

# New technology combines LEGO bricks and drones

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From February 15 to 18, children and families visiting the LEGO World expo in Copenhagen, Denmark will have the chance to make their brick-building dreams take flight with a flock of interactive miniature drones developed by the Human Media Lab at Queen's University in Canada in collaboration with the LEGO Group's Creative Play Lab.

The system allows children to arrange LEGO elements into a shape of their choice and watch as a group of miniature drones takes flight to mimic the shape and colour of their creation in mid-air. With the aid of tiny sensors and gyroscopes, the system also tracks when the children move, twist, and bend their designs. The drones faithfully replicate any shape alterations as an in-air animation.

"At the LEGO Group, we continuously explore the opportunities offered by new technologies to create fun and creative experiences for children. We are happy to offer the visitors at the LEGO World expo the chance to experiment with LEGO bricks and drones in collaboration with Queen's Human Media Lab," says Tom Donaldson, VP of Creative Play Lab, at the LEGO Group. "While the technology is a playful experiment, and not a real LEGO product, it is a way for us to explore the boundaries of what can be done with a combination of technology, LEGO bricks, and loads of playful imagination."

The LEGO Creative Play Lab is a department within the LEGO Group, focusing on inventing the future of play. One of the ways it does this is by looking at different trends and ways in which children, parents and

families play and interact with play material, aiming to create the experiences of tomorrow and unleash their creative potential.

"At the Human Media Lab, we believe this technology has the potential to take experiential learning to an entirely new level. We have created a technology that works to blend the digital and physical worlds together right before children's eyes," says Dr. Vertegaal, head of the Human Media Lab and professor of Human-Computer Interaction at Queen's University in Kingston, Canada.

He believes that the [drone](#) technology could potentially unlock new realms of interactive teaching capable of providing children insights into the physical world. While currently at an experimental stage, Vertegaal sees a potential technology used in the future to teach young schoolchildren about physics.

"As an example, imagine us interactively reconstructing the movement of planets around our sun or distant stars in the Milky Way galaxy," says Dr. Vertegaal. "With this [technology](#), we are able to simulate the physics of the natural world like gravity, planetary orbits, and more, giving [children](#) a chance to see what they have long learned from textbooks and two-dimensional depictions, in a real physical environment."

**More information:** [www.hml.queensu.ca/flyinglegobricks](http://www.hml.queensu.ca/flyinglegobricks)

Provided by Queen's University

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