

# Fastbrick Robotics Ltd (FBR)

## All quiet on project development

Fastbrick Robotics Limited (ASX: FBR) is, we suggest, at a critical phase in the commercialisation of the group's 3D robotic bricklaying system – the Hadrian X. Our understanding is that management is targeting to have the first commercial prototype manufactured by mid-2018, only three to four months away. Thereafter, the schedule is for the machine to be factory tested in the September quarter, and a 180m<sup>2</sup> demonstration house successfully built by the end of November 2018.

With some 166.7m performance shares worth A\$24.2m (at current share price levels) dependent on this timeline, we imagine that it is "all hands to the pump" at the robotic technology company.

While the December 2017 quarterly report (released 29 January 2018) indicated that the programme is progressing (including procurement of long lead items, ramping up of staff and resources, and software and hardware simulations), there has been no disclosure over the past couple of months on the status of the programme relative to the mid-year milestone. We suggest that the market, aware of the tight deadlines and management workload, does not expect to receive week-to-week update reports. Nevertheless, it is clear that the market is concerned over the recent information vacuum; FBR's share price has depreciated by some 31% to 14.5cps from 21cps at the beginning of the year.

As part of a July 2017 MOU with global construction and mining equipment manufacturer Caterpillar Inc (NYSE:CAT), CAT invested US\$2m in FBR via a 10cps placement. In addition, CAT has an option to invest a further US\$8m in FBR at 20cps (option expires on 30 June 2018). However, with the share price currently well south of the exercise price, and with the first commercial prototype potentially only ready after the option expiry date, it is problematic whether CAT will exercise this option in FY18E.

### Risk SOTP target price: A\$0.50 (A\$0.53 previously)

Our forecast un-risked SOTP valuation for FBR is unchanged at A\$1,043m; see initiation report "[Building on technology for exciting growth, 19 January 2018](#)". However, we have increased our risk-weighting to 30% from 25% to capture the lack of visibility on project development over the past quarter.

In addition, we no longer assume that CAT will exercise its US\$8m investment option in FY18E. While this has reduced our forecast FY18E year-end cash balance to A\$37.3m (from A\$49.3m), it has also lowered our forecast fully-diluted share base to 1,573m (from 1,625m). The net impact is that our forecast risk-adjusted SOTP equity value has fallen by 8% to A\$791m (A\$860m previously), and our forecast equity value per share has fallen by a smaller 6% to 50c (53c previously).

Despite no longer assuming that FBR will receive US\$8m in additional funds from CAT in FY18E, FBR's cash position remains strong; we believe that the group has de-risked the balance sheet for the next 3-4 years, i.e., until first sales in FY21E. At current share price levels of 14.5c, we calculate that the stock offers significant upside relative to our (downwardly revised) 50c target price. **We maintain a Speculative Buy (Higher Risk) recommendation.**

Positive near-term share price catalysts would include 1) FBR successfully manufacturing the first commercial prototype by mid-2018 and, 2) FBR advancing one or both of the separate MOUs with CAT and with the Kingdom of Saudi Arabia's Ministry of Housing to legally binding agreements.

5 April 2018

Share Price: A\$0.145

Target Price: A\$0.50

Recommendation  
**Speculative Buy**

Risk Assessment  
**Higher**

### Construction Machinery/Technology

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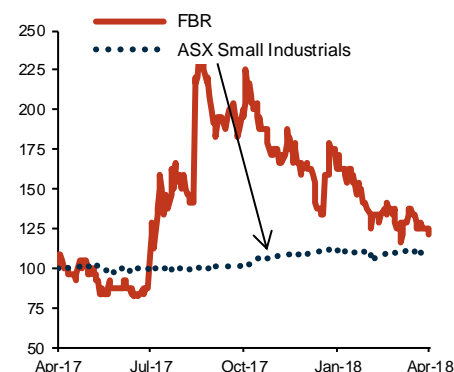
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### Fastbrick Robotics Ltd

ASX Code	FBR
52-week range (A\$cps)	A\$0.10-A\$0.30
Fully diluted Market Cap (A\$m)	232
Fully diluted no. of shares (m)	1,573
Av Daily Turnover (shares)	7.2 million
ASX All Ordinaries	6,854
FY18E BV per share (A\$c)	A\$2.8c
FY18E EPS (A\$c)	-A\$0.3c
FY18E Net (Debt)/Cash (A\$m)	37.3

### Relative price performance



Source: Iress

## Financial Statements

### Fastbrick Robotics Ltd

Year ending June

Profit & Loss Statement (A\$m)	FY17A	FY18E	FY19E	FY20E	FY21E
Revenue	1.4	0.0	0.0	0.0	0.0
Raw materials / rental / lease	0.0	0.0	0.0	0.0	0.0
Employee	(1.4)	(3.0)	(5.0)	(5.0)	(5.0)
Other	(0.6)	(1.2)	(1.5)	(2.0)	(2.0)
<b>EBITDA</b>	<b>(0.6)</b>	<b>(4.2)</b>	<b>(6.5)</b>	<b>(7.0)</b>	<b>(7.0)</b>
Depreciation & Amortisation	(0.0)	(0.5)	(0.5)	(0.5)	(0.5)
<b>Operating profit</b>	<b>(0.6)</b>	<b>(4.7)</b>	<b>(7.0)</b>	<b>(7.5)</b>	<b>(7.5)</b>
Royalties & Other	(0.8)	(0.6)	0.0	0.0	34
<b>EBIT</b>	<b>(1.4)</b>	<b>(5.3)</b>	<b>(7.0)</b>	<b>(7.5)</b>	<b>27</b>
Interest income	0.0	0.2	1.0	0.7	0
Interest expense	0.0	0.0	0.0	0.0	0
Tax expense	0.0	0.0	0.0	2.0	(8)
<b>Reported NPAT</b>	<b>(1.4)</b>	<b>(5.1)</b>	<b>(6.0)</b>	<b>(4.8)</b>	<b>19</b>
<b>Normalised NPAT</b>	<b>(1.4)</b>	<b>(5.1)</b>	<b>(6.0)</b>	<b>(4.8)</b>	<b>19</b>

EBITDA Margin (%)	-39%	na	na	na	na
Operating profit margin (%)	-43%	na	na	na	na
EPS Reported - Diluted (A\$c)	(0.1)	(0.3)	(0.4)	(0.3)	1.2
<b>EPS Normalised - Diluted (A\$c)</b>	<b>(0.1)</b>	<b>(0.3)</b>	<b>(0.4)</b>	<b>(0.3)</b>	<b>1.2</b>
EPS growth (%)	nm	nm	nm	nm	n/a
DPS - Declared (A\$c)	0.0	0.0	0.0	0.0	0.6
Avg. no. of shares (m)	719	912	1,113	1,301	1,488
YE no. of fully-diluted shares (m)	1,389	1,573	1,573	1,573	1,573

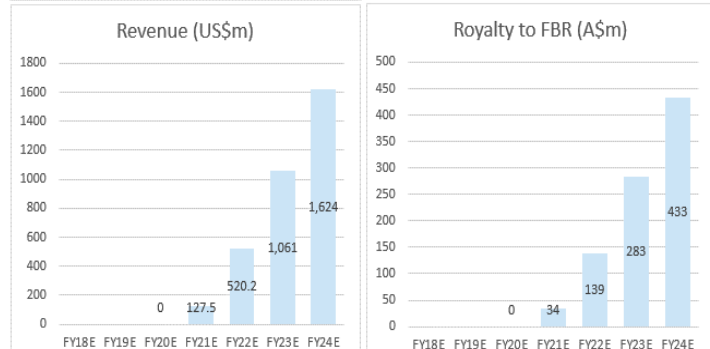
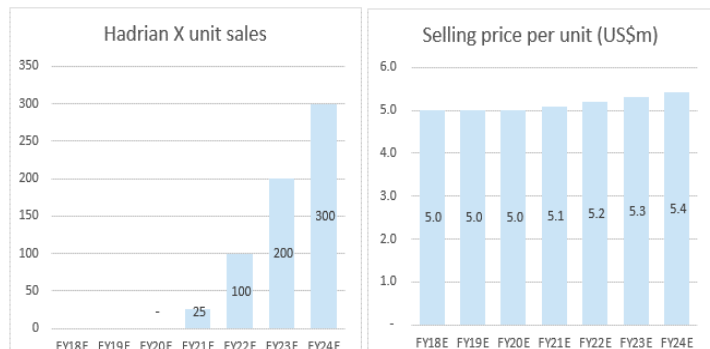
Cash Flow Statement (A\$m)	FY17A	FY18E	FY19E	FY20E	FY21E
EBITDA	(0.6)	(4.2)	(6.5)	(7.0)	(7.0)
Investment in working capital	(0.4)	0.3	0.0	0.0	0.0
Tax expense	0.0	0.0	0.0	2.0	(8.1)
<b>Operating Cash Flow</b>	<b>(0.9)</b>	<b>(3.9)</b>	<b>(6.5)</b>	<b>(5.0)</b>	<b>(15.1)</b>
Capex	(2.0)	(5.0)	(5.0)	(5.0)	(2.0)
Other investments	0.0	0.0	0.0	0.0	0.0
<b>Investing Cash Flow</b>	<b>(2.0)</b>	<b>(5.0)</b>	<b>(5.0)</b>	<b>(5.0)</b>	<b>(2.0)</b>
Net interest received / (paid)	0.0	0.2	1.0	0.7	0.5
Debt draw down / (repayment)	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	0.0	(9.4)
Equity raised / (repaid)	9.2	38.0	0.1	0.7	0.0
<b>Financing Cash Flow</b>	<b>9.2</b>	<b>38.3</b>	<b>1.1</b>	<b>1.4</b>	<b>(9.0)</b>
Royalties & Other	(1.5)	(0.6)	0.0	0.0	34.0
<b>Inc/(Dec) in Cash</b>	<b>4.8</b>	<b>28.7</b>	<b>(10.4)</b>	<b>(8.6)</b>	<b>7.9</b>

Balance Sheet (A\$m)	FY17A	FY18E	FY19E	FY20E	FY21E
Cash & Equivalents	8.7	37.3	26.9	18.4	26.3
Receivables	0.8	0.0	0.0	0.0	0.0
Inventories	0.0	0.0	0.0	0.0	0.0
Other Current Assets	0.1	0.1	0.1	0.1	0.1
PPE	2.7	7.2	11.7	16.2	17.7
Deferred tax asset	0.0	0.0	0.0	0.0	0.0
Other Non Current Assets	0.0	0.0	0.0	0.0	0.0
<b>Total Assets</b>	<b>12.3</b>	<b>44.7</b>	<b>38.8</b>	<b>34.7</b>	<b>44.2</b>
Payables and other current Liabilities	0.6	0.1	0.1	0.1	0.1
Short Term Debt	0.0	0.0	0.0	0.0	0.0
Long Term Debt	0.0	0.0	0.0	0.0	0.0
Other Non Current Liabilities	0.0	0.0	0.0	0.0	0.0
<b>Total Liabilities</b>	<b>0.7</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>
<b>Total Equity</b>	<b>11.6</b>	<b>44.5</b>	<b>38.6</b>	<b>34.6</b>	<b>44.0</b>
Net Cash/(Debt)	8.7	37.3	26.9	18.4	26.3

Substantial Shareholders	%	Date
Fidelity International	9.8	
Mark Joseph Pivac	9.4	Dec-17
Regal Funds Management	7.4	

Source: Company, IRESS, State One Stockbroking forecasts

Hadrian X royalty f'cast (A\$m)	FY17A	FY18E	FY19E	FY20E	FY21E
No. of units sold	na	-	-	-	25
Selling price per unit (US\$m)	na	-	-	5.0	5.1
Revenue (US\$m)	na	-	-	-	127.5
Royalty rate to FBR	na	-	-	-	20%
Royalty to FBR (US\$m)	na	-	-	-	25.5
AUD:USD exchange rate	na	-	-	-	0.75
Royalty to FBR (A\$m)	na	-	-	-	34.0



Leverage	FY17A	FY18E	FY19E	FY20E	FY21E
Net Debt/Equity	cash	cash	cash	cash	cash
Gearing (ND/ND+E)	cash	cash	cash	cash	cash
Interest Cover (x)	na	na	na	na	na

Valuation Ratios (x)	FY17A	FY18E	FY19E	FY20E	FY21E
Normalised P/E	na	na	na	na	12.3
Price/OP Cash Flow	na	na	na	na	na
Book value per share (A\$c)	0.8	2.8	2.5	2.2	2.8
EV/EBITDA	na	na	na	na	na
ROE (%)	-12%	-11%	-16%	-14%	43%

SOTP valuation	A\$m	A\$ps
Hadrian X NPV (unrisked)	1,043	0.66
<i>Risk weighting (timing, volumes, pricing, etc)</i>	30%	
Hadrian X NPV (risked)	730	0.46
Technology upside / new opportunities	73	0.05
Corporate/Admin costs	-49	-0.03
Enterprise value	754	0.48
Net cash / (debt) (FY18E)	37	0.02
<b>Equity value</b>	<b>791</b>	<b>0.50</b>

Current share price	0.15
% upside / (downside)	241%

## Valuation

### Sum-of-the parts (SOTP) valuation

Our estimated SOTP equity value for FBR is A\$791m (A\$0.50 per fully diluted share). It is comprised of:

- A risk-weighted NPV<sub>10</sub> of A\$730m (A\$0.46 per fully diluted share) from royalties stemming from sales of the Hadrian X robotic bricklaying system.
- A new technology/new application valuation of A\$73m (A\$0.05 per fully diluted share based on a nominal 10% of our Hadrian X valuation. After commercialising the Hadrian X, FBR will be looking to work with industry leaders to collaborate on new products based around the group's core Dynamic Stabilisation Technology (DST) applications (i.e., high rise construction, sub-sea, civil construction, oil & gas, mining).
- FY18E net cash of A\$37m (A\$0.02 per fully diluted share),

**Target price:**  
**A\$0.50ps**

**Figure 1: SOTP valuation**

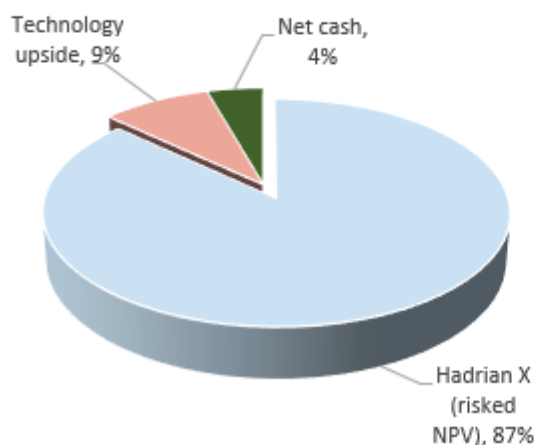
	A\$m	A\$ps
Hadrian X NPV (unrisked)	1,043	0.66
<i>Risk weighting (timing, volumes, pricing, royalty)</i>	<i>30%</i>	
Hadrian X NPV (risked)	730	0.46
Technology upside / new opportunities	73	0.05
Corporate/Admin costs	(49)	(0.03)
Enterprise value	754	0.48
Net cash / (debt) (FY18E)	37	0.02
<b>Equity value</b>	<b>791</b>	<b>0.50</b>
<hr/>		
Current share price		0.15
% upside / (downside)		241%

Source: State One Stockbroking forecasts

Note: Technology upside = 10% of our estimated risk-weighted Hadrian X NPV

Note: Per share valuations based on 1,573m fully diluted shares (we assume CAT does not exercise a US\$8m investment option by June 2018)

### Group valuation composition (excluding corporate/admin costs)



Our estimated NPV (risk-weighted) of A\$730m for the Hadrian X accounts for 87% of our group valuation. We attach a nominal 10% of the Hadrian X NPV valuation to new technology applications (high-rise building, mining etc etc). As a result Technology upside accounts for A\$73m or 9% of our group valuation. Net cash (A\$37m, FY18E) accounts for the balance (4%) of our group valuation.

## Recommendation and risks

At current share price levels, we calculate that FBR offers significant upside potential to our A\$0.50ps valuation.

### Recommendation: Speculative Buy (Higher risk).

Risks to our earnings profile and target price include, but are not limited to:

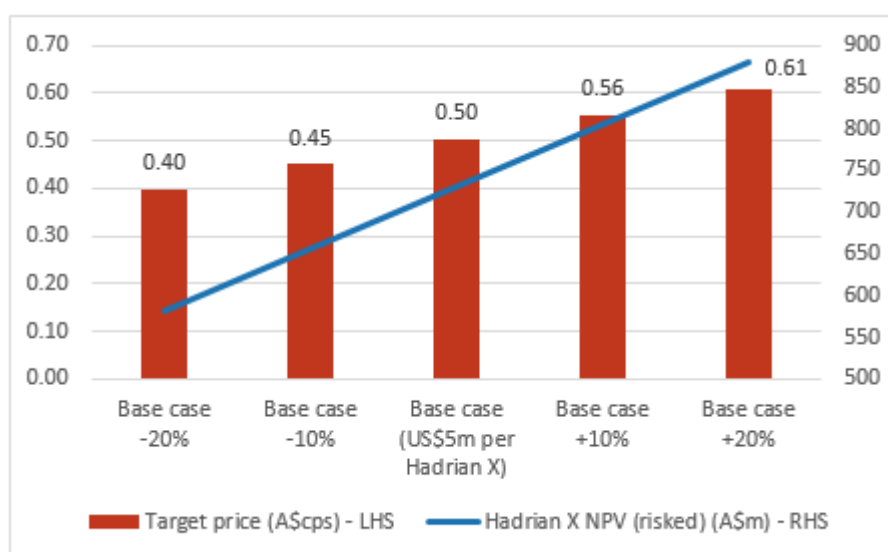
- **Technology/manufacturing agreement:** Some 87% of our group valuation is based on the estimated NPV of technology licensing royalties associated with the Hadrian X. Consequently, delays to or the failure to timeously secure a legally-binding technology transfer/manufacturing heads of agreement (HoA) with an OEM would have a significant negative impact on our group valuation. The timing of sales (maiden sales and subsequent ramp up profile), unit selling price, and royalty rate also impact our forecast NPV.
- **Currency:** A stronger/weaker AUD:USD exchange rate relative to our base-case of US\$0.75 will reduce earnings/increase earnings respectively.
- **Other:** Competition from new / alternative building technologies (i.e., prefabricated units) and/or alternative robotic bricklaying technologies. Regulatory / sovereign risks. Intellectual property risks (security). Dependence upon key personnel.

### Sensitivity to Hadrian X NPV valuation drivers

Our base case valuation assumes a selling price of US\$5m per Hadrian X unit. A 20% lower/higher price (relative to our base case forecast), reduces/increases our target price by 21% respectively. Note: a 20% lower/higher volume sales profile has a similar impact on our target price.

Our base case valuation assumes a royalty rate (on Hadrian X sales revenue) of 20%. Reducing/increasing the royalty rate by 5 percentage points impacts our target price by 26%.

**Figure 2: FBR target price sensitivity to Hadrian X selling price**



Source: State One Stockbroking forecasts

Note: A 20% lower than base case selling price = US\$4m per Hadrian X, a 20% higher than base case selling price = US\$6m per Hadrian X

Recommendation:

**Speculative Buy**  
(Higher risk)

20% change in  
Hadrian X selling  
price / volumes  
impacts target  
price by 21%

Note: Our forecast base-case sales volume is 300 units per annum from FY24E; we estimate that this is equivalent to 1% of the addressable market.

If FBR obtains 5% of the addressable market – equivalent to 1,500-unit sales per annum – **our target price increases to over A\$2.00 per share.**

## FBR Board of Directors (Source: Company)



**Michael Pivac**  
**Executive Director & Chief Executive Officer**

Michael Pivac is a former airborne mission systems specialist with broad experience in night vision, infrared and radar detection systems and has been key to developing the technology and developing the Business Plan and Machine Development Strategy.



**Mark Pivac**  
**Executive Director & Chief Technology Officer**

Mark Pivac is the primary inventor of Fastbrick's Dynamic Stabilisation technology. He is an aeronautical and mechanical engineer with over 25 years' experience working on the development of high technology equipment and 20 years' experience of pro/engineer 3D computer-aided design (CAD)



**Marcus Gracey**  
**Chief Operating Officer**

Marcus is an experienced ASX company executive and director, a corporate and technology lawyer and a Chartered Company Secretary. Marcus has extensive international experience with specific expertise in the commercialisation of new technologies, technology transfer and licensing, the global protection and enforcement of intellectual property rights, the development and execution of international business strategy along with significant public company governance and compliance experience.



**Gabriel Chiappini**  
**Director**

Gabriel is an experienced ASX director and has been active in the capital markets for 17 years. Gabriel has assisted in raising in excess of AUD\$450m in funding and has provided investment and divestment guidance to a number of companies. Gabriel specializes in Start-Up companies and assists companies with their growth and strategic direction and has been involved with 10 ASX IPO's in the last 12 years. Gabriel is a member of the Australian Institute of Company Directors and Chartered Accountants Australia & New Zealand.



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