The project will establish a collaborative research center with the purpose of guiding, coordinating, and performing pre-competitive research directed toward making manufacturing assembly operations more flexible, i.e., more responsive to product/process change. The Center for Flexible Assembly Systems (CFAS) will develop the processes and equipment needed to achieve higher-quality, higher-throughput smart assembly automation systems. Local industry demand for a center of this type is high and future federal support is expected. Strategic Innovation Funds will bootstrap the center startup through renovation of existing space and the purchase of equipment needed for CFAS research.

Faculty in the Department of Mechanical Engineering have been seeking funding for an Advanced Manufacturing Center for at least three years. Potential industrial partners recommended that the focus of the center be narrowed to flexible assembly systems because of a perceived greater opportunity to make an impact in this area and an opportunity to involve more faculty members (from the Electrical and Computer Engineering Department) in the automation aspects of the research program.

The project most closely relates to Research in Action in that most of the center’s activities will be both basic research (benefiting the international engineering science community) and applied research (most often benefiting specific companies and the local community).

The project also relates to the Pursuit of Academic Excellence for Human Well-being in that CFAS will help develop the technical workforce needed to realize smart manufacturing in local, regional, and national industries through co-curricular activities funded by CFAS projects. CFAS will offer opportunities for undergraduate and graduate student professional growth through CFAS co-operative educational programs (i.e., CFAS undergraduate co-op and CFAS graduate assistance programs).