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Good Food, Good Life

LCA in the development of new food products: Nestlé Eco-Design tool

June 21st, 2011

Nestlé Research™

Nestlé: Good Food, Good Life

The world's leading nutrition, health and wellness company

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Nestlé at a glance

Over 280 000 employees worldwide

443 factories in 81 countries

9395 employees in Switzerland

The food sector is the largest contributor to environmental impacts in Europe

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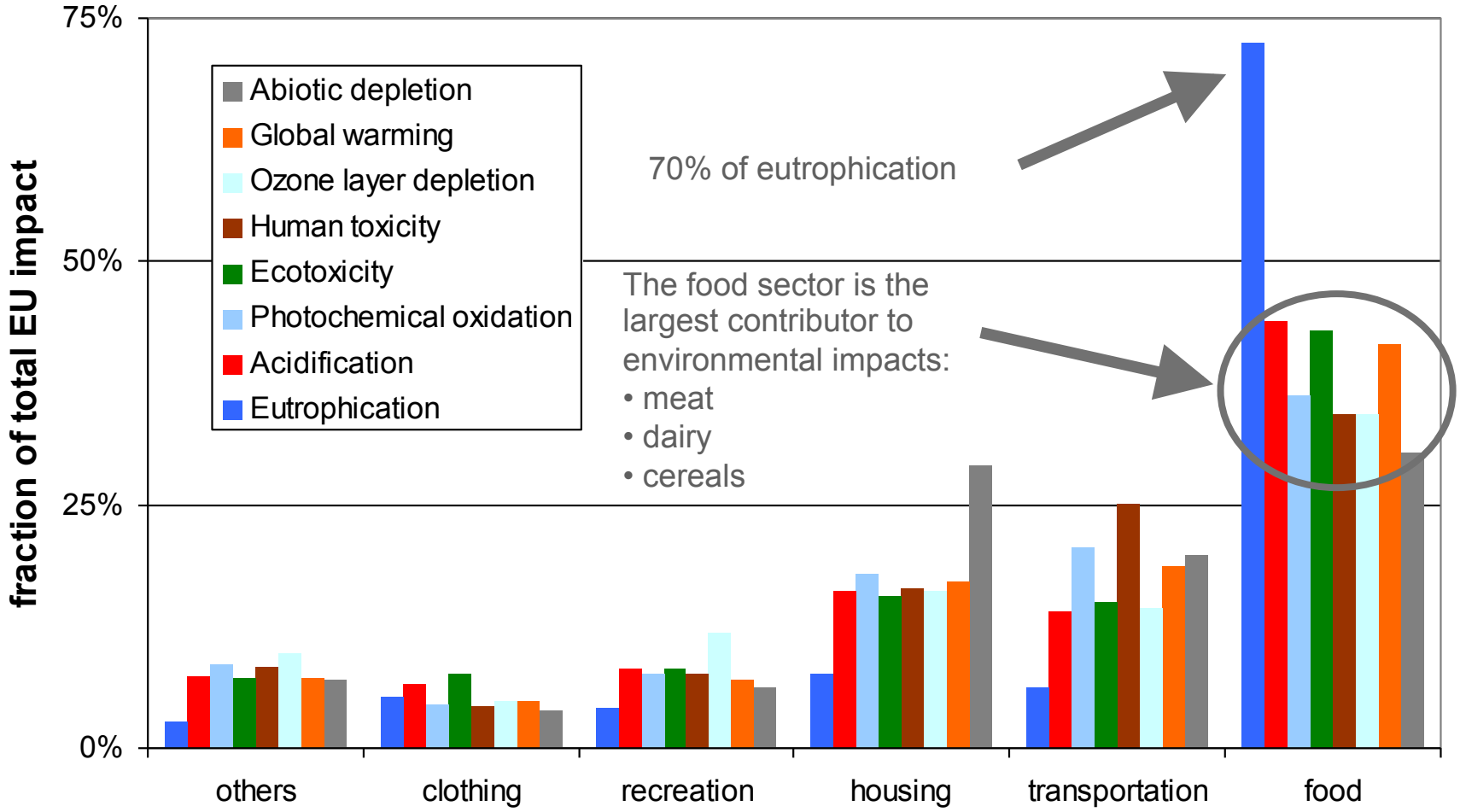

Adapted from: Environmental Impact of Products (EIPRO) - 29.04.05 based on 7 existing studies & own analysis

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
Joint Research Centre

Nestlé Policy on Environmental Sustainability

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Policy
Mandatory
August 2010

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We apply a product life cycle approach involving our partners from farm to consumer in order to minimise the environmental impact of our products and activities.

Our product life cycle approach

We apply a product life cycle approach involving our partners from farm to consumer in order to minimise the environmental impact of our products and activities.

Our aim at all stages of the cycle is to use natural resources efficiently, to favour the use of sustainably-managed renewable resources and to target zero waste.

In this way, we intend to help consumers to achieve better nutrition, health and wellness through offering healthier and tastier food and beverages choices while being a reference for preserving the environment and natural resources for future generations.

Our priority areas

Specific to our food and beverage business we have identified our four priority areas as follows:

Water, which is used by all our suppliers, operations and by consumers. As a founding signatory of the United Nations Global Compact CEO Water Mandate, we continue to:
- work to reduce the amount of water withdrawn per kilo of product;
- assure that our activities respect local water resources;
- take care that water we discharge into the environment is clean;
- engage with suppliers to promote water conservation, especially among farmers;
- reach out to others to collaborate on water conservation and access, with a particular focus on women and children.

When selecting **agricultural raw materials** we:
- Prefer to use agricultural materials which are produced based on sustainable practices and are locally available;
- Provide technical assistance on sustainable agriculture production methods with our local Nestlé agricultural services or through partnership with public agricultural services and research organizations;
- Promote cooperation with other stakeholders in the food chain to leverage sustainable development in agriculture worldwide, in particular through the Sustainable Agriculture Initiative Platform that we co-founded.

During the **manufacturing** and **distribution** of our products, we use efficient technologies and apply best practices to:
- reduce the amount of energy consumed per kilo of product;
- utilise sustainably-managed renewable energy sources, where economically viable;
- control and aim to eliminate emissions, including greenhouse gases.
- recycle or recover energy from by-products.

The **packaging** of our products is critical to guarantee our high quality standards, to prevent food waste and to inform consumers. We strive to:
- reduce weight and volume of materials;
- lead the development and use of materials from sustainably-managed renewable resources;
- support initiatives to recycle or recover energy from used packaging;
- use recycled materials.

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The Nestlé Policy on Environmental Sustainability

Life Cycle Assessment

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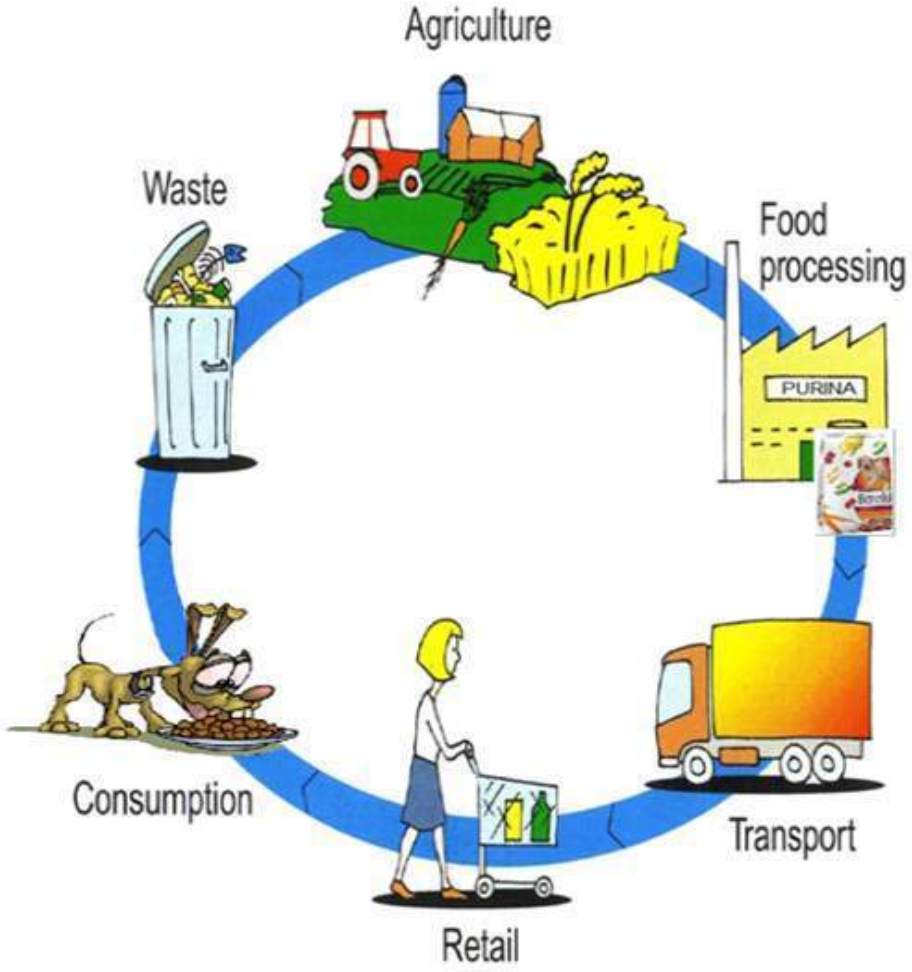
The entire life cycle is taken into account



Different aspects of the environment are taken into account


Global Warming (kg CO_2eq)


Water Consumption (m^3)


Non-renewable Energy Use (MJ)


Ecotoxicity (PDF×m^2×year)


Acidification (PDF×m^2×year)


Land use (m^2)

Ecodesign delivers results much faster than conventional LCA

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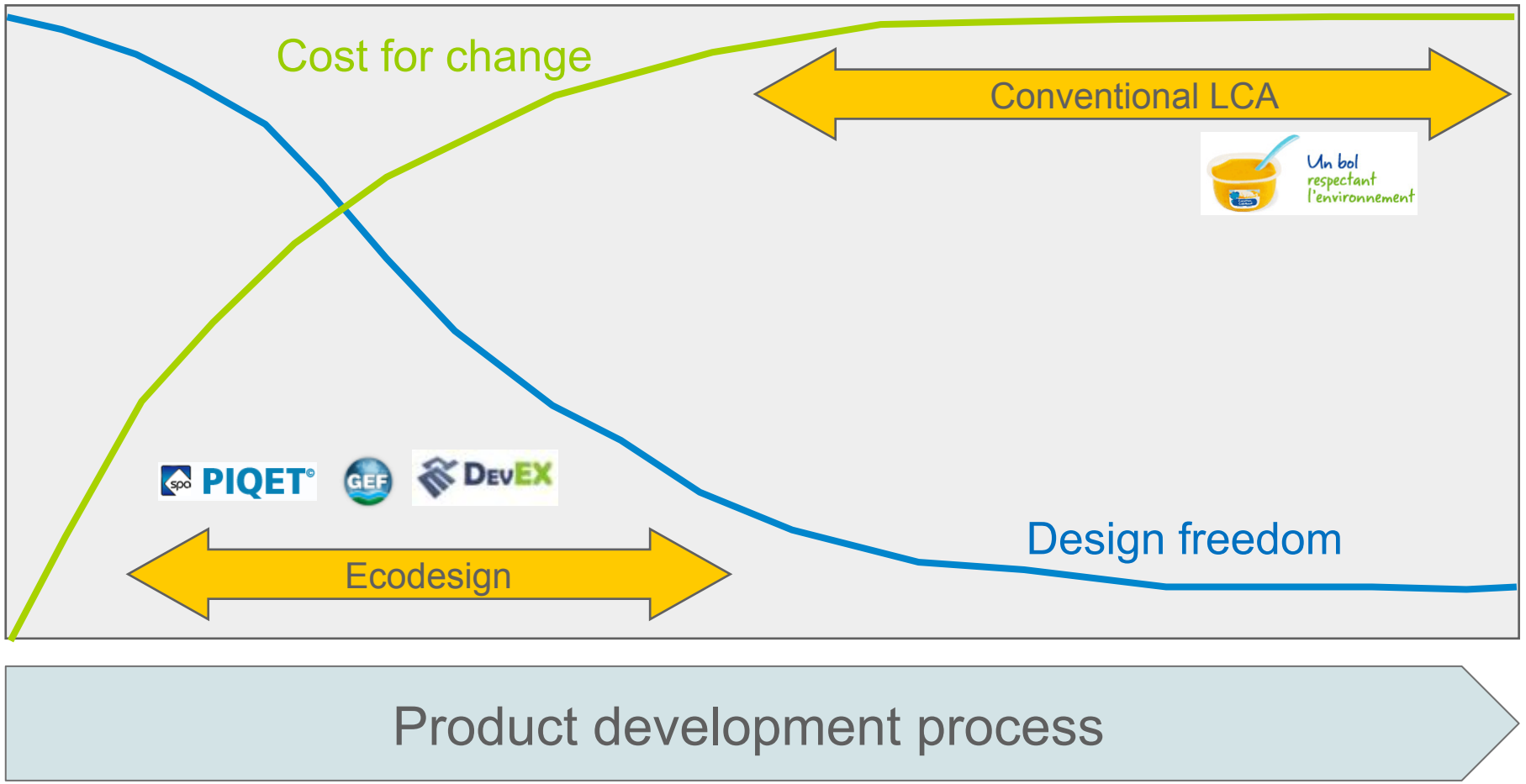

Ecodesign makes LCA cheaper, faster, and more efficient

PIQET allows streamlined LCA on every packaging innovation & renovation project

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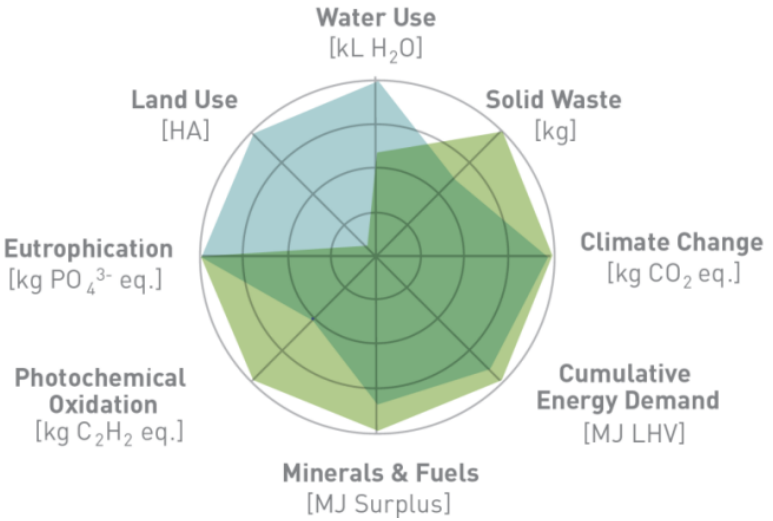
- Web-based interface to SimaPro
- Adapted to food and beverage packaging development
- Further information:
  - http://www.sustainablepack.org/

PIQET©



Ecodesign only on packaging fails to identify opportunities to reduce environmental impacts

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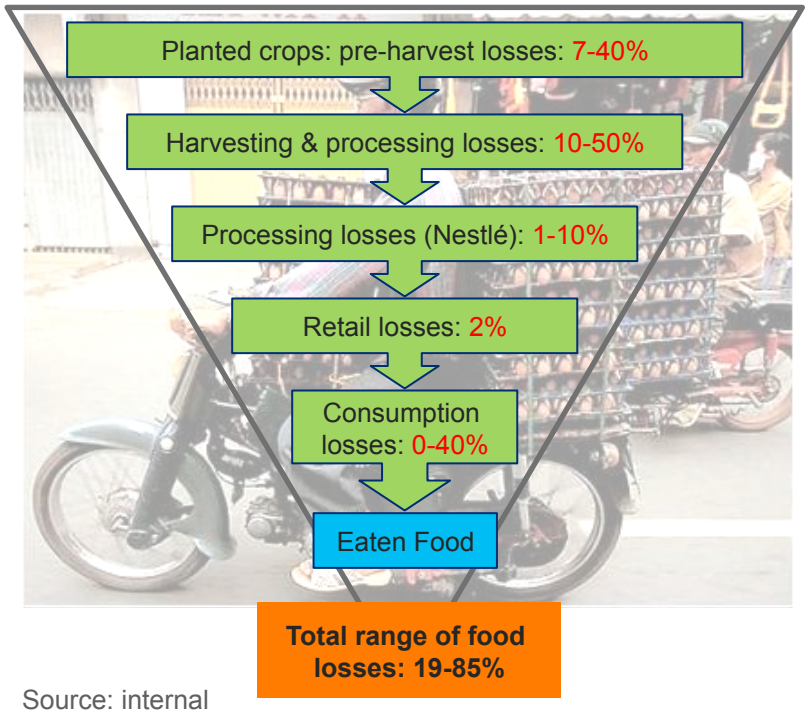
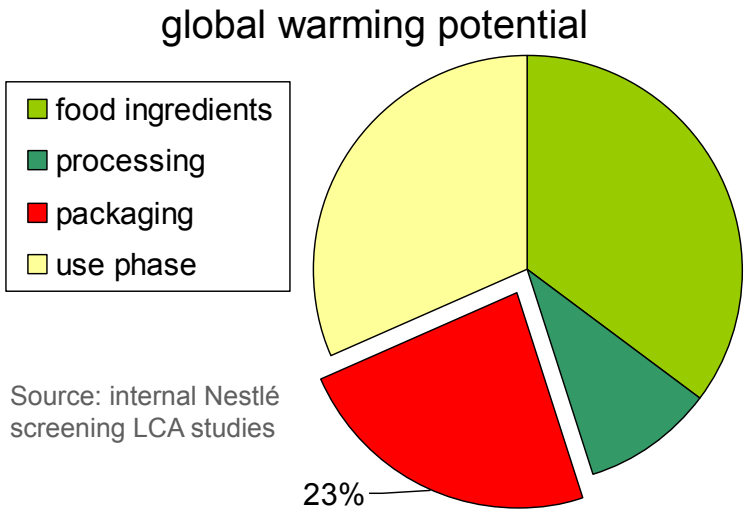
- Packaging serves to protect the food it contains



Source: internal Nestlé research

- Packaging only represent a small share of total impacts



Source: internal Nestlé screening LCA studies

Nestlé has launched the development of a product ecodesign tool

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Requirements for a product ecodesign tool:

Takes into account the entire life cycle

Representative set of relevant indicators

Global Warming (kg CO_2eq)

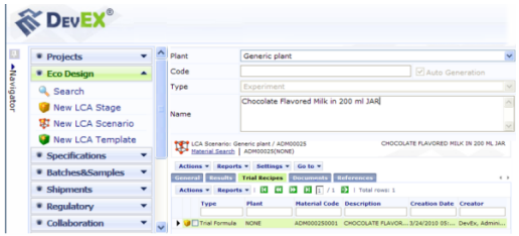
Water Consumption (m^3)

Non-renewable Energy Use (MJ)

?

t.b.d.

For non-expert use, quick results generation



Harmonized LCA Methodology
(ISO 14'000ff, EU Food SCP Rt, Sustainability Consortium)

Nestlé is partnering with Selerant to develop a product ecodesign tool

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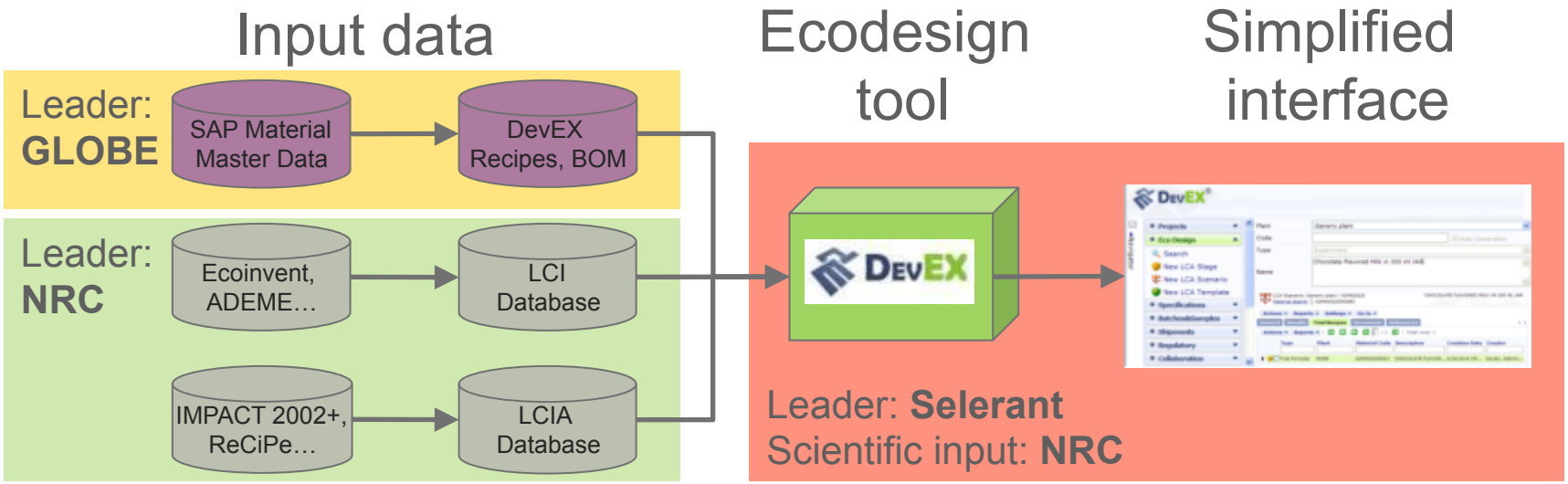
selerant
Development and Regulatory Software

DevEX

- An established provider of product lifecycle management solutions for manufacturing based industry
- DevEX tool used at Nestlé previously to support recipe management, in particular regulatory compliance



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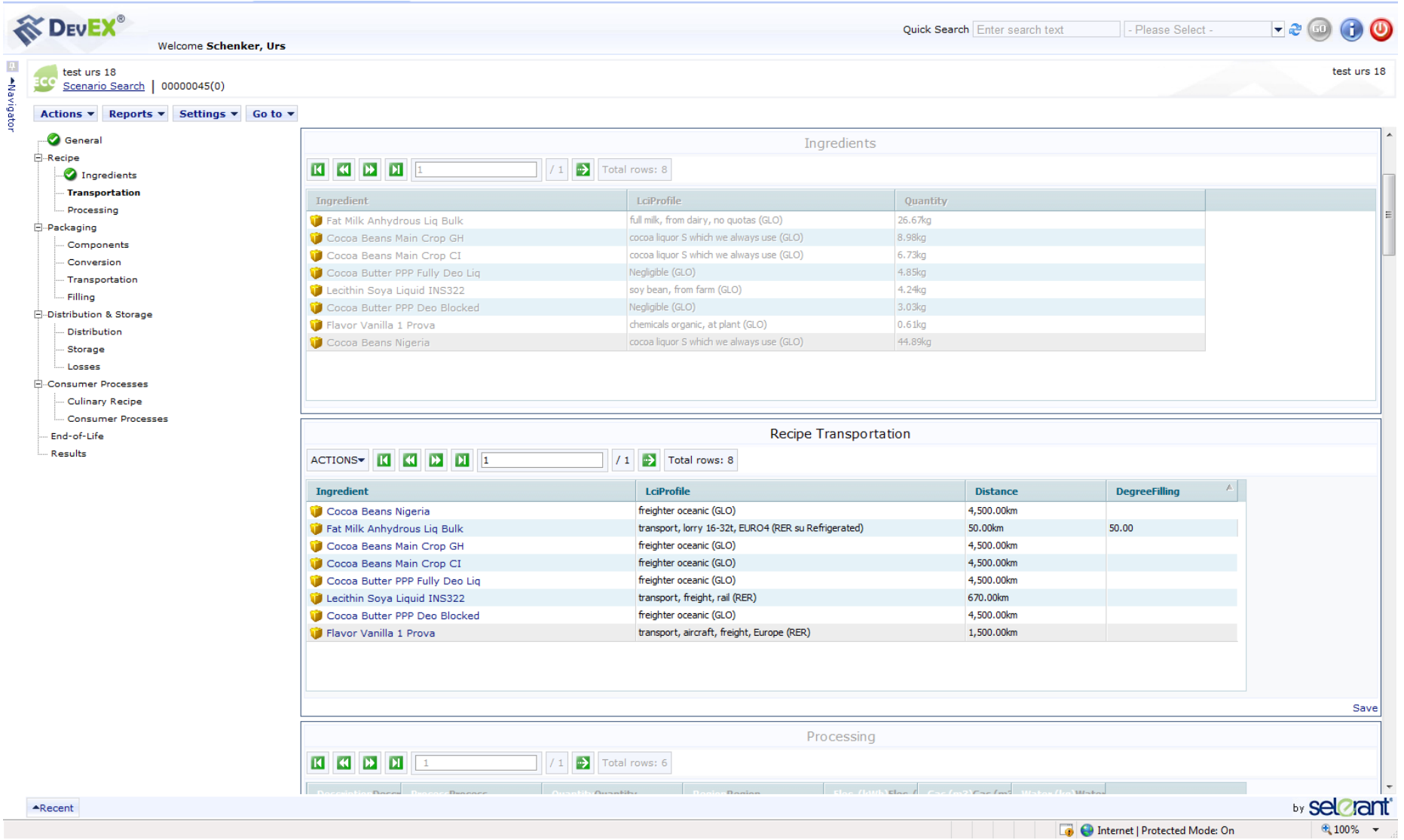
Prototype version of the tool exists



Use of reliable LCI data

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- Credibility of the tool is crucial

- Ecoinvent database for
  - Basic underlying data, such as electricity, transport, end-of-life
  - Most packaging materials & conversion processes
  - Food ingredients as far as available

- Some development of data by Nestlé / Selerant / Quantis
- Interested in contributing to a larger project on data development

- Incorporation / harmonization of data from AGRIBalyse, US DoA / NAL database, Ecoinvent 3.0…

Peer review of Eco-D (ISO 14'040 / 14'044)

- Methodology of the tool would be peer-reviewed, but not automatically the results
  - In very specific circumstances, communication without further review might be possible

- The tool methodology (possibly some of the data) already being peer-reviewed, the review of a given project would be simplified, faster, cheaper

Nestlé contributes to harmonized guidelines for LCA in the food industry

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- EU Food Sustainable Consumption and Production Roundtable
  - Methodological alignment for food sector, initiated by European Commission & CIAA

FOOD SCP Sustainable Consumption & Production ROUND TABLE

European Food
Sustainable Consumption and Production
Round Table

- "A global Languange for Packaging and Sustainability " Report (June 2010)

The Consumer Goods FORUM | THE GLOBAL PACKAGING PROJECT
PART OF THE CONSUMER GOODS
FORUM SUSTAINABILITY PILLAR

- Sustainability Consortium in the US
  - Global alignment of approach and methods

SUSTAINABILITY CONSORTIUM

- French Grenelle II law evaluation

ADEME
Agence de l'Environnement et de la Maîtrise de l'Energie

Nestlé Group Highlights 2010

- CHF 109,7 bn sales 
- 6.2 % Organic growth 
- Increased EBIT margin 
- Growth in all regions and categories