



ADVANCED INJECTION MOULDING


**Inject some
Carmo into
your business**

Carmo in brief



- Established in the 1940s by Carl Mogensen
- Specialist in multi-component injection moulding and advanced spin-stack moulding
- Based in Denmark

 95 employees

 80% export

 ISO 13485

 35 injection moulding machines (15–250T)

 Controlled environment and Clean room Class 8

 2.000 m² production + 2.000 m² warehousing

3 main business areas – 75% medical



Customer projects
50%



Medical components
25%



Technical components
25%

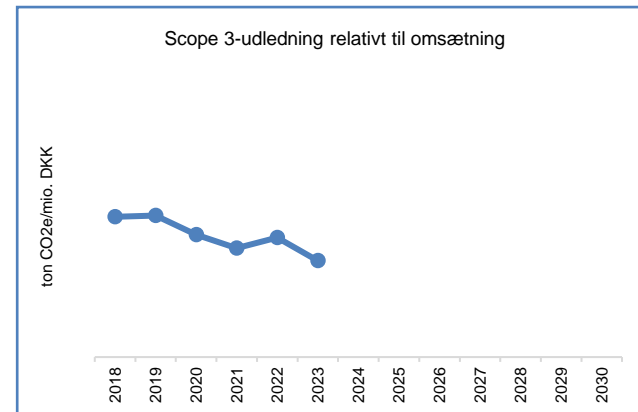
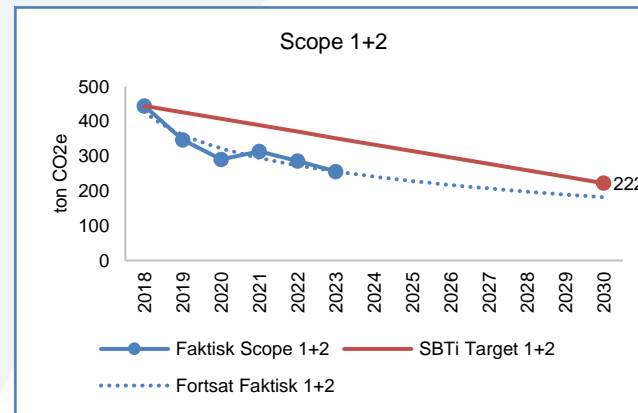
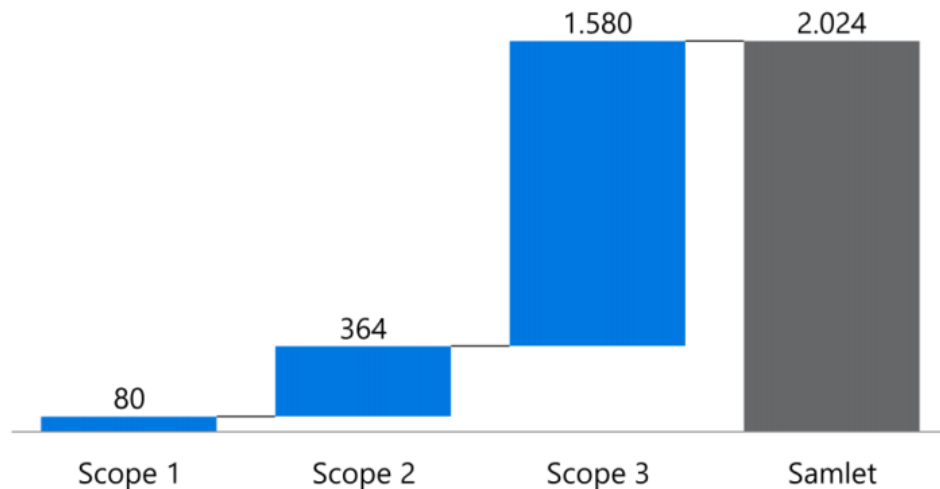


CO2 emissions in Scope 1, 2 and 3



Scope 1 accounts for $\approx 4\%$, Scope 2 $\approx 18\%$ and Scope 3 $\approx 78\%$ of the total of 2,000 tons CO₂*

CO₂e emissions in 2018 divided on scopes



Increasing sustainability in focus since 2017



Environmental responsibility and increased sustainability introduced as explicit pillar in Carmo Vision

Detailed sorting of production residual materials to enable significant re-use introduced

First company CO2 reporting

Carmo commits to SBTi as SMV – first mover among plastic manufacturers in Denmark

Cooperation with Hinza to directly re-use specific residual material for high-end B2C product

Carmo Product CO2 calculator introduced

2017

2018

2019

2020

2021

2022

2023

2024

AM & 3D printed moulding introduced to accelerate development and reduce time and energy in maturing of new products

60% of residual material from production sold for re-use

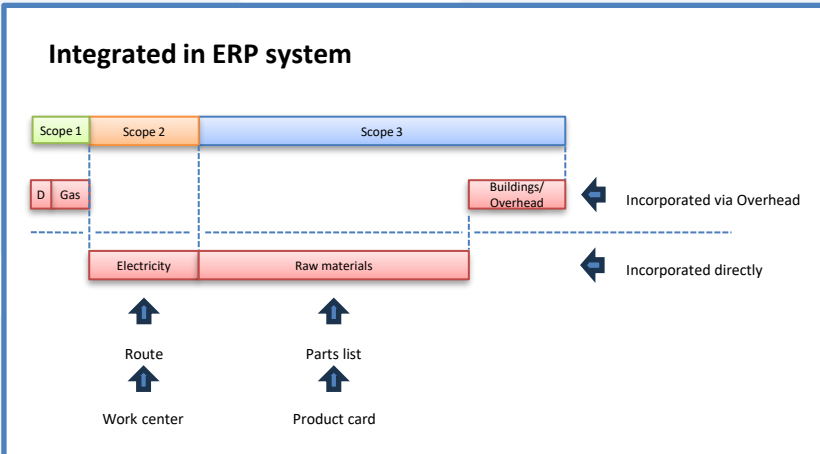
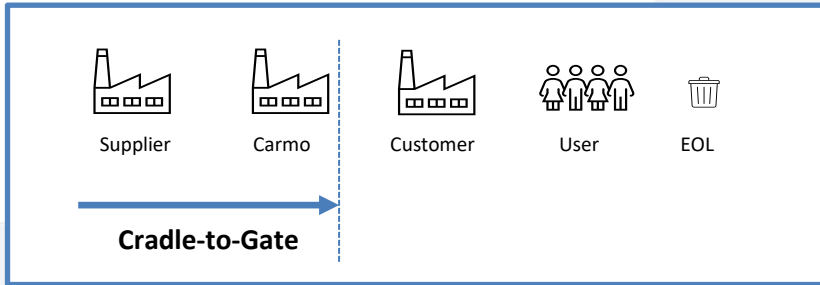
Masters project on process optimization in cooperation with DTU

Phd project on process optimization in cooperation with DTU

Masters project on machine learning and AI supported linking of SPC and IM Process



Fundamental principles of Carmo product CO2 calculator



- Build and verified in co-operation with market leading LCA experts
- Based on CHG-protocol principles
- Full transparency in calculation principles
- Calculated for every product
- Detailed in
 - Materials
 - Process
 - Transport
 - Waste
 - Packaging
 - Overhead
- Re-calculated periodically to ensure validity of data
- Detailed Reporting on request
- Potentially reported on each individual delivery note / invoice

Støttet via SMVGrøn 2.0



Scope :

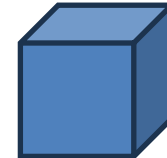
- Opbygning af model
- Integration i ERP
- Initiel masterdata

ERP



- Masterdata
- Beregning
- Rapportering

BI-kube



- Ad-Hoc Rapportering
- Analyse

Hvorfor i ERP-systemet?



1. Organisationen opdaterer masterdata i kendt system
2. Let genberegning på 600+ varenumre med dybe styklister
3. Audit-log og historik
4. Rapportering på dokumenter