FAU’s College of Engineering and Computer Science recently unveiled the Center for Connected Autonomy and Artificial Intelligence (AI), a cutting-edge facility designed to accelerate the development of innovative solutions for teamwork in AI.

“The future of AI is developing numerous devices or agents that learn together and collaborate so they can safely solve problems,” said Dimitris Pados, Ph.D., founding director of the FAU Center for Connected Autonomy and AI, and professor in the department of computer and electrical engineering and computer science.

The new center, housed in the Engineering East building on the Boca Raton campus, brings together FAU’s expertise in AI, supercomputing, sensing tools, big data analytics and autonomous technologies.

A new “Team AI” approach will allow connected robots and other devices to perform tasks too costly, impractical or dangerous for human teams in space, air, surface or underwater environments.

“Think about future search-and-rescue operations with robots and other AI agents connected by wireless communications,” said Pados, a fellow in the Institute for Sensing and Embedded Network Systems Engineering and the Charles E. Schmidt Eminent Scholar in Engineering.

“The machines will have to make crucial decisions as a unit for each operation,” he said. “They must decide how to collaborate to solve problems, but also how to split up their tasks so they can conduct a safe rescue in minimal time.”

The research center will develop autonomous, resilient machine-to-machine wireless communications. “We need to find the best ways for devices to communicate with all members of the team,” Pados said. “We want to avoid the cocktail party effect of everyone talking at the same time.”

A second goal of the center is to develop AI software and data analytics that can train numerous connected devices to learn and work together. Third, scientists will develop software for a connected team’s operational stages, allowing devices to perform jobs safely and securely.

“Connected AI will open up a lot of new avenues and technologies,” Pados said. “Imagine a future when multiple machines can autonomously self-connect, talk to each other, and learn and operate as a single unit.”