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# Fastbrick Completes Full-Scale Room Construction Milestone

## Highlights

- Hadrian 105 successfully demonstrates automated construction of full-scale room structure
- End-to-end automated construction of a 1.6m (W) x 2.4m (L) x 2.4m (H) computer designed room structure
- Automatic bricklaying rate of ~200 standard brick equivalents per hour

**Fastbrick Robotics Limited (ASX.FBR) ("FBR" or "Fastbrick Robotics")** is pleased to announce that its Hadrian 105 Technology Demonstrator ("**Hadrian 105**") has successfully demonstrated the automated construction of a full-scale room structure including door and window openings.

**Full-Scale Room Construction Demonstration – Hadrian 105**

During the successful demonstration, the Hadrian 105 completed the automated construction of a 1.6m (W) x 2.4m (L) x 2.4m (H) computer designed room structure, including window and door openings.

The room was built using a total 330 Maxi Bricks (equivalent to 2.2 standard bricks) which were accurately placed, on a course-by-course basis, in accordance with the underlying CAD design and bound using an industry standard construction adhesive. Window and door lintels were manually placed without interrupting the ongoing construction.

The room construction was completed at a brick laying rate of 200 standard brick equivalents per hour.



Image 1: Hadrian 105 demonstrating end-end automated construction



Image 2: Full-scale room structure constructed using Hadrian 105

Technology and function successfully demonstrated during construction includes:

- Robotic de-hacking of bricks from pallets;
- Automated handling and placement of bricks onto the boom delivery conveyor;
- Accurate brick placement and dynamic pressure control;
- Remote brick processing monitoring system and automated adjustment of bricklaying arm;
- Ability to adjust handling of varying sizes of bricks, both different brick types and real world variations between bricks;
- 6-axis laser guidance system providing automatic referencing of the position of the bricklaying arm and boom relative to surveyed slab and compensating for dynamic interference;
- Adhesive application system;
- Full electric servo control for optimum speed and movement of components during bricklaying operation; and
- Refrigerated, liquid cooled servo motor and electronics cooling systems for hot weather operation.

**Commercial Prototype – Hadrian 109**

The design phase of FBR's first commercial prototype, the Hadrian 109 Commercial Prototype ("**Hadrian 109**"), is progressing well with final drafting of production schematics underway. The final design is also currently undergoing specialized animation which, once complete, will provide further insight into the interaction of components ahead of the commencement of fabrication and construction in mid-2016.

The design for the Hadrian 109 uses the technology, enhanced components and design of the Hadrian 105 and will be more mobile, functional, user-friendly and robust than the Hadrian 105. The Hadrian 109 is proposed to be a commercial prototype and is designed to be capable of laying bricks at a rate of up to 1,000 standard brick equivalents per hour.

Mike Pivac, Chief Executive Officer of Fastbrick Robotics said, "Fastbrick is extremely excited to announce the Company's achievement of this major development milestone. The successful full-scale demonstration of the Hadrian 105 provides irrefutable proof and confirmation of Fastbrick's patented automated bricklaying technology and allows us to move forward and focus on constructing the Company's commercial prototype, the Hadrian 109. In the meantime, the Company looks forward to conducting a series of public technology demonstrations with videos and dates of the public demonstrations to be made available on the Company's website."

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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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