LCA development – Did we forget about data? Challenges and needs

LCA Forum

Lionel Thellier Sphera

Sphera is the leading global provider of **Environmental, Social & Governance (ESG) risk and performance management** software, data and services.

Environmental

Social

Governance

Our Mission

To create **a safer, more sustainable** & **productive world**.

SOFTWARE

Aggregate, Digitize & Monitor ESG Risk & Performance Data

DATA ANALYTICS

Apply Predictive & Prescriptive Analytics for Scenario Planning & Benchmarking

ACTIONS

Leverage Insights to Drive Business Outcomes & Meet Regulations

Our LCA database

GaBi Software is now LCA for Experts Software (LCA FE)

GaBi Databases is now Managed LCA Content (MLC)

1989 ——————————————————————————— **2023**

First on the market

Continuously developed

More than 200 LCA experts worldwide

More than 20 LCA data specialists

Key people > 15 years in the group

Continuously evolving for 30 years
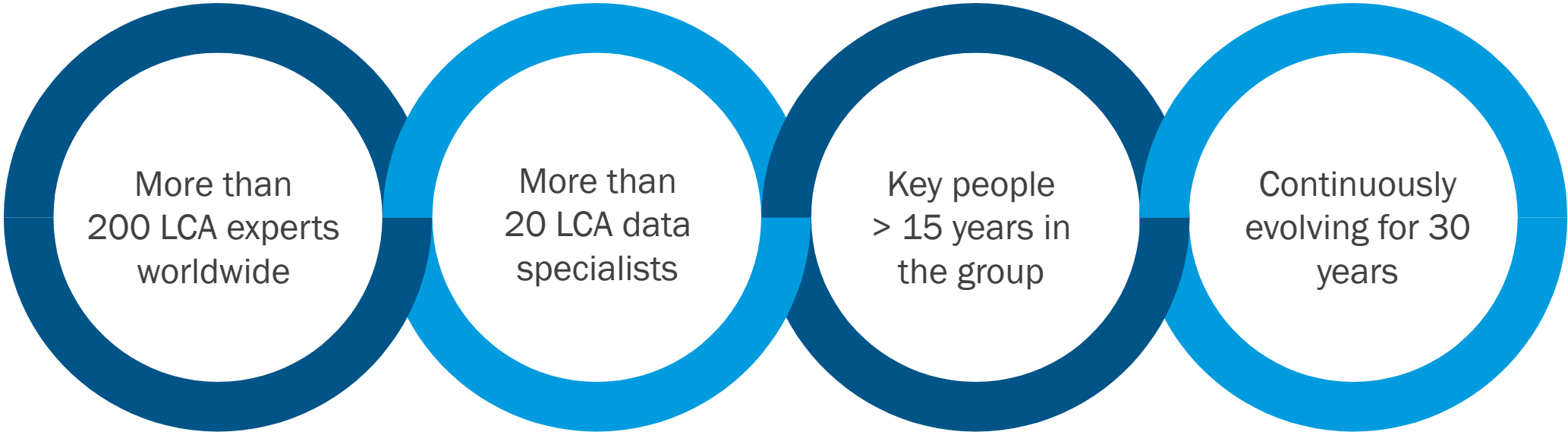
☑ **18,000+ datasets** in standard products

☑ **100,000+ processes** in internal database

☑ **Annually** upgraded and expanded

MLC Databases one of the few with intersectorial coverage

- Automotive
- Building & Construction
- Chemicals & Petroleum
- Consumer Goods & Packaging
- Education
- Electronics
- Energy & Utilities
- Food & Agriculture
- Healthcare & Life Sciences
- Industrial Products
- Information Technology
- Metals & Mining
- Oil & Gas
- Retail

Realistic (engineering approach, industry data in preference wherever possible)

Embedded sector expertise and life cycle thinking

Adhere to standardized methods and norms

Multi-usable (LCA, EPD, EF/Footprinting, GRI, GHG Protocol, CDP, EN 15804, Design-for-Environment)

Annually updated, maintained, extended

Used in industry, policy and academia

Update Cycle

Core Drivers:
Innovation & Demand

- New technologies, regulations, standards, knowledge
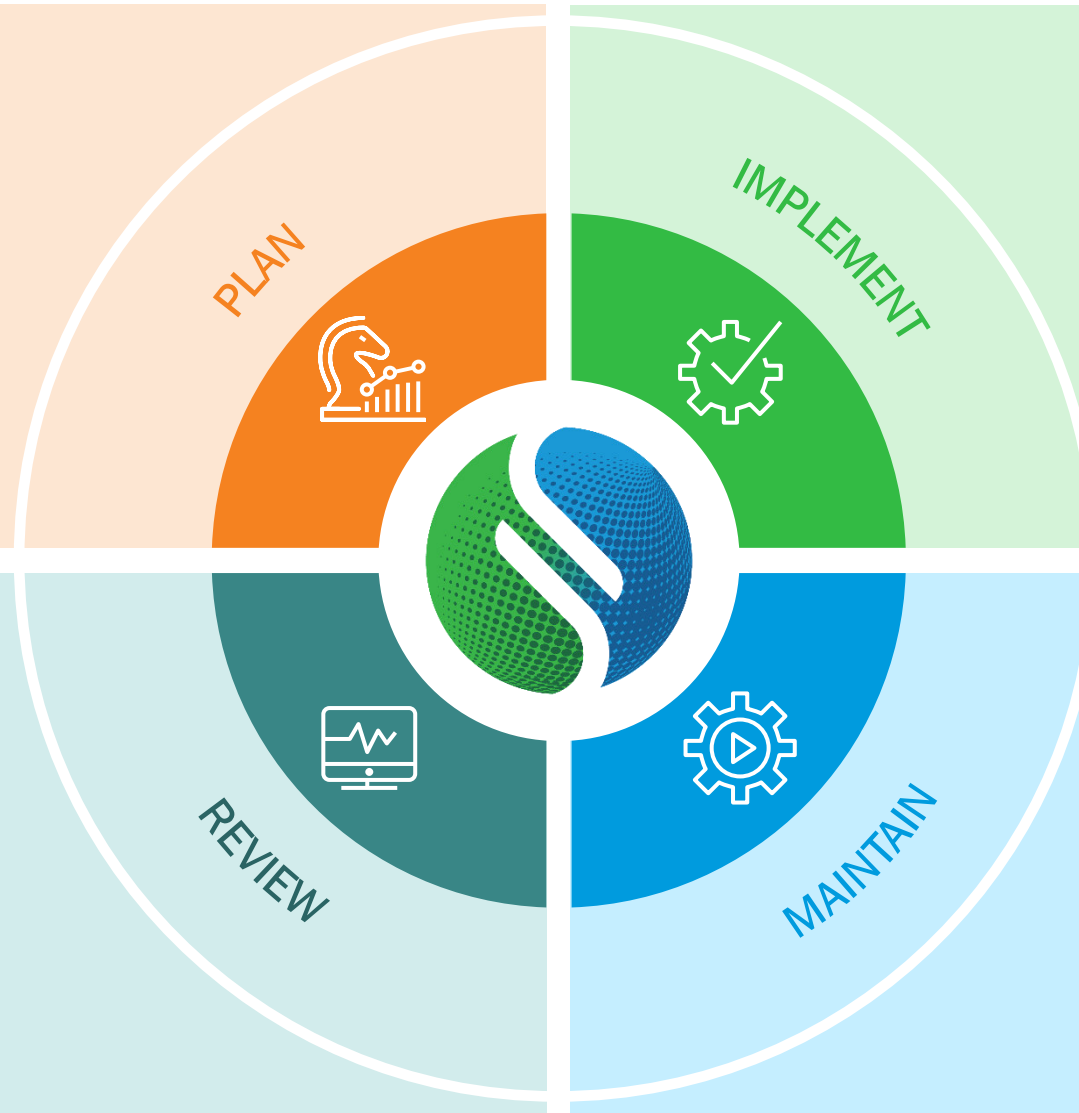- Stakeholder feedback is essential for relevance and value

Core Drivers:
Relevance & Consistency

- LCI methodology & engineering knowledge combined to reflect the given economic and technical environment

Core Drivers
User feedback & Supply Chain checks

- Considers changes in technology, economy or society relative to previous year

Core Drivers:
Frequency & Temporal reliability of delivery

- Considers the innovation cycle of the sector

PLAN

IMPLEMENT

REVIEW

MAINTAIN

"Upgrades and Improvements" document, released with each database update

Some Factors Behind Changes in the Environmental Profile of Datasets

Upgrade of background systems

- Changed market situation, newly available technologies or improved operation or retired technologies

- e.g. share of renewables energies (electricity grid mix, process energy)

## Improvements and changes of foreground technologies in processes

- Technical developments and/or improvements in cooperation with industry experts

- e.g. greater efficiency in material use in a production process, new catalyst...

Further standardization, LCI method evolution, regulatory developments

- Focus on modelling realistic technology chains

- Implementation of aligned and harmonized standards and methods

- e.g. vehicle emission standards, substance bans, TfS, Catena X, PEF...

Monitoring of impact Development Over the Years

Development of Climate change GWP for electricity supply in selected countries
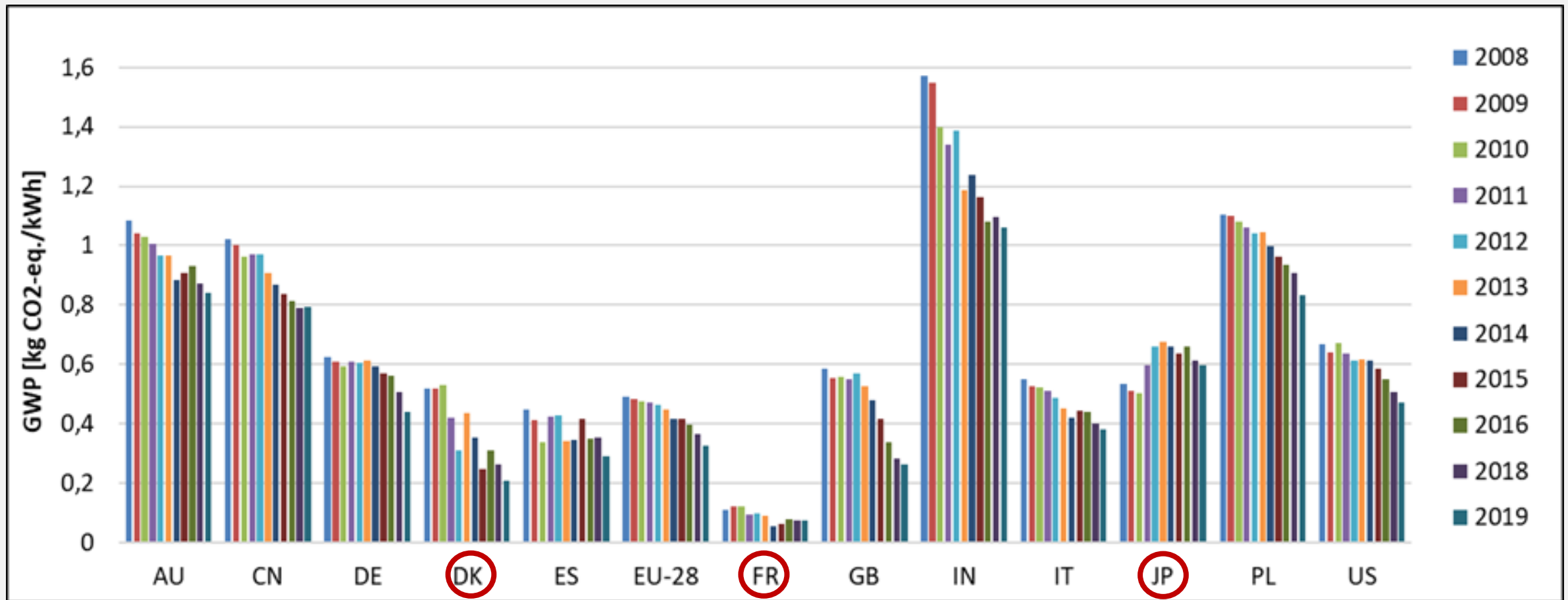
LCA data needs

- Methodological alignment between sectors

- Consistent frequent and regular update

- Reliable data provided and checked by experts (sector, LCA and data)

- Reliable and meaningful data are needed because now LCA is used for decision making for industry (product design, investment, suppliers choice and policy)

- Need for adequate foreground data and PCR models (QA, engineer knowhow)

- Adequate secondary/background data

- Reachable experts "hotline" more important than ever due to the importance of the LCA topic in industry and policy
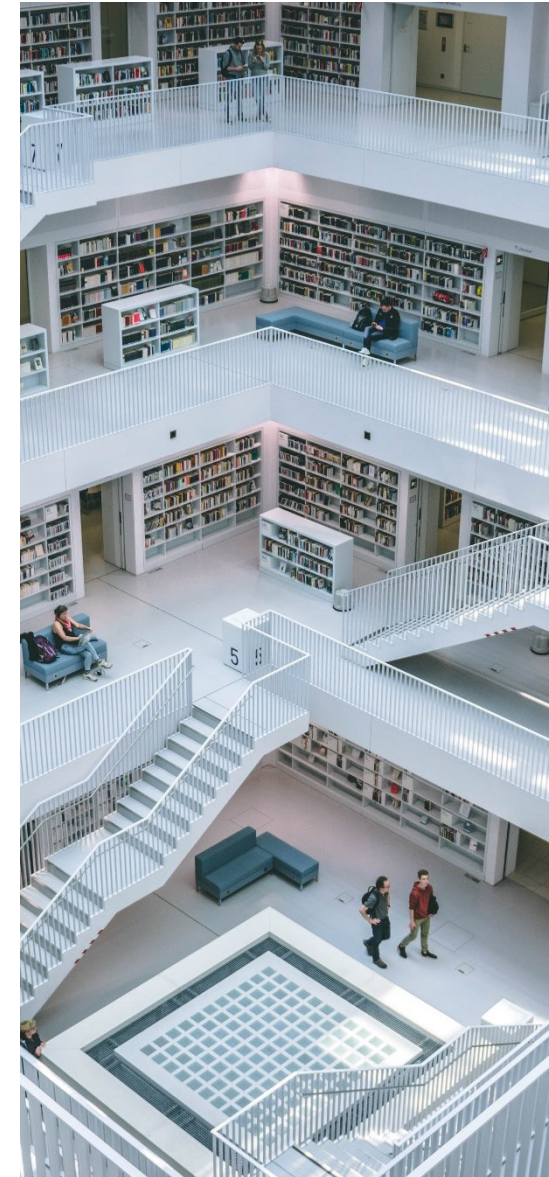
LCA data challenges

LCA data is goal and scope dependent

- Reliable and compulsory results (reporting to regulators, customers and suppliers) => industry borne data is needed in footprinting, product development and regulation, EPDs, …

Data collection in LCA studies is expensive

- Sound industrial data is compulsory and exists in different granularity
- No organization knows the full value chain beyond their own sites in any granularity needed by certain approaches.
- Reliable/trustable data sources and providers are important.

Site specific data ≠ primary data

Easy update: update shall be under control of client. Models and background data updated without manual work,

Changes must be explained: a change document that explains technological and methodological updates must be provided
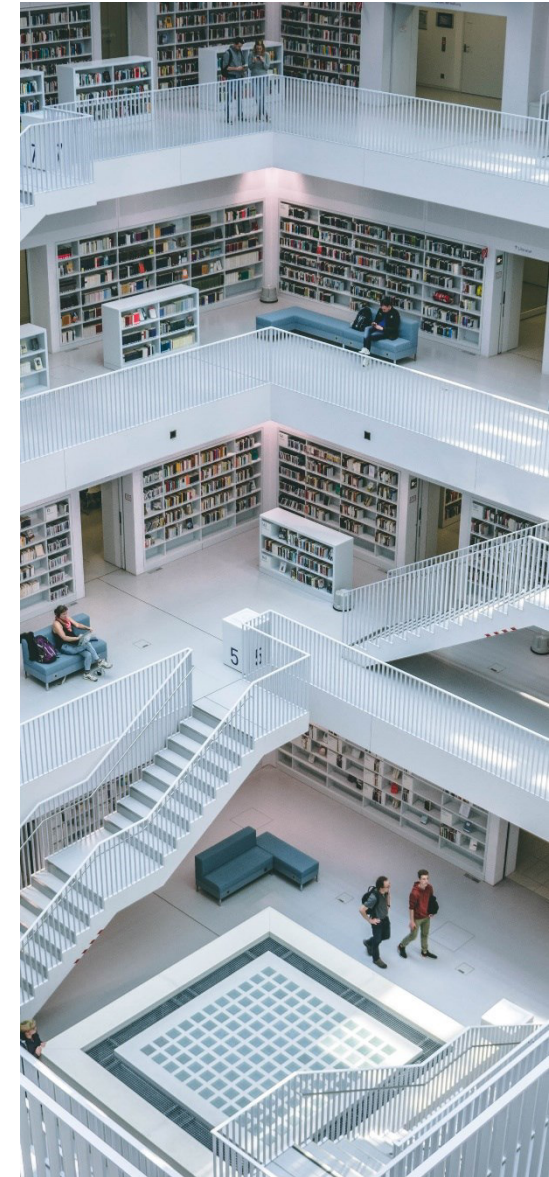
Thank You!

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