

Target Identification & Engagement

The principles of accurate target identification remain the same, although the target priorities have evolved over the years. Massed armor formations and long range bombers were of primary concern during the Cold War. In the present conflict, the focus may be on an individual wheeled vehicle in an urban environment. In any case, target ID requires:

- Database of recognizable target features
- Specification of a field of regard (FOR)
- Deployment of suitable sensor(s) capable of scanning the FOR
- Human observers or interpretive software capable of recognizing a target
- Extraction of relevant data, such as position, speed/heading, and further target information
- Filtering and analysis of reported targets in order to minimize double-counting and false alarms

During the Battle of Britain, these elements were realized by observers equipped with binoculars and listening devices, comparing what they saw with silhouette diagrams of German bombers and reporting by telephone to a central command station. Today, the sensor may be an airborne LADAR system, comparing target returns with an internal table of all-aspect spatial characteristics and reporting the results by an RF data link to a battle management network. All of these elements, especially the third and fourth, are the subject of ongoing research and development.

Areas to be emphasized include:

- Long-range and multi-sensor suites
- Longer-endurance UAVs to serve as sensor and engagement platforms
- Secure sensor/IFF protocols to minimize friendly-fire incidents
- Automatic target recognition (ATR)
- Airborne/space-based systems capable of identifying buried targets
- Network integration of ground and UAV sensors such as Tier II

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