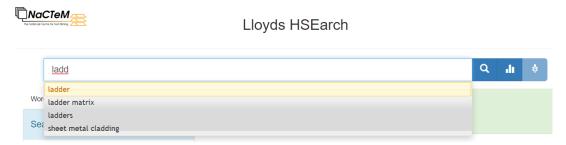
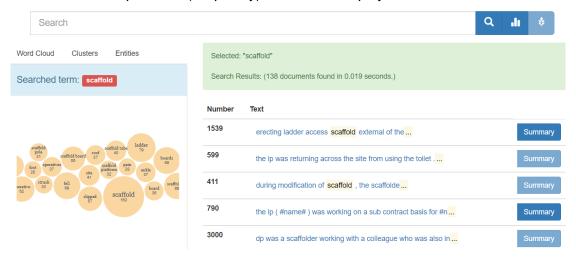
Step-by-Step guide to using the Lloyds HSEarch system

1. Start to type a query term into the search textbox. Terms starting with the entered characters will be displayed automatically below the search box; the desired complete query term should be selected from this list.



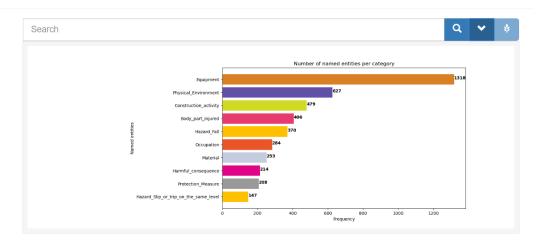
2. After selecting the query term, click on the button with the magnifying glass; documents containing the query term will be displayed on the right-hand side of the screen. On the left-hand side of the screen, a "word cloud" is shown, where the "bubbles" represent the most frequently occurring terms in the search results – the size of the each bubble indicates the importance (frequency) of the term displayed within the bubble.



3. Clicking on the button with the graph (next to the search box) will provide an overview of the semantic content of the search results. Specifically, automatic text mining analysis will identify mentions of different types of concepts within the search results. The frequency counts of the mentions of different types of concepts (which we refer to as entities) occurring within the search results are shown in the graph.



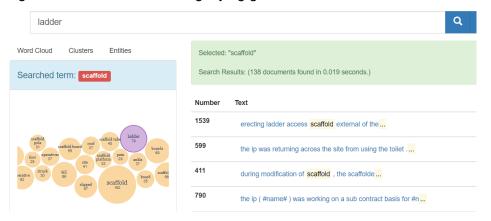
Lloyds HSEarch



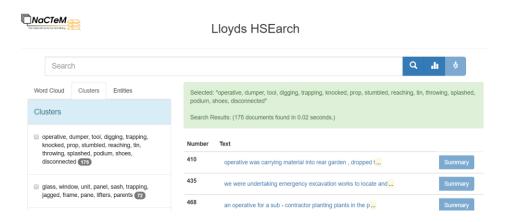
The concepts that may be shown in the graph are as follows:

- **Equipment** Any type of equipment used during the course of carrying out construction activities
- **Physical_Environment** Any phrase referring to the physical environment of the construction work. Includes:
 - Permanent, or semi-permanent structures (including parts of such structures and materials used to build them) that will stay in place once a construction project has finished
 - Construction sites
 - Natural environments/locations where construction is taking place
- Construction_activity Any physical activity or action carried out as part of everyday tasks relating to construction work. Excludes unintended actions/accidents.
- Material Any building material used during construction activities.
- **Body_part_injured** A part of the body injured during an incident while carrying out construction-related activity.
- Occupation A construction-related occupation or description of a person or group
 of people according to the construction-related task that they are undertaking
- **Harmful_consequence** A change in a person's physical state or wellbeing that is a consequence of a harmful incident or a health and safety issue.
- **Protection_Measure** A measure or action that is taken to increase safety at work, to prevent hazards and/or reduce the risk of accidents.
- Hazard An unexpected/unintentional and (potentially) harmful accident/incident (or an unintentional precursor event) that has occurred or which may occur during construction activities. Further categorised according to the nature of the hazard
 - Hazard_material_effect_on_health A hazard arising from exposure to harmful substances or materials during construction activities.
 - Hazard_mechanical_effect_on_health Health hazards arising from working with particular types of machinery during construction activities.

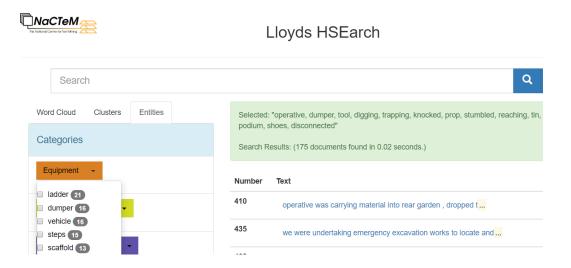
- Hazard_contact_with_energy_source A hazard arising through contact with various energy sources that are used or which occur during the course of construction activities
- Hazard_fall A hazard arising when a person falls from a height while carrying out construction activities
- Hazard_manual_handling A hazard arising through manual handling of materials in various ways while carrying out construction activities
- Hazard_machinery_operation A hazard arising through operating machinery while carrying out construction activities
- Harzard_slip_or_trip_on_the_same_level Risks arising from slippery surfaces, uneven surfaces, trip hazards and obstructions to movement
- Hazard_struck A hazard resulting in a worker being struck by an object while carrying out construction activities
- Hazard_trapped A hazard arising through a worker becoming trapped while carrying out construction activities or injured due to working in a confined space, including asphyxiation.
- 4. Clicking on a term in the word cloud will cause it to be automatically copied to the search box as a query term; a new search using the selected term may then be carried out by clicking on the button with the magnifying glass.



5. The documents retured by a search are automtically arranged into clusters according to their semantic content. The different clusters may be viewed by clicking on the "Clusters" tab on the left-hand side of the screen. Each cluster is charecterised by a list of key terms (labels). Clicking of the check box for a given cluster will cause the search results to be filtered to display only the documents belonging to the selected cluster.



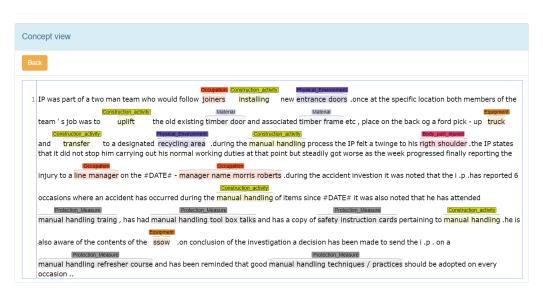
6. Clicking on the "Entities" tab on the left hand side of the screen will display drop-down lists for each of the semantic entity types introduced above. Clicking on the arrow on the right-hand side of these lists will cause them to be expanded. The items in each list correspond to all the different terms that are categorised as belonging to the given category within the search results, ordered in descending order of frequency. Clicking on one of these items will cause the search results to be filtered to retain only those documents in which the selected entity is mentioned.



7. On the right-hand side of the screen, clicking on a text snippet of one of the search results will cause the complete text of the selected document to be displayed. In the displayed text, the automaically recognised entitiies will be highlighted and labelled according to the semantic category that has been assigned to them. Clicking on the "Back" button at the top of this page will return to the main search page.



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8. If a document contains a large amount of text, the "Summary" button of may be clicked, which will cause a shorter summary of the document to be displayed. Clicking on the "Back" button at the top of this page will return to the main search page.



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