



A CLEANER PITTSBURGH THANKS TO GECKO ROBOTICS

When asked about the best city in the US to find an attractive job, images of New York, San Francisco or Los Angeles automatically come to mind. All of them offer unique job opportunities, and they are all impressive cities. However, they did not make it to the top of the 2018 list of best cities for jobs.

On the contrary, a report by Glassdoor claims that the best American cities to find a job are mid-sized metropolises which offer better incentives than bigger cities. By considering how easy it is to get a job together with the degree of satisfaction of employees as well as the cost of living, the report finds that Pittsburgh is the most valued city to work in, followed by St. Louis, Indianapolis, Cincinnati, and Hartford.

Indeed, ever since steel factories closed down in the 80s, Pittsburgh has managed to rise from the ashes. Strongly committed to an economy based on technology, robotics, health care, engineering, education and finance, the second largest city in Pennsylvania has become a sustainable metropolis with vast green spaces, good public transportation, and 68 higher education institutions including both colleges and universities

Pittsburgh certainly feels rejuvenated, full of energy, and also a lot cleaner, and a part of the change has been Gecko Robotics' doing. Founded in 2015, this technological company was created to solve the maintenance problems undergone by most industrial plants: given that the process relied solely on manual labor, and because of the great dimensions of their facilities, the inspection of boilers was always incomplete, and doing predictive maintenance and preventing failures was impossible.





Owing to its in-line motor and its compact design, Gecko Robotics uses RA38 electric linear actuators in their inspection robots.

In order to transform the development of this industrial activity, a team of engineering students from Grove City College developed robotic technology capable of scanning boiler walls with ultrasound transducers and an HD visual camera.

Those students patented a technology that provides magnetic adherence to the surface and makes robots able to crawl boiler walls to inspect for damage, which lead to the creation of Gecko Robotics. The name of the company, of course, is a reference to the great similarities between the inspection robots built by the Pennsylvania company and geckos, a rapid reptile with great climbing skills, capable of crawling over trees in every direction and of very precisely controlling movement thanks to its adhesive toe pads.

As stated in Gecko Robotics' website, in industrial plants, '[b]oilers suffer from many forms of degradation while in service. Water Wall Tubes can degrade due to hydrogen damage, pitting, ash and soot-blower erosion, graphitization, under-deposit corrosion, thermal fatigue cracking, and creep damage'. Gecko Robotics technology makes the work of human inspectors—who used to have to climb 150 feet tall scaffoldings to detect damage—unnecessary. Now, through ultrasound and visual inspections, robots detect any possible damage, saving time and money for industries while providing them with a safer maintenance solution.