

Orthocell featured at Biotech Showcase™ in San Francisco

Perth, Australia; 9 January 2018: Regenerative medicine company Orthocell Limited (ASX:OCC, “Orthocell” or the “Company”) is pleased to release a new investor presentation, which the Company presented at the Biotech Showcase™ in San Francisco, which coincides with the 36th Annual JP Morgan Healthcare Conference.

The presentation provided an opportunity for the company to provide an update to key industry opinion leaders, potential partners and investors on its key products. The Biotech Showcase™ is expected to attract over 3,000 attendees and over 900 investors from more than 50 countries. In addition to the Biotech Showcase™ presentation, Orthocell will also meet with various leading healthcare companies and investors during the course of week.

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About Orthocell Limited

Orthocell is a regenerative medicine company focused on regenerating mobility for patients by developing products for the repair of a variety of soft tissue injuries. Orthocell’s portfolio of products include TGA-licensed cell therapies Autologous Tenocyte Implantation (Ortho-ATI®) and Autologous Chondrocyte Implantation (Ortho-ACI®), which aim to regenerate damaged tendon and cartilage tissue. The Company’s other major product is CelGro®, a collagen medical device which facilitates tissue repair and healing in a variety of orthopaedic, reconstructive and surgical applications. Orthocell recently received European regulatory approval (CE Mark) for CelGro®. The collagen medical device can now be marketed and sold within the European Union for a range of dental bone and soft tissue regeneration procedures and is being readied for first approval in the US.

For more information on Orthocell, please visit www.orthocell.com.au or follow us on Twitter @OrthocellLtd and LinkedIn www.linkedin.com/company/orthocell-ltd



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Biotech Showcase™

Advancing tissue repair and regeneration

January 2018

Paul Anderson **Managing Director**



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Corporate overview

A diversified health care exposure, delivering breakthrough products in regenerative medicine, with treatments along the soft tissue therapy continuum spectrum

Company overview

- Dedicated to the development of an innovative class of tissue regeneration medical devices, cellular therapies and growth factors
- Repair and regeneration of human tendons, bone, nerves & cartilage
- Primarily focused on developing two key products, Ortho-ATI® and CelGro® - CelGro® can now be marketed and sold within the European Union for dental bone repair

Share price performance



Trading information

Share price (5-Jan-18)	A\$0.37
Shares on issue ¹	105.7m
Market capitalisation	A\$39.1m
Cash (as at 30-Sep-17)	A\$5.3m ²
Debt (as at 30-Sep-17)	-
Enterprise value	A\$33.7m

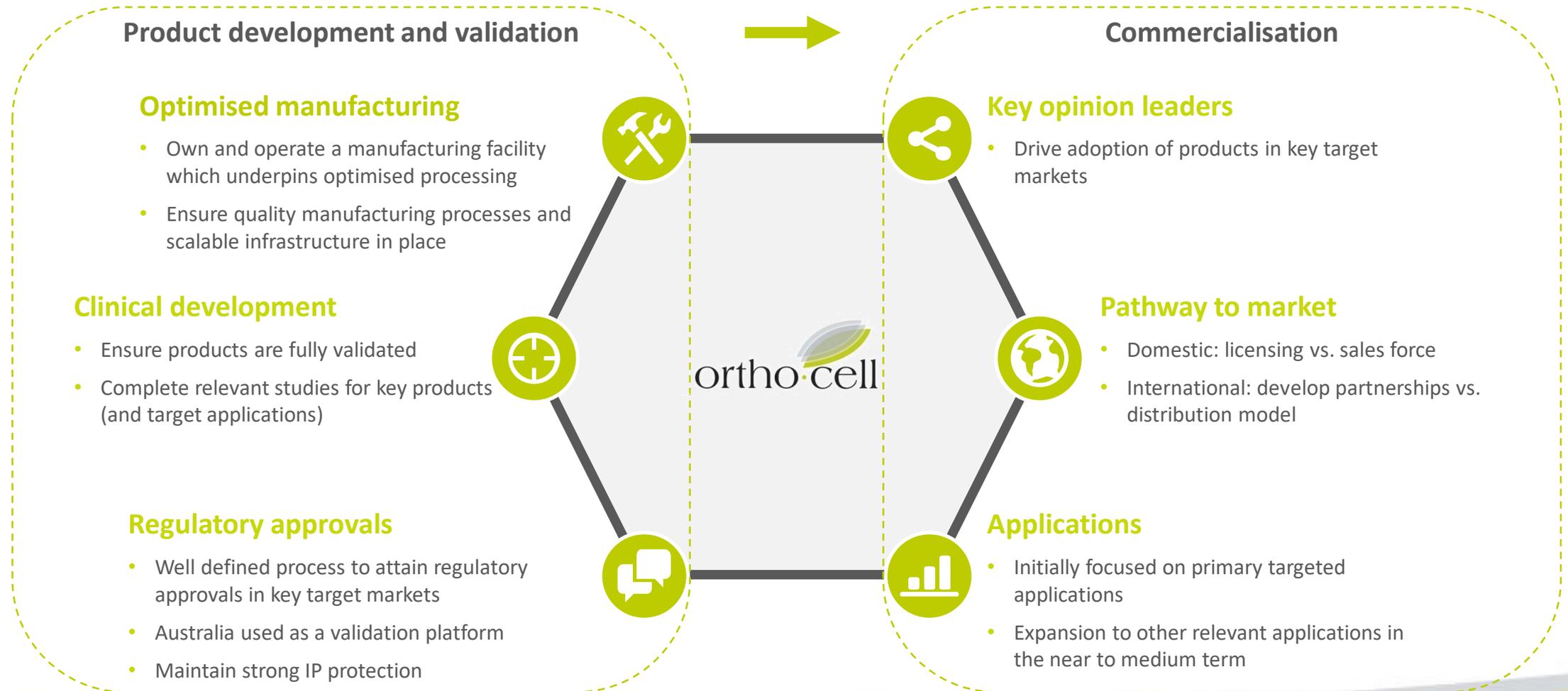
Top shareholders (as at Jan-18)

Stone Ridge Ventures – Associated with non-executive director	9.6%
Ming Hao Zheng – CSO and founder	6.9%
Paul Anderson – Managing director	6.6% ³
Qi Xiao Zhou – Non-executive director	5.7%
Australian Super – Superannuation and pension fund	5.2%

1. Excludes 12.1m unquoted warrants with exercise price \$0.58, expiry 19-Nov-2020 and 3.3m unquoted options with exercise prices ranging from \$0.50-\$0.65 and expiry dates between Feb-2019 and Jun-2020
 2. Cash figure based on A\$3.0m held at 30-Sep-17 and A\$2.3m R&D tax incentive cash refund received in Oct-17, excludes cash from placement and share purchase plan announced Dec-2017
 3. Additional shares purchased in the Dec-2017 placement have been excluded (shares are subject to shareholder approval)

Orthocell strategy

Comprehensive strategy in place across key products to optimise shareholder value



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Key product portfolio

Diversified product portfolio with exciting R&D development pipeline

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Diversified health care	Products	Key focus	Applications	Stages of development		
				Discovery	Pre-clinical	Clinical
Pure collagen medical device	CelGro®	Biological medical device for soft tissue reconstruction & repair	Dental	EU (CE Mark)		
			Orthopaedic	[Progress bar]		
			ACL ligament	[Progress bar]		
Cell based therapies	Ortho-ATI®	Tendon regeneration	Tennis elbow, gluteal etc.	[Progress bar]		
	Ortho-ACI®	Cartilage regeneration	Knee & ankle cartilage repair	AUS (ARTG)		
R&D pipeline		"Off-the shelf" tissue repair therapies	Growth factors	[Progress bar]		
			Allogenic tendon repair	Lab grown tendon	[Progress bar]	

CelGro®

Tissue and bone repair

Off the shelf collagen scaffold to support soft tissue and bone repair



Ortho-ATI®

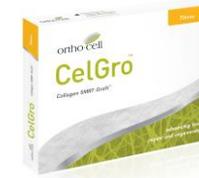
Regeneration of tendons

Two stage, minimally invasive, walk-in & walk-out procedure



Proven and logical clinical development strategy, grounded on an evidence-based translational programme to deliver cost effective treatments that transform patients lives

CelGro[®] - superior medical device soft tissue repair



CelGro[®] is a platform technology that supports tissue growth and enables rapid repair, it has demonstrated clinical efficacy and has a clear path to market across multiple applications

Multiple applications

Bone

e.g. Dental surgery



1. Defect Site



2. Bone Graft



3. Apply CelGro[®]



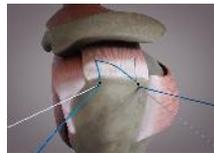
4. Implant Crown

Tendon

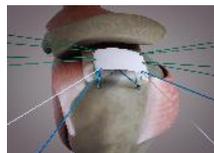
e.g. Orthopaedic surgery



1. Tendon Tear



2. Preparation of Repair Site



3. Apply CelGro[®]



4. Reattachment

Neurological

e.g. Peripheral nerve repair



1. Peripheral Nerve Injury



2. Preparation of Repair Site



3. Microsurgical Repair with CelGro[®]



4. Nerve Healing

Key Advantages

- ✓ Proven compatibility
- ✓ Strong mechanical properties
- ✓ Quality of tissue repair (native bilayer structure)
- ✓ Versatile/customisable to multiple applications

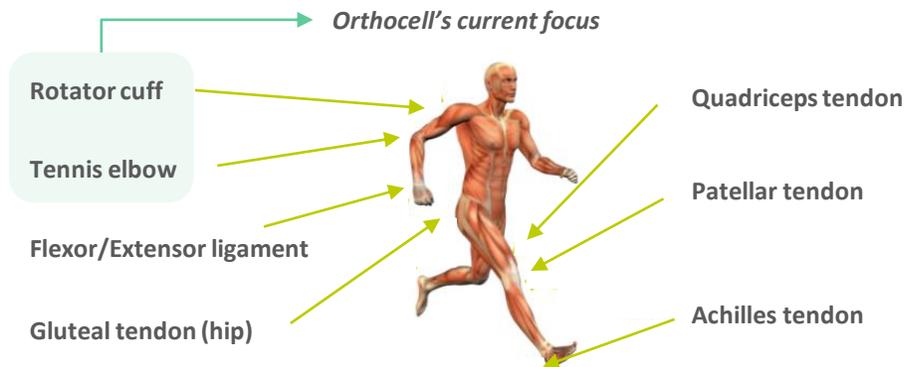
Ortho-ATI[®] - preferred therapy for tendon repair

Orthocell is currently focused on completing current clinical studies and preparing for US market entry

What is Ortho-ATI[®]

- **Breakthrough in regenerative medicine** – a novel, stem cell therapy developed to treat chronic degenerative tendon injuries (tendinopathy)
- Enables accelerated regeneration of injured tendons, by replenishing degenerative tissue with healthy mature tendon cells
- Extensive clinical validation - **over 450 patient implants with Ortho-ATI[®] to date** in multiple applications including rotator cuff, tennis elbow, gluteal tendon and patellar tendon
- Tennis elbow study: 207.6% increase in grip strength - data to 4.5 years post treatment **recently published in American Journal Sports Medicine**

Multiple tendon applications (common injuries)

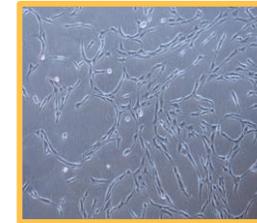


Two stage, minimally invasive, walk-in & walk-out procedure

1. Biopsy procedure
2. Tenocyte (cell) cultivation
3. Tenocyte (cell) implantation



Healthy tendon cells removed via minimally invasive procedure



Healthy cells grown at Orthocell's laboratory



Ultrasound guided implementation of healthy cells

← 4-5 week end-to-end process →

Key Advantages	Ortho-ATI [®]
Minimally invasive	✓
Long term durability	✓
Safe	✓
Cost effective	✓
Addresses underlying pathology	✓

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Ortho-ATI[®] - collaboration with Johnson & Johnson

Rotator cuff injuries may lead to considerable disability, reduced quality of life, and absenteeism from work, and are a significant burden on healthcare resources



Ortho-ATI[®] clinical trial

Collaboration agreement signed in **January 2017** and the study commenced in **May 2017**:

- 30 patient randomized controlled clinical study
- Objective is to assess the safety and effectiveness of Ortho-ATI[®] compared to corticosteroid injection in the treatment of **rotator cuff tendinopathy and tear**
- The trial is being **undertaken in collaboration with DePuy Synthes Products, Inc., part of the Johnson & Johnson Medical Device Companies**
- To be eligible for the trial, patients must have failed previous conservative treatment options, including previous injection treatment and physiotherapy

Burden on healthcare

- Rotator cuff tendinopathy and tear (manifests as severe shoulder pain) is a common and **often difficult injury to treat and affects more than 50% of adults over 50 years of age**
- Treatments are required that **address the underlying pathology of the injury**, not just the symptoms

“Demonstrating the efficacy of Ortho-ATI[®] for the treatment of rotator cuff tendinopathy is an important element of our product development and partnering strategy. We expect results to show Ortho-ATI[®] is a durable and effective treatment for degenerate shoulder injuries.”

- CEO, Paul Anderson

Significant market opportunity

Orthocell is at the forefront of a large and growing market opportunity in regenerative medicine in the musculoskeletal space where the addressable market is estimated to be in excess of US\$10 billion p.a.

Key focus markets

Other addressable markets³

CelGro[®]
addressable
markets²

Dental¹
>US\$0.6bn

~1,500,000 procedures p.a.



Tendon (rotator cuff)¹
>US\$0.9bn

~460,000 procedures p.a.



Nerve¹
>US\$1.1bn

~700,000 procedures p.a.



Ortho-ATI[®]
addressable
markets

Tennis elbow³
>US\$4.3bn

~1,000,000 procedures p.a.



Rotator cuff³
>US\$2.4bn

~530,000 procedures p.a.



Other indications
>US\$1.0bn

Gluteal, Patellar, Hamstring & Achilles



Orthocell is focused on addressable markets estimated to be >US\$8bn with upside from further expansion into new markets, expansion of key products and development of other pipeline products

1. US, Japanese, European and Australian markets
2. Analysis of addressable markets excludes the following CelGro[®] pipeline products including articular cartilage repair, ACL ligament replacement & general surgery
3. US, Japanese, European, Australian and New Zealand markets

Ortho-ACI[®] and R&D pipeline

Orthocell is undertaking a “capital light” approach to commercialising Ortho-ACI[®] and developing other pipeline products which represent exciting potential value upside within the regenerative medicine space

Ortho-ACI[®]

Marketable cartilage repair and regeneration therapy

- 3rd generation product
- >380 patient implants to date
- Included on the Australian Register of Therapeutic Goods,

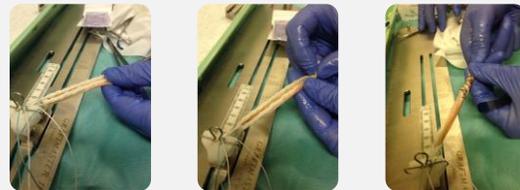


Ortho-ACI[®] procedure

CelGro[®] pipeline

Potential for innovative platform technology solutions

- **ACL ligament replacement:** positive results from initial animal study (recently completed)
- **Other potential applications:** General surgery, Urogynaecological, Collagen powder



ACL ligament replacement

Growth factors

- Cell factory-derived tissue specific growth factors to augment bone, cartilage and tendon repair
- Part of successful international collaboration²
- “Cell Factory” patents granted in key jurisdictions (USA and Europe)



Lab grown tendon

Lab grown tendons

- **Successfully manufactured** human tendon in a laboratory
- **Ongoing collaboration** with academic researchers¹ (received **ARC linkage grant**)
- Significant **unmet patient needs** and **multiple applications** (i.e. hand, shoulder and hamstring)



Growth factor samples

1. Successful collaboration with Griffith University; University of Western Australia; La Trobe University; and University of Auckland
2. Successful collaboration with Lund University (Sweden); University of Western Australia; Indian Institute of Technology Kanpur (India)

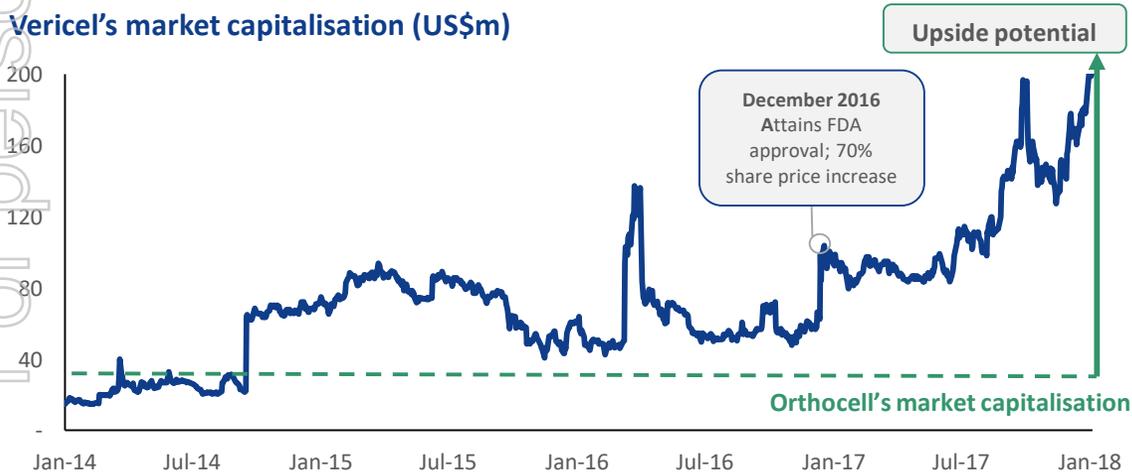
Vericel case study highlights Orthocell's valuable portfolio

Significant upside potential exists for Orthocell's product portfolio which addresses a range of tendon, cartilage and soft tissue injuries



- Vericel is a US company that develops, manufactures, and markets two autologous cell therapies:
 - Epicel®: cultured epidermal autografts
 - MACI®: autologous chondrocytes on porcine collagen membrane
- MACI® was the first FDA approved product to grow cells on scaffolds using healthy cartilage tissue from the patient's own knee

Vericel's market capitalisation (US\$m)



Orthocell also has:

- ✓ A **superior 3rd generation** ACI product for cartilage repair
- ✓ The **world's first cell therapy for tendon repair** – a much larger addressable market than cartilage
- ✓ CelGro® which address unmet needs in multi-billion dollar markets
- ✓ **Significant upside potential**, considering Orthocell's diversified multi-product portfolio of cell therapies and regenerative medicine products

	Orthocell	Vericel
ACI stem-cell product (cartilage focus)	✓	✓
ATI stem-cell product (tendon focus)	✓	✗
Platform technology (Multi-use collagen medical device)	✓	✗

Upside potential underpinned by recent transactions

Significant upside potential in Orthocell based on recent transactions executed in the regenerative medicine and medical scaffold sectors

Deal date	Deal type	Licensee/ Acquirer	Licensor/ Target	Phase	Transaction value ¹
Dec 16	Corporate	Allergan	LifeCell™	Commercial	US\$2.9bn
May 12	Corporate	DSM BRIGHT SCIENCE. BRIGHTER LIVING.	Kensey Nash	Commercial	US\$0.4bn
Jan 14	Asset	Organogenesis Inc. Advancing Healing	Shire	Commercial	US\$0.3bn
Oct 17	Corporate	smith&nephew	rotation MEDICAL	Commercial	US\$0.2bn
Mar 15	Corporate	FUJIFILM FUJIFILM Holdings Corporation	Cellular Dynamics International	Commercial	US\$0.3bn
Jul 15	Corporate	TIGENIX Living Medicines	coretherapix	Phase II	US\$0.3bn
Apr 15	Strategic ownership stake / asset rights	Celgene	mesoblast the regenerative medicine company	Multiple in Phase III	US\$45m
Jan 17	Strategic ownership stake / asset option	FUJIFILM FUJIFILM Holdings Corporation	cynata therapeutics	Phase I	US\$51m
Dec 16	Licensing (Japanese market)	AGC ASAHI GLASS	regeneus living regenerative medicine	Completed Phase I	US\$17m

Medical scaffold transactions

Regenerative medicine transactions

Japanese cell therapy licensing



- In October 2017, Smith & Nephew announced they would acquire Rotation Medical for up to US\$210m
- Rotation Medical is a private medical scaffold company focused on rotator cuff repair

	Orthocell	Rotation Medical
Tendon regenerative therapy	✓	✓
Platform technology	✓	✗
Multiple products	✓	✗
Global regulatory approval	✓	✓

Orthocell market capitalisation

Upcoming key catalysts

Significant operational milestones expected over the next year as Orthocell continues to develop its product portfolio

Products	Key focus	1Q CY2018	2Q CY2018	2H CY2018	
CelGro®	Biological medical device for soft tissue reconstruction & repair	Dental distribution negotiations (EU – Italy , Poland and other)	★		
		US and Australia market authorisation (dental)			★
		US orthopaedic market entry studies completion			★
		Global strategic partnership discussions for orthopaedic applications			
Ortho-ATI®	Tendon regeneration	Pre Investigation New Drug meeting with FDA	★		
		Workers compensation study publication		★	
		Ortho-ATI® vs. surgery trial recruitment			★
Ortho-ACI®	Cartilage regeneration	Explore commercialisation and distribution opportunities (US, Japan)			

★ Key milestones

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Investment highlights

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- **Significant upside potential** driven by Orthocell's product portfolio and underpinned by recent transactions in the sector
- Orthocell's key products **address markets worth more than US\$10 billion p.a.**
- **Recently received marketing authorisation of CelGro[®]** collagen scaffold medical device in the European Union (CE Mark) for dental bone and soft tissue reconstructive applications
- CelGro[®] regulatory **approval acts to validate the entire technology platform** and can be leveraged for additional indications
- Ortho-ATI[®] clinical trial is being undertaken in **collaboration with DePuy Synthes Products, Inc., part of the Johnson & Johnson Medical Device Companies** (collaboration facilitated by Johnson & Johnson Innovation)
- Substantial clinical data and strong partner interest from large pharmaceutical companies for all current products provides **de-risked investment proposition**
- **TGA¹ licensed and GMP¹ certified manufacturing capabilities** underpin competitive advantage and can be scaled to market demand
- Experienced founders and management team with **successful track record** developing, commercialising and monetising cell therapy products

1. TGA: Therapeutic Goods Administration; GMP: Good Manufacturing Practices