

ASX:FBR



hadrianX



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EGM Presentation

Mike Pivac
Managing Director & CEO
21 August 2023



Introductions



Richard Grellman
Non-Executive Chairman



Mike Pivac
Managing Director &
Chief Executive Officer



Grant Anderson
Non-Executive Director



Greg Smith
Non-Executive Director



Nancy Milne
Non-Executive Director



Mark Pivac
Executive Director &
Chief Technical Officer



Aidan Flynn
Chief Financial Officer &
Company Secretary

Agenda

- 1. Notice of Meeting**
- 2. Formal Order of Business**
- 3. Voting**
- 4. Corporate update**
- 5. Shareholder Questions**
- 6. Close of Meeting**





Formal Order of Business

Resolution 1

Ratification of issue of 2022 Placement Shares under Listing Rule 7.1

*To consider and, if thought fit, to pass the following resolution as an **ordinary resolution**:*

“That, for the purposes of Listing Rule 7.4 and for all other purposes, Shareholders ratify and approve the previous issue of 216,509,669 Shares to institutional and sophisticated investors on the terms and conditions set out in the Explanatory Memorandum accompanying this Notice.”

Resolution 2

Ratification of issue of 2022 Placement Shares under Listing Rule 7.1A

*To consider and, if thought fit, to pass the following resolution as an **ordinary resolution**:*

“That, for the purposes of Listing Rule 7.4 and for all other purposes, Shareholders ratify and approve the previous issue of 283,490,331 Shares to institutional and sophisticated investors on the terms and conditions set out in the Explanatory Memorandum accompanying this Notice.”

Resolution 3

Ratification of issue of March Placement Shares under Listing Rule 7.1

*To consider and, if thought fit, to pass the following resolution as an **ordinary resolution**:*

“That, for the purposes of Listing Rule 7.4 and for all other purposes, Shareholders ratify and approve the previous issue of 224,463,828 Shares to M & G Investment Management on the terms and conditions set out in the Explanatory Memorandum accompanying this Notice.”

Resolution 4

Ratification of issue of March Placement Shares under Listing Rule 7.1A

*To consider and, if thought fit, to pass the following resolution as an **ordinary resolution**:*

“That, for the purposes of Listing Rule 7.4 and for all other purposes, Shareholders ratify and approve the previous issue of 2,536,172 Shares to M & G Investment Management on the terms and conditions set out in the Explanatory Memorandum accompanying this Notice.”

ASX:FBR



Corporate Update

FBR's largest and most complex project to date

Willagee

- Split across northern and southern sides, each containing eight two-storey units
- A number of first-time accomplishments for FBR such as:
 - Building on a rising site, with each townhouse at a differing elevation;
 - Triple-leaf common party walls between each townhouse, up to 9.2m high;
 - a triple-leaf cavity wall system with acoustic brick ties; and
 - steel reinforcements and fireproofing
- FBR mobilised to the site again in July 2023 following the pouring of the second storey slabs at the northern group of townhouses
- Hadrian X® will operate at site, completing the second storey walls before completion of follow up trade work to finalise the project

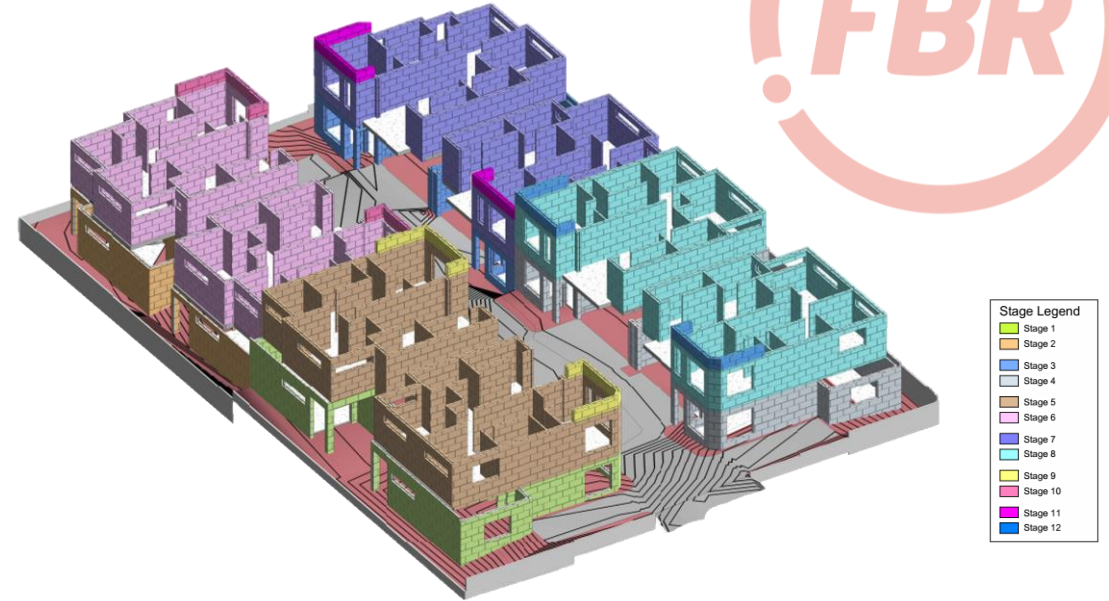


Final phase of works at Willagee sees blocks laid of second storey triple-leaf walls at the northern wing

Multi-storey high-density project in Perth's suburbs

St. James

- FBR contracted by Perth developer, Riculallo Pty Ltd, to provide Wall as a Service® for eight two-storey townhouses in Perth suburb of St. James
- Works include construction of concrete slabs of both first and second storeys, footings, structural walls and roof trusses
- Hadrian X® is scheduled to mobilise to site during Q2 FY24, in line with schedule provided by the developer



TAD 3D render of St. James Project

St. James - Hadrian X® Stats

Type:	Multi-dwelling Residential
Builder:	Riculallo Pty Ltd
Layout:	Eight x two-storey townhouses
Wall Area:	4,056m ²
Block Type:	Brickworks CMU 400
Blocks:	35,893 (Approx. 148,000 SBEs)





Automation is widely regarded as the future of construction

Next-generation Hadrian X®

- Next-generation Hadrian X® exceeded previous lay speed record, laying U.S. format masonry blocks at a rate of over 300 blocks per hour with further expected improvements
- Following outdoor site demonstrations, the next-generation Hadrian X® will be ready for demonstration work in Australia and internationally
- Procurement process for U.S. spec machines is progressing, focusing on long-lead items such as U.S. truck chassis, boom materials and industrial computer equipment
- Upon completion of manufacture, U.S. bound machines will be deployed immediately to provide WaaS® in Florida



Next-generation Hadrian X® with a new HMI, can be operated by tablet



Next-generation Hadrian X® completes test build with lay-path vectoring

Automation is widely regarded as the future of construction

Technical Specifications

- Modular design with distributed control architecture
- Simple to operate by tablet or mobile device
- Handles blocks up to 600 x 400 x 300mm (23 Standard Brick Equivalent, weighing up to 45 kgs)
- 32-metre-long telescopic boom capable of building three storey structures from roadside
- Shuttle system allows handling of larger blocks, increasing targeted lay speed to ~80-120m²/hour and capable of being adapted to lay roof tiles
- Brick saw module capable of making height, mitre and gable cuts as required
- Two-phase MOU with Liebherr-Mischtechnik, the world's largest privately owned OEM, to collaborate on commercializing the next-generation Hadrian X[®] ensuring suitability to mass manufacture²

The next-generation Hadrian X[®] utilises a newly configured lay-path vector protocol which virtually eliminates the perpendicular gaps between adjacent blocks on a course, improving the thermal properties of the wall.



Next-generation Hadrian X[®] builds test structure with lay-path vectoring

1. Based on Company assumptions provided on slide 22 and 23 of Investor Presentation released via ASX on 26 October 2022, utilising Hadrian X[®] H110 and presently available block sizes. Access to larger blocks would have the potential to increase comparative speed within the limits of H110 compatible blocks
2. Refer FBR ASX announcement released 3 March 2022.

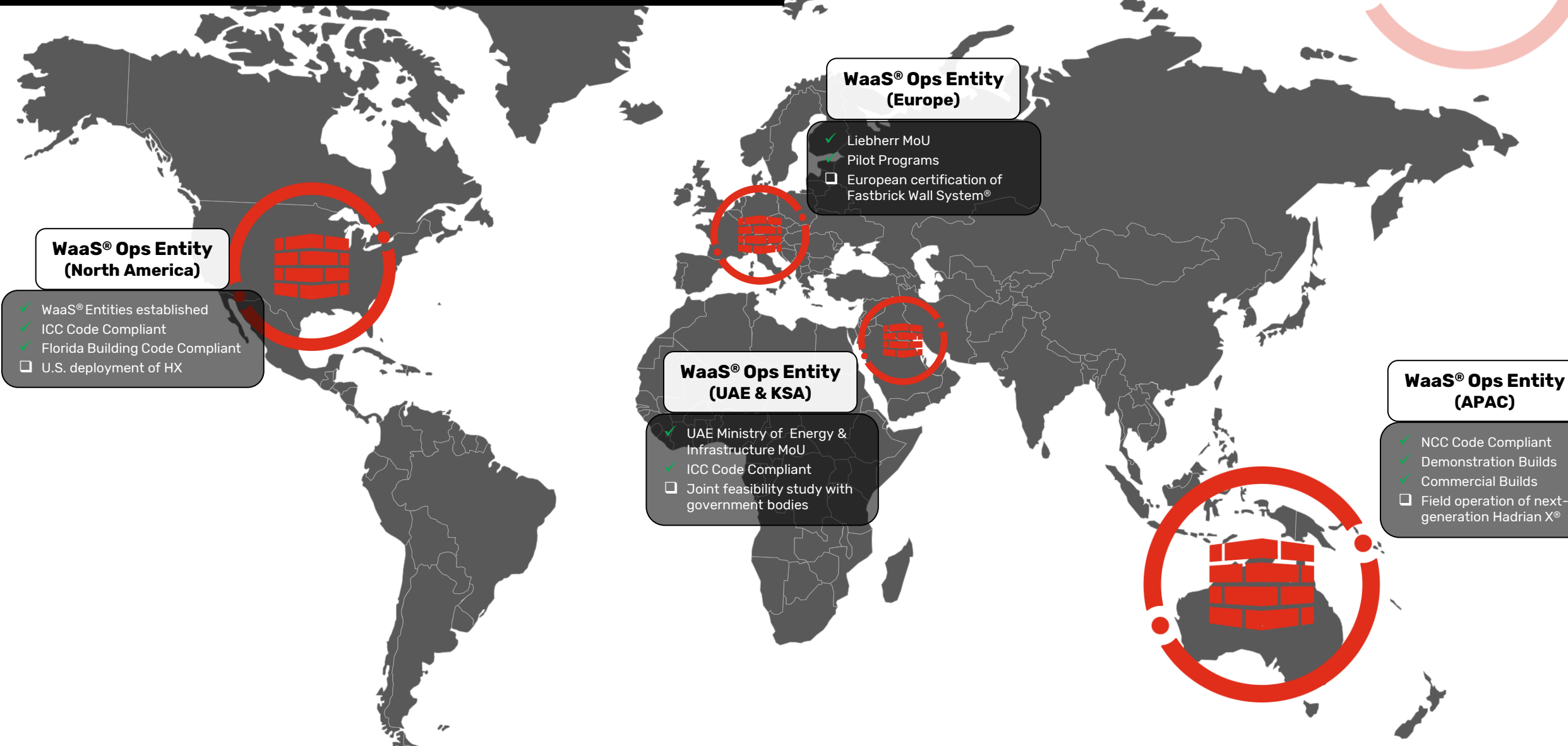
Next-generation Hadrian X®

Outdoor Testing

- Following the calibration activities, optimisation works and speed test builds undertaken indoors at FBR's facilities, the next-generation Hadrian X® mobilised outdoors at FBR's facilities to simulate work in a dynamic outdoor environment
- In addition to the building of an outdoor test structure, activities included full mobilisation protocols such as site survey, laser tracker calibration and Hadrian X® automated pack/unpack sequence



Global Expansion Strategy

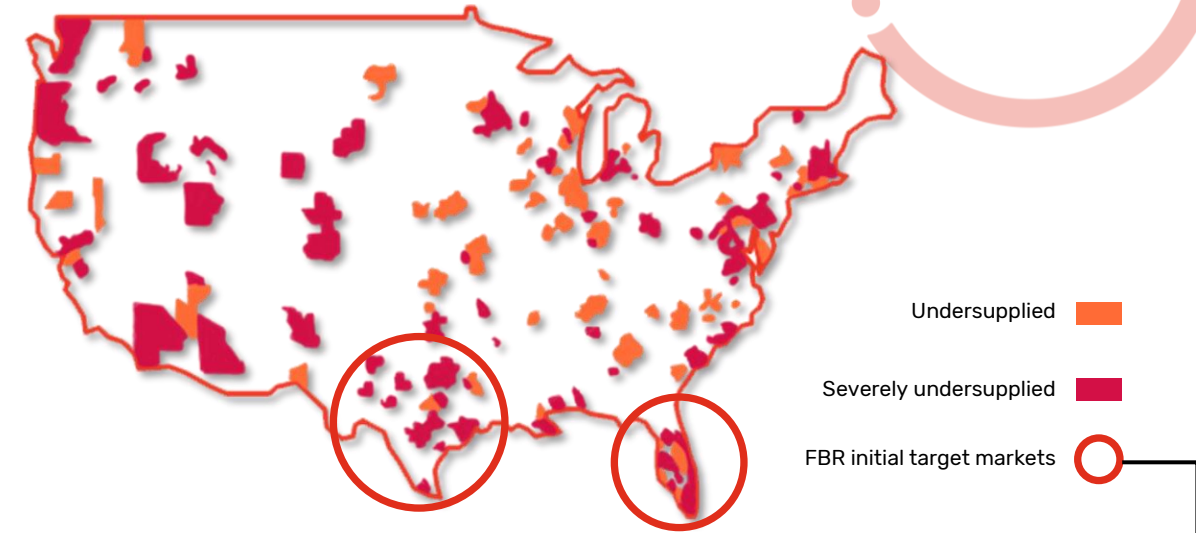


WaaS® expansion and entry into FBR's largest target markets

Global Expansion Strategy

- Three next-generation Hadrian X® robots funded by M & G Investment Management specifically for U.S. markets, expediting FBR's entry to its largest market globally
- U.S. domiciled operating entities established
- Fastbrick Wall System® compliant with U.S. building codes
- First next-generation Hadrian X® to be sent to Florida to complete build demonstrations ahead of commencement of commercial operations
- Certification of Fastbrick Wall System® underway in Europe using Hadrian-optimised block and adhesive
- MOU in place with Liebherr-Mischtechnik for Hadrian manufacturing; demonstration programs completed in Australia with major block producers Wienerberger and Xella

U.S. Housing Supply Shortfall



States with new residential builds – Top 5							
('000s)	2018	2019	2020	2021	2022	5 Yr. CAGR	% Single Family Homes
Texas	192.9	209.9	230.5	266.0	263.1	6.4%	59%
Florida	144.4	154.3	164.1	213.5	212.0	8.0%	64%
California	113.5	110.2	106.1	119.4	119.7	1.1%	63%
North Carolina	71.7	71.3	80.5	94.9	91.9	5.1%	70%
Georgia	59.3	53.8	55.8	67.2	77.2	5.4%	61%
U.S. Total	1,329.0	1,386.3	1,471.2	1,737.2	1,765.3	4.6%	59%

Source: US Census Bureau (2023), Moody's Analytics (2021), FRED (2023), NAHB (2023)

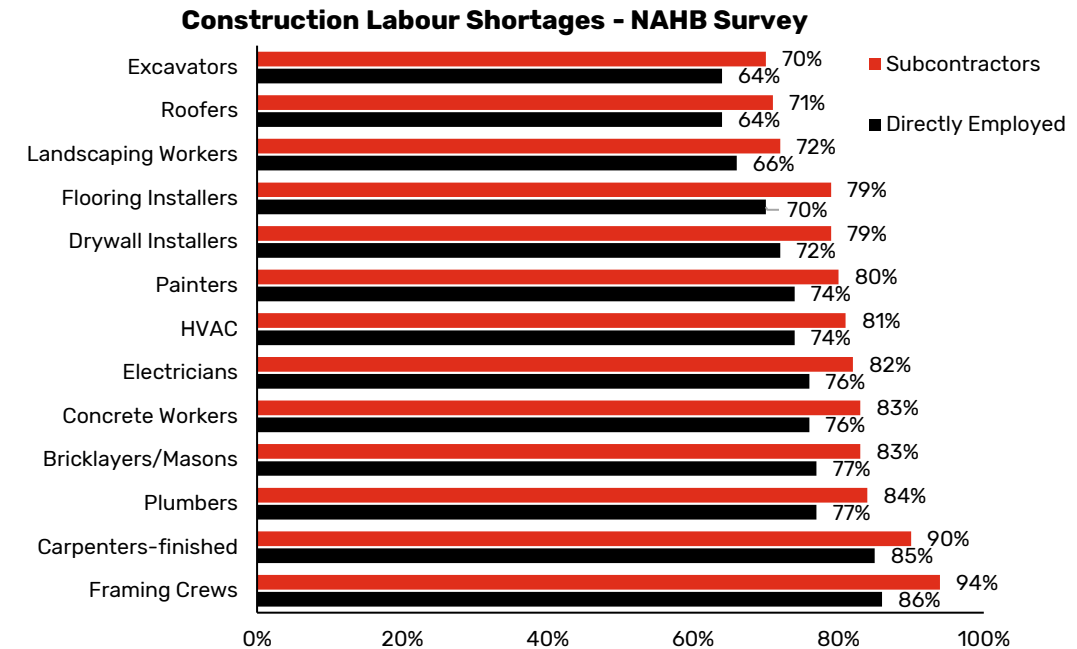
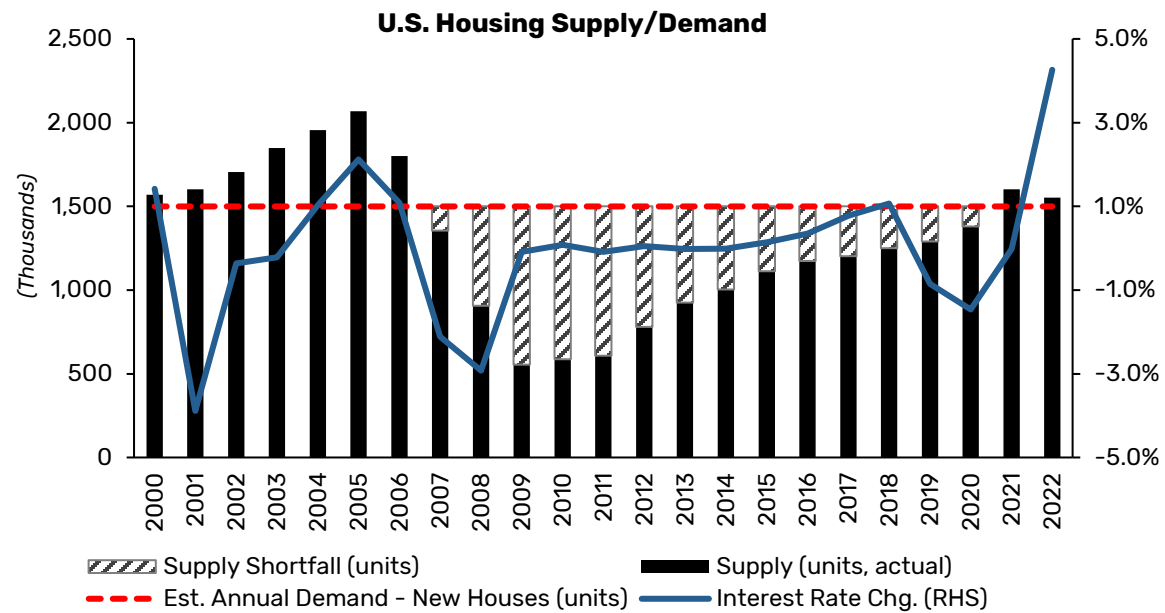


U.S. Residential Opportunity

- Moody's estimated a minimum of ~1.5m homes required annually just to meet demand¹
- Chronic undersupply has resulted in a deficit estimated to be between 4.7-20.1m, with supply response impinged by the pandemic, labour shortages and material cost inflation^(1,2)
- In a bid to curb inflation, interest rates have risen which has dampened potential rebound through tightening credit availability
- While supply recovery sees improving trend, availability of skilled labour presents challenges, as evidenced by survey of NAHB homebuilders and remodelers

Builder completions - Top 10 (2022)

Builder	Completions
D.R. Horton	82,930
Lennar Corp.	68,817
PulteGroup	29,111
NVR	22,732
Meritage Homes Corp.	14,106
KB Home	13,738
Taylor Morrison	12,647
Clayton Properties Group	11,751
Century Communities	10,594
Toll Brothers	10,515



Source: (1) Moody's Analytics (2023), FRED, (2) IZA Institute of Labor Economics (2022), NAHB (2022), Census Bureau (2023)

Two of the largest and fastest growing residential construction markets in the U.S.

Initial U.S. WaaS® Ops

- Concentration of new build opportunities in Florida and Texas is highly favourable for FBR and the operation of WaaS® operating centres
- Provides significant opportunities to provide WaaS® within close proximity to operating headquarters, with ample access to labour, materials and Liebherr facilities (Miami and Houston)
- Market made up of high-volume masonry construction, primed for robotics
- Brick and block structures account for ~25% of new home builds in the U.S., with concentration in areas prone to hurricanes (Florida / Texas)
- Florida and Texas experienced increased net migration in 2022 with +320k (to 22.2m) and +470k (to 30.0m) people respectively moving into the states due to lower costs of living, more affordable housing and zero state income taxes for individuals



High volume residential estates in U.S. well suited to robotic construction

Texas

Metropolitan Statistical Area New Build Permits 2022

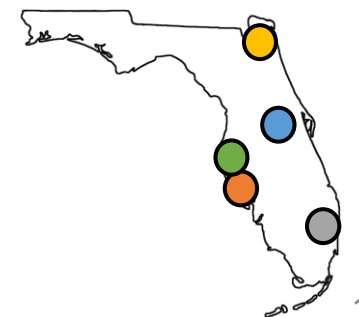
Dallas-Fort Worth-Arlington	77,446
Houston-The Woodlands-Sugar Land	75,786
Austin-Round Rock	44,019
San Antonio-New Braunfels	24,006
McAllen-Edinburg-Mission	5,836



Florida

Metropolitan Statistical Area New Build Permits 2022

Tampa-St. Petersburg-Clearwater	29,960
Orlando-Kissimmee-Sanford	28,890
Jacksonville	23,131
Miami-Fort Lauderdale-West Palm Beach	19,813
North Port-Sarasota-Bradenton	15,808



Source: Census Bureau, NAHB, National Association of Realtors



Next 12 months for FBR



- Introduce next-generation Hadrian X[®] into Western Australian building market followed by overseas demonstrations, beginning with U.S.
- Complete construction at Willagee and St. James with current generation Hadrian X[®]
- Progress manufacture of U.S. spec next-generation Hadrian X[®] robots for deployment to U.S.
- Establish European entity and complete build demonstrations with assistance from market leading block suppliers
- Obtain binding orders for further next-generation Hadrian X[®] robots to be positioned into operating entities in Australia, U.S. and Europe
- Continue development and technology protection of additional DST[®] enabled equipment and methods
- Work to establish U.S. operational base in readiness for the arrival of next-generation Hadrian X[®] robots

Questions

The logo consists of the letters 'FBR' in a bold, red, sans-serif font, centered within a red circle. The circle has a dashed or dotted border.

FBR

The logo consists of the letters 'ASX:FBR' in a bold, white, sans-serif font, oriented vertically. It is positioned on the left side of the slide, overlapping a large white circular graphic element.

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