

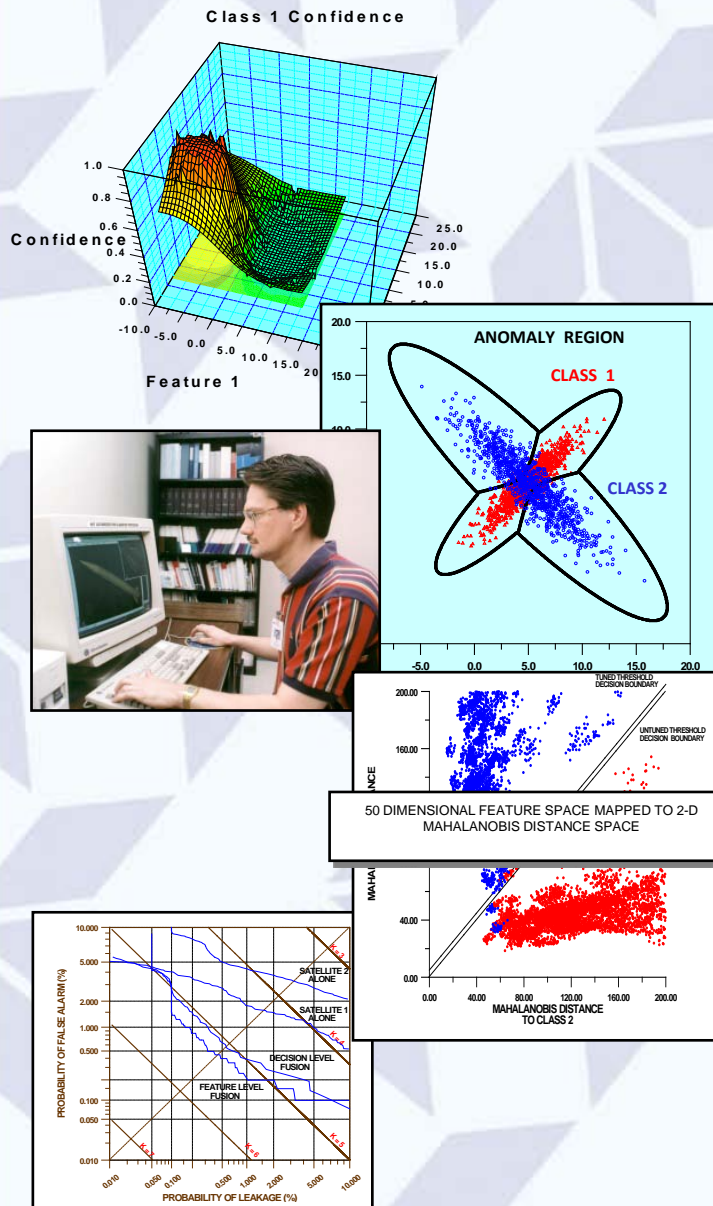
# Decision Analytics

fast facts

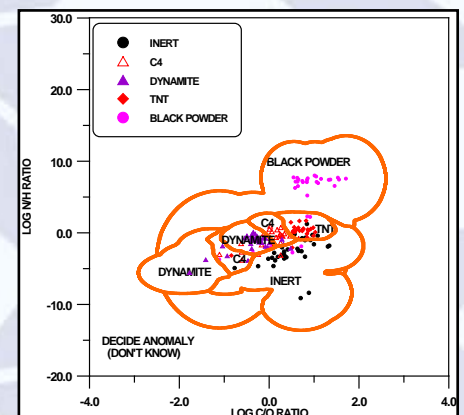
Teledyne Solutions, Inc. (TSI) provides technical services in computer-based pattern recognition and decision processing systems. We provide analytical expertise to evaluate sensed data measurements, classification algorithms, recognition accuracy, and systems engineering for homeland security, commercial, and military applications.

## Technology Areas

- Decision Architectures
  - Parametric Maximum Likelihood
  - Nonparametric Maximum Likelihood
  - Cost Sensitive Learning
  - Nearest Neighbor
  - Bayesian Networks
  - Neural Networks
  - Dempster – Shafer Reasoning
  - Support Vector Machine
  - Anomaly Detection
  - Classifier Networks
  - Genetic Algorithm Target Recognition
- Class Separability Analysis
  - Bhattacharyya, Matusita Distance Metrics
  - Sammon Mapping
- Feature Selection
  - Time Series Analysis
  - Best N-of-M Features
  - Probability Density Analysis
- Decision Scoring
  - Receiver Operating Characteristic
  - Probability of False Detection / Rejection
  - Multi-Class Confusion Matrix Scoring
  - Operating Threshold Selection



## Explosives Classification Example



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