Resource efficiency, product stewardship, and the legally compliant operation in the processing industry

Eva Hink | June 12, 2018

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iPoint in Numbers

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in business
since
2001


13
locations worldwide

170
employees
and growing


14
awards

97 %
customer
renewal
rate

50,000+
customers
from
140
countries

250
leading global
manufacturers

impacting
100 million
products

iPoint is a software and services company focused on product & process compliance & sustainability.

Our Customers (excerpt)

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OEMs

Caterpillar Daimler

ASTON MARTIN

Suppliers

Other

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Challenges

Challenges

- Product stewardship

Responsibility on the
lifespan of the product regarding
the reduction of environmental,
health, and safety impacts.

Mandatory → legal requirements

Voluntary → agreements, individual activities and goals

Challenges – Legal Compliance

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- Which materials are used?
  - How do they have to be stored?
  - Are they registered (under REACH)?
  - Do they need to be authorized?

- How are materials used?
  - Worker security, Conditions of use
  - SDS and eSDS
  - Disposal, Recycling requirements

- What about the final product?
  - Do restricted substances remain in the final product?
  - Do I have to inform about dangerous substances?

Challenges – CSR

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Corporate Social Responsibility

- International private business self-regulation
- Became more and more mandatory

- Where do my materials come from (Conflict Regions?)
  - Like being triggered by US-legislation on Conflict Minerals
- Under which condidtions are they sourced (Child labor?)
- ...

Resource efficiency

Resource Efficiency

Resource efficiency *means using the Earth's limited resources in a sustainable manner while minimising impacts on the environment.*
It allows us to create more with less and to deliver greater value with less input.

- Energy
- Material
- Waste

- Money

Mostly driven by ecological factors – but also with potential benefits for economic sector

Resource Efficiency

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Example: Substitution of materials / substances

- Processing of substitute materials require less energy/time/staff
- Using certain materials creates less waste
- Less harmful impact on the environment

- Material is more durable
- Material is bio-degradeble
- Material is lighter
- ...

Substitution of material leads to different impacts in the product's life cycle

Resource Efficiency model employed

Source: www.epa.ie

Interrelation and Difficulties

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Legal obligations vs. Resource efficiency, Example

Lead free soldering:

+ Less dangerous substances in the product/ environment
+ Higher potential for recycling of material

- Higher energy consumption during production process
- More accuracy required
- Less durable and reliable
- More dangerous flux melting agent

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How to handle?

Steps towards Sustainable Business

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5. Operational Sustainability

4. Strategic Sustainability

3. Tactical Sustainability

2. Legal Compliance

1. Pre-Compliance

Legal Compliance

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- Basis for any market activity
  - Processes, Instructions, Safety
  - Materials data
  - Information requirements
  - Restrictions, Authorization
  - Labels, Packaging
  - ...

→ Detailled information about products, substances, uses etc. required

Life cycle assessment (LCA)

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- technique to assess **environmental impacts** associated with **all the stages of a product's life** from raw material extraction through materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling

- Detailled information required for measuring the impacts

- Allows to assess the impact of changes on different stages of the product‘s life

Problems/Challenges

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- Complex products have up to 20.000 part/material combinations
  - High manual effort – **1-3 persons working over several months**
  - Not possible to do for all products and variants of the product
- Data gaps and generic data
- Lack of detailed information on how costs are distributed between production processes or products

How to get accurate sustainable data for the whole range of products and processes in an cost effective way to achieve energy saving?

Solution

Product „Live LCA“

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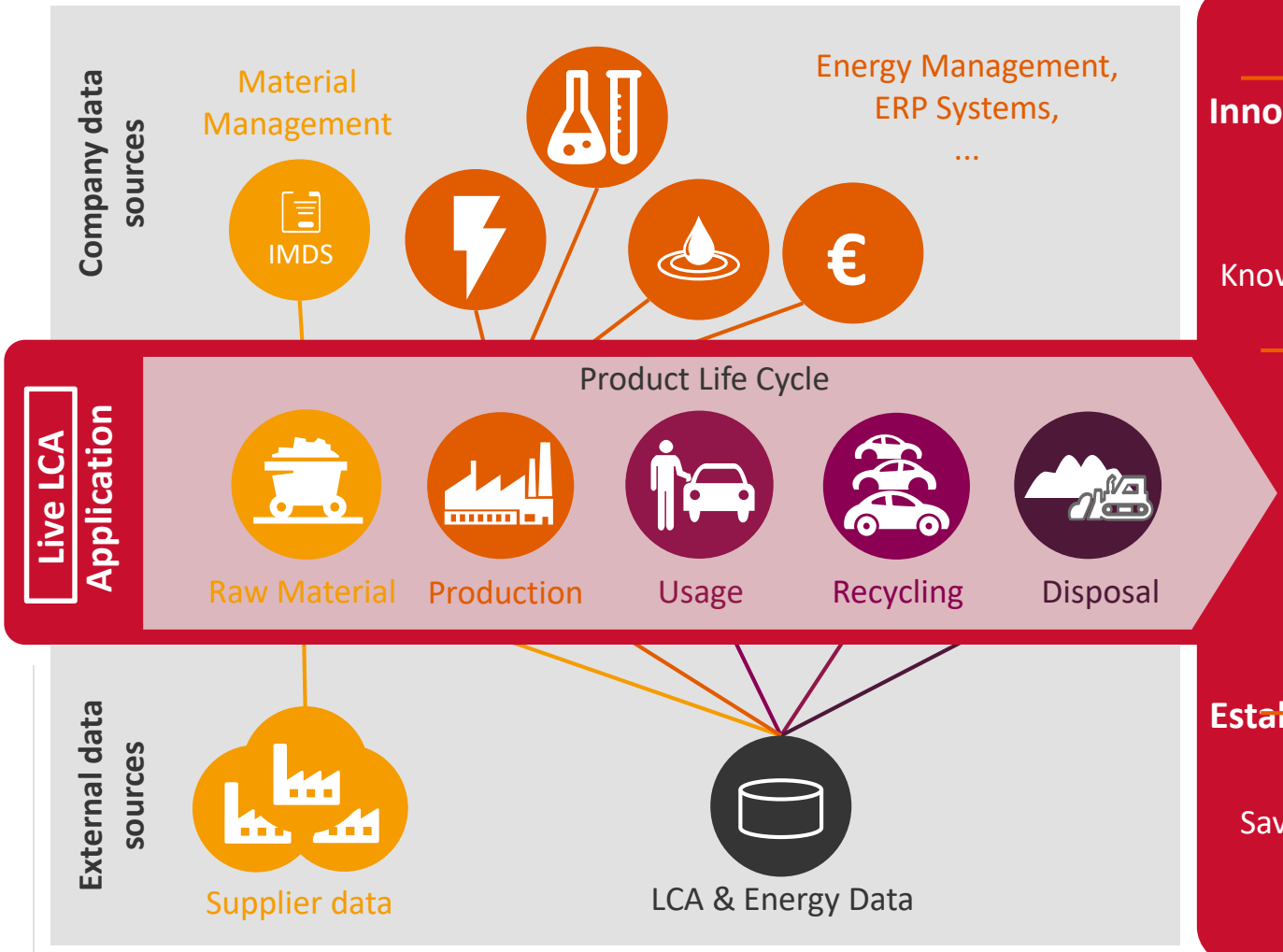

Innovation

Innovative software solution for automated LCA

Risk reduction

Know-how stays within the company

Provide highly specific information about environmental impacts

Consulting costs to produce a LCA study are economized

EPD costs go down to 10%

Establish a new cost assessment perspective

Saving potential is up to 20% of the material and energy cost

Integrated Solutions – End-to-End

Sustainable Sourcing and Sustainable Value Creation Networks

- Public, private, community and hybrid cloud solutions
- SustainHub (data exchange platform; with integrated functions from research project)
- incl. Conflict Minerals Platform (iPCMP, 45,000+ customers)
- IMDS, CAMDS, Jama/Japia, SDS_COM, IPC, EIC
- IHS

Holistic Product Compliance and Sustainability Management

- **Substances, articles and mixtures management incl. process and operating supplies**
- Document management
- Packaging material management
- **eSDS management and communication**
- Virtual product compliance model
- Material approval process
- **LCA, Alternatives Assessment and RRR**
- Initial load tool box
- Application and process integration environment

Stakeholder Communication and Product Sustainability Reporting

- Alerting
- Risk management and assessment
- Compliance reporting (ECHA, SEC, NGO, end users, third parties)
- Management review
- Management reporting
- Shareholder reporting
- Associations, Agencies

Solutions for the Entire Product Lifecycle:
Digital Circular Economy Starts with Compliance

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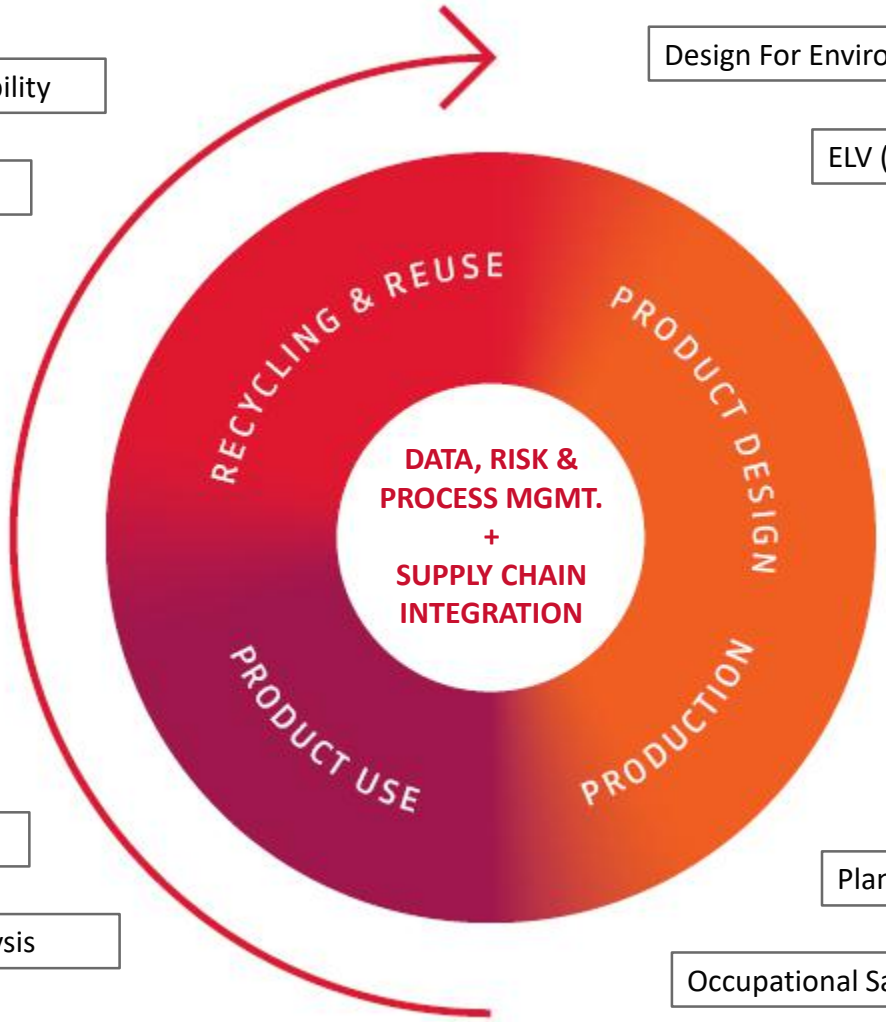

DIGITAL TWIN

PLATFORMIZATION

PREDICTION

- Reusability
- Recyclability
- Recoverability
- Design For Environment
- ELV (IMDS, CAMDS)
- RoHS 2, CE, WEEE
- REACH (CLP, GHS, eSDS)
- TSCA
- Cal. Prop. 65
- Conflict Minerals
- CSR
- Slavery, Human Trafficking
- Environmental Mgmt.
- Life Cycle Assessment
- Plant Safety
- EHS
- Alternatives Analysis
- Occupational Safety

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Thank you for your attention!

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