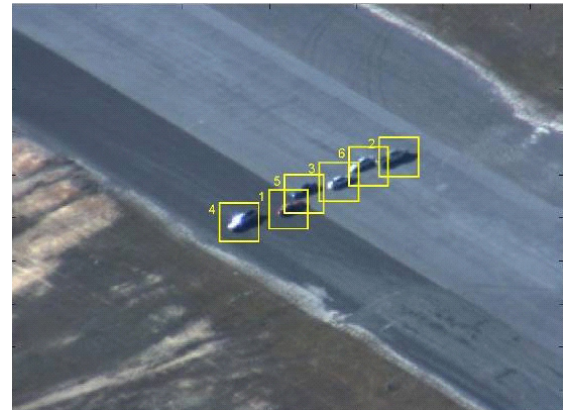


**Toyon's advanced algorithms provide a complete video-based target tracking solution.**

**Robust, real-time operation across a wide range of military and commercial applications.**

### Video Tracking Features Include:

- Robust detection of vehicles and humans despite technically challenging conditions, including:
  - Small numbers of pixels on target
  - Unstable imagery collected on moving platforms
  - High-clutter scenes including water motion and blowing foliage
- Very low false alarm rates
- Multiple hypothesis tracking and Joint Probabilistic Data Association (JPDA)
- Feature-aided tracking and fingerprinting
- Real-time multiple target tracking and target recognition algorithms



**Aircraft-Based Ground Vehicle Tracking, Visible Spectrum**  
Frame size: 480 by 640 pixels



**Handheld-Based Dismount Tracking, Infrared Spectrum**  
Frame size: 240 by 320 pixels



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## > Detection

Applicability across a range of sensor types, including visible, infrared, and image intensified (I<sup>2</sup>) night vision.

Effective camera motion compensation for a variety of observation geometries and platforms.

Innovative statistical background modeling for detection of moving targets through motion clutter.

## > Tracking

Persistent tracking through move-stop-move and high target density conditions.

Multiple-camera measurement-to-track and track-to-track fusion.

Humans have been detected and tracked with as few as two pixels on target.

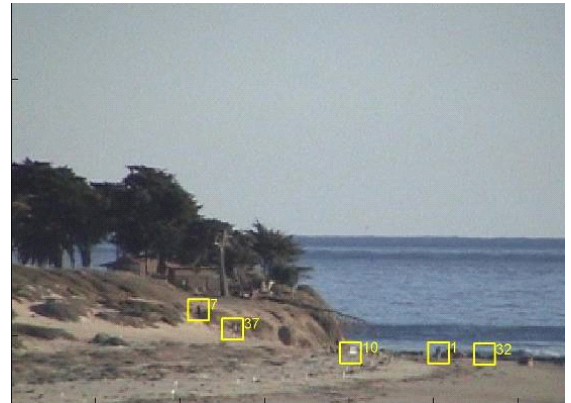
Advanced multiple-target tracking algorithms, including an efficient multiple hypothesis tracker.

Geo-registration for direct integration with parent systems.

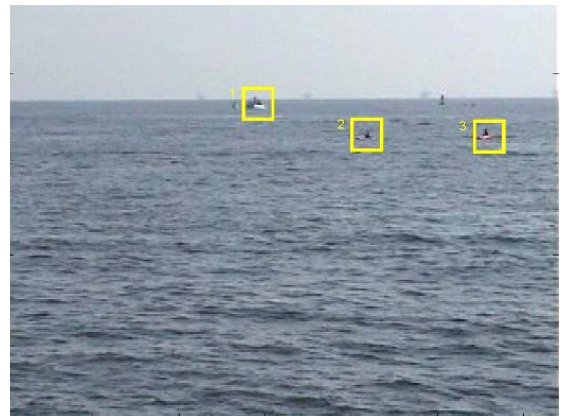
## > Identification

Targets that are detected and put into track produce audiovisual or electronic cues to alert an operator.

Target identification software helps to distinguish humans and vehicles from livestock and wildlife.



**Handheld-Based Dismount Tracking, Visible Spectrum**  
Frame size: 240 by 320 pixels



**Handheld-Based Sea Surface Tracking, Visible Spectrum**  
Frame size: 240 by 320 pixels

### Other Information Available Regarding:

- Antennas & RF Systems
- C4ISR Systems
- Homeland Security
- **ISR Algorithms**
- Missile Systems

Toyon Research Corporation is a nationally recognized small business performing both technology development and defense systems analysis. Founded in 1980, Toyon is based in Goleta, California (near Santa Barbara) with a satellite office in Sterling, Virginia.

For more information regarding our video tracking capabilities, please visit [www.toyon.com/video\\_tracking.asp](http://www.toyon.com/video_tracking.asp) or send inquiries to [videotracking@toyon.com](mailto:videotracking@toyon.com).

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