



# From Data to Impact: Scaling Sustainability Across Manufacturing Enterprises

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# Meet the experts



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# Who we are

## Software-as-a-Service Company

- HQ Germany, Europe and US Teams
- Founded by industry veterans with 30+ years experience in Stuttgart 2018
- 160+ employees
- Trusted by 50+ global manufacturers, including 10% of the Fortune 500's top manufacturers

## Our Mission

Empower companies to make better, faster decisions and create compliant and sustainable products and supply chains through data-driven analysis.

## Some of our customers



## Working in partnership with

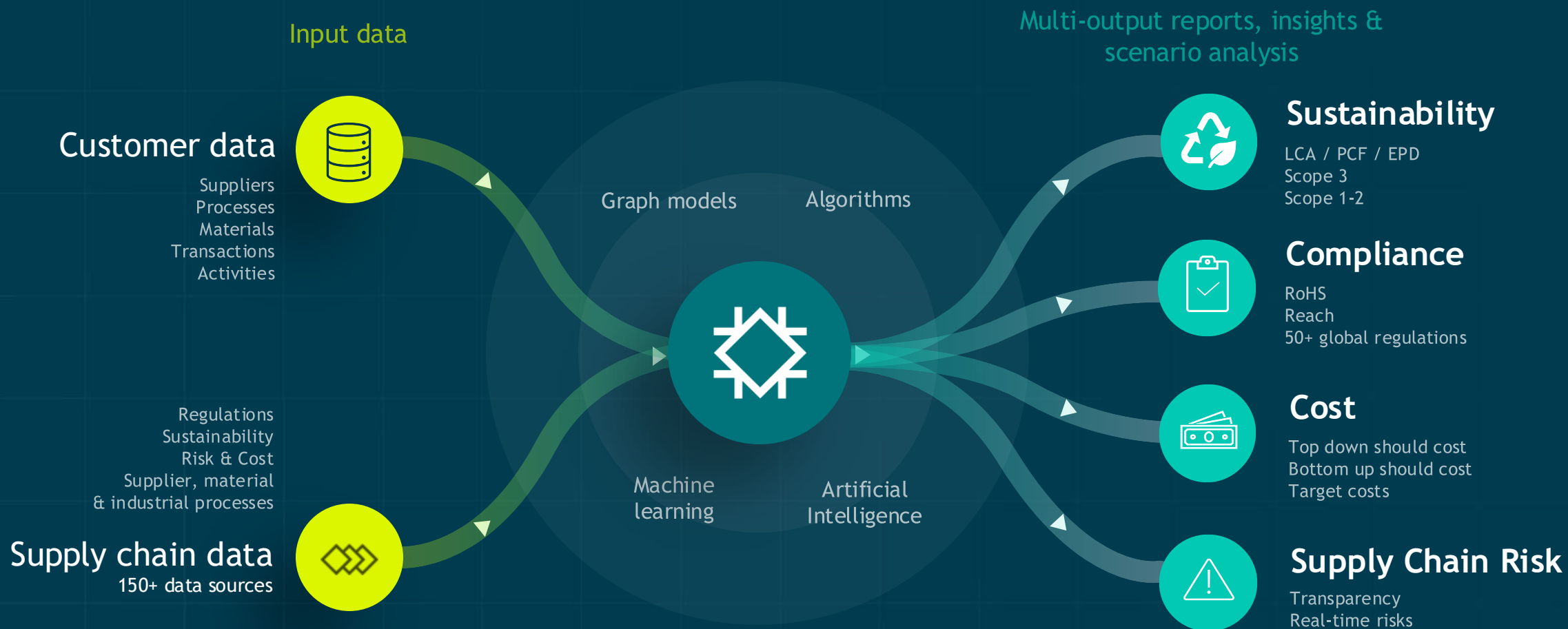


## Certified

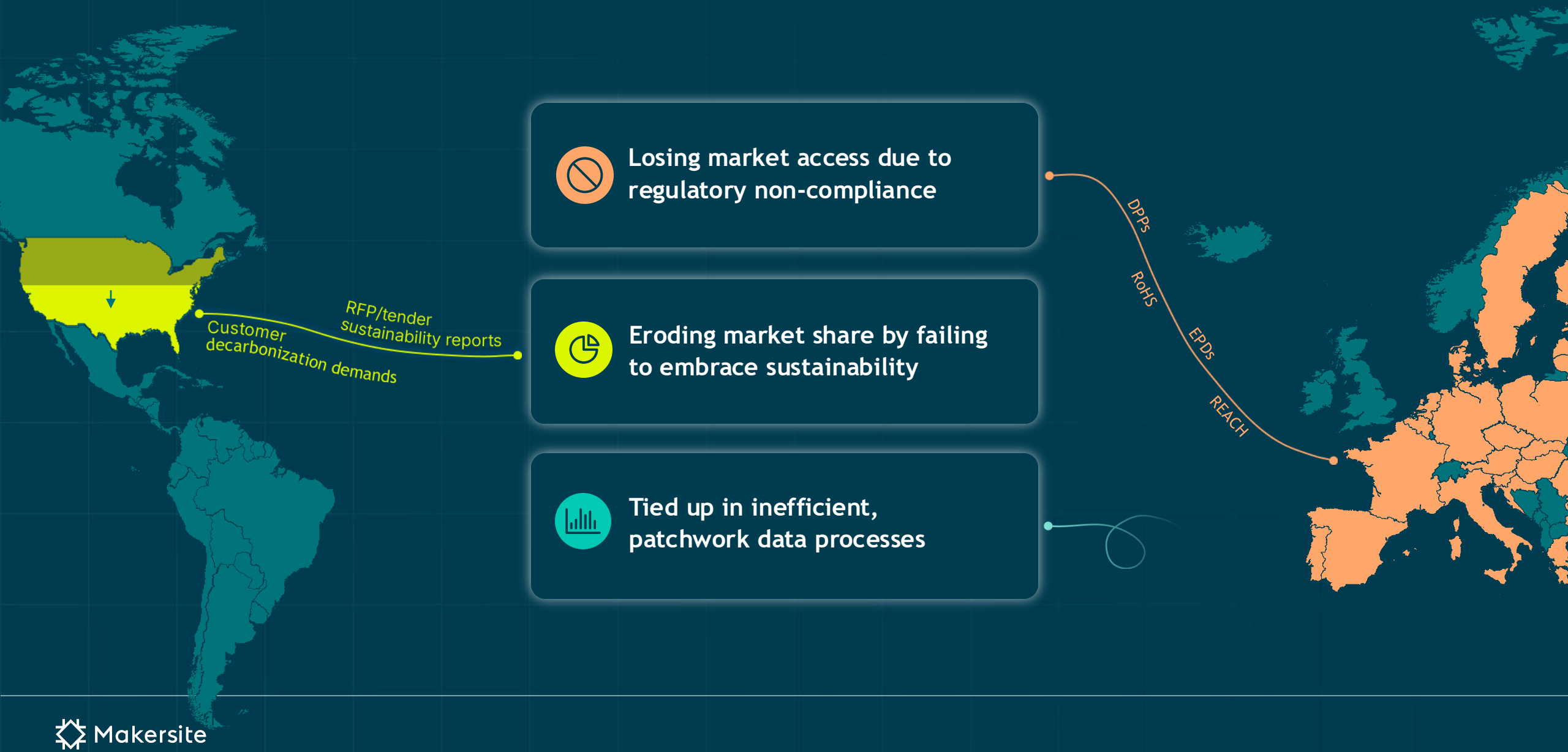


# Product lifecycle intelligence

One product model, 60+ outputs



# Manufacturing is facing headwinds



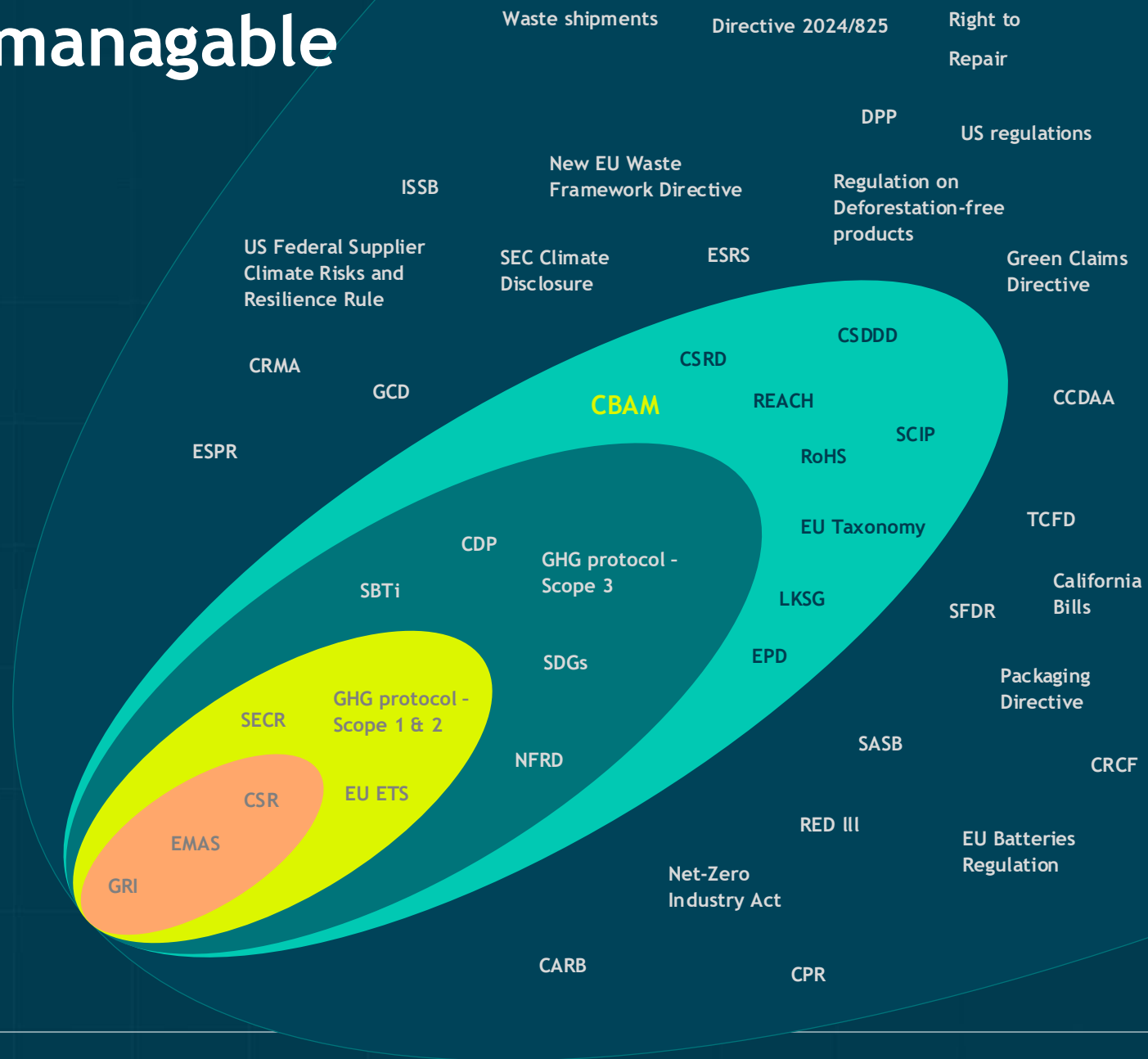
# Reporting is becoming unmanageable

Exponential regulatory growth cannot be managed with a **patchwork of solutions** or **individual efforts**, especially if your **data landscape is unclear**

Unscalable reliance on experts

Point solutions for each reporting need

- Internal data is siloed and messy
- Supplier data is incomplete and of low quality



# Data deficiency sustains these problems

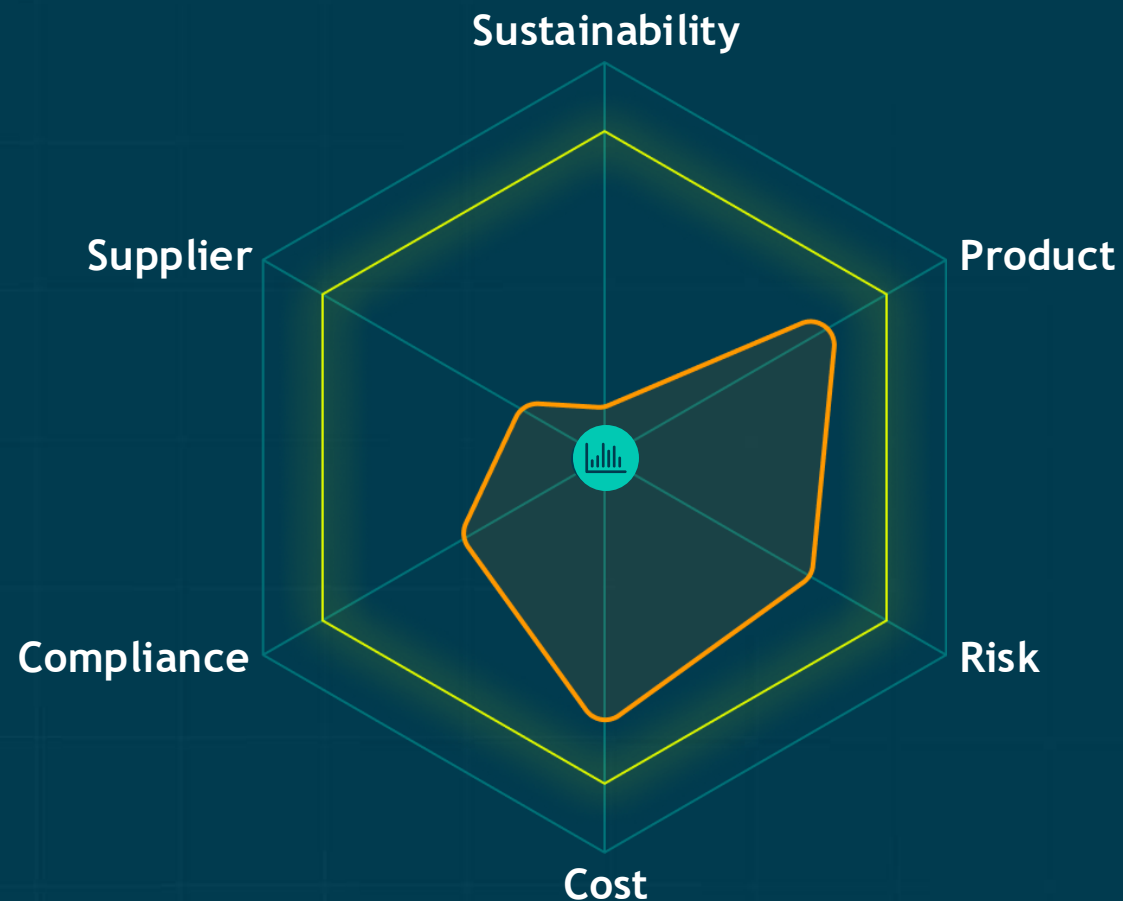
Focusing solely on **product**, **risk**, and **cost** data with a limited foundation will only exacerbate existing business problems and hinder future solutions for product and supply chain challenges.



Current data coverage



Future-proof data coverage



# Material compliance and Sustainability have similar data requirements

## Common customer adoption journey





# Business impacts are significant



## Greenwashing



Italian oil giant Eni was fined €5 million over its greenwashing of palm-oil based diesel as 'green'. The company ran a major marketing campaign that deceived consumers by claiming its 'Eni Diesel+' had a positive impact on the environment.



## Competition



P&G's slow sustainability efforts let Unilever grow and close the market share gap. While P&G lags, Unilever's mature 2024 Climate Transition Action Plan focuses on immediate, tangible results rather than distant promises.



## Non-compliance



Apple had to temporarily withdraw AirPods from the Swedish market due to excessive lead levels of up to 17% in the product's soldering, caused by an unreliable Chinese supplier.

## Dieselgate



## EV race laggards



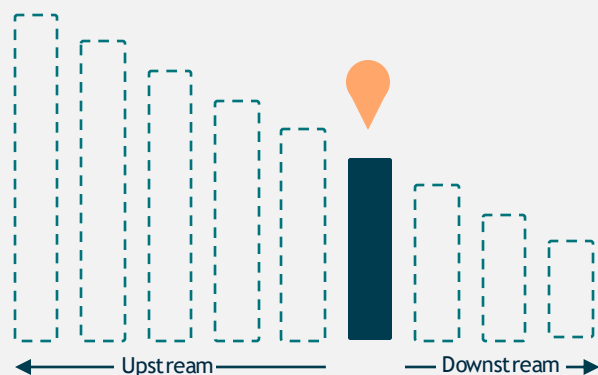
## Palm oil sourcing



# Data intelligence, the core of it all

## Status quo

Partially aware of internal data but unaware of the entire value chain



### Pitfalls of this phase

- Supply chain disruptions
- Regulatory penalties
- Nonexistent monitoring of critical sustainability metrics

## Transition

Initial efforts for data integration, hygiene, and tier 1 data collection



### Pitfalls of this phase

- Blind spots beyond tier 1 suppliers
- Delayed decisions from inconsistent data
- Data silos hindering sustainability efforts across product, procurement, etc

## Transparency

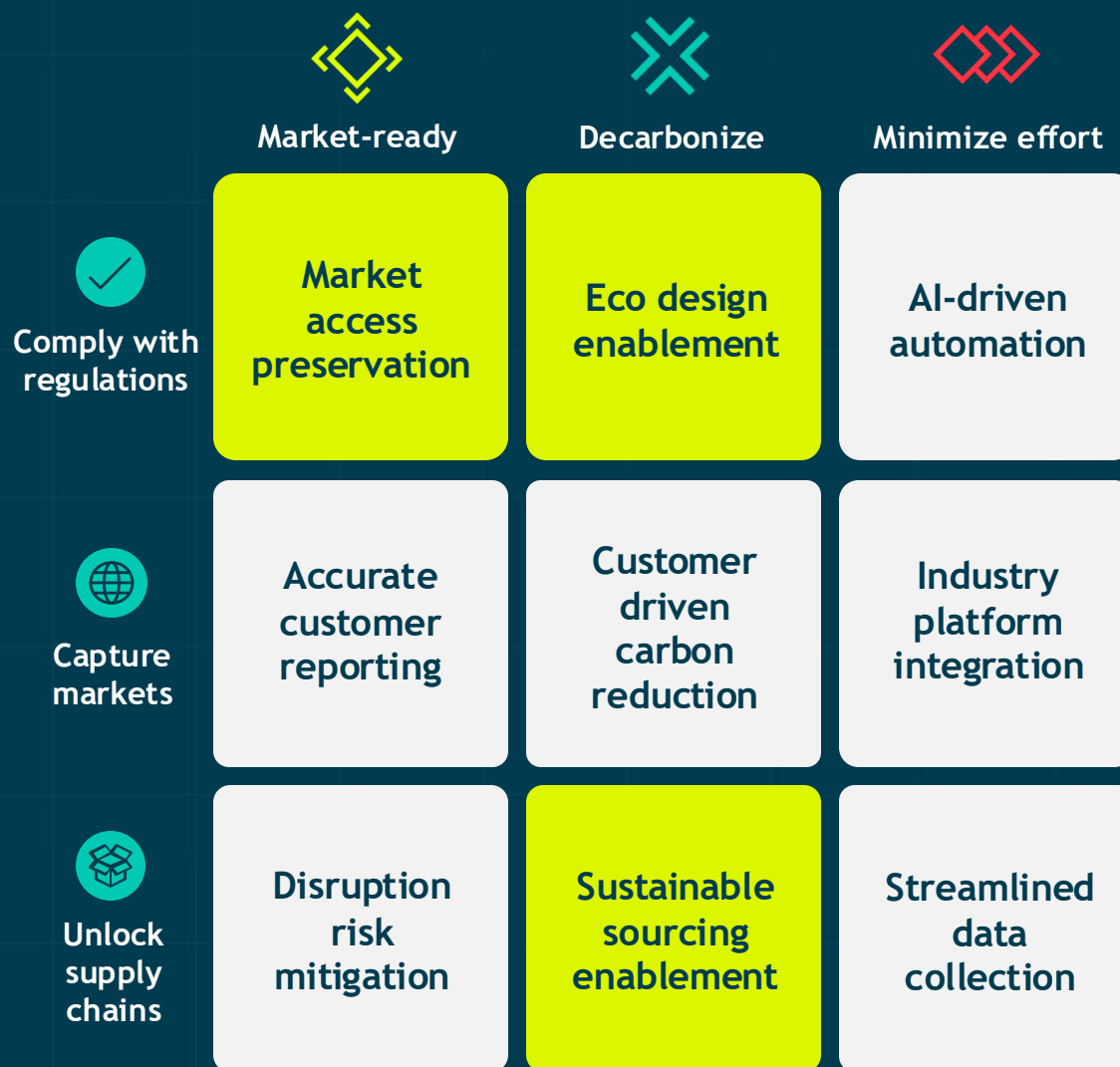
Harmonized and visible end-to-end data landscape enhancing decision-making



### Benefits of this phase

- Strengthen regulatory compliance
- Turn sustainability into a profit driver
- Enable sustainable products and sourcing through data quality and collaboration

# Product lifecycle intelligence benefits



# Falling behind has consequences

## Sustainability experts



LCA experts are in high demand and scarce. Without automation for their business customers—sales, procurement and product development—they are bogged down by repetitive reporting tasks

## Sales



It is becoming a deciding factor and/or a hard criteria to deliver product-level reports to sell products

## Factors causing manufacturers to lag

- Heavy reliance on manual work by experts, hindering scalability
- Outdated solutions require extensive data processing with unstable and unreliable data
- Internal data is siloed, preventing effective use for sustainability initiatives (i.e. LCA)
- Supply chain data is often incomplete and becomes more opaque deeper in the tier
- Manual LCAs and lack of scalable, accurate automation hinder advanced practices like Eco design or Green Procurement, letting competitors gain an edge

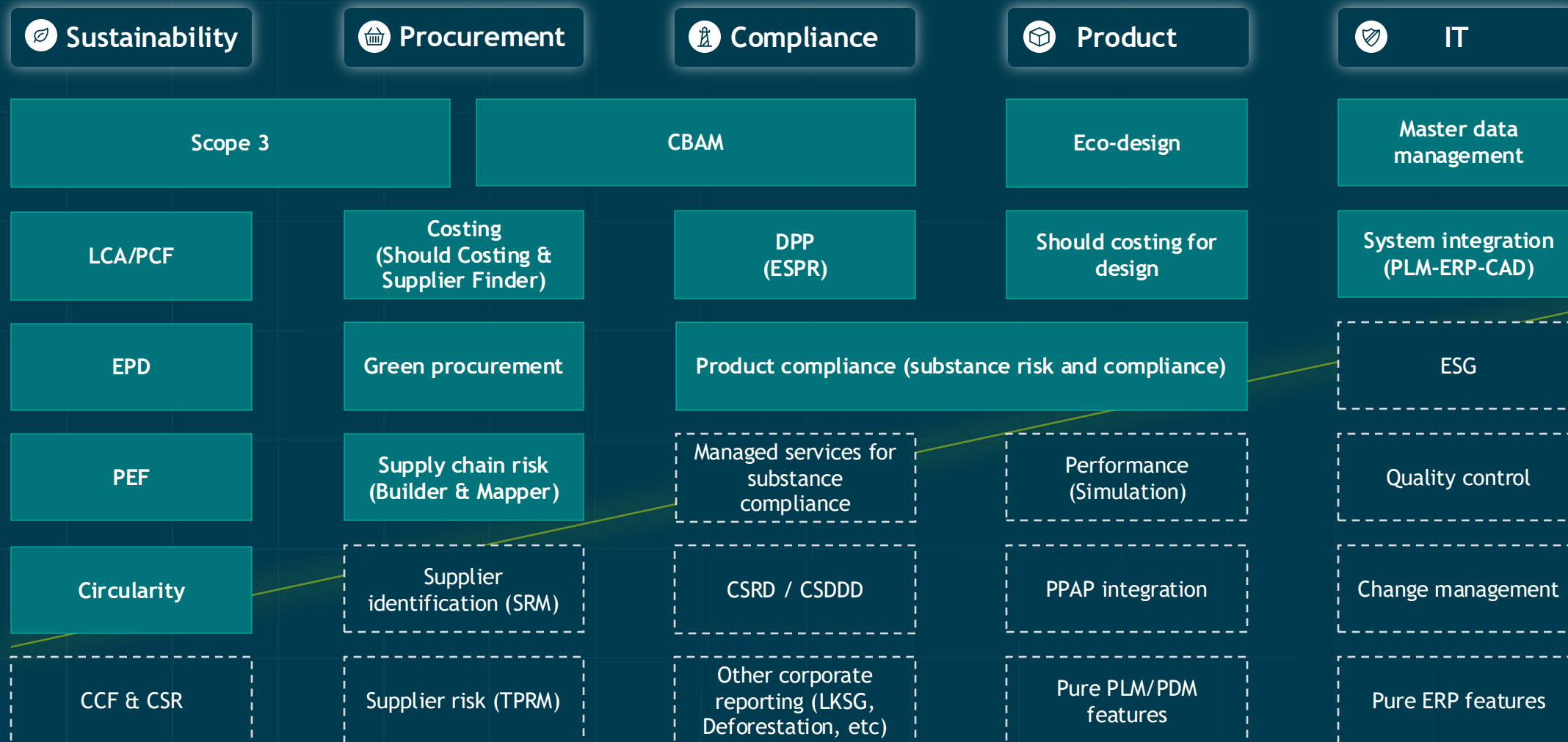
## Product managers



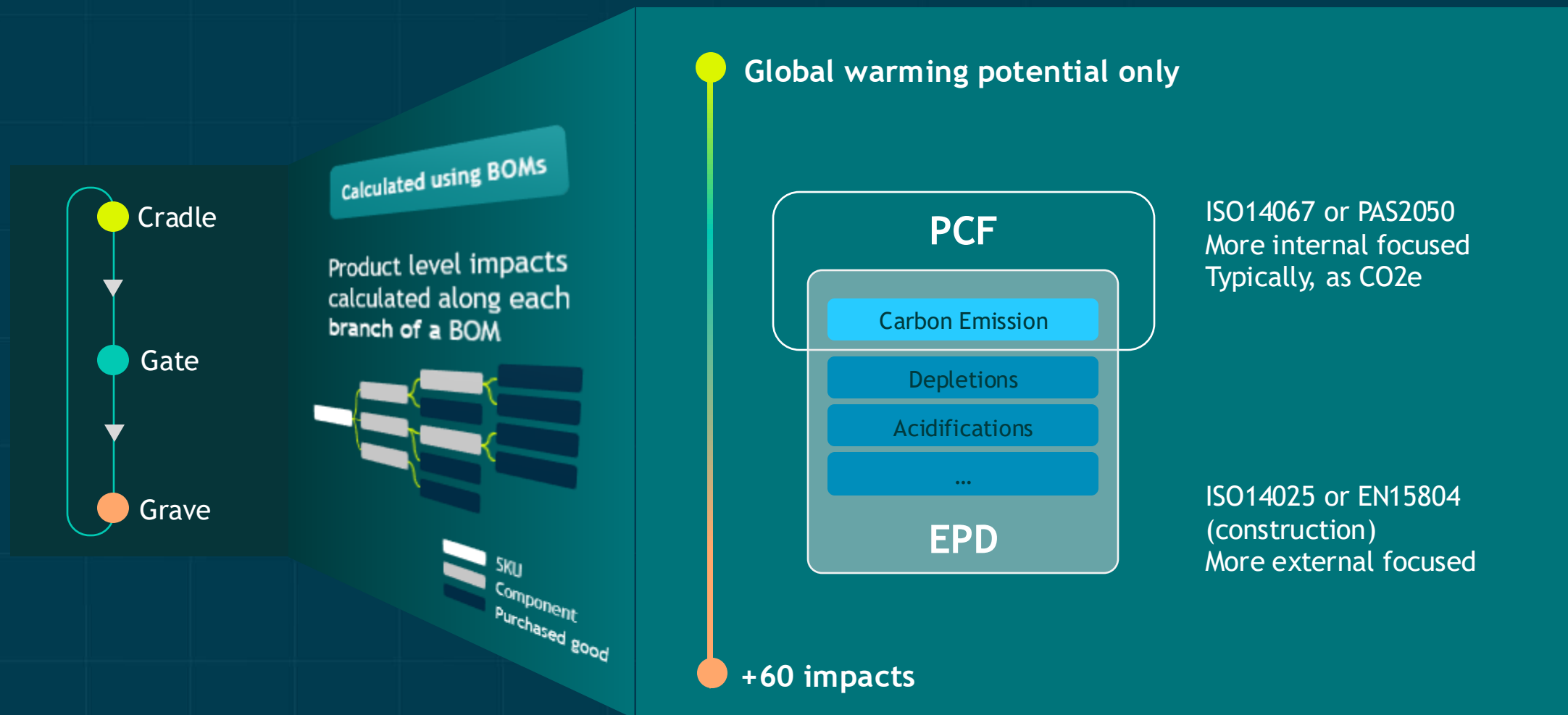
Corporate pressure from sales, procurement, and board levels demands sustainability at the design stage

# Getting Into It

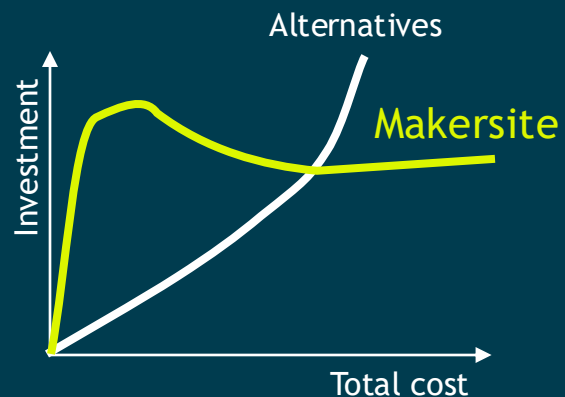
# Providing untapped data to key teams



# It's not only about carbon emissions

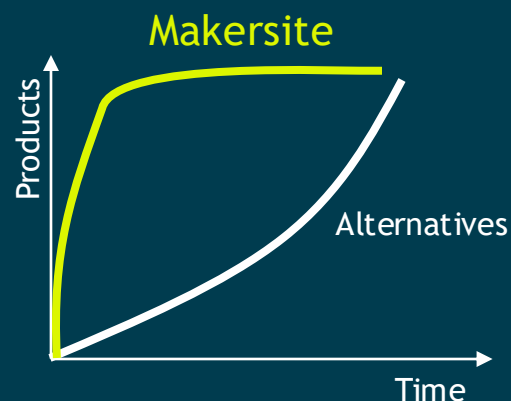


# Unlock sustainability, for real this time



## Decouple cost from scale

Our approach to automation ensures that cost and resources do not increase over time or with increasing product coverage



## Faster go-live

4-8 months for 100% product coverage as opposed to a limited number of products per year



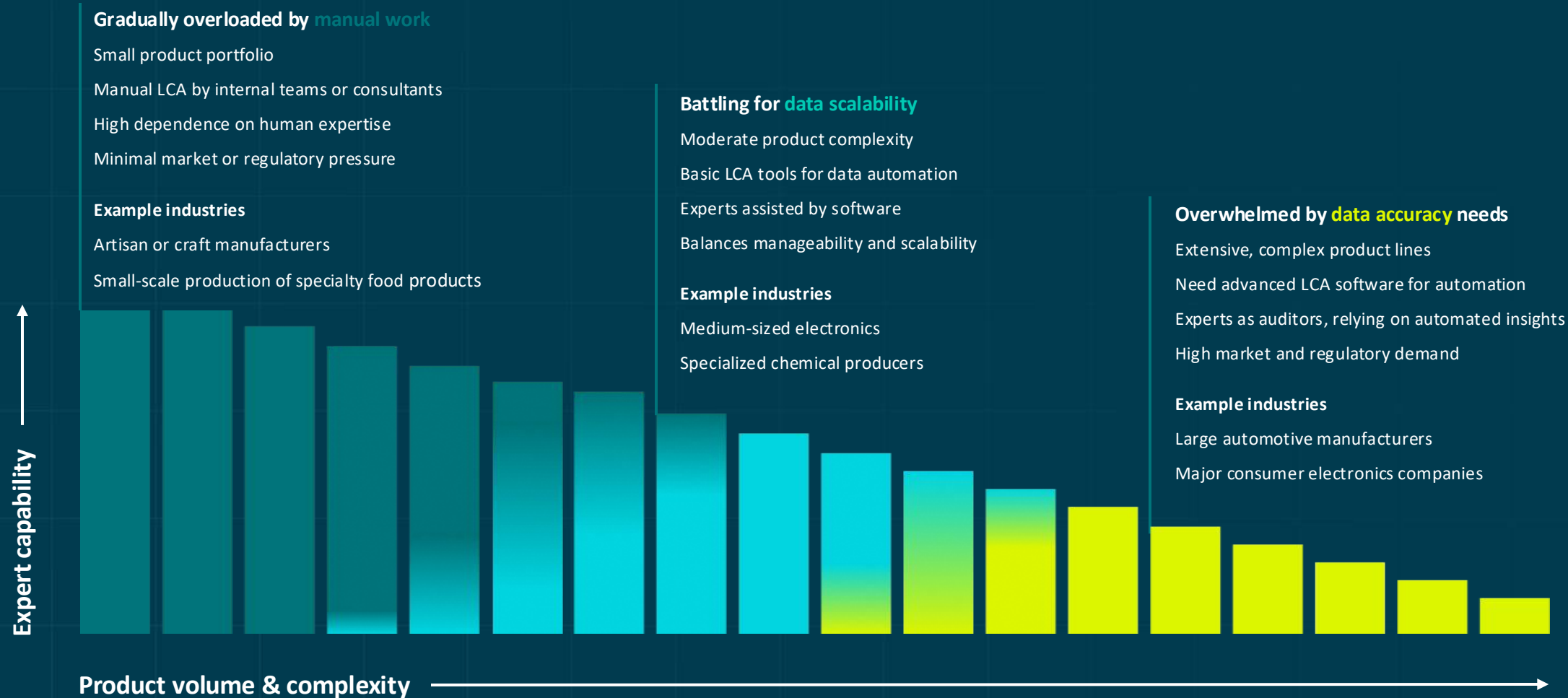
## Put your data to work

Clean, connect, and enrich your product data for collaboration in compliance, ecodesign, & green-procurement workflows

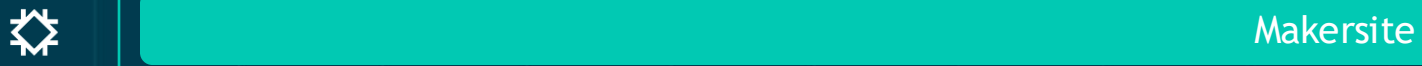
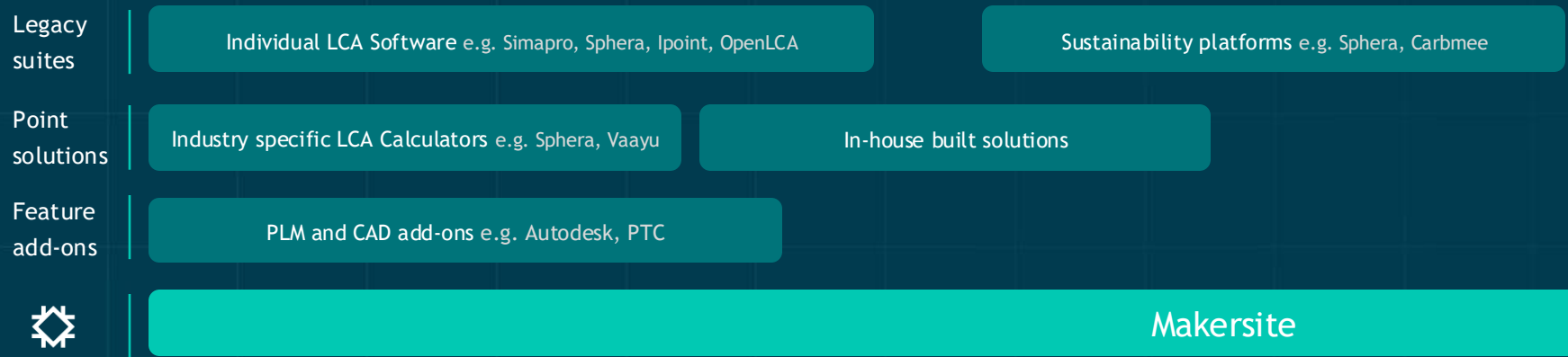


# Leveraging LCAs at Scale for Enterprise Manufacturing

# LCA evolution in manufacturing

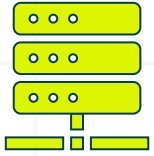


# Phases of LCA maturity



# LCA/EPDs at Scale

## Process



Ingest data from  
source systems



Automatic  
transformation of data  
and mapping to 3rd  
party LCA databases



Creates a model for each  
product and component

## Output

- ✓ Automatically generated models with reproducible quality and mappings, i.e. 2 people will get the same results
- ✓ One model per product eliminates the need for scenarios, because variation of products is covered

# Let's compare

## Traditional LCAs/EPDs

Outcome

One model with scenarios

Poor reproducibility because the same item can be mapped to different 3rd party datasets

Error prone data entry process

Labour intensive

An average that is representative of the group but not of the product

## LCAs/EPDs at scale

Outcome

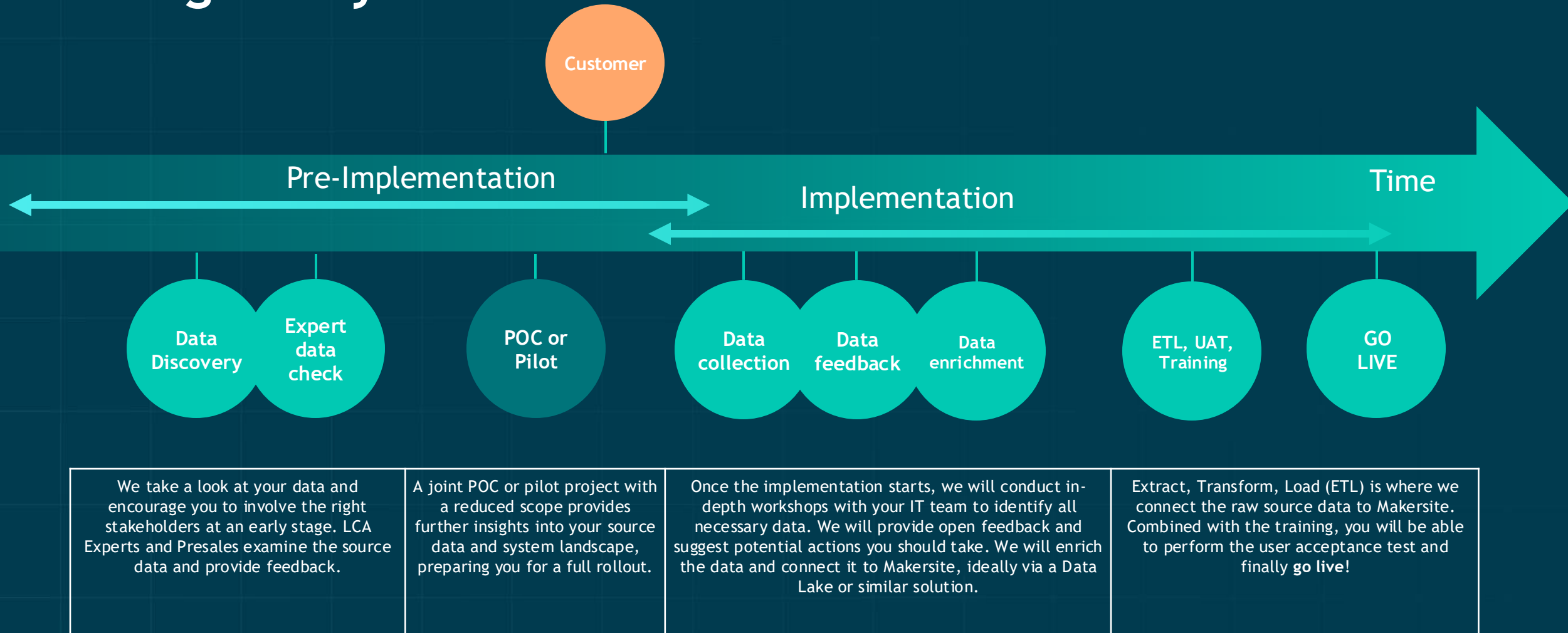
Absolutely reproducible

Errors are only linked to data errors at the source

No manual work

# Best Practices

# Getting Ready



# What is proper data management?

Data management is the systematic **organization, storage, and maintenance of data.**

Highly important, as it:

- ✓ Enhances operational efficiency,
- ✓ Drives scalability, and
- ✓ Enables verification.

## Cost of poor data quality

A Gartner survey estimated the average annual cost at **\$12.8 million** per organization. Additionally, 95% of respondents in an Experian survey reported that poor data quality harms business performance.

## Centralized data is key

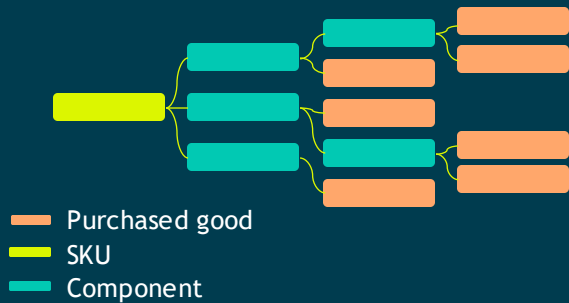
PwC has highlighted that companies focusing on ERP data modernization and shifting to a single cloud-native platform are better positioned for digital transformation. This approach enhances speed, flexibility, insights, decision-making, and enables hyper-personalized customer experiences.



# Makersite's holistic solution

## LCA

Product level impacts along the supply chain to easily identify hotspots and the areas to work on.



## Scope 3.1

Transactional data enriched with supply chain data on a product level to obtain accurate Scope 3 calculations.



## Supplier engagement

Primary data collection seamlessly integrates into Makersite's data foundation, improving the already high-quality LCA and Scope 3 data built on granular secondary data.



Data foundation

# How it Works in Makersite

# Real Life Examples

# New Surface Pro slashes footprint by 28%

## Microsoft's carbon reduction struggles

- **Outdated and generic models:** LCA relied on obsolete, generic processes and secondary data that did not reflect the latest technologies and product-specific supply chains
- **Manual and time-consuming:** Data collection and entry for LCA were manually intensive, limiting scalability and widespread adoption across multiple products

## Achievements



Automation cuts effort from months to minutes



Scalable approach for complex products with 28,000+ material/process flows



Accuracy Improvements - 20%  
Primary data to 70%



80% focus on reduction, less time spent on modeling



Microsoft



Surface Pro 10

Product Group | BOM: Surface\_pro.xlsx

PRIVATE

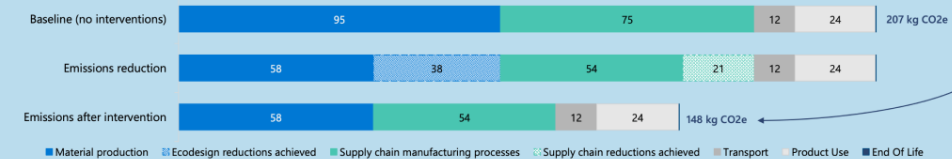
Supply chain CO<sub>2</sub>e hotspots

Microsoft

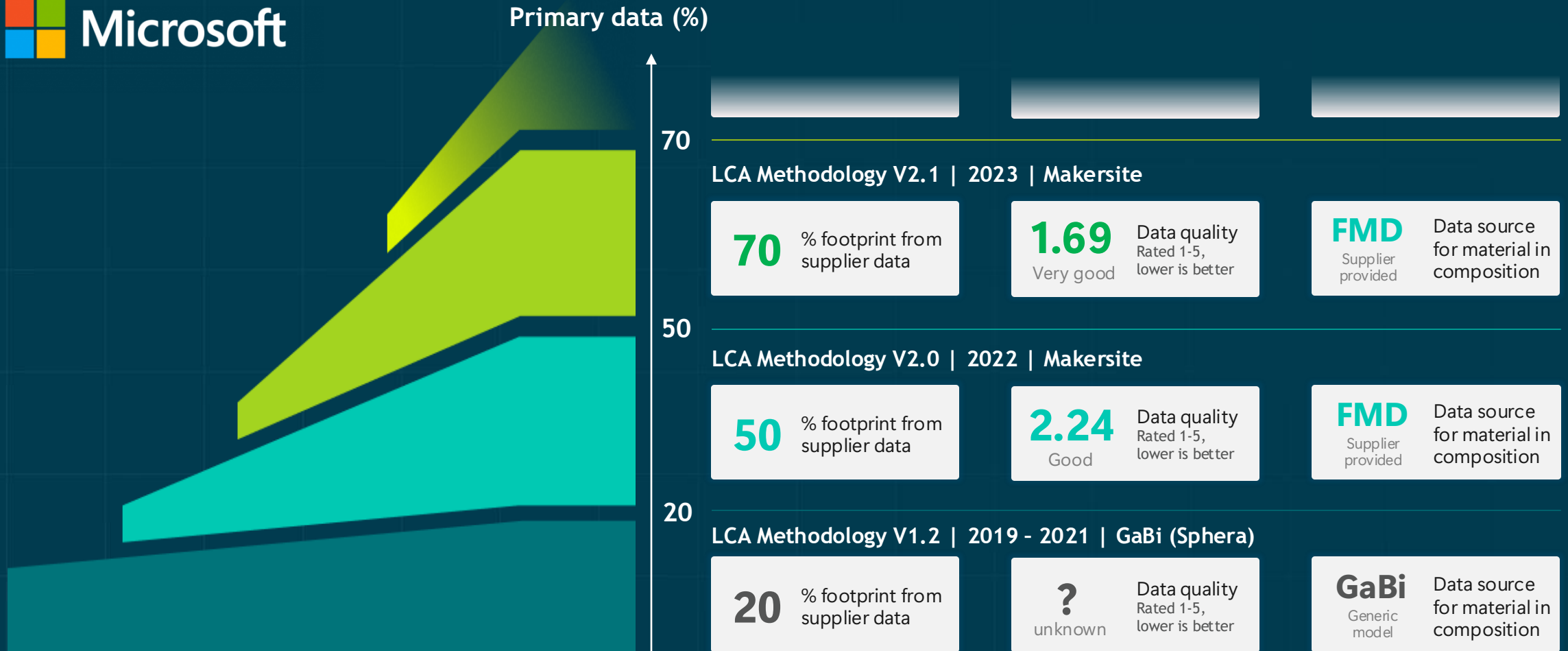
ECOPROFILE

Surface Pro 10  
for Business

## Reducing manufacturing carbon emissions



# Microsoft LCA methodology evolution



# Q&A



# Makersite