

Net Zero Drug Delivery Devices a Pharma Supply Chain Collaboration



a non-profit membership association to represent the pharmaceutical supply chain



2022 PDA

PARENTERAL PACKAGING CONFERENCE

2-3 JUNE 2022 | CONGRESS CENTER BASEL | SWITZERLAND

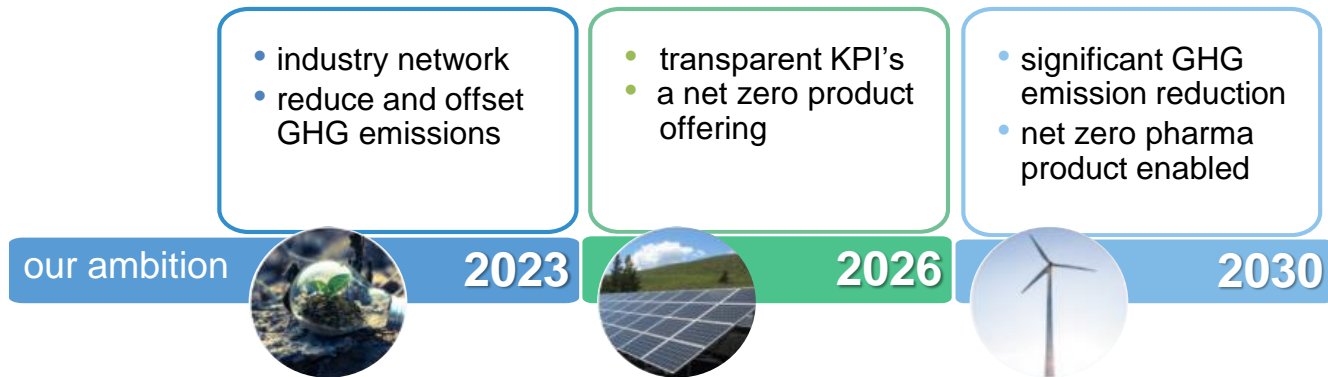
“enabling the launch of
net zero pharmaceutical products
in regulated markets will
require companies like ours
to transform our operations,
products and services”

Sebastian Gerner Alliance President
Dr. Arne Kloke Alliance Committee Member

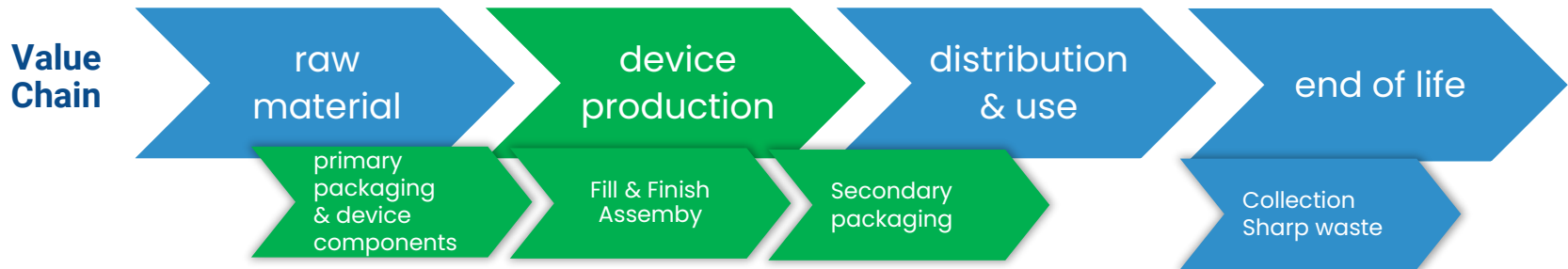


Collaboration on our shared vision

to facilitate the transition of the pharma sector to compliance with **net zero emissions** in line with the goal of the Paris Climate Agreement



The injectable device value chain - how will we progress our ambition



Product Carbon Footprint (PCF) Guideline and Baseline Assessment

First outcome - common language framework for product carbon footprinting

- Intention: **Baseline** recording for Pilot device **across companies**
- Guideline developed as a tool for calculating a **PCF baseline** based on **existing** accounting **standards**
- First cross industry **life cycle assessment** (LCA) pilot **calculated**
- Pilot validated incl. **peer review** with **pharmaceutical companies**

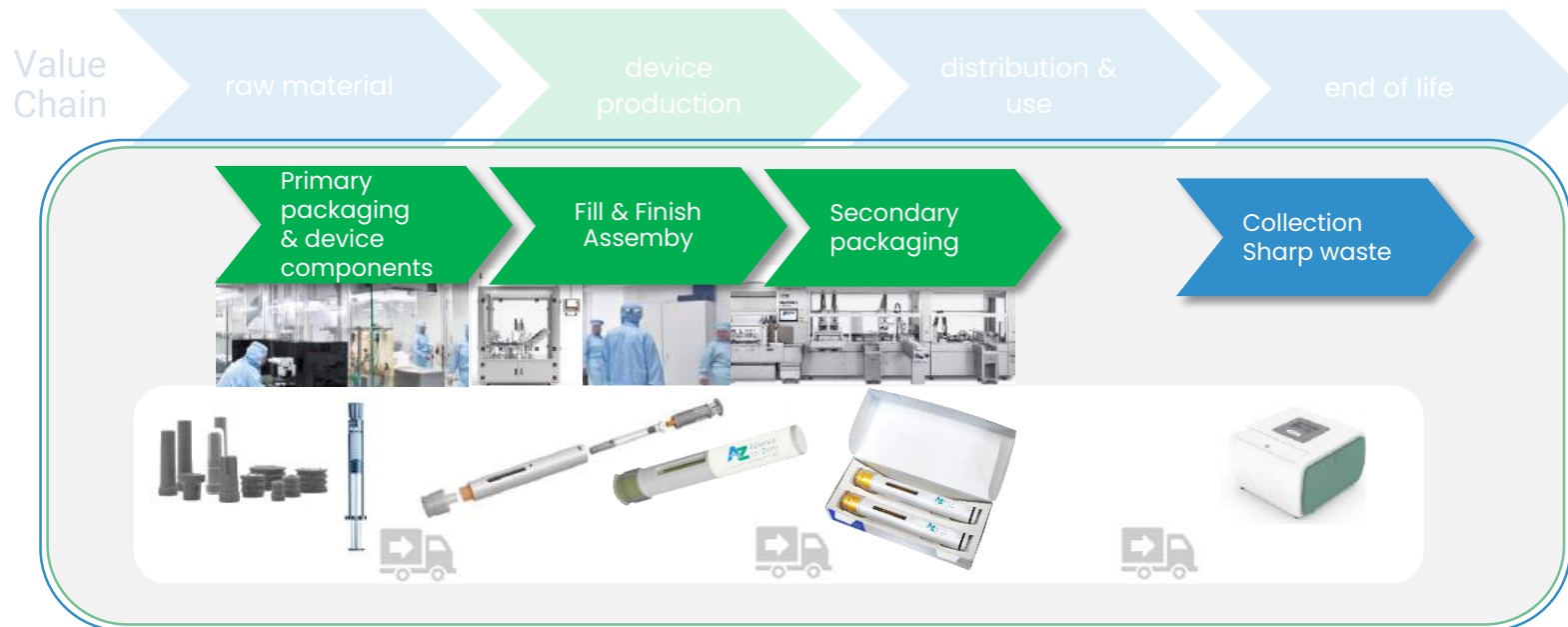


Methodological guideline for the product carbon footprint (PCF) assessment of automated disposable injection devices

V1.1 - For consultation with key stakeholders

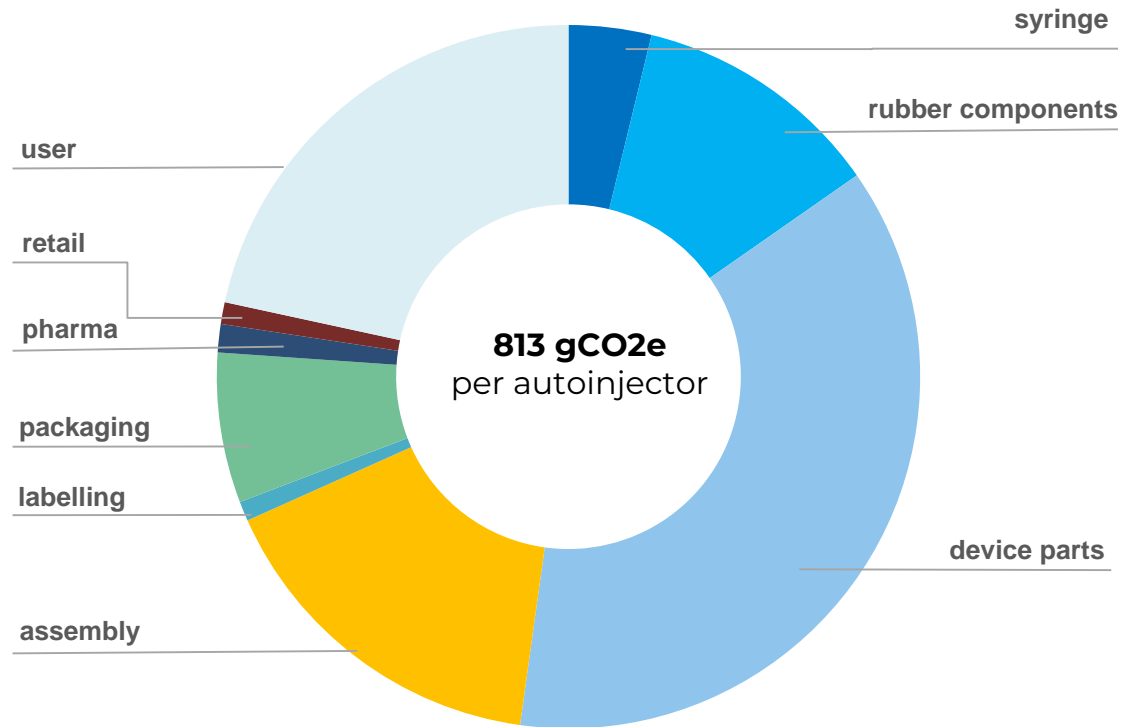
Zurich, 10 March 2022

Calculating a product carbon footprint along the value chain



Use Case: Distribution to a patient in Germany

Outcome: Product life cycle - emissions



- Raw materials
- Inbound transportation
- Intermediate transportation
- Processing
- Manufacturing waste
- End of life of component

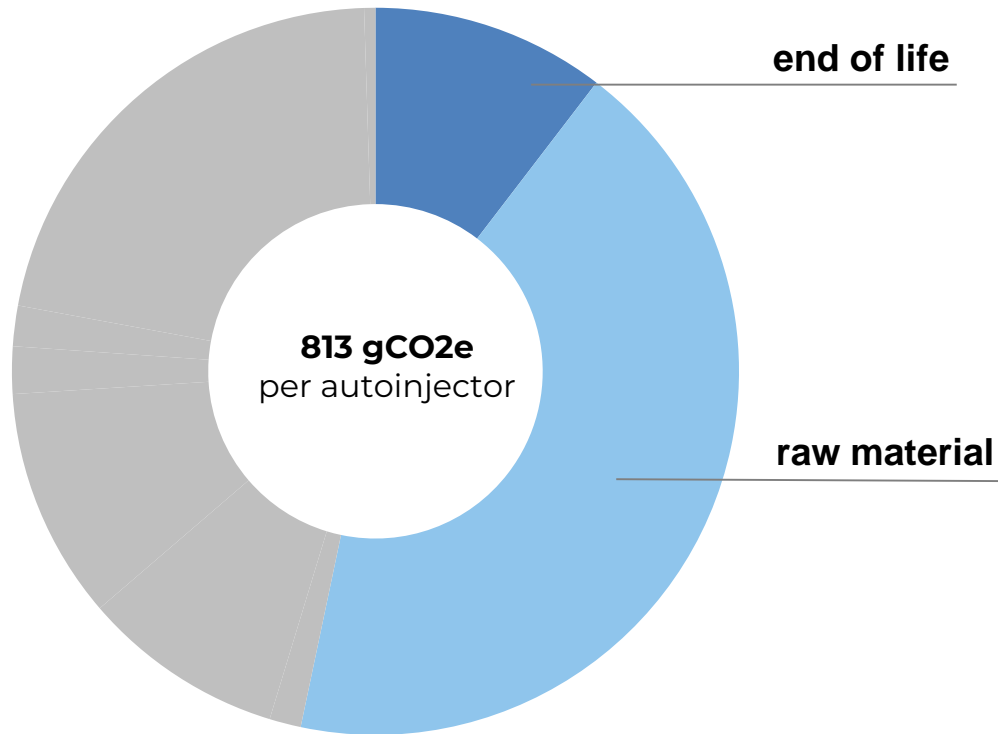
Retail / Pharma:

- Outbound transportation
- Outbound cooled storage

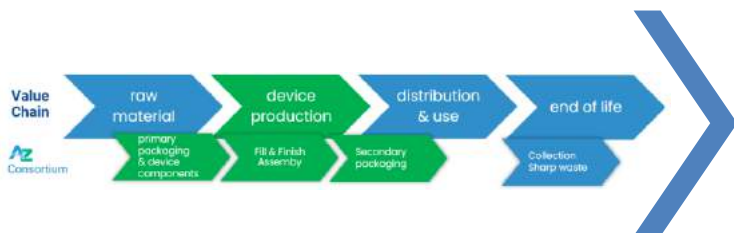
User:

- Pick up at pharmacy
- Cooled storage

Linearity of the supply chain
amount to **>50%**
of the product
emissions

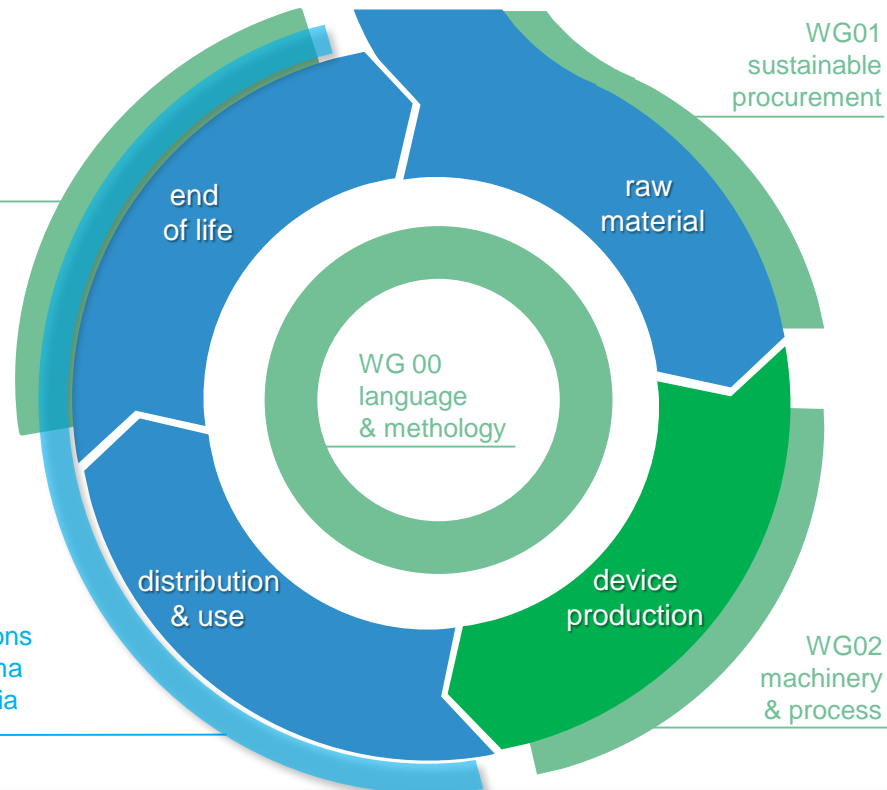


Alliance to Zero is designed to enable circular transformation



WG03
end of life

Cooperations
with Pharma
& Academia



Tackling the End of Life challenges

Today's situation



Changedrivers



Upcoming
Regulations



Patient
Expectations



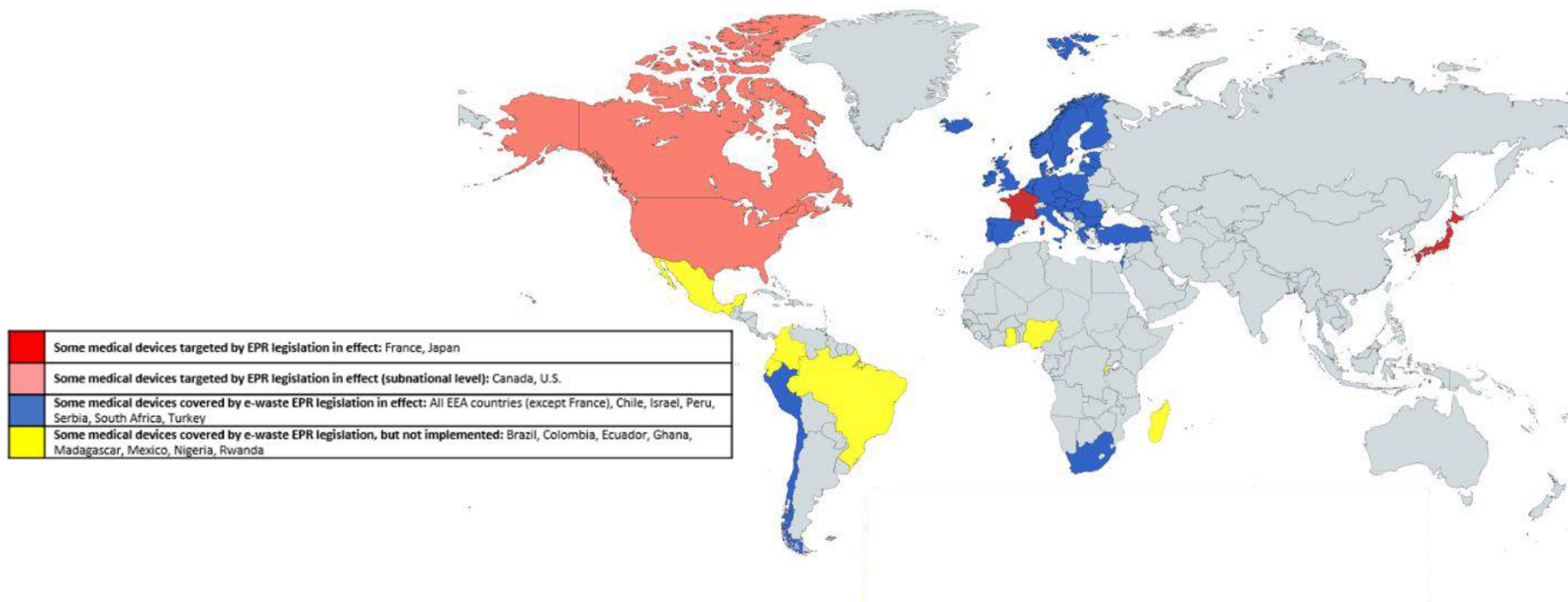
Shareholder
Ratings

Change driver: Extended Producer Responsibility (EPR)

- **EPR schemes** already exist in several countries
- Covered products are **sharps, drug products, electronics**
- EPR schemes will **force manufacturers to take back** their product end of life
- Impact for manufacturers will be an **increase of recycled content**, take back schemes etc.



Medical Device EPR Legislation



Source: last updated 2022.01.27 Prepared by: Beveridge & Diamond, PC Paul Hagen, phagen@bdlaw.com, Russel Fraker rfraker@bdlaw.com

Today's situation



Changed drivers



Upcoming
Regulations

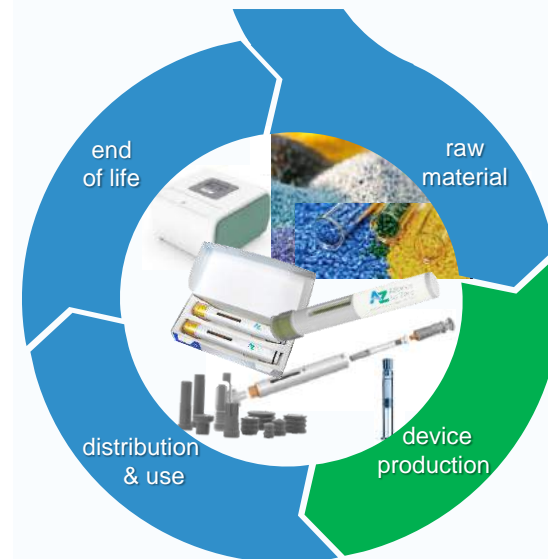
Patient
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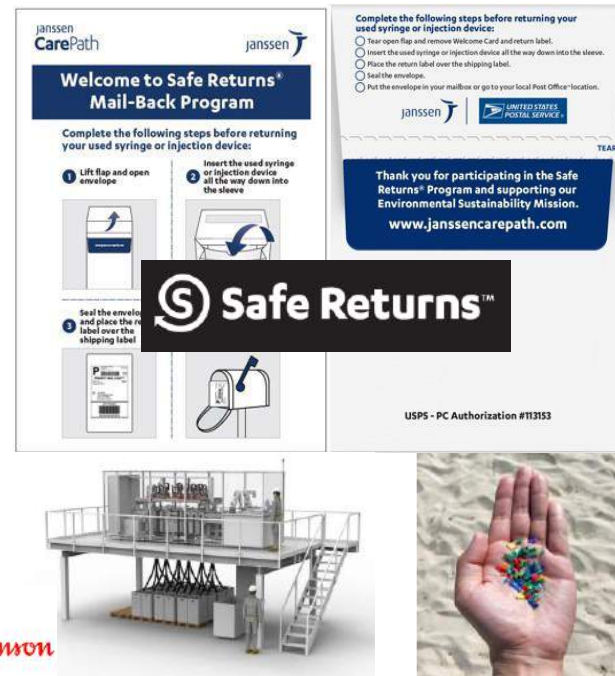
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Future is circular



First steps towards circularity in roll out: take back schemes



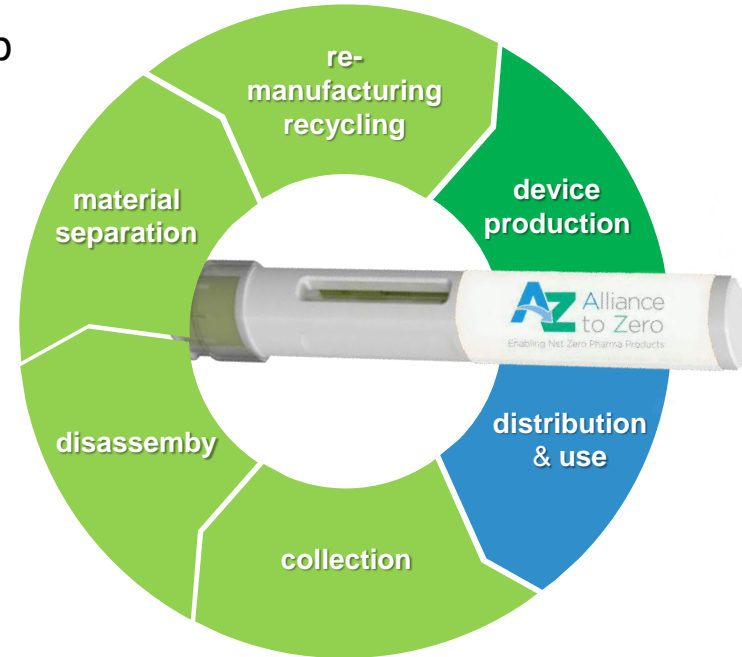
Completing the loop for circular pharmaceutical products

AtoZ's ambition is to promote completing the loop

- Assessment and solving the technology gap
- Assessment and promotion of regulatory change
- Promotion of «rethinking»

Completion requires collaboration across stakeholders including

- pharmaceutical companies
- academia
- industry associations and authorities





First steps taken by the Alliance

- PCF guideline and baseline
- Clarity won about need for circularity to enable ZERO and also resource efficiency/ waste reduction

Alliance proved to be a valuable multi-stakeholder access point

Strong partnerships will be needed to drive change towards ZERO and the realization of circular pharmaceutical devices

Questions?