

# 澳大利亚生物技术协会 澳大利亚医疗技术公司名录



## 公司资料

公司名称: MagnePath Pty Ltd

关键联系人姓名: Wanida Chua-anusorn 博士

关键联系人职位: 联合创始人兼联席首席执行官

公司网址: [www.magnepath.com](http://www.magnepath.com)

公司地址: 13A Adamson Road, Brentwood, Perth WA 6153

该公司尚未上市。

## 关于公司

MagnePath Pty Ltd (澳大利亚) 是一家新创办的数字医疗公司, 专门研发健康标测应用以提供基本的“数字化自我”服务。我们的目标是让个人健康信息更加有意义、获取更方便并且可作为实践依据, 从而改善生活质量。我们首创全新的定量磁共振成像 (QMRI) 技术, 能更加有意义地分析脂肪、肌肉和关节健康情况。对于成像和电信分析中心, 我们采用“按次支付”获取模式, 提供在线和离线分析, 极大地改善了对于临床应用的负担能力。对于移动消费, 您的成像中心现可以将您的真实健康情况传至您的手中。

**FatMap®** 是我们的首款健康标测应用, 能以毫米分辨率标测全身器官内部及周围的脂肪百分比。尤其重要的一点是, **FatMap** 能标测我们腹部、肝脏和心脏周围的隐形脂肪, 而正是这些脂肪最可能导致糖尿病、心脏病和癌症。**FatMap** 有助于患者和医疗服务人员制定出更为明晰的治疗决策, 降低脂肪负担和并发症, 同时监测健康改善情况。

**MuscleMap®** 是我们的第二款健康标测应用, 能标测局部和全身的肌肉质量和肌肉健康状态。测量身体肌肉质量非常重要, 这样能很好地管理衰老 (肌肉减少症)、基因状况、误用和非活动性相关的肌肉萎缩状况。除了能测量肌肉质量, **MuscleMap** 还能标测肌肉内部及周围的脂肪沉积和组织炎症情况。肌肉中脂肪含量增加是肌无力的征兆, 而水肿则意味着肌肉损伤和炎症。

企业可通过我们的厂商中立影像分析平台 **Dive-in®** 使用我们的健康标测应用。我们的 **Dive-in®** 平台包含成像和分析中心, 能提供一套基础的磁共振成像 (MRI) 分析, 适用于各种病理学情况

的测量和标测。借助这种现收现付且基于容量的使用许可，所有医疗服务人员都能负担得起我们的 MRI 分析和健康标测应用，并且可以减少传统应用的高额购买费用。由于在分析特定的器官和组织过程中我们的应用仅涉及较少的相互作用，因此未来我们应用的使用方法将朝着基于云的移动设备访问发展，提供真正个性化的连接性健康护理。

## 关键或领先技术

MagnePath 的健康标测应用以 MRI 分析领域的关键发展为基础，独立于扫描仪的组成和模式，无需注射造影剂。我们的信号处理技术已申请专利，能提取单个体素（3D 影像像素）内的多种病理变化测量结果（即“生物标志”）。这种“亚体素”分离能识别受到病理问题直接影响的分子和细胞进程，提供从未有过的卓越灵敏度、特异性和准确性。这是此类 QMRI 进展首次广泛应用于多种不同的病状而非某种特定疾病情况，并且同样可用于临床。先前技术只能用于特定的疾病情况，或是每种体素仅提取一种信号生物标志，这种情况下问题病状的信号会由于非病理组织成分的信号而变得“模糊”，从而导致诊断准确性有限。这种生物标志标测方面的创新意味着我们的临床应用具有独一无二的功用和灵活性。

MagnePath 借助囊括其核心技术和特定临床应用的专利组合捍卫其在 QMRI 生物标志标测方面的竞争地位。我们拥有一项身体脂肪测量方面的临时专利（FatMap® 技术），已收到一份关于所有权的明确国际检索报告，并已进入专利合作条约 (PCT) 的拓展阶段。FatMap 是首个适用于标准 MR 影像并成功测量 0% 至 100% 脂肪百分比的 QMRI 技术，精密度极高，与实际值的误差不超过 1%。

## 类别

器械：数字成像

诊断学：身体部位标测

其他：数字医疗

## 关键或领先技术的研发阶段

设计或早期研究：JointMap®：用于识别关节损伤并评定损伤等级。

临床前：MuscleMap®：用于评定肌肉质量和发炎等级。

临床试验：FatMap®：用于全身或器官的特定脂肪测量。

已注册：FatMap®：核心技术专利化。

产品方面：Dive-in® 分析平台：成像和分析供应商的认购和基于容量的许可事宜。

## 所寻机遇

合作伙伴和分销商，尤其是医疗成像和放射服务供应商。先期采用者将从这种领先的定量成像技术中获益，并改善决策和治疗干预，让患者从中受益。供应商可从这种更有效、访问更方便的工具中获益，获得一种独特的服务定位和更好的扫描仪使用情况。

技术许可——整合 MRI 扫描仪、图象归档与通信系统 (PACS) 和移动健康应用。

投资——MagnePath 已开始 2015 年的 AngelList 融资以筹资 50 万美元，专门用于推动 FatMap 通过 FDA 监管审核和实现 MuscleMap 的商业化——<https://angel.co/magnepath-pty-ltd>

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## Directory of Australian medtech companies



### **COMPANY DETAILS**

**Company name:** MagnePath Pty Ltd

**Key contact name:** Dr Wanida Chua-anusorn

**Job title of key contact:** co-founder and co-CEO

**Company website address:** [www.magnepath.com](http://www.magnepath.com)

**Company address:** 13A Adamson Road, Brentwood, Perth WA 6153

**The company is Unlisted.**

### **ABOUT THE COMPANY**

MagnePath Pty Ltd (Australia) is a digital health startup, developing health mapping applications to provide the ultimate quantified self. Our mission is to improve quality of life, by making personalised health information more meaningful, accessible, and actionable. We are pioneering new quantitative magnetic resonance imaging (QMRI) techniques to provide more meaningful body analytics, of fat, muscle, and joint health. For imaging and tele-analysis centres, we are dramatically improving the affordability of clinical applications through a pay-per-use access model, accommodating both on-line and off-line analysis. For mobile consumption, your imaging centre will now be able to push a true picture of your health to the palm of your hand.

Our first health mapping application, FatMap®, maps percentage fat at mm resolution throughout the body, both within and around organs. Importantly, FatMap maps the invisible fat - the fat within our abdomen, our livers, and around our hearts - that puts us at most risk from diabetes, heart disease, and cancer. FatMap empowers the patient and health care provider to make clearer treatment decisions to lower their fat burden and reduce complications, as well as to monitor progress.

Our second health mapping application, MuscleMap®, maps regional and whole-body muscle mass and muscle health status. Quantifying body muscle mass is essential for the management of muscle wasting conditions related to ageing (sarcopenia), genetic conditions, misuse, and inactivity. In addition to lean muscle mass, MuscleMap maps infiltrated fat and tissue inflammation, both within and around muscles. Increased fat accumulation in the muscle is a marker of muscle weakness, whereas oedema is a marker of muscular trauma and inflammation.

Our health mapping applications are available for enterprise use within our vendor-neutral image analysis platform - Dive-in®. Our Dive-in® platform offers imaging and analysis centres a suite of fundamental MRI analytics applicable to the measurement and mapping of various pathological conditions. With pay-as-you-go volume-based usage licenses, our MRI analytics and health mapping applications become affordable to all healthcare providers, mitigating the large upfront costs of traditional application purchase. As our applications require less interaction in the analysis of specific organs and tissues, usage will evolve outwards to cloud-based access by mobile devices, offering truly personalised connective health at the point of care.

### **KEY OR LEAD TECHNOLOGY**

MagnePath's health mapping applications are based on key advancements in MRI analytics, independent of the make and model of scanner, and without the use of contrast agent injections. Our patented signal processing techniques allow the extraction of multiple measures of pathological change - known as "biomarkers" - from within individual voxels (3D image pixels). This "sub-voxel" separation allows the identification of molecular and cellular processes directly impacted by the pathology in question, providing greater sensitivity, specificity, and accuracy than ever before. This is the first such QMRI advance that is broadly applicable to a range of different pathologies, without being specific to a given disease condition, and that is also practicable in a clinical setting. Prior techniques have either been disease-specific, or extract only a single biomarker per voxel, where the signal from the pathology in question is "blurred" with the signals from non-pathological tissue components, thereby limiting diagnostic accuracy. This innovation in biomarker mapping means that our clinical applications stand-alone in their power and flexibility.

MagnePath is protecting its competitive position in QMRI biomarker mapping with patent portfolios covering its core technologies, as well as specific clinical applications. We have one provisional patent lodged for body fat measurement (FatMap® technology), which has received a clear international search report on the claims, and has progressed to the Patent Co-operation Treaty (PCT) extension phase. FatMap is the first QMRI technology that works with standard MR images to successfully measure percentage fat from 0% to 100%, with an accuracy and precision to within 1% of actual values.

### **Category**

**Devices:** Digital imaging

**Diagnostics:** Body composition mapping

**Other:** Digital health

### **Point of development of key or lead technology**

Design or early research: JointMap®: for identifying and grading joint damage.

Pre-clinical : MuscleMap®: for grading muscle quality and inflammation.

In clinical trials: FatMap®: for whole body and organ specific fat measurement.

Has achieved registration: FatMap®: patenting of core technology.

Product on the : Dive-in® analysis platform: subscription and volume-based licensing to imaging and analysis providers.

### **OPPORTUNITIES SOUGHT**

Partnering and distribution with medical imaging and radiology providers. The early adopter will benefit from leading quantitative imaging technology, offering improved decision making and intervention for the benefit of patients. The provider benefits from more effective and accessible tools for a differentiated service position, plus improved scanner utilisation.

Technology licensing - for integration with MRI scanners, Picture Archiving and Communication Systems (PACS), and mHealth Apps.

Investment - MagnePath has opened an AngelList funding round for 2015 to raise \$500k, dedicated to progressing FatMap through FDA regulation, and commercialisation of MuscleMap -

<https://angel.co/magnepath-pty-ltd>