

Attention gamers: they have arrived. Robots that blend technology, combat

By San Jose Mercury News, adapted by Newsela staff on 09.21.15

Word Count 780

Level 1050L



Gui Cavalcanti, co-founder of MegaBots Inc., strikes a pose in front of his Mk II robot on Aug. 20, 2015, in Oakland, California. The robot is 15 feet tall and was built at a cost of \$200,000 in 3 1/2 months. Aric Crabb/Bay Area News Group/TNS

OAKLAND, Calif. — The huge, 15-foot-tall robot sits on its tank treads in a warehouse near San Francisco, California, waiting for a fight. It is getting ready for a powerful rival from across the ocean.

It looks fearsome, with a missile launcher for one arm and a cannon for the other. Some of that is just showing off, because it runs on a lawnmower engine and only rolls around at about 2 miles per hour.

Gui Cavalcanti and Matt Oehrlein, the robot's inventors, have already signed it up for a historic fight. To win, they will need to spend the next year turning it into a more nimble fighting machine.

Gamers Already Salivating

This is not exactly the promised future of robotics, which is increasingly applied to help humans with manufacturing, health care, humanitarian aid and just getting around. Cavalcanti and

Oehrlein, 29-year-old co-founders of MegaBots Inc., are hoping to fulfill another human desire: ferocious, gladiator-style entertainment.

“There’s an entire group of gamers who’ve been waiting for this their entire lives,” Cavalcanti said, after climbing down from the robot's cockpit inside the American Steel Studios in Oakland, California. “People like combat, and people really like high technology. This is a perfect blend. We want to make an entertainment spectacle.”

The engineers and their third co-founder, Brinkley Warren, released a video recently on the website Kickstarter, looking for financial help to give the machine a makeover. They want to defeat a rival built by the Japanese company Suidobashi Heavy Industry. MegaBots made the challenge, and Suidobashi accepted last month. The time and place of the battle is still to be determined.

Right now, the American robot only fires paintballs and is not quite ready for the Japanese model, Kuratas. That robot has speed, crushing hand-to-hand combat skills and a powerful machine gun. So the MegaBots team asked for contributions on Kickstarter and raised almost half of their \$500,000 goal in the first 48 hours.

No "Meh" For This "Mech"

It took 3 1/2 months and \$200,000 in hardware to build this version of the machine, called Mk II. The Mk II is what’s called a “mech.” It was inspired by the MechWarrior video games its inventors played when they were kids. It needs a gunner and a human pilot, who makes the robot slouch for high-speed driving and moves it upright for battle.

“Right now, it has more in common with a vehicle than a robot,” Cavalcanti said. The bottom part has to be operated manually, but the final version will move more independently, he said.

The Kickstarter campaign raised the money needed to make changes. They include armor, so the robot can survive stronger punches, and a system to lift the extra weight of the new armor and weapons.

The robot will need new hydraulic systems, where the pumps help lift and lower different parts. The robot will also need more power to run the new systems.

“Our robot is sort of built for range combat,” Oehrlein said. “It can’t really take a punch or swing a punch.”

Envisioning An International Robot Olympics

The founders of Megabots moved the company from Somerville, Massachusetts — near Boston — to the San Francisco area this spring. They joined with Autodesk, a company that makes software for engineering and construction. They found a studio in West Oakland to work in together, and used Autodesk’s workshops in San Francisco to weld the weapons.

“It’s hard to build really big robots in Boston,” Oehrlein said. “It’s a pretty old city, the real estate is expensive and you just can’t find big warehouses with cranes.” There are more of those places in the San Francisco area, and the team wanted a good supply of tech people to hire as the company expands. The San Francisco area is home to many technology companies and a large number of people with technology experience.

Cavalcanti and Oehrlein had careers at big-name robotics companies, but dropped out to build their own robots. Warren manages the business. The robot builders imagine a global network of arenas devoted to their new battle sport. It would be a kind of international robot Olympics that is part mixed martial arts competition and part Formula 1 racing. Each country will arm its own robot army, but don't worry, Oehrlein and Cavalcanti say, it will always remain pure sport.

"Ours is a bigger target than a tank, slower than a tank, and it can fall over," Cavalcanti said. For a real military, it's "the worst possible design."

If robots one day wage war on Earth, they will be agile and smaller, not lumbering humanoid machines. But for a gladiator fight, watch out, Kuratas.

Quiz

- 1 Which sentence below LEAST explains a main idea of the article?
- (A) Gui Cavalcanti and Matt Oehrlein, the robot's inventors, have already signed it up for a historic fight.
 - (B) "People like combat, and people really like high technology; this is a perfect blend."
 - (C) The time and place of the battle is still to be determined.
 - (D) The Kickstarter campaign raised the money needed to make changes.
- 2 Which sentence from the article is MOST important to include in a summary of it?
- (A) Cavalcanti and Oehrlein, 29-year-old co-founders of MegaBots Inc., are hoping to fulfill another human desire: ferocious, gladiator-style entertainment.
 - (B) That robot has speed, crushing hand-to-hand combat skills and a powerful machine gun.
 - (C) It took 3 1/2 months and \$200,000 in hardware to build this version of the machine, called Mk II.
 - (D) If robots one day wage war on Earth, they will be agile and smaller, not lumbering humanoid machines.
- 3 Which answer choice BEST explains why MegaBots Inc. needed to raise money?
- (A) The founders needed to move to San Francisco.
 - (B) The robot builders need money to build global arenas.
 - (C) Changes must be made to defeat the Japanese rival.
 - (D) The team needs to hire tech people.
- 4 Which of the following conclusions can be drawn from the section "Envisioning An International Robot Olympics"?
- (A) The founders of MegaBots believe there will be a demand for robot gladiator fighting.
 - (B) The San Francisco area has the best tech people in the country.
 - (C) Careers at robotics companies are not motivating.
 - (D) Robots could be used by the military.