

Anwendungsszenario aus dem [Geospatial Fusion Testbed \(GFST\)](#):

Seq. No.	Scenario
1.0.0	The Setting: T.M. (an analyst) is responsible for analyzing the activities of the environmental terrorist organization known as the Green Trust (GT). The GT had been very quiet for sometime, almost as if they had disappeared. The leader of the GT, O.S., was lying low. However, there were strong indications that GT was planning a terrorist act.
2.0.0	The Action Begins: T.M. starts his shift with the analysis of incoming email message traffic that has been pre-sorted and flagged for his evaluation. (Note: This message may or may not have undergone a batch, chained geoparsing/ geocoding/ gazetteer process. If it has been preprocessed, then spatial-temporal events/terms discovered within the message are "tagged" and geolinked to applicable locations or geographic features.) T.M. clicks on the "message icon" and reads the first message, "O.S. has been sighted in London. The first sighting was at 10:05 am Tuesday, November 10 th at Trafalgar Square. He was observed moving slowly down Strand in the direction of Covent Garden. At 11:15 am he was observed going into a small pub in Covent Garden called the Lamb and Flag." If necessary, T.M. invokes the functions geoparse/geocode/gazetteer to geocode the message.
3.0.0	Create New Location Organizer Folder (LOF): T.M. creates a new LOF for the London area to capture information that pertains to a possible terrorist act. He specifies a folder name (GT on the move), an Area Of Interest (AOI) -- Greater London, and a reference map containing a high level street map of London with key landmarks. The LOF creation process adds metadata for the start date/time, MBR, base spatial reference system (SRS), his name, and a unique folder reference ID. T.M. adds the first email message to his LOF. He also adds profiles on GT and O.S. The LOF metadata is automatically updated to enter the date/time when the most recent content was entered into the folder. (Note: London authorities have been alerted. It turns out that they are already hot on the trail and have begun analyzing the situation. This is great because T.M. knows that they will be able to share LOFs at some point.)
4.0.0	More Email message Evaluation: T.M. continues reading and analyzing email messages. There is another message about O.S. "At 12:30 pm O.S. is observed leaving the pub and heading toward the Waterloo Bridge. Just across the bridge, he stops near the National Theatre (on the Upper Ground side) and meets with another individual."
5.0.0	Search and Discovery of Content for the Folder: T.M. must locate a list of info resources for his LOF. These resources may include maps, images, drawings, charts, reports, news clippings, and other resources that may pertain to the particular area, O.S., or his organization, GT. He specifies a search range for O.S. and GT activities. He asks for a period starting two months ago that encompasses his primary AOI - Greater London. This information is then used to search existing catalogs of servers that contain the information. T.M. is able to select those resources that he wishes to register with his LOF. He selects a secondary reference image. He uses the reference image and previously geocoded messages to pinpoint and define a secondary AOI that homes in on the activities of O.S. Next, using the secondary AOI (O.S. Whereabouts) as a filter, he searches for and selects maps, images, drawings, and charts, including London streets, the "Tube" (underground), buildings, and landmarks found within the AOI. London counterparts have also been busy. LOFs are swapped. The new LOF contains messages concerning GT activities. There are several messages pertaining to the sightings of other members, especially O.S.'s associate, T.O. T.O. had been observed several times. "The first time at the Tower of London (September 21) meeting Q. B., a known expert on demolitions. The next time was on October 14 th walking around the Norwegian Embassy until finally entering the embassy at 1:32 pm and emerging at 1:45pm and then entering the underground. The final time he was observed entering a Travel Agency at Oxford and Regent on November 3 rd at 11:12am." London also provides an updated profile on T.O.
6.0.0	Analyst Guided Processing of a New Email Message -- Geolinking Begins: T.M. reads another message that has just arrived and has not yet been geocoded. This message reads: "At 12:42pm, O.S. and T.O. are

observed leaving the National Theatre location and heading to the Tube at Waterloo Junction. They board the train heading to Heathrow as its final destination. T.O. boards a plane bound for Oslo at 3:44 pm." First, T.M. geoparses the new message in order to extract key words/phrases, as defined by a place name and date/time. He selects the Geoparse option, asking for place names, landmarks, and date/times to be identified in the pending message. The Geoparser scans the message. It extracts a number of key place names and date/times. T.M. wishes to geocode place names found in the message so that he can "Geolink" them to geospatial resources registered in his LOF. He selects the Geocoding option. (A gazetteer is used to match the place names.) The Geocoding process returns a set of LOF features. Each feature has an ID, time stamp, coordinates/geometry, and so forth. This information is used by the LOC to identify the point/line/polygon geometry set which is automatically "Geolinked" with the applicable words/phrases in the message. The new features are displayed on the reference map. At the same time, all successfully geocoded words/phrases (with spatio-temporal content) are "tagged" in the source message and the resulting Geolinks are stored in the LOF (perhaps embedded in the geocoded message). Since the local gazetteer does not find an entry for "Waterloo Junction", that analyst uses a map of the Tube to manually "geocode" and develop a point feature/geolink for the phrase "Waterloo Junction".

7.0.0 Order Analysis: T.M. is having difficulty visualizing the temporal sequence for the incoming messages. He invokes the use of Order Analysis function to link the messages together based on time sequence.

(The LOF now is a geo-organized, geo-connected framework of information that T.M. can begin to use to conduct further analyses. He can plot locations by time and date. He can click on locations and retrieve the relevant information resource.)

8.0.0 All Source Search and Discovery - and Geolink Navigation: T.M. starts a general search for other resources that may contribute to his analyses. He begins with the Web. He adds copy the content of select Web pages or adds links to applicable Web pages to the LOF (these take on the same basic form as geolinks). Next he adds applicable reports, or links to the reports, to his LOF. Finally, T.M. processes a batch of news clippings, running them through a batch geoparse/geocoded/gazetteer service. The results are displayed over a map/image. Next, he navigates geolinks from resource to resource, trying to establish a correlation between email messages and news clippings, focusing on understanding spatio-temporal relationships. T.M. accesses online phone directories for additional information concerning phone numbers and addresses that are pinpointed by the geoparsing function.

9.0.0 The Scope Expands: London confirms T.O.'s departure to Norway. Norwegian authorities are contacted. They confirm T.O.'s arrival in Oslo. T.M. requests a baseline LOF for Oslo, with basic content that were compiled by Norwegian authorities, which he names GT Norway. He also asks for any messages going back six months that have any content related to GT. He receives a batch of geocoded messages. Again, he invokes Order Analysis to study the temporal sequence of events. One of the events is flagged as being an observation of another known GT terrorist, G.N. (Norway provides a profile on G.N.) T.M. wants to drill down on this location. He pulls up a large scale map of the city. He pinpoints G.N.'s location on the map the Tulip Inn Rainbow Cecil Hotel.

10.0.0 A Threat Indication Emerges: A new message has arrived with the following text: "T.O. arrive in Oslo at 7:04pm. T.O. takes the train to Bergen and registers at Norlandia Marsteinen Hotell." T.M. determines that Hotel ZZZ is within 1km of G.N.'s hotel. T.M. decides to further analyze the geocoded information from available email messages, Oslo news clippings, and terrorist profiles. He invokes a combination of Proximity Analysis, Geoparsing, Geocoding and Gazetteer to identify any possible geocoded events/news that occurred in connection with GT and their known targets: Forestry operations, dams, and oil exploration and production. Two articles reference a special ceremony for the opening of a new oil-drilling platform in the North Sea. Several leaders of government and industry will be present. The ceremony will be held in Bergen. A nearby café where G.N. has been spotted several times also stands out. These are places to watch for the imminent meeting of G.N. and T.O.

11.0.0 Interdiction Planning: Attention is also turned to the location of the ceremony. An LOF has been quickly assembled for Bergen, specifically the port area. T.M. looks for good observation points and interdiction points related to the ceremony location.

12.0.0 Evolution Analysis: TBD