

Windchill[®] LCA

SCALE THE USE OF LIFE CYCLE ASSESSMENT DATA ACROSS THE ENTERPRISE

Windchill LCA empowers manufacturers to scale the production and usage of Life Cycle Assessment (LCA) data and reports across the enterprise. Now you can efficiently assess the environmental impact of all parts and products, and analyze the potential impact of design alternatives throughout the product development process to fuel innovation and design for the environment.

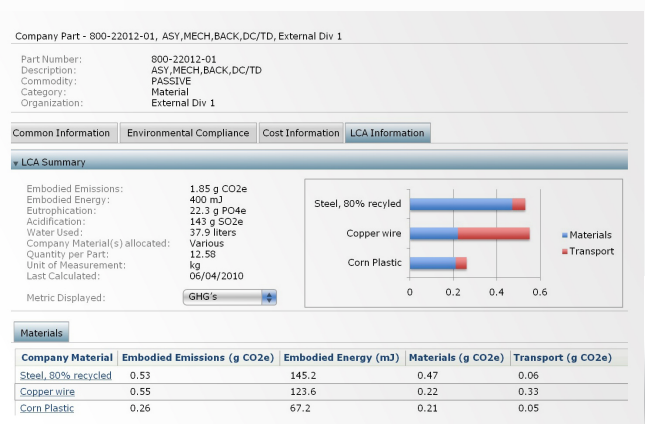
Many companies use LCA data to quantify the environmental impact of products over their entire lifecycle, from the mining of the raw materials to the disposal and recycling of the product. By measuring a product’s environmental impact, companies can establish a performance baseline to improve upon, and provide evidence to support environmental claims.

Today, manufacturers are being driven to improve the environmental performance of their products by financial strategies, market demand, and social responsibility. Not only have business-to-business customers and consumers demonstrated a clear preference for more sustainable products and “greener” brands, but investors are now pressuring manufacturers as well.

For example, the Dow Jones Sustainability Index identifies and tracks leading sustainability-driven companies. Growth opportunities exist for organizations that competitively differentiate themselves based on environmental performance, and savings can be found in operational efficiencies and reduction of embedded costs within the supply chain. When considering a product’s environmental impact, companies must also take into account risks to brand equity and risks from future government regulations.

Enter Windchill LCA – a scalable solution that provides current assessment of the environmental performance of any product or product component throughout the development process. This solution is built on and leverages Windchill Materials & Substances to capture supplier data and integrate with your existing enterprise systems for real-time bill-of-material (BOM) and product data.

Windchill LCA utilizes material content and environmental impact data to give users visibility into LCA data during the innovation and design process. This knowledge allows users to become powerful product stewards and enables the corporate execution of design-for-environment initiatives.



Design for the environment by making LCA data available in the design process.

Key Benefits

Scale the use of LCA data

Performing a traditional LCA produces valuable information. However, companies are finding it difficult not only to manage the resulting data, but also to leverage it beyond the single product being studied and incorporate it into the early stages of design and innovation.

Generally, LCA data is stored in a data 'silo' where it was initially calculated, thus limiting the organization's ability to communicate, compare, and utilize the results. Windchill LCA solves these issues and scales the usage of LCA data across the enterprise by integrating it with a company's innovation and design process, and BOM management systems. The result: data analysis can be reused across different products, configurations, and future product designs.

Manufacturers can also combine LCA results from third-party tools with Windchill LCA data, to scale ongoing LCA initiatives and improve product development decision-making.

Reduce the cost and time to produce LCAs

Windchill LCA provides efficiency gains from the reuse of existing LCA data. For instance, analysis data created for a given component is automatically used in the analysis of any new BOM that contains it.

Also, to further reduce data collection and analysis costs, Windchill LCA leverages comprehensive international lifecycle inventory databases, which contain well-studied environmental impact data for materials, assembled goods, and manufacturing processes, as well as transportation, product use, disposal and recycling activities.

Identify, measure and improve on the environmental impact of your products and supply chain

Windchill LCA assesses the embodied environmental impacts of a product's materials and the transportation of purchased parts and materials to and from the manufacturing location. Manufacturers can combine these results with their own manufacturing data, as well as product use-phase estimates and various end-of-life scenarios, to determine the "cradle-to-cradle" impact. All of these findings can inform product development and help optimize product designs, as well as create Environmental Product Declarations and other reports. Additionally, supply chain management can compare the environmental impact of different suppliers' parts in order to identify preferred suppliers and to set improvement targets with underperforming suppliers.

Design for the environment

Windchill LCA provides the industry's first scalable solution to embed LCA data as a core metric to be used in product design. By making LCA data available in the earliest stages of product innovation, where decisions have the greatest impact and are least disruptive, companies can improve the environmental performance of their products and bring products to market faster with lower costs.

Drive product innovation

Windchill LCA enables companies to examine what-if scenarios for their products. Starting from a baseline, a user can make product design changes, select different materials or suppliers, and analyze the environmental performance impact to determine which design is optimal. The net result is increased innovation.

Features

Report on environmental performance using common LCA metrics

Generate reports to determine the environmental impact of products, assemblies, parts, or suppliers. Perform analysis of the following metrics:

- Greenhouse Gases (GHGs) – Total amount of greenhouse gas emissions caused by the creation, transport, use and disposal of the part/product and its materials.
- Embodied Energy – Total amount of energy used to create, transport, use and dispose of the part/product and its materials.
- Embodied Water Usage – Total amount of water used to create, transport, use and dispose of the part/product and its materials.
- Eutrophication – Total amount of nitrate and phosphate runoff caused by the creation, transport, use and disposal of the part/product and its materials.
- Acidification – Total amount of acidic air emissions caused by the creation, transport, use and disposal of the part/product and its materials.

Systems Integration

Windchill LCA builds eco-design into the standard product development process. It integrates with design and supply chain data management systems, including:

- PLM: Windchill®, Teamcenter®, ENOVIA® and others
- ERP: SAP®, Oracle® and others.

Platform Specifications

- Server Operating Systems:
 - Microsoft Windows®: Windows 2008
 - Unix®: Solaris 10, HP-UX®11i, Red Hat Enterprise® Linux 5
- Java: Java version 1.6 and higher
- Browser: Internet Explorer® v7.0 and higher, Mozilla Firefox® v3.0 and higher
- Database: Oracle® 11g R2, DB2 8.2, Microsoft SQL Server® 2008
- Languages: English, Chinese (Simplified and Traditional), French, German, Japanese, Korean

Learn More

For more information on Windchill LCA, please visit: PTC.com/products/windchill/productanalytics

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