



Sarcos Defense Awarded Contract by U.S. Air Force to Develop “Smart” Dexterous Robotic Systems with Advanced Artificial Intelligence

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SALT LAKE CITY —October 6, 2020 —[Sarcos Defense](#), a wholly-owned subsidiary of [Sarcos Robotics](#), today announced that the company has been awarded a contract by the Air Force Technology Acceleratory Program (AFWERX) to develop an artificial intelligence (AI) platform, on behalf of Sarcos’ customer, the Center for Rapid Innovation (CRI) at Air Force Research Labs (AFRL), that will enable human-scale dexterous robotic systems. This platform is based on the upper body of Sarcos’ innovative [Guardian® XO®](#) wearable exoskeleton robot, which can learn how to perform tasks with human-like movement through positive reinforcement and imitation machine learning (ML) technologies known as Cybernetic Training for Autonomous Robots (CYTAR™). Unlike many of today’s AI platforms that are characterized by a trial and error approach, Sarcos’ AI system enables human operators to teach the company’s robotic systems to perform tasks correctly the first time. Sarcos’ approach will significantly accelerate the speed and reduce the cost of deploying robotic systems that can perform meaningful work in unstructured environments.

“This is a unique opportunity to leverage a robotic system that is kinematically equivalent to the human body to lay the foundation for teaching robots how to move and accomplish tasks in the real world, the same way humans do,” said Denis Garagić, chief scientist, advanced systems and AI, Sarcos Robotics. “This success-based teaching will speed up the learning process of AI-enhanced perception, reasoning, and decision-making techniques currently being implemented across Sarcos’ platforms. Implementation of such an AI-based system will enable autonomous situational awareness, which can radically reduce the cognitive load on the operator while dramatically increasing precision as it augments human performance.”

“We are excited to collaborate with Sarcos to leverage the company’s unique robotic systems to develop a novel approach to success-based AI systems” said Dr. Alok Das, Senior Scientist at AFRL’s Center for Rapid Innovation. “We will be working with end users throughout the Air Force to refine the CYTAR platform for Air Force-specific applications.”

“Similar to our Guardian® GT robot, the upper body of the Guardian XO can be tele-operated to perform intricate tasks that require human-like dexterity such as welding, grinding, riveting, and complex assembly tasks,” said Ben Wolff, chairman and CEO, Sarcos Robotics. “By substituting the legs of the Guardian XO with other types of mobile base form factors, including wheeled, tracked, or telescoping platforms, these systems can be trained and supervised to perform dangerous and difficult tasks in places where humans can’t or shouldn’t go. The development of our CYTAR AI platform will deliver an intuitive human-machine interface that leverages human dexterity, instinct, and reflexes to teach machines to perform complex tasks and will fundamentally change the way AI creates value in the real world.”

The Sarcos Guardian XO Alpha version was publicly unveiled earlier this year at the [2020 Consumer Electronics Show](#) and received many top honors, including being named “[Top Emerging Technology](#)” by Digital Trends, “[Best Robot](#)” by [PCMag.com](#), “[The Best Ideas and Products of CES](#)” by VentureBeat and was recognized by [WIRED Magazine](#) as being one of the smartest technologies on the show floor.

For more information about Sarcos Defense, please visit <https://www.sarcos.com/defense>.

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About Sarcos Defense

[Sarcos Defense](#), based in Salt Lake City, Utah, is a wholly-owned subsidiary of Sarcos Robotics, a global leader in advanced robotics and other electro-mechanical systems designed to save lives and prevent injury. Sarcos Defense is led by an agile team of proven retired U.S. military officers who understand the current and future threat environment and are uniquely equipped to deliver solutions that meet the needs of the modern military. Working with the U.S. Department of Defense and other federal and international government agencies, Sarcos Defense identifies capability gaps and undertakes research and development efforts, as well as rapid systems integration, to transform Sarcos’ commercial products into specialized, mission-ready solutions that meet the specified requirements.