Cubelets: Small robots teach big science lessons (w/ Video)

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Cubelets are magnetic, electronic building blocks, each with a small computer inside, that can be connected in many different ways to move around a table, follow a hand signal, turn on a light, play sounds, or do many other creative tasks.

They were developed by Eric Schweikardt and his team at Modular Robotics, with support from the National Science Foundation's (NSF) Small Business Innovation Research (SBIR) program.

"Cubelets come in three categories: sense, think and act. That's our working definition of a robot—any mechanical device that senses, thinks and acts," says Schweikardt.

"Cubelets are an example of a complex system. They're made of lots of little cubes—each with a different capability, such as a distance sensor cube, a drive motor cube with wheels and a battery cube. And, when you put them together, they do something greater, such as drive when they detect an object," he continues. "They're inspired by natural systems of individuals that join forces and work together, such as insect swarms or birds flying in a 'V' formation."

These 21st century building blocks are meant to help kids learn about the basics of robotics while boosting their confidence to solve problems.

"Cubelets, by Modular Robotics, make powerful ideas of computational thinking accessible in a fun and hands-on way to students of all ages," says NSF program manager Glenn Larsen. "The next generation of citizens needs to understand complex systems like our ecosystem and our economy. Cubelets lays the foundation for this understanding by putting the building blocks of complex systems in children's hands."

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