SEMIOTIKS in brief
SEMIOTIKS addresses the challenges associated with the fusion of multiple, disparate, unstructured information sources. We shall create novel tools that combine semantic web and natural language processing technologies to accelerate and enhance key stages of the intelligence processing cycle.

Decision makers will be able to use SEMIOTIKS tools to rapidly identify the most useful intelligence sources, effectively correlate them with known information, and make decisions about how to handle threats and developing situations sooner.

By speeding the intelligence cycle SEMIOTIKS will enable decision makers to gain decisive advantage. SEMIOTIKS is widely applicable, in both defence and civilian domains. We are investigating its use in IED disposal and humanitarian demining.

Aims & Objectives
• state of the art knowledge discovery
• semantically-enhanced information fusion
• improved situation awareness
• innovative interaction and visualization
• demonstrate effectiveness in military context

Military benefits and potential capabilities

<table>
<thead>
<tr>
<th>Capability</th>
<th>Example problem/requirement addressed</th>
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<tbody>
<tr>
<td>More accurate and complex information retrieval (searching)</td>
<td>How many pipe bombs longer than 450mm have been found hidden within 10 miles of Basra Airport?</td>
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<tr>
<td>Extensible and re-usable</td>
<td>Can extend my IED intelligence model to include IED with ambushes</td>
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<tr>
<td>Mediation</td>
<td>Different bodies use different terminology to refer to the same concepts. An ontology can ameliorate this</td>
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<tr>
<td>Enables information fusion</td>
<td>Are there any references in open sources to events coincident with this IED event?</td>
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<tr>
<td>Facilitates visualization</td>
<td>Can I have an I2 model of this event and overlay it on a map?</td>
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<tr>
<td>Enables automatic reasoning</td>
<td>Devices of this kind can’t fit into a suitcase</td>
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Scenario development
Military and humanitarian scenarios have been developed to demonstrate the utility of SEMIOTIKS technologies.

Visualisation & Interaction
SEMIOTIKS is researching innovative interaction and visualization techniques that are based upon work carried out within the predecessor AKTiveSA project. These techniques will support collection, processing and dissemination:

• GIS views using terrain elevation data and satellite imagery
• Multi-touch/user interfaces
• Natural language interfaces
• Graphical query builders & ontology browsers
**Exploitation**

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**Technical Lead**

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**Project Team**

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### Military Consultant

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