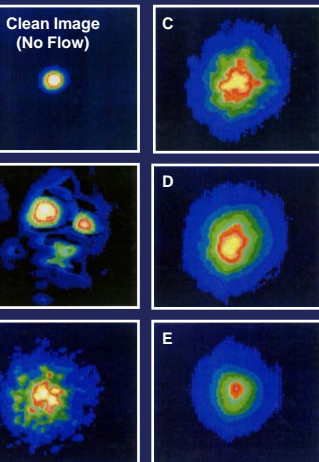


# Optical Target Signatures

fast facts

Imaging Through Turbulent Flow  
(Effects of Integration Time)



## Teledyne Solutions, Inc. (TSI)

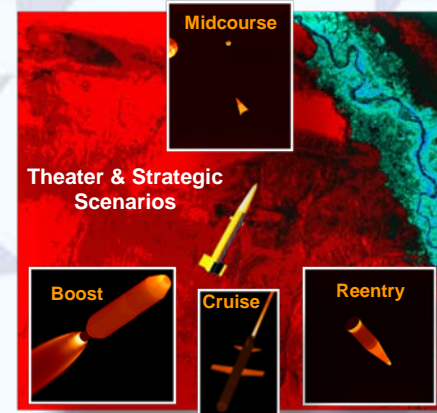
TSI develops industry-standard optical signature tools used by the Missile Defense Agency, DoD, and NASA. We provide expert data analysis and simulation support in diverse areas, including:

- High-fidelity target models
- Signature databases for algorithm development
- Target and sensor design studies
- Target validation and certification
- Experiment and mission planning
- Post-flight data analysis

The models represent targets throughout the battlespace:

- LWIR, MWIR, SWIR, Visible, and UV bands
- Endo- and exo-atmospheric trajectories
- Ascent, midcourse, and reentry

Optical Signatures Code (OSC) and OPTical Signature In-line Generator (OPTISIG) are MDA's primary tools for hardbody optical signatures.



## Signatures Technology Areas

- Systems Engineering
  - Requirements Analysis
  - Laboratory Test Planning/Analysis
  - Mission Planning/Analysis
  - Pre-Flight and Post-Flight Analysis
  - Threat Generation
- Radiometry and Spectrometry
  - Sensor Modeling
  - Aero-optical Effects
  - Data Analysis
- Passive Optics, Ladar, and Radar
  - Signature Prediction and Analysis (Visible through Infrared)
  - Signature Control; Target Design
  - Image and Scene Synthesis
  - Signature Database Construction
- Data Analysis and Signal Processing
  - Data Reduction and Application
  - Frequency Estimation
  - In-depth Analysis and Modeling
  - Anomaly / Failure Resolution
  - Inverse Engineering Analysis
- Decision Support
  - Automatic Target Recognition (Discrimination or Pattern Recognition)
  - Parametric & Monte Carlo Trade Studies
  - Optimization using Genetic Search
- Software Engineering
  - Interfaces (e.g., STK-OPTISIG; OSC-FLITES, OSC-CHAMP)
  - Parallel Cluster / Distributed Processing
  - Source Code Modernization
  - Java, C++, and Fortran 77/90/95
  - Visualization Tools
  - Graphical User Interface (GUI)

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