

## Fusion Information Center

Data Fusion systems seek to combine information from multiple sources to achieve improved inferences than those achieved from a single source. The idea behind the FIC is to host a repository of Fusion data of all file types in one local environment to provide near real time access for users. The FIC is a database which will host this data as a PDF "read only" file format accessible to validated users to view or download with permission exclusive rights for each user id. An option to view just the meta is also available. The problem and nonconformity with information Fusion still exists today, and Fusion is readily noticed as a strong force to our success with vision 2020 in mind. The desire is there for a collaborative environment where users may also post items of interest, and this option will be available in the near future. The Fusion Information Center will continue to grow and build relationships with subject matter experts and interested groups throughout DoD and the world of Fusion with the goal to eventually be the one and only repository of information necessary to fulfill the needs of it's customers.



## Vision

A central point of access for information on fusion technologies, systems and operations to support the cost-effective development and operation of multi-sensor/multi-source information systems.

## Mission

The mission of the Fusion Information Center is to act as the central point for fusion information and knowledge across the U.S. Government. In this role, FIC will support the execution of coordinated fusion technology development, and improve the utilization of data fusion research among the military services and intelligence community.

## Contact Info

AFRL/IFEA  
32 Brooks Road  
Rome, NY 13441

Voice: 315-330-1508  
FAX: 315-330-1748

E-mail: [fic@rl.af.mil](mailto:fic@rl.af.mil)



*"Meeting the Joint Services Information Exploitation Challenge for the 21st Century."*

## The IAC Program

- Serve as a central repository/pointer of fusion technology data, requirements
- Identify appropriate sources of fusion scientific and technical information and point requestors to those sources
- Provide analytical support to analysis and development efforts
- Check background data and information to avoid unnecessary duplication of research, development, test or evaluation activities
- Coordinate fusion related activities of other IACs, Military Services and Agencies
- Serve as point of contact to interface with non-DoD & commercial enterprises

## Initial Phase: "Joint Services FIC"

- Information Analysis Centers (IACs) are formal organizations chartered by the DoD to facilitate utilization of existing scientific and technical information
- Staffed by scientists, engineers, and information specialists
- Establish and maintain comprehensive knowledge bases which include historical, technical, scientific, and other data and information collected on a worldwide basis
- Responds to the needs of the technical community and leverages all available resources

## FIC Goals

### CREATE

- Joint Services Fusion Information Center
- Model: DTIC IAC program
- Basis: IATAC (Information Assurance Technology Analysis Center)

### THIS ESTABLISHES:

- Focal Point for Rqmts, Direction, Leadership
- Steering Committee
- Core Center Operations

## The Challenge & The Need

IN NEARLY EVERY APPLICATION:

### We Are Drowning in Data

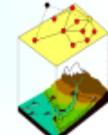
- More Sources
- More Source Types: NTM, Tactical, Commercial
- Wider Bandwidths
- More Connectivity: GCCS, DII/COE



DATA:  
Observations & Measurements

### But Starving for Information

- How does data relate to my problem?
- What is its quality? Can I trust it?
- What is its significance?
- How can it be confirmed, refuted or refined?



INFORMATION:  
Organized Data

## The Problem

### • COST-EFFECTIVENESS ISSUES

- Duplicative Systems
- Duplicative Employment
- Duplicative Development & Test Environments

### • INFORMATION ASSURANCE ISSUES

- Unpredictable Performance
  - Operations: Don't know what confidence to give system output
  - Acquisition: Don't know what's feasible for given cost
  - Integration/Interoperation: Don't know how to compare & combine results of different processors/ techniques
- Fragile Performance
  - Unable to recover from errors in prior models, templates, etc.
  - Countermeasure Susceptibility: Information Warfare

### • MISSED EXPLOITATION OPPORTUNITIES

- Data... "Not in Time; Not to the Right User"
- Waste; Some exploitable data disregarded, not used

## NEED FOR INFORMATION COORDINATES

- Publications, conferences, seminars
- Algorithms, software, test data
- CONEP and CONOP of a fused, *actionable* intelligence product
- Activities and points of contact

## NEED FOR ENGINEERING STANDARDS

- Taxonomy
- Interface and interoperability standards
- Design standards
- Performance metrics, test data & procedures
- Engineering guidelines
- Theoretical Framework
- I.D. problems & technique commonality

## NEED FOR COORDINATED R & D

- Problem reflected in **con**Fusion of terminology

*Because Information Fusion applies to ALL Information Exploitation, its techniques are repeatedly reinvented, but NO ONE is responsible for its coordinated development.*

## FIC Functions & Products

### INFORMATION COORDINATION

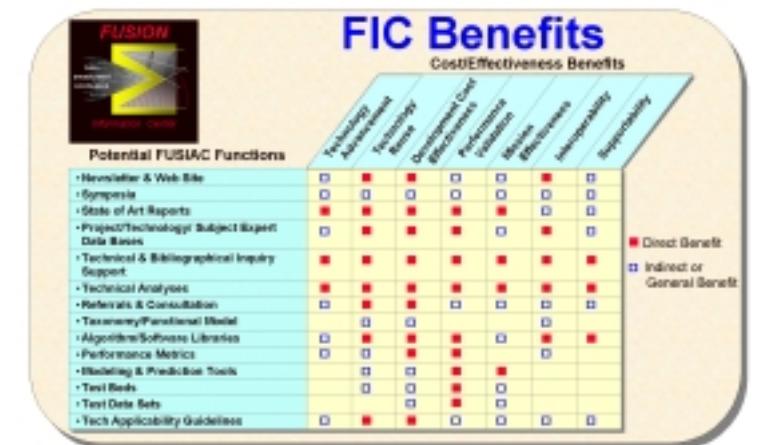
- Newsletter & Website
- State-of-the-art Reports
- Symposia & Workshops
- Databases:
  - Projects & Technologies
  - Subject Experts
  - Test/ Analysis Results
  - Algorithm & Software Libraries
- Technical & Bibliographic Inquiry Support
- Support to Service Training & University Programs

### RESEARCH & ENGINEERING

- Referrals and Consulting Services
- Taxonomy & Functional Model
- Engineering Methodology & Standards

### TEST, EVALUATION & ANALYSIS

- Performance Metrics: T&E Criteria
- Modeling & Prediction Tools
- Fusion Test Bed
- Tests Data Sets
- System Test Analysis



*FIC: Meeting the Joint Services Information Exploitation Challenge for the 21st Century.*