Utilising AI for Sustainable Manufacturing

How Digital Technology can aid the Sustainability Transition

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Ver: 1.0

Riskoa Ltd

https://riskoa.com/

Introductions

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Riskoa

Applying technology via advanced **SaaS solutions** to ***solve challenges in sustainability***

EmVide

Meet our ***Flagship Offering***. AI powered Lifecycle Assessments (LCAs) to your inbox in minutes

Riscon

Driving impactful ***change management solutions*** in technical environments

ESG3

Simplifying sustainability reporting for businesses

Let's re-check where technology fits in…

Let's look at the **Value Stream** associated with something like ***"Corporate Emissions Reporting"***:

Gathering emissions data from various sources (e.g., IoT sensors, energy meters, transportation records).

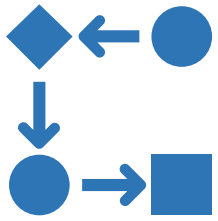
Converting raw data into usable emissions figures (Scope 1, 2, and 3 emissions), using carbon accounting software.

Using tools to analyze the data and ensure accuracy.

Creating a formal report that complies with frameworks like the GHG Protocol, CDP, or TCFD.

Submitting the report to regulatory bodies, stakeholders, and possibly receiving feedback for future improvements.

If we look at the capabilities needed for this, we need the following:



A **workflow** or **process** (See above)

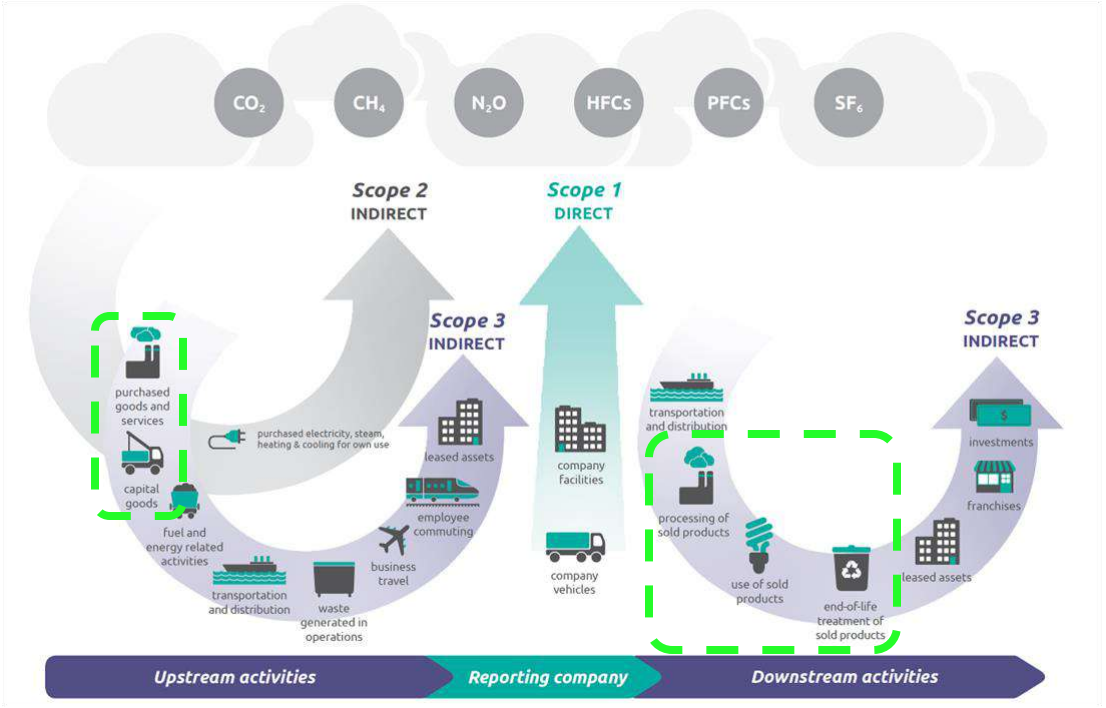
People to undertake the work

Technology tools to assist or accelerate

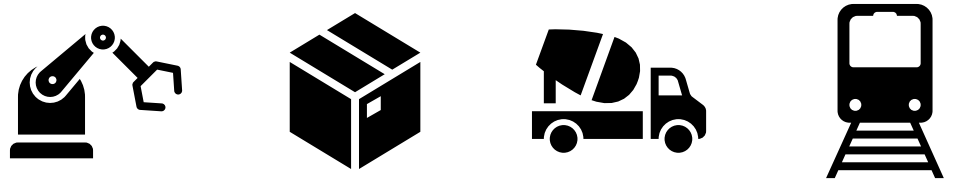
Bottlenecks in GHG Emissions (Carbon) Reporting

Scope 1 and 2 are relatively easy to report

Scope 3 emissions remains a major challenge,
BUT… specific parts are more difficult than others, these are the aspects **related to products and services….**



Product/Service based emissions reporting is **particularly difficult** for industrial sectors
Due to complex processes, extensive supply chains and product lifecycle



How are Product Emissions Measured

SCOPE 3 INDIRECT

1. PURCHASED GOODS AND SERVICES

Product Specific Emissions Factor/s

$$Emissions = \Sigma\,(quantity\ of\ goods)_n \times EF_{S\text{-}sn}$$

Accuracy

Spend-based method

The least accurate method uses a spend based approach using environmentally-extended input-output (EEIO) emission factors.

Average-data method

This method uses a more simplified approach based on the mass/vol of product/ service purchased.

Hybrid method

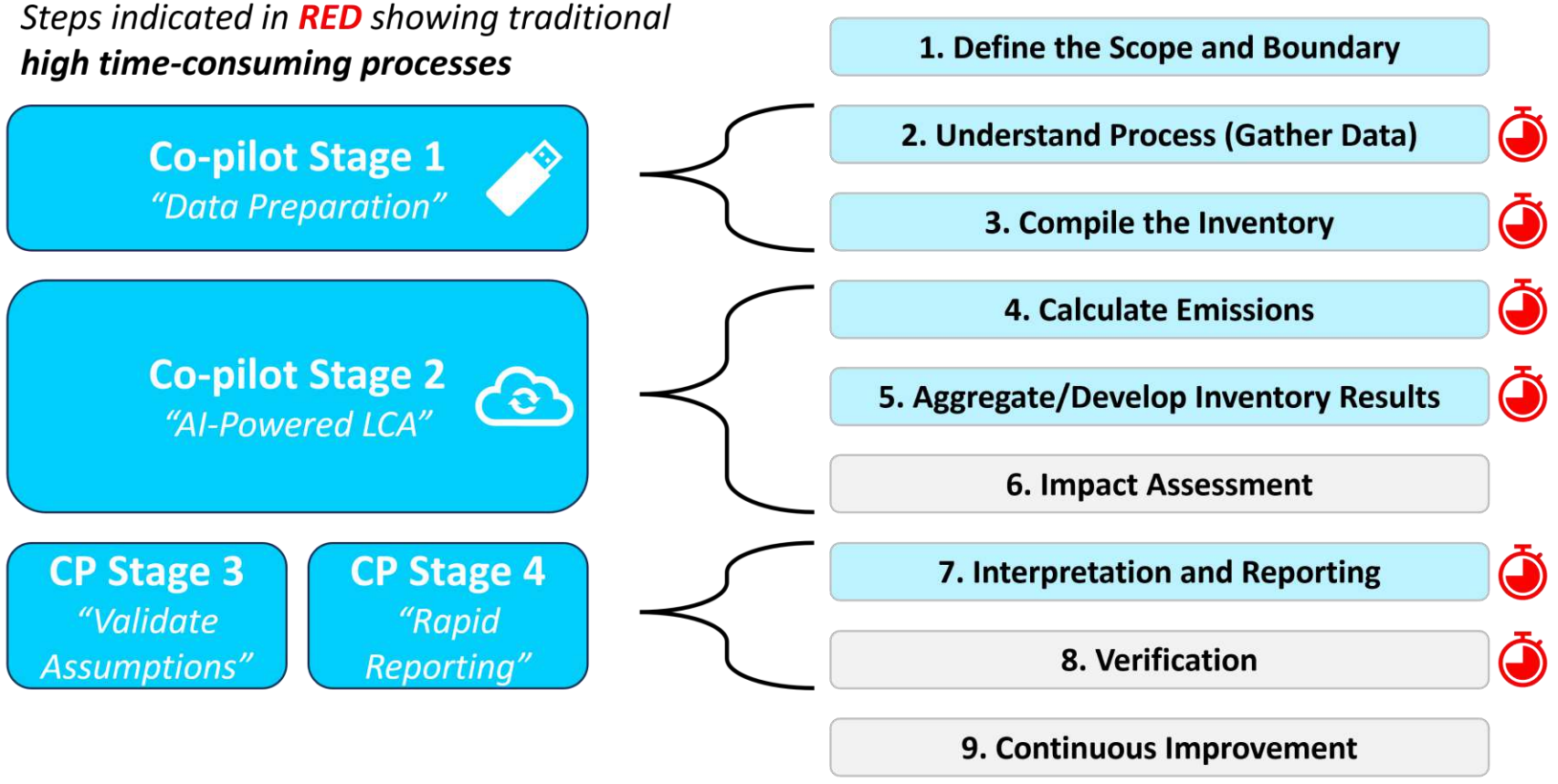
A mixed method including supplier Scope 1&2, purchased, material and waste

Supplier-specific method

Most accurate method because it relates to the specific good or service purchased

Where is time taken in performing an LCA?

*Steps indicated in **RED** showing traditional **high time-consuming processes***



These time-consuming aspects take **hours or days** for a **medium complexity product** (say 30 items in BOM)

The Challenge in Context…

“For a manufacturer with 1000 products, traditional LCA methods would take 27 years for one person to produce this entire portfolio, or 3 years using 10 resources. With EmVide, each LCA is done in minutes, allowing you more time to optimise cost and impact reduction!”

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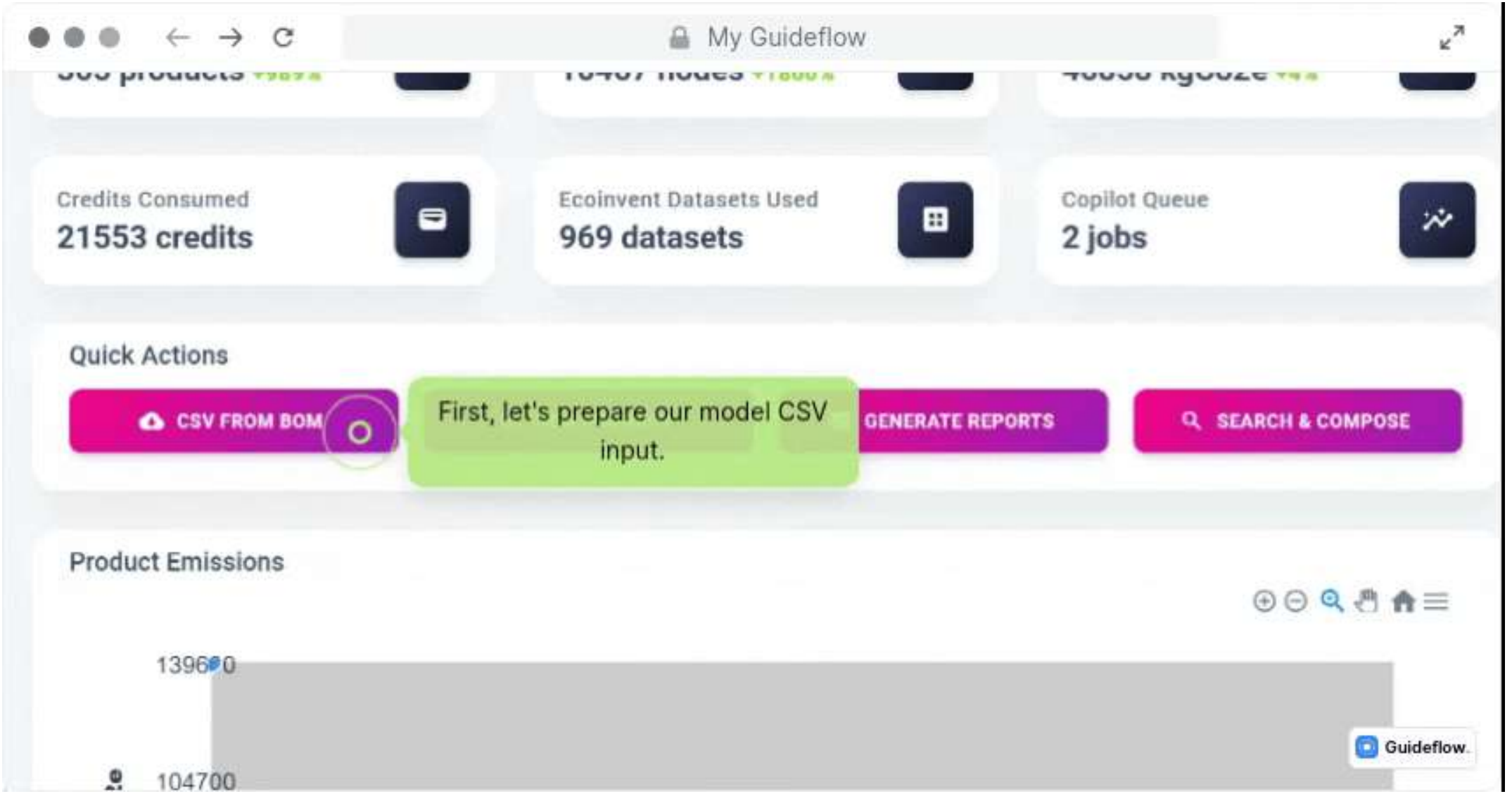
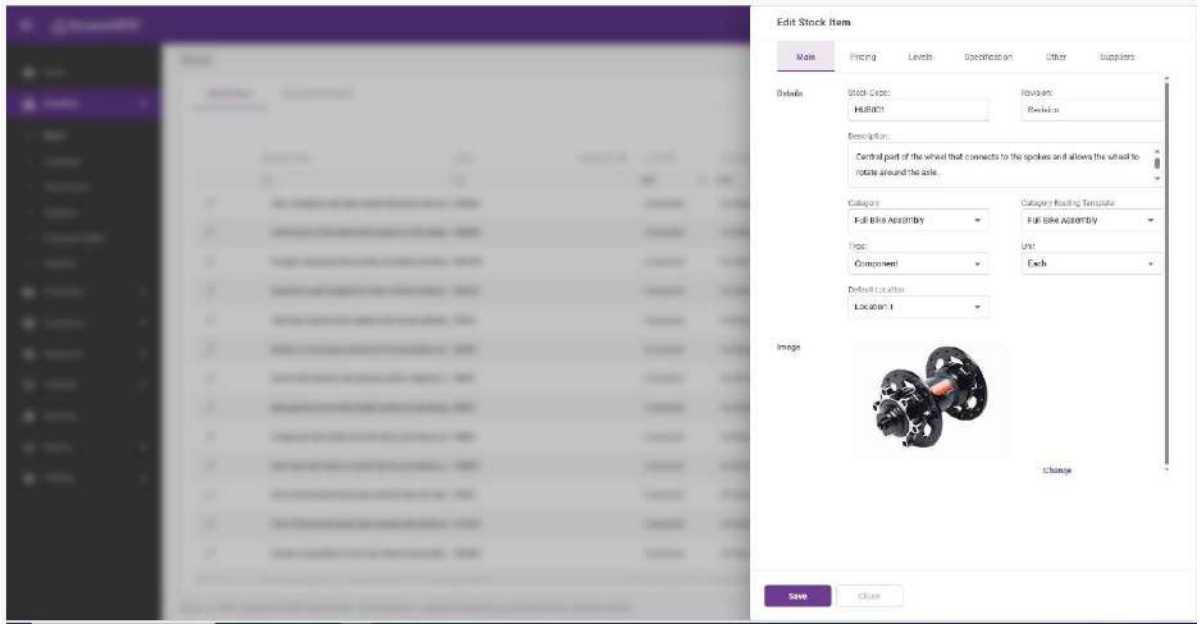
EmVide in Action. Fast Forward LCA…

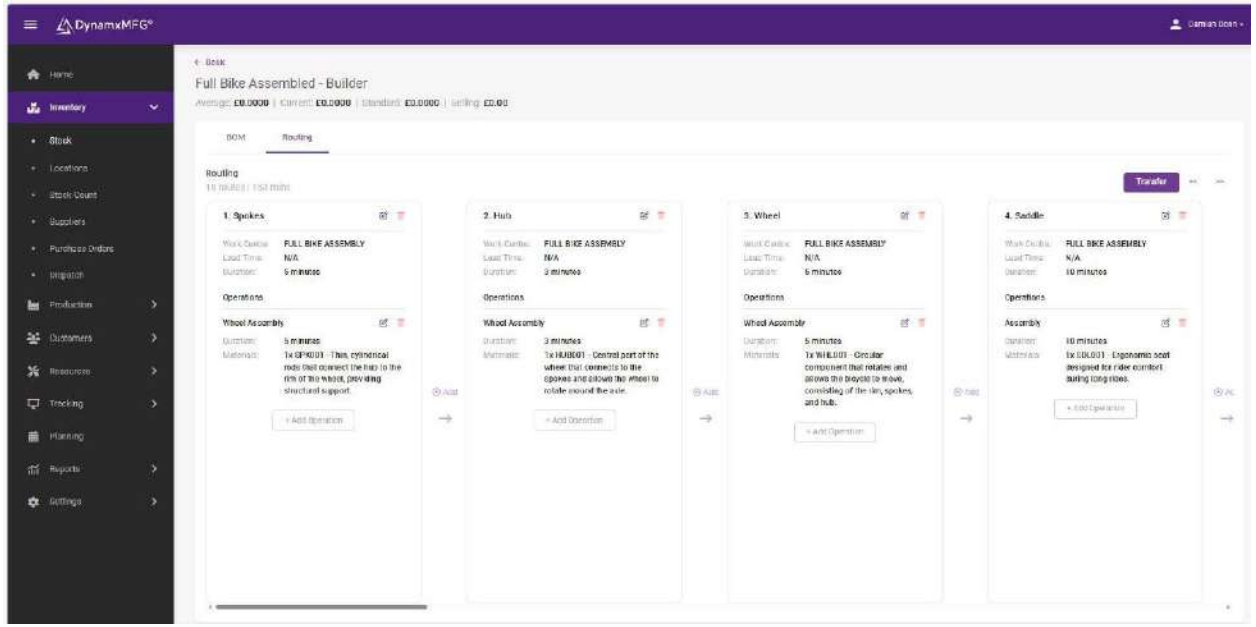


Scaling for Manufacturing Portfolios. Where next?

We are now working in **partnership** with **software solution providers in the manufacturing sector** to help scale portfolios

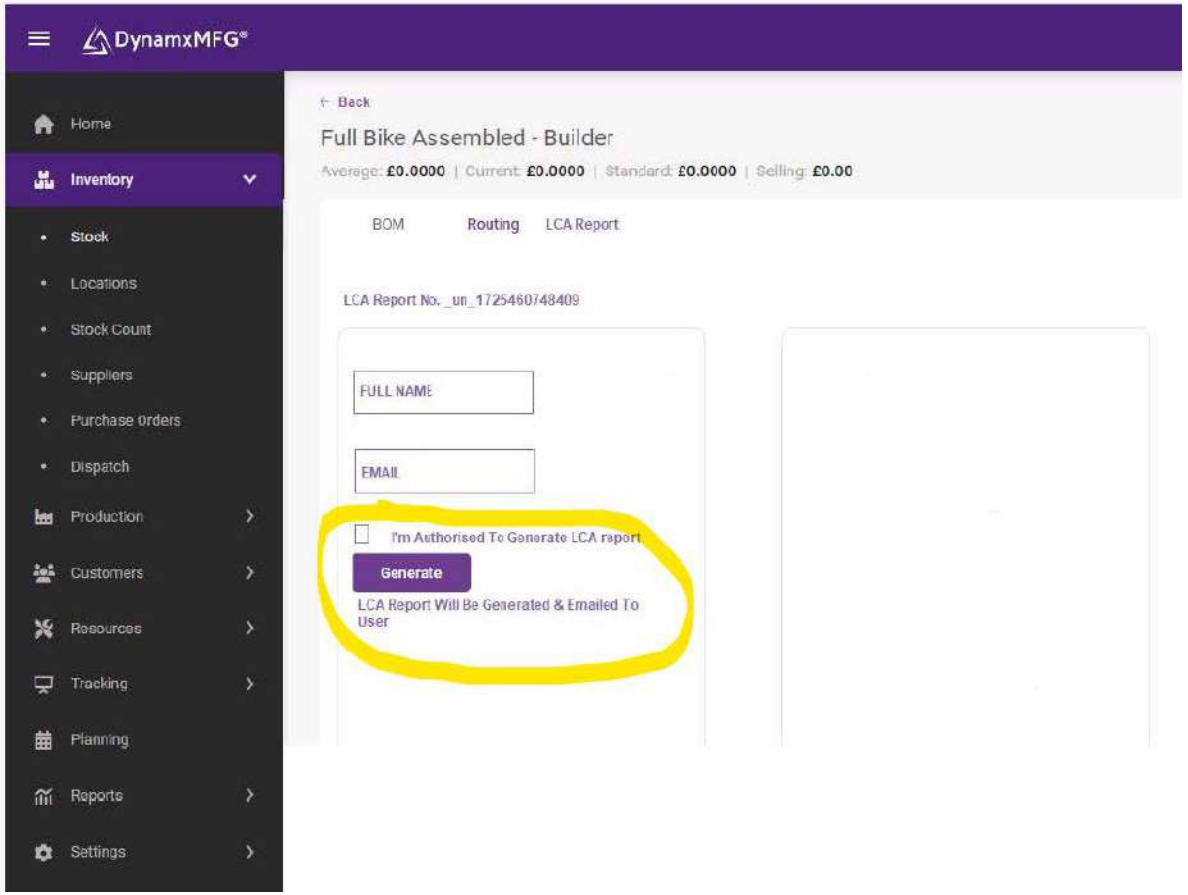
TotalControlPro™





Scaling for Manufacturing Portfolios. Where next?

We can now generate LCA data against inventory and production routing data in a data roundtrip from a manufacturing production system. **Combining AI and Technology Integration to solve the Scope 3 problem**



EmVide
Fast Forward LCA

TotalControlPro™

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Thank you for your time!!!