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Gecko Robotics rises from Grove City VentureLab to serve power industry niche

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GROVE CITY — Jake Loosararian and his Grove City College classmate, Orion Correa, spent more than 2,000 hours in the college's Department of Entrepreneurship VentureLab working on a robot that crawls the walls of coal-powered boilers in search of dangerous problems.

Only two years later their company, Gecko Robotics, is attempting to climb to the pinnacle of the safety industry.

Like many inventions, Gecko Robotics was created out of the need for a new idea to solve an old problem.

In the coal-powered energy industry, plants can sometimes experience sudden and unplanned power outages when there are undetected cracks in the boiler walls.

For years, the only solution was for teams of workers to fill the cracks while standing on scaffolding. This process can take hours and sometimes days, costing the company money and creating a potential danger to employees.

The VentureLab began the creation of the Geckobot based on the recommendations of Jeff Campbell, engineering manager at the Scrubgrass Generating Plant in Kennerdell.

Campbell described to Loosararian and Correa the challenges faced by engineers and workers during an inspection.

“The whole task was to create a robot that could climb walls and eliminate the need to have humans perform dangerous inspections inside of these steel containers that can be 100 feet in the air,”

Loosararian said.

Geckobot can inspect a boiler in a fraction of the time it would take for workers. The robot magnetically attaches itself to the wall of the boiler and can climb 10 inches per second for up to 150 feet.

The robot provides plant engineers with live video surveillance from a high- definition camera system, Engineers can then make decisions on repairs.

The camera's high-resolution zoom allows for detailed images of problem areas.

The company can even provide multi-robot deployment for even faster inspections. A color map is then produced showing areas of equipment deterioration.

While Geckobot has been proven to be cost- and time-effective through plant inspections over the past year, it will continue to be tested and adjusted according to plant manager recommendations.

“We get all our information from plant managers and engineers, so they direct where our development goes and we're producing what's going to help them the best,” Loosararian said.

“We're an answer to a call in a change in the status quo. We're able to continue to keep their inspection integrity and the integrity of the power plant through cheaper and better inspections with limited liability and risk for humans.”

The final product is not yet on the market, but Loosararian said many companies already are interested in the robot when he visits industry conferences to talk about the new technology.

“I run out of business cards on the first day,” he said.

While Gecko Robotics continues to tweak its invention, the company estimates the final robotic

product will be available on the market next fall.

The company also is working to create robots that can do inspections for the nuclear, steel and oil industries.

“There's a lot of potential for robotics development,” Loosarian said. “It's an exciting time.”