

Demo: Modelling Factory

- LCA methodology
- Network LCA concept
- Demonstration –pipe cutting machine

Life cycle assessment, LCA methodology

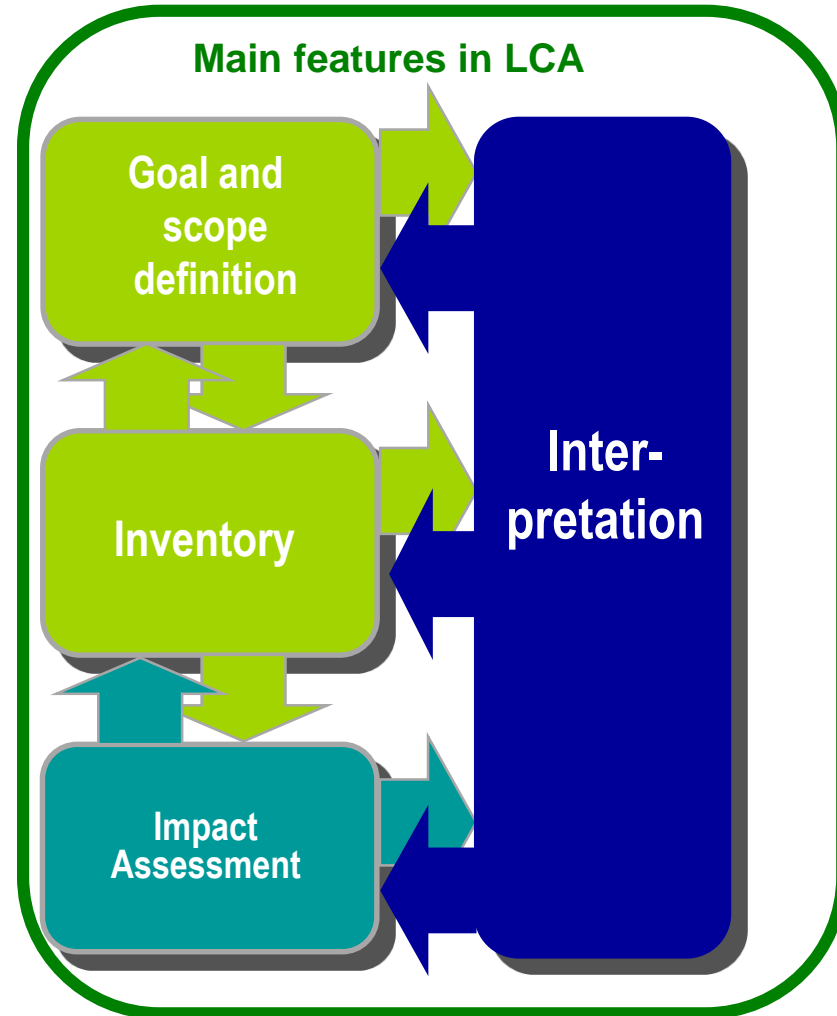
Based on ISO standards 14040 and 14044.

Calculating the potential environmental impacts throughout product's life cycle. Emissions, energy, wastes and materials will be taken into account.

Input data is specific data, i.e. from the actual production processes, or average data, i.e. from the life cycle inventory databases.

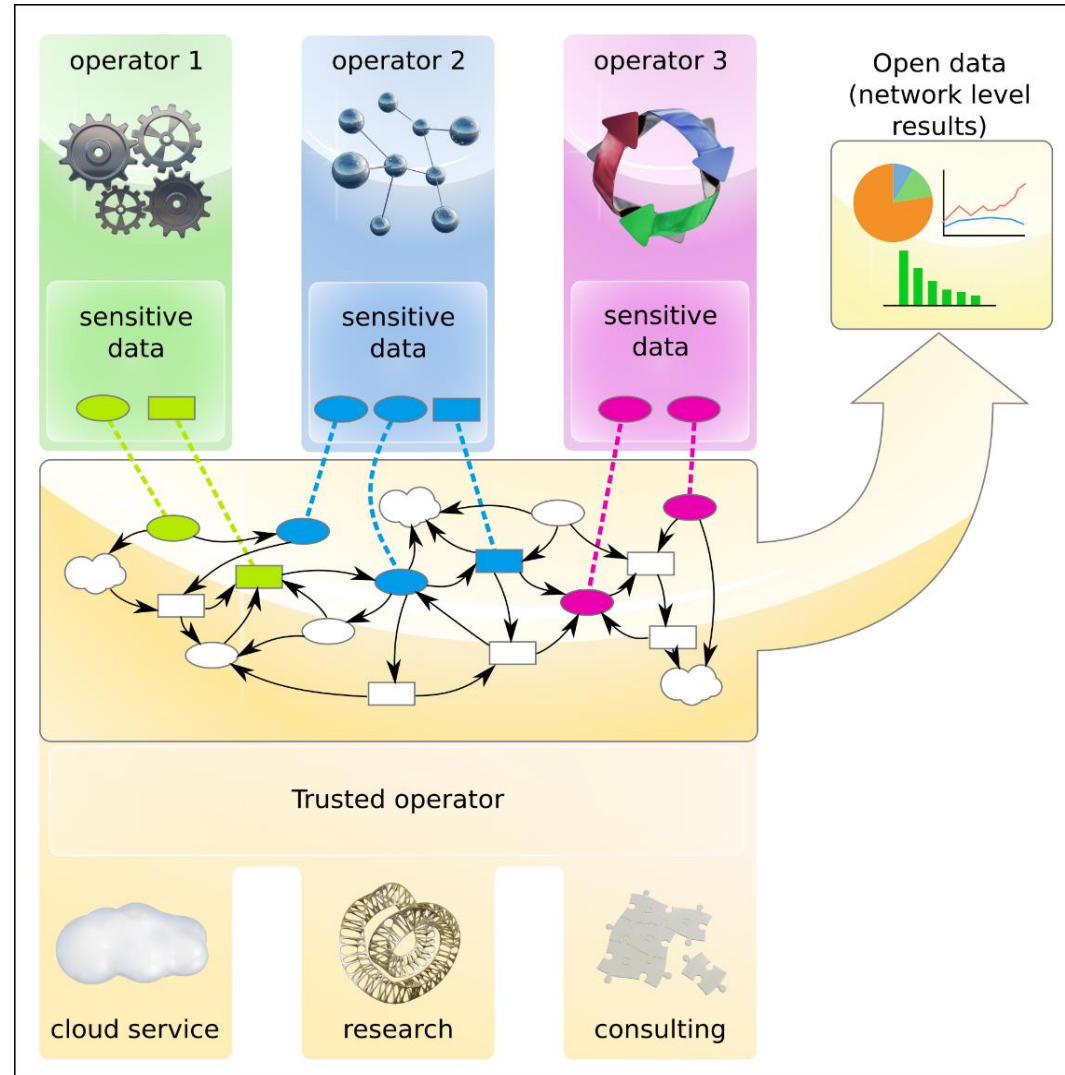
Specific LCA calculation tools are required to visualize the product systems and to handle as well as to calculate large amounts of data.

The LCA calculations for the demonstration are carried out with SULCA. SULCA is an LCA software developed and maintained by VTT.



Concept of network LCA

- Network LCA is aimed to enhance LCA data collection and sharing the LCA results flexibly but securely inside the network.
- Operators inside the network can fill in their own sensitive process data via a web user interface.
- Trusted operator connects the input data to LCA software, calculates and publishes the results to selected partners at a desired granularity level.



Demonstration – network partners

- Trusted operator - Represents Machine Oy, manufacturer of pipe cutting machines. Project manager of LCA for a pipe cutting machine and responsible for LCA data collection. 2 entries are missing from the LCA data collection. Trusted operator requests the missing data from the following two operators. Trusted operator has an access to the entries from all operators and is the only operator with an access to LCA calculation software.
- First network operator - Represents also Machine Oy. Development engineer and expert in operation of the pipe cutting machine. This operator feeds energy and lubricant amounts for USAGE. Since working in the same company, trusted operator assigns this operator an access to all (including his own and second operator's) input data and results as well as the data and results for the main level results.
- Second network operator - Represents Blade Inc. who is part supplier for Machine Oy. Design engineer provides the data for BLADE MANUFACTURING. Trusted operator grants access to his own data and own results as well as the main level results but not to the data entry given by the first network operator.

Demonstration example product

