of Global  
Regulatory Affairs Nanosonics.  
Multiple successful FDA, CE,  
TGA registrations.

## PARTNERS & COLLABORATORS



Commonwealth CRC-P Grant Program Collaborators

Clinical Research

Product Collaboration

Clinical Development & Validation,  
Non-dilutive funding

# CAPITAL STRUCTURE

Headquarters:  
4.01, 65 Epping Road, Macquarie Park  
Sydney, Australia

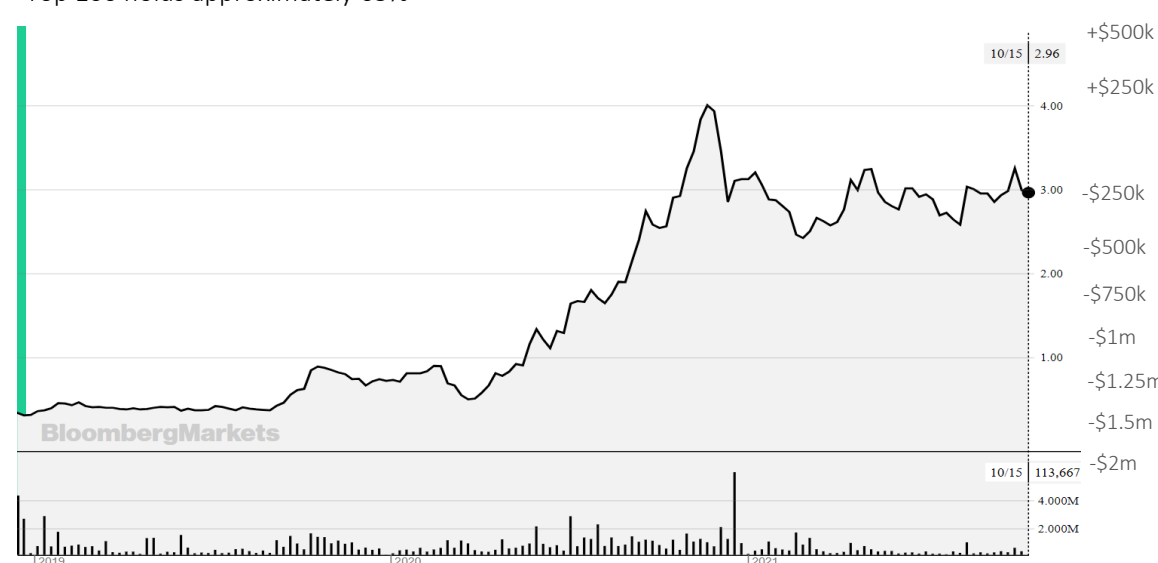
ASX TICKER: EMV

|  |                     |
|--|---------------------|
| Share Price (20 <sup>th</sup> October)           | \$2.97 (AUD)        |
| Shares on issue                                  | 73.09m              |
| Total Options on issue <sup>1</sup>              | 7.85m               |
| Performance Rights <sup>2</sup>                  | 6m                  |
| <b>Cash Balance 30 June 21</b>                   | <b>\$9.7m (AUD)</b> |
| Market Capitalization                            | \$215m (AUD)        |
| Enterprise Value                                 | \$203.6m (AUD)      |
| <b>MRFF Non-dilutive Grant Funds<sup>3</sup></b> | <b>\$8m (AUD)</b>   |

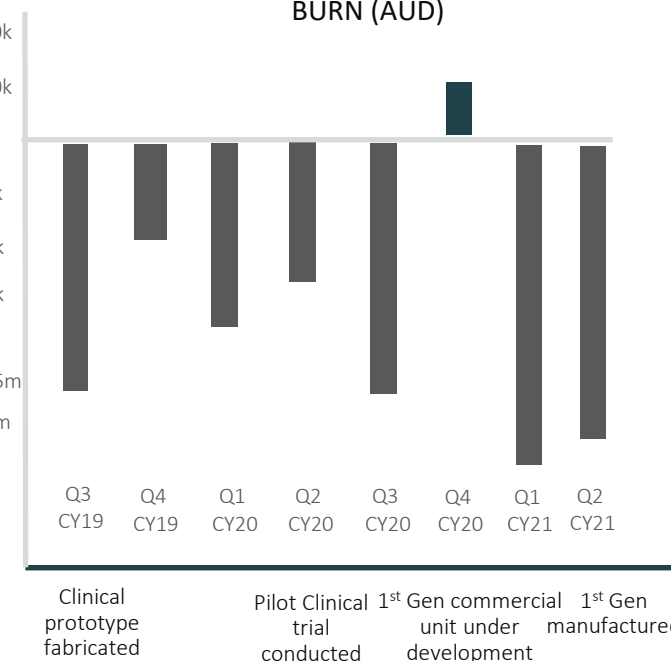
Management, Directors and Founders hold approximately 20%

Top 20 holds approximately 35%

Top 100 holds approximately 65%



SIGNIFICANT PROGRESS  
HAS BEEN HAVE BEEN  
ACHIEVED AND  
MILESTONES MET WITH A  
LOW HISTORICAL CASH  
BURN (AUD)



1 – See ASX release titled “Application for quotation of securities - EMV” from 1st October 2021 for further information on Options on issue 2 – All performance rights are held by UniQuest and will vest on particular milestones over time – further details in IPO prospectus | 3 – The Australian Stroke Alliance and EMVision have executed a project agreement to provide \$8m staged non-dilutive cash funding towards product development and clinical validation, see ASX release titled ‘ASA & EMVision sign \$8m project agreement’ for further information and conditions of staged funding | Closing price 20<sup>th</sup> Oct 2021