

To Improve Homeland Security & Emergency Preparedness and Response

The SSR-RC is catalyzed by a small investment from the NSF and is primarily supported by Center members with the NSF taking a supporting role in its development and evolution. Led by distinguished members from the University of



Minnesota, the University of Pennsylvania, and soon Drexel University, the SSR-RC stimulates highly leveraged industry/university cooperation by focusing on fundamental research recommended by an Industrial Advisory Board.

Mission

The SSR-RC's mission is to conduct integrative, multi-disciplinary research in the key components and autonomous systems of unmanned ground, air and undersea vehicles, with emphasis on detecting hostile intent (computer vision, sensor webs), expanding the capabilities of first responders (unmanned vehicles), and investigating innovative uses of these technologies. The SSR-RC is also charged with coordinating marketing studies and creating and developing new emerging markets through standardization and coordination with the federal government.

Learn More

To learn more about the SSR-RC and the benefits of joining, please visit <http://www.ssrrc.dtc.umn.edu>.

SAFETY, SECURITY, AND RESCUE RESEARCH CENTER



A National Science Foundation Supported Industry / University Cooperative Research Center



Leveraging Industry & University Cooperation



UMN Ranger



COTS scout

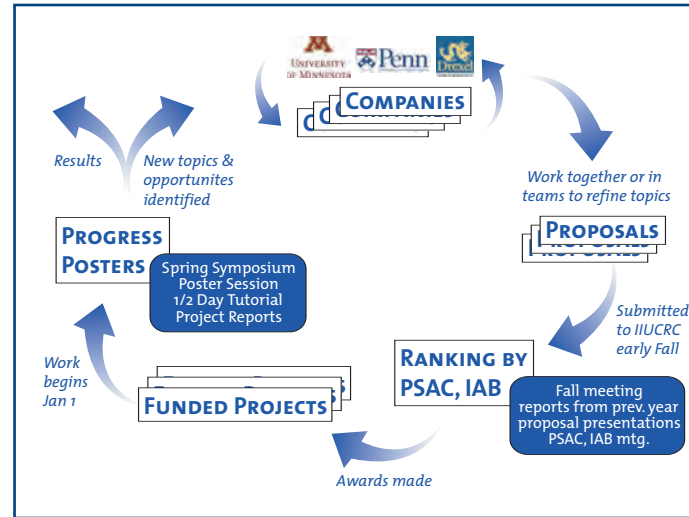
The Safety, Security, and Rescue Research Center (SSR-RC) is an Industry/University Cooperative Research Center (I/UCRC) supported by the National Science Foundation (NSF). The SSR-RC fosters the development of long-term partnerships among industry, academe, and government and focuses on integrative, multi-disciplinary research in autonomous systems to improve homeland security and emergency preparedness and response. As a true cooperative venture, university researchers, member company executives, and invited public safety officials play a role in the selection of research projects the center pursues.



Collaborating to Achieve a Competitive Advantage and Overcome Research and Financial Barriers

Technology companies face numerous challenges when performing research in emerging fields of study and opportunity. There are low profit margins in public safety sector research and limited sustained investment opportunities for R & D. Companies lack research expertise across many domains needed to produce viable products. Technology roadmaps for individual sectors are just beginning to emerge and companies lack access to public sector visionaries and early adopters. Further, companies lack strategic industrial partnerships to create integrated systems. The SSR-RC changes all of that. Joining the SSR-RC provides you with the following opportunities:

- Partner with other leading institutions to conduct industrially relevant research, receive seed funding and recognition as a NSF research center
- Draw upon professional resources and guidance
- Gain access to first-generation specialists in SSR as potential employees
- Establish a conduit for professional training and development of students, industry representatives, and public service sector



A Year in the Life of SSR-RC

Research Agenda

The robotics research agenda of the SSR-RC covers many proactive and reactive technologies for homeland security and emergency preparedness and response. These include:

- Components and autonomous systems of unmanned ground, air and undersea vehicles
- New sensors and sensor miniaturization for chemical, biological, radiological, neurological, and explosive weapons (CBRNE) detection, medical monitoring, navigation, and situational awareness
- Coordination algorithms for distributed teams of humans/robots/sensors
- Human/robot interaction and shared control of complex systems
- Robust, ad hoc, and wireless networking protocols for sensor networks and autonomous agents
- Automated video surveillance and interpretation of human activities

Membership at a Glance

Full Member

- Fee: \$35,000 per year
 - Pool for funded seed projects
 - Shared analysis of a particular market
 - Shared cost of Public Sector Advisory Committee
 - Membership on Industrial Advisory Board (rank projects of interest to members)
 - Membership on Standards Committee
 - Receives annual resume book of SSR-RC students
 - Receives pre-publication reports of all projects and nonexclusive access to all IP
- Identifies topics of interest with faculty members
- Can submit broader proposal at Fall Meeting
 - Project size: 9-12 months, \$45-150K
- Ranking and review at Fall Meeting
 - Public Sector Advisory Committee makes recommendations based on market
 - Voting member of Industrial Advisory Board
- Companies can provide additional funds to cover extended research
- Attends Spring Symposium
 - Poster session of progress
 - Two free, unlimited discounted seats at yearly tutorial
 - First right to project opportunities
- Additional research and military interdepartmental procurement requests (MIPRs) can be executed at any time

Affiliate Member

- Small business (SBIR definition)
- Fee: \$10,000 per year
 - Shared analysis of a particular market
- Shared cost of Public Sector Advisory Committee
- Non-voting member of Industrial Advisory Board
- Membership on Standards Committee
- Receives only the market analysis research report (no IP)
- Invited to join team proposals with other affiliates
- Attends Spring Symposium
 - Two free, unlimited discounted seats at yearly tutorial
- Networking with members, Public Sector Advisory Committee for projects military interdepartmental procurement requests, etc.



UAV/Hurricane Katrina



Key Membership Benefits

Financial

- Pool money for common technology to free resources for competitive and complementary technologies and improve ROI for new technology research – SRR-RC members can realize a 37:1 return in research dollars over time
- Reduce red tape by having federal agencies transfer funds directly to the SSR-RC – allowing funding independently
- Operate under an umbrella of favorable overhead and intellectual property agreements

Strategic

- Network and collaborate in a consortium setting of university researchers, industry leaders, public sector, and federal agencies
- Gain access to leading researchers and Public Sector Advisory Committee members for crucial feedback and market access to visionaries and early adopters
- Exposure to members of the public safety sector for adoption and commercialization of new technologies

Operational

- Accelerate commercialization through strategic cooperation with other industries specializing in key components or market segments and bundling of related technologies such as power and sensors
- Access to university graduates already familiar with the needs of the safety, security, and rescue industry
- Take an active role in establishing industry standards and choice of research topics

