



# Enhanced Prototype Demonstrates Automated End-to-End Construction

## Highlights

- Hadrian 105 technology demonstrator upgraded and fully integrated
- Successful demonstration of fully automated construction of multi-course, computer generated brick structures
- Final testing and site works underway ahead of full-scale room build demonstration in April

**Fastbrick Robotics Limited (ASX:FBR) ("FBR" or "Fastbrick Robotics")** is pleased to announce that the company's automated brick laying technology demonstrator, the Hadrian 105, has been upgraded and has successfully completed validation testing. During the validation testing carried out in early March, the upgraded Hadrian 105 has demonstrated uninterrupted construction of multi-course, computer generated brick structures using end-to-end automated handling and delivery of bricks, a fully mobile and adjusting telescopic boom, and a laser guided laying robot displaying accurate correction for dynamic interference. Following the completion of final testing and site works the company anticipates to complete a full-scale room construction demonstration in April.

Since listing in November 2015, Fastbrick Robotics has completed the following upgrades to the Hadrian 105:

- Integration of the brick alignment system and software control upgrades to allow for the reliable robotic de-hacking of bricks from pallets;
- Integration of a newly designed electric transfer robot to allow for improved automated handling and placement of bricks onto the boom delivery conveyor;
- Software modifications to enhance the ability of the machine to handle varying sizes of bricks, different brick types, and the real world variances in brick products;
- Installation of new servo electric brick gripping system with force feedback to allow for accurate brick placement and dynamic pressure control;
- Installation of computer vision system to assess brick quality and dimensions for automated adjustment by the bricklaying arm;
- Installation of a remote brick processing monitoring system which utilises multiple remote video cameras to provide visual checks of distant components to allow for single person operation the machine;

- Integration of the fully operational 6 axis laser guidance system to allow bricklaying arm and boom to automatically reference the machine position relative to surveyed slab, and compensate for boom sway or movement caused by any dynamic or environmental factors;
- Integration of primary boom motion system and brick laying system to allow for fully synchronized robot motion and to optimally position the machine for each brick in the structure;
- The manufacture and installation of a new adhesive/mortar application system;
- Full electric servo control of the machine for optimum speed and movement of components during bricklaying operations; and
- Upgrade and testing of the refrigerated, liquid cooled, servo motor and electronics cooling systems for hot weather operation.

At the completion of the current testing program, Fastbrick Robotics will undertake a full-scale demonstration of the Hadrian 105 where the company expects to show the construction of a room structure including door and window openings, the date of this demonstration will be advised in due course.

Mike Pivac, Managing Director of Fastbrick Robotics said, “The company is extremely excited to announce the completion of upgrades to the company’s Hadrian 105 Technology Demonstrator. This marks the most significant milestone in the company’s history and follows more than seven years and over \$7M of research and development effort. We now look forward to demonstrating the full capability of our patented automated bricklaying technology through the construction of a full-scale room structure at our headquarters in Western Australia.”

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**About Fastbrick Robotics**

*Fastbrick Robotics has developed the world’s latest innovation in mobile robotic technology that will vastly improve the speed, accuracy and safety of the global brick construction industry. Fastbrick Robotics is finalising the development of its prototype and will be progressing the development of the Hadrian 109 Commercial Prototype for commercial use in 2016/2017.*

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