

Big Picture

CE-Hotspot

Bottrop

12 – 14.09.2022

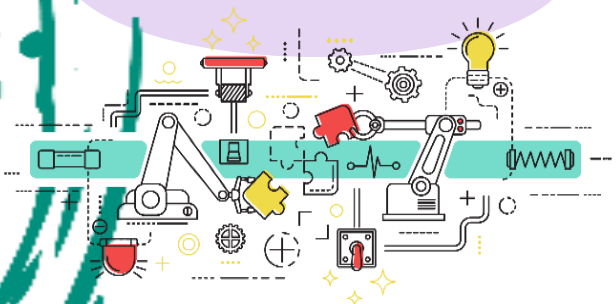
Product Design



End of Life Phase



Purchase & Production



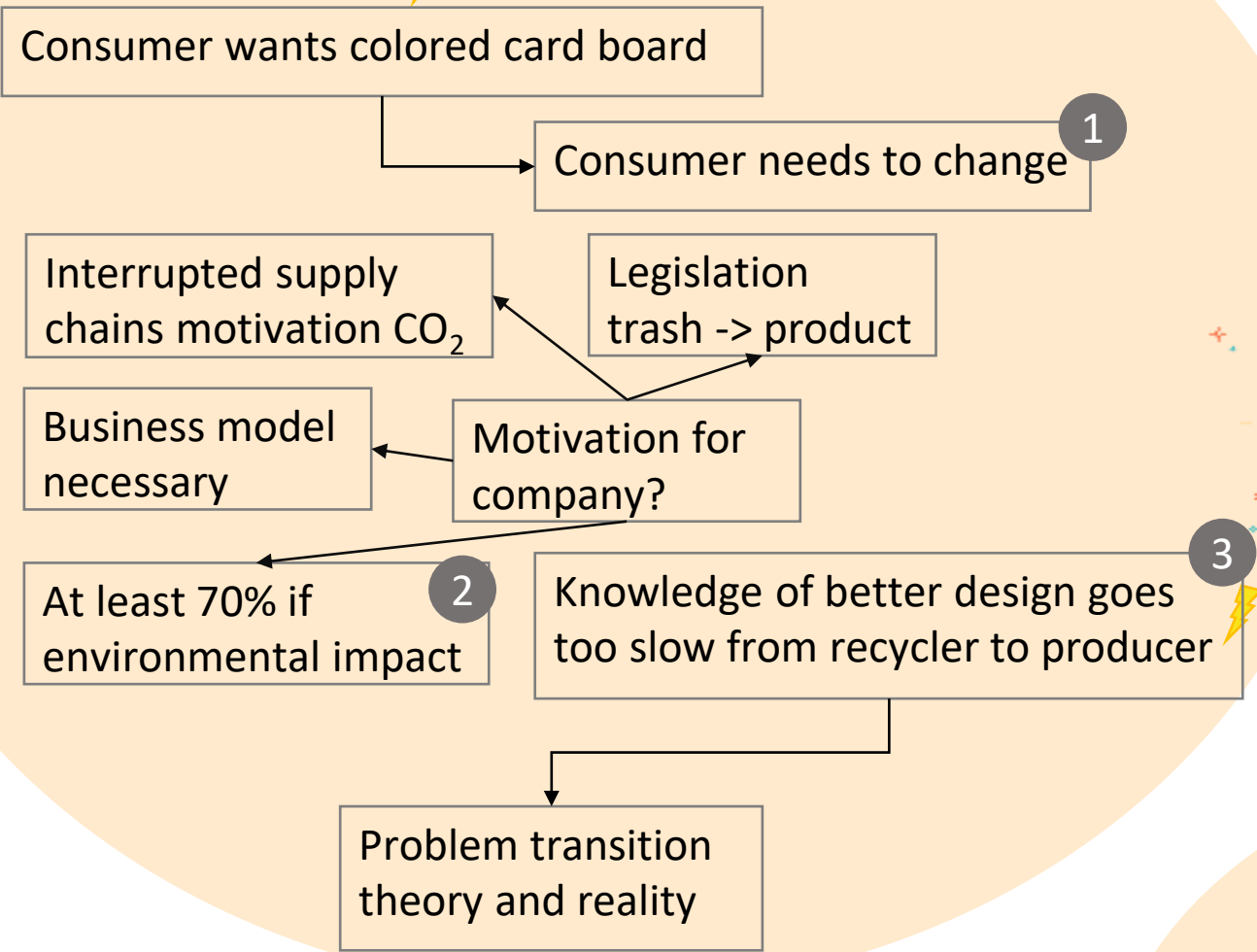
Use Phase



Logistic & Sales

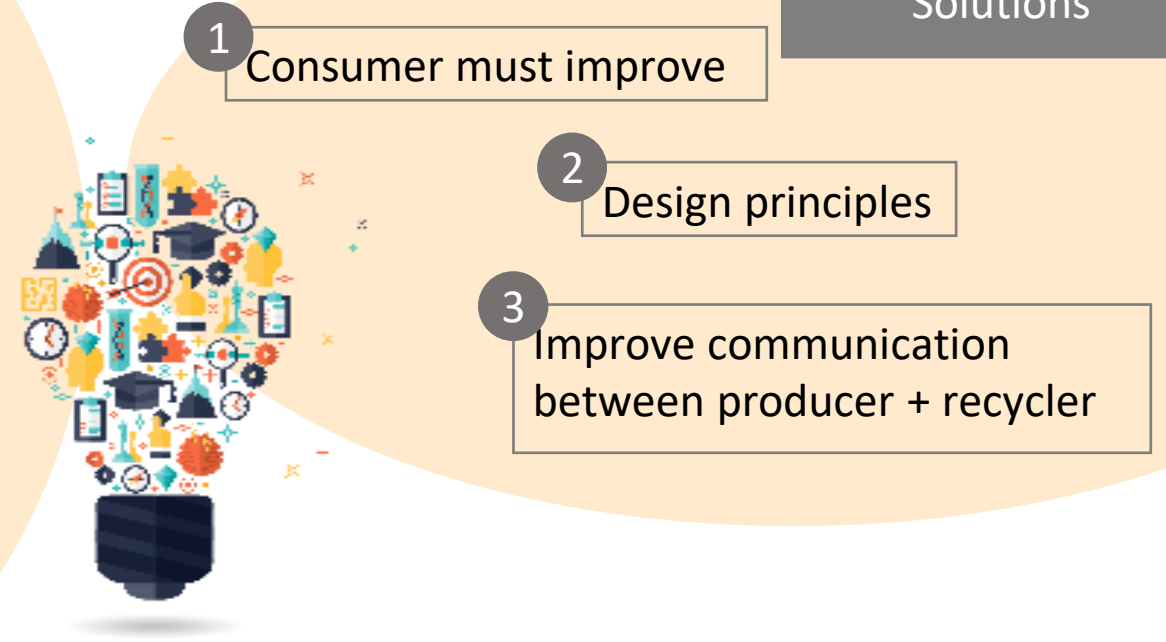


Challenges



Product Design

Solutions



Examples

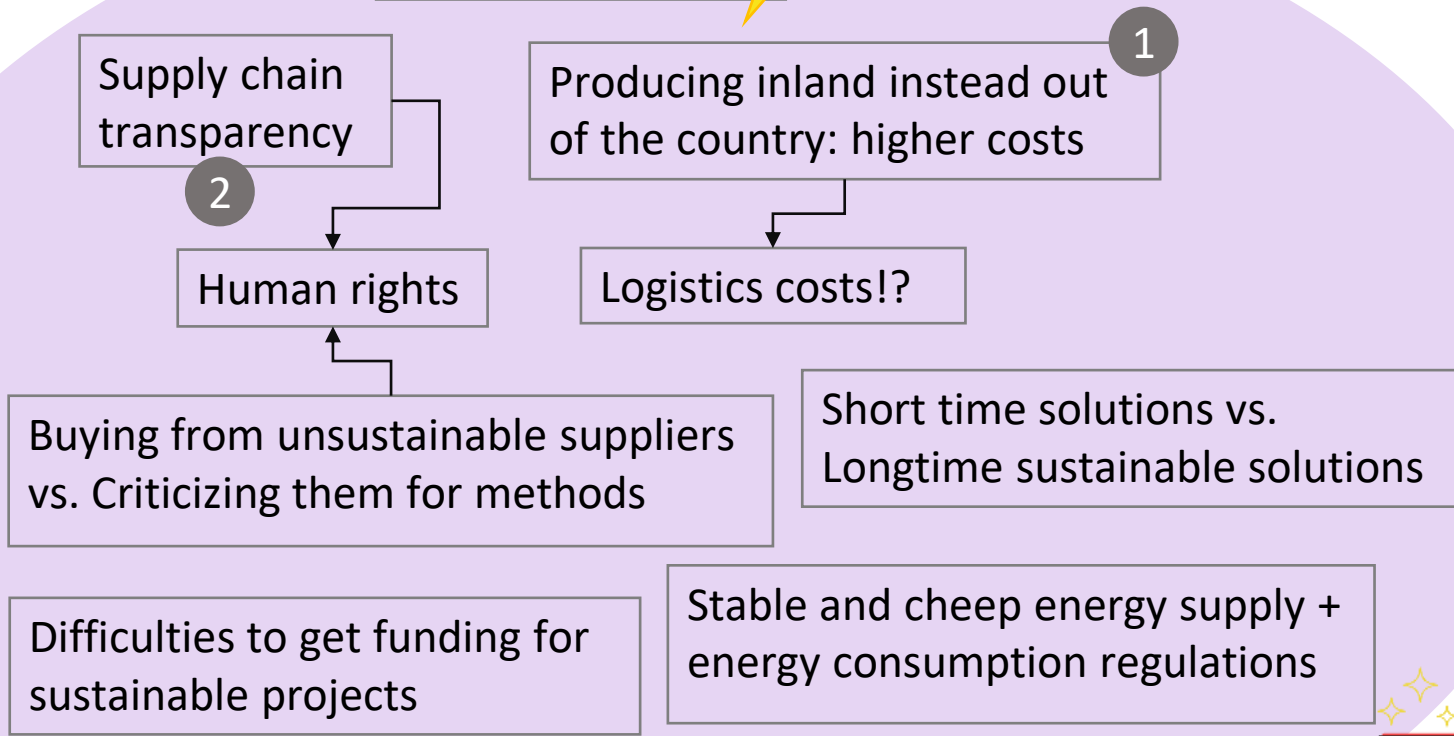
- Too many different plastics
- Raw materials impact
- SWAP bicycle
- 95% of weight is recycled of a car

X

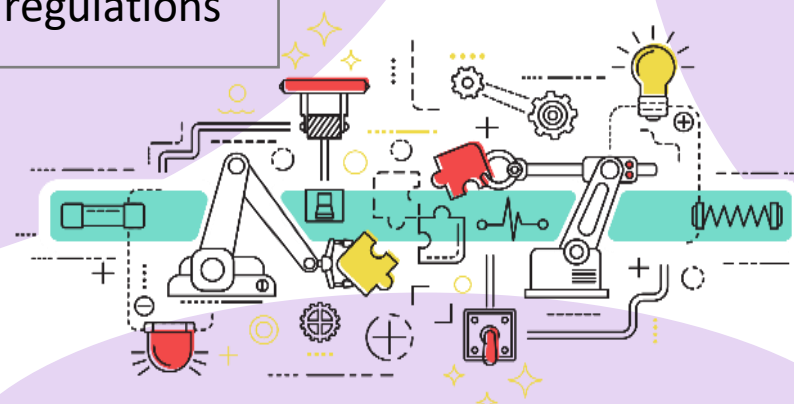
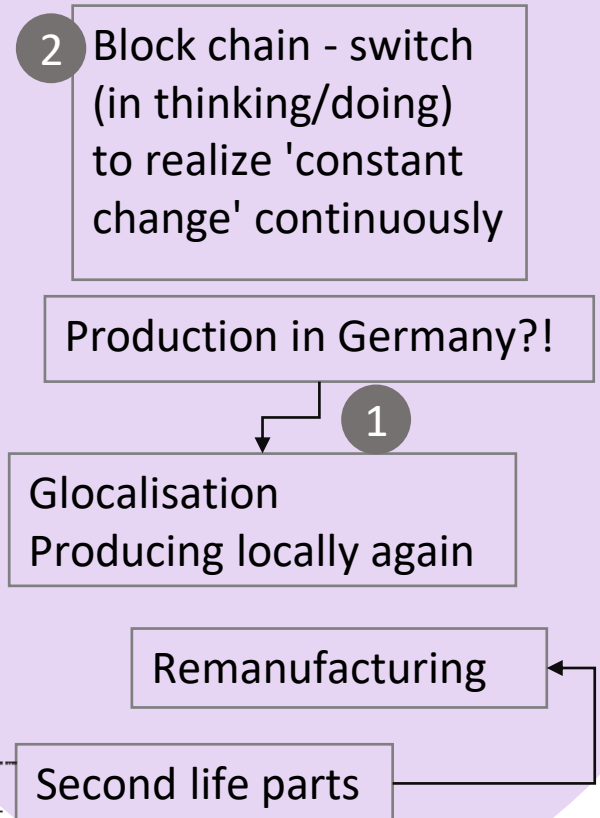
The numbers are matching „Challenges“ and „Solutions“

Purchase & Production

Challenges



Solutions



Results

Component supplier resilient supply chain

Motivation

Current situation makes changes necessary

Challenges

How can sales force of companies push circular aspects?

1
More regulations? (legislation)
Every product with info (how can we motivate intrinsically?)

Cheaper to throw away than reselling

2
Where to put it?
Material depots

5
Material chain error
energy waste?

3
Take-back is difficult?!?
User experience

4
Think about packaging

Informative / educational +
burning is not the unique
solution



Examples

Grey coloured paper packaging



[Back to the Big Picture](#)

Logistic & Sales

Solutions

Cradle to cradle building industry
Madaster = material passport

5
Optimizing transport

Eco system
IT-Platform

1
More information on the packaging?

1
Change regulations
-> declaration on packaging must
be „clear“

2
Buildings as
material banks

3
User-friendly take
back systems!

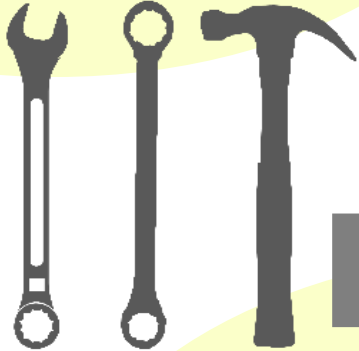
4
Reuse packaging in
the industrial field

Reuse

Repurpose the product

Sharing concepts
-> less materials produced

We can change
Intrinsic motivation



Repair

Keep the value of a product
-> recycling only at the end

Business models that support repair are required

Cost of repair is higher than cost of new product

Use phase

Product as a service

Jobs in production may be lost

Time-limited use phase

Companies should work together
-> manufacturer and recycler

Cost of ownership
-> company should be responsible for end of life

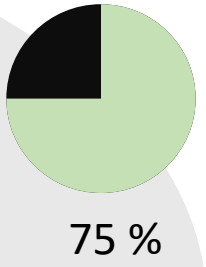
Composit material

End of life Phase

Challenges

„Current mindset causes automation and materials error!“

Only 75% recycling rates by mass are required by legislation for electronic devices



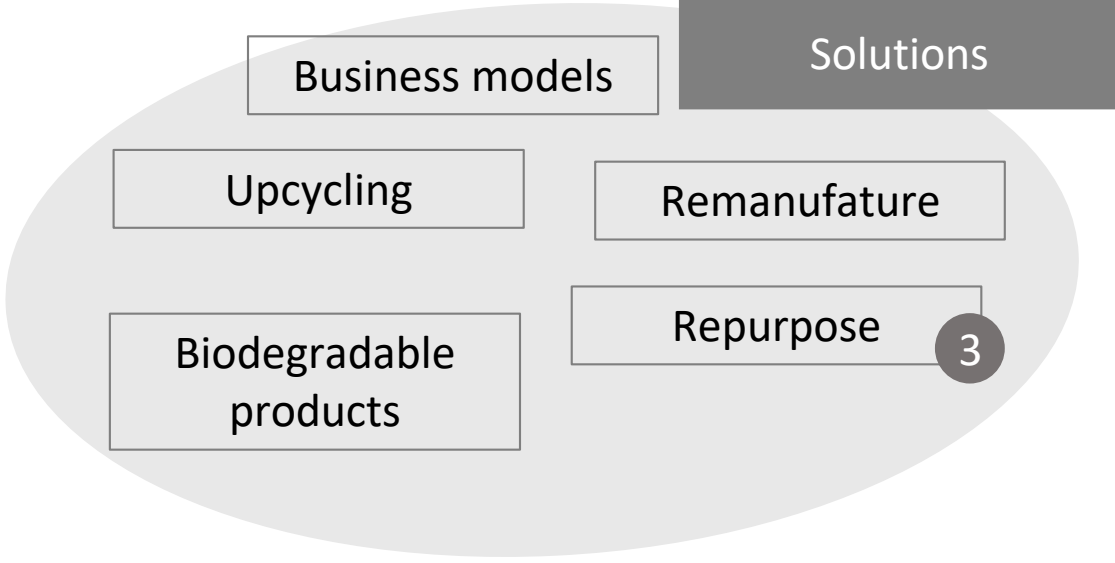
LCA: Impacts where? Which impact is worth?

Currently, only implementation of bulk recycling (materials with the largest mass) and downcycling

„Innovation is not always more sustainable!“

Limited number of recycling cycles

Examples



Materials

Hemp

Plastics

Food waste as raw material

Mango leather → food goes to clothing!

Blue cities: hub for innovative companies

Products

Furniture from pallets

Rolls-Royce turbine

Downcycling of wind energy & solar energy plants

