

Systems and Enterprise Management and Architecture Research Thrust Area

This strategic research thrust at Stevens addresses questions that are related to the nature of sociotechnologic systems within the context of global competitiveness in their process to create economic value. Research efforts are focused to create unique knowledge about the functionality of socioeconomic systems. This knowledge represents the base for innovative educational initiatives at Stevens. The focus is on developing practical methods, tools, heuristics that leaders can apply to increase the productivity of sociotechnical systems and to improve their economic value. The current multidisciplinary research themes are broadly represented by following clusters:

- The Center for Decision Technologies focuses on networks of people, sensors, and robots. We are examining human-robot interaction in emergency response situations.
- The Consortium for Corporate Entrepreneurship seeks to increase the number, speed and success probability of highly profitable products and services entering development.
- The Environmental Entrepreneurship Lab (E²-Lab) is seeking to reduce the technology transfer lead time by 50% and to increase the success rate of university spin-off's.
- The research cluster System and Enterprise Optimization is examining risk based multi-resource allocation and optimization, Mobile Ad-Hoc Wireless Network Reliability and Information Mining and Data Fusion.
- The research cluster Systems and Enterprise Management is defining the resilient enterprise and Strategic Enterprise Architectures and develops systems maturity indices for decision support systems.
- The research cluster Enterprise Architecting is focusing on the development of quantitative models to analyze and simulate the behavior of enterprises and to characterize their response to a variety of input conditions.