

# Intelligent Collection and Dissemination for Tactical Applications



**S&T Campaign: Information Sciences**  
*Information Fusion*

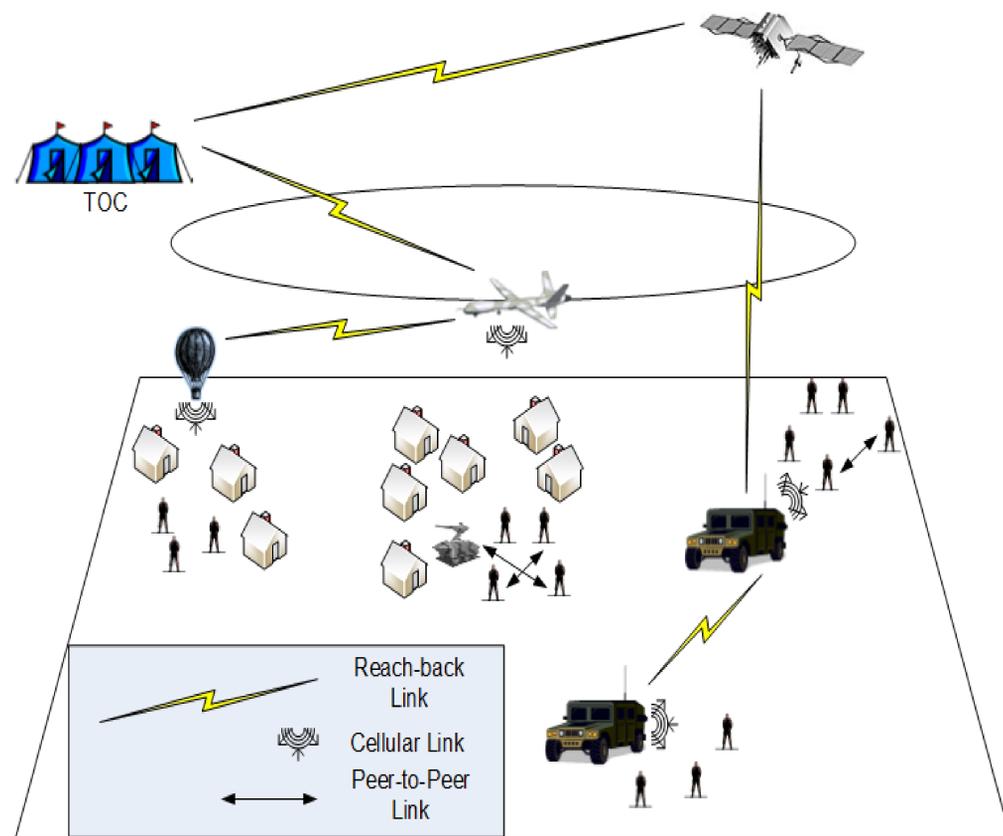
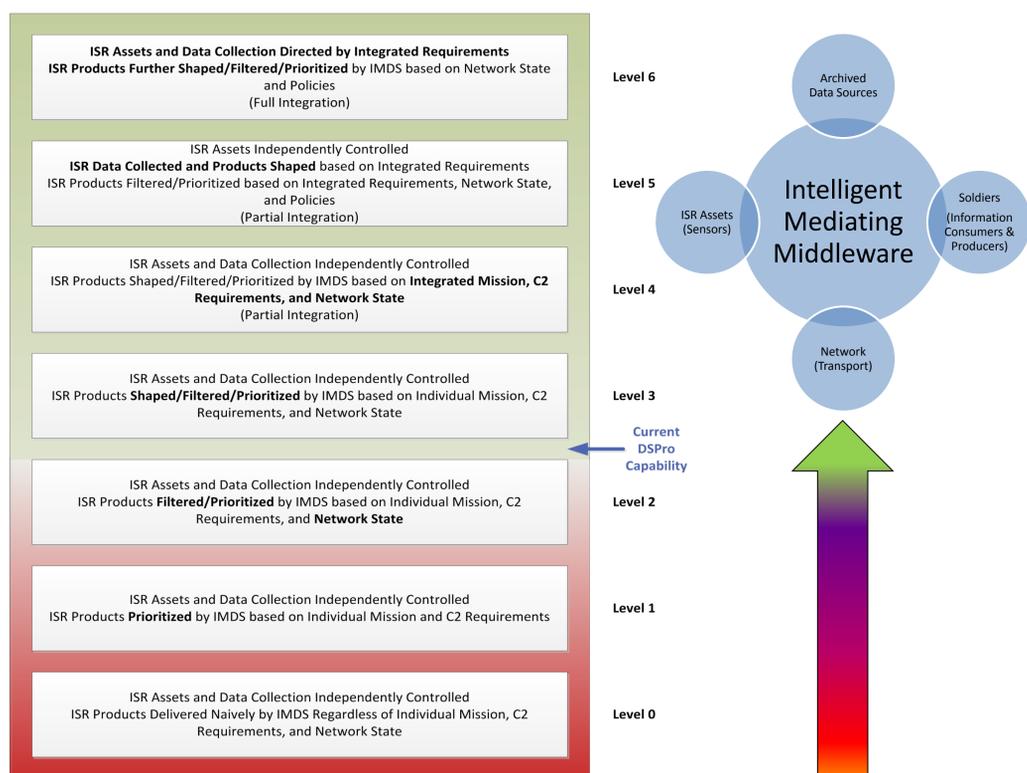
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## Research Objective

- **Mission-Adaptive Collection** - Explore the use of mission context, Quality-of-Information and Value-of-Information to inform and direct data collection based on integrated mission and C2 requirements as well as network state.
- Explore confidence actuation in the context of information management to improve situational awareness and decision making.
- Enhance sensor information assimilation, exploitation, and dissemination.
- Develop an infrastructure to support experimental evaluation of service discovery, information dissemination, asset cueing and workflow, data correlation, and multi-media based edge device payload exploitation and visualization.

## ARL Facilities and Capabilities Available to Support Collaborative Research

- Live Sensor Information Testbed Collaborative Research Environment
- Data-to-Decisions Testbed
- Network Science Research Laboratory
- Tactical Radio and Cellular Communications Testbed
- Significant expertise in designing, conducting, and evaluating field exercises and experiments
- Government technical lead for Open Standard for Unattended Sensors



## Challenges

- Lack of efficient information dissemination strategies in an integrated hybrid network.
- Ever increasing volume of data overwhelms the networks, users, and the data collection, processing, filtering, and dissemination.
- Operational limitations and characteristics of an integrated hybrid network are unknown.
- Vol/Qol not currently considered in optimizing dissemination/exfiltration strategies.

## Complementary Expertise/ Facilities/ Capabilities Sought in Collaboration

- Models for context, missions and QoI/VoI
- Novel algorithms for Information Management and Dissemination in Hybrid Networks/Unreliable Networks
- Data presentation and visualization
- Data fusion algorithms
- Data scientist