Value-Chain and Hidden Landscapes

Content development led by
Gdańsk University of Technology & HfWU Nürtingen-Geislingen

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Winterterm 2023/24 - 13.11.2023
16:00 – 18:45

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Introduction

Health & recreation

The Commons

Mobility

Energy

Value-Chain

retail & consumption

production & logistics

Housing

Forestry

Agriculture

Tourism

Landscape system presentations

Scenario / Visioning presentations

Social Business modelling

Impact evaluation

Key Concepts

1. hidden landscapes
2. value added chain
3. attitude - behavioural gap and barriers of sustainable consumption
4. shareholder value vs. stakeholder value
5. impact investing / social entrepreneurship
6. economic policy
7. strategies: efficiency, sufficiency, consistency
8. circular economy

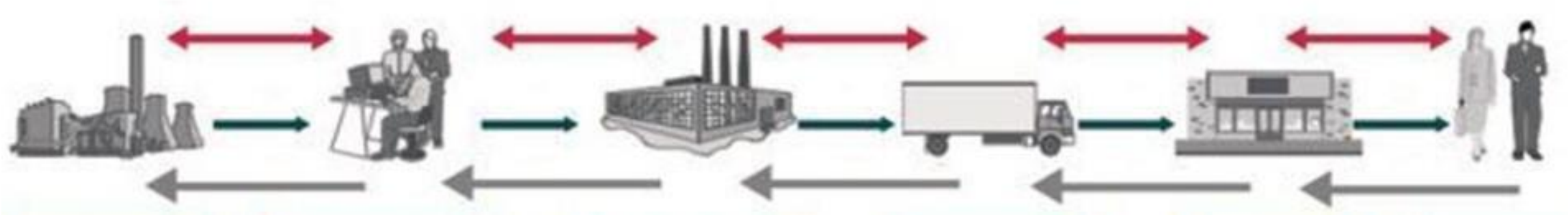
Agenda

75	**lecture one: underdstanding "Hidden Landscapes"**	**who**
10	concept of value added chain (VAC)	Karolina
5	sustainability impact	Dirk
15	transformation of textile landscapes	Dirk / Karolina
15	case Stude "LPP - GDAŃSK, POLAND"	Karolina
30	exercise for students	Karolina
15	**break**	
75	**lecture two: system change and evaluation**	**who**
40	system change & impact evaluation	Dirk
5	scenarios of future transformation of landscape	Karolina
30	exercise for students	Dirk

The Concept of the „Value Added Chain“

Classical Supply Chain Management

Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management **integrates supply and demand management** within and across companies. (CSCMP Glossary, 2023)



porcure-ment | raw materials | production | logistics | Whole-/ retail | customer | Waste

Information | goods | finances

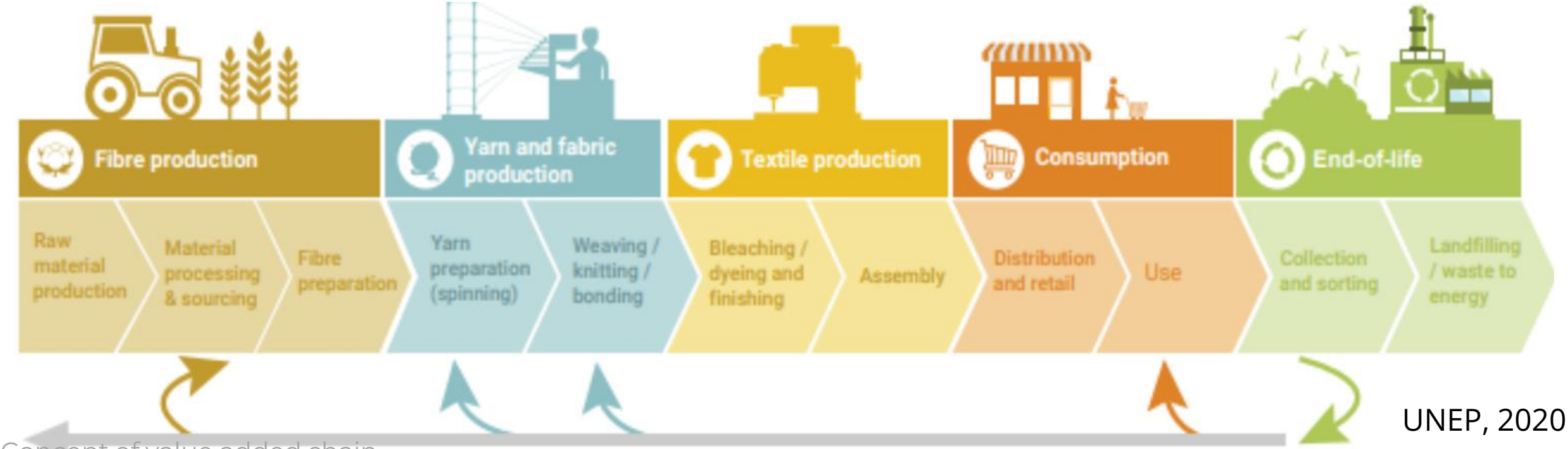
Concept of value added chain

Value Added Chain (example: textile industry)

Added value is an increase in the value of a resource, product, or service as the result of a particular process.
(Cambridge Dictionary (https://dictionary.cambridge.org/dictionary/english/added-value, 2023)

Value chain is the series of stages involved in producing a product or service that is sold to consumers, with each stage adding to the value to the product or service
(Cambridge Dictionary (https://dictionary.cambridge.org/dictionary/english/value-chain, 2023)

Industry is a group of productive enterprises or organizations that produce or supply goods, services, or sources of income (Encyclopaedia Britannica, https://www.britannica.com/technology/industry, Oct 21, 2022)



UNEP, 2020

Concept of value added chain

Types of industry

1. **Primary**

- genetic industry – agriculture,
  - forestry,
  - fishing, livestock management

- extractive industry – mining, quarrying, and the extraction of minerals

(Encyclopaedia Britannica, https://www.britannica.com/technology/industry, Oct 21, 2022)

Types of industry

2. Secondary (manufacturing industry)

- **Heavy** (large-scale) - petroleum refining, steel and iron manufacturing (metalwork), motor vehicle and heavy machinery manufacture, cement production, nonferrous metal refining, meat-packing, and hydroelectric power generation.
- **Light** (small-scale) - textile work, clothing manufacture, food processing, plastics manufacture, electronics, computer hardware manufacture, precision instrument manufacture, gemstone cutting, craft work.

(Encyclopaedia Britannica, https://www.britannica.com/technology/industry, Oct 21, 2022)

https://www.lpp.com/en/informacje-prasowe/list-otwarty-marka-piechockiego-prezesa-lpp-sa-na-temat-dzialan-w-bangladeszu

Unnamed Road, Chhajpur Khurd, Haryana 132103, India

Concept of value added chain

Types of industry

3. Tertiary industry (service industry)
retail, resale trade; banking, finance, insurance, investmentreal estate services; professional, consulting, legal, and personal services; tourism, hotels, restaurants, entertainment; repair and maintenance services; health, social welfare, administrative, police, security, defense services, wholesale, transportation;.

(Encyclopaedia Britannica, https://www.britannica.com/technology/industry, Oct 21, 2022)

Concept of value added chain

Types of industry

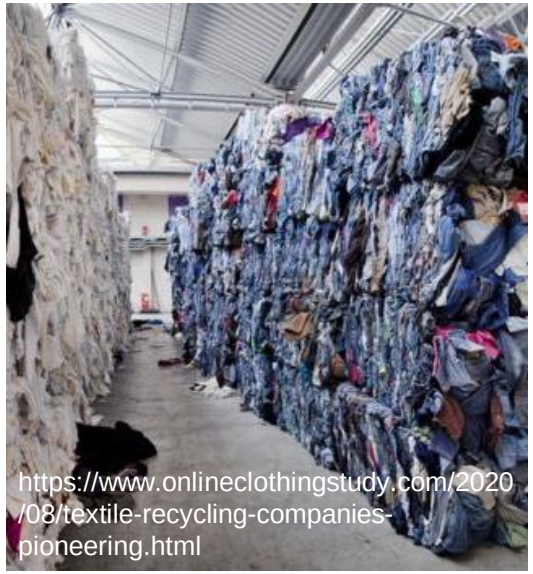
4. Quaternary industry information systems and information technology (IT); research and development, including technological development and scientific research; financial and strategic analysis and consulting; media and communications technologies and services; and education, including teaching and educational technologies and services.

(Encyclopaedia Britannica, https://www.britannica.com/technology/industry, Oct 21, 2022)

Research and development campuses working on new and recycled fibres


https://indiantextilejournal.com/global-textile-chemicals-market-to-reach-38-9-bn-by-2031/


https://www.ecotextile.com/2021010527191/features/textile-chemical-giants-launch-new-alliance/all-pages.html


https://www.onlineclothingstudy.com/2020/08/textile-recycling-companies-pioneering.html

https://www.lenzing.com/lenzing-group/locations

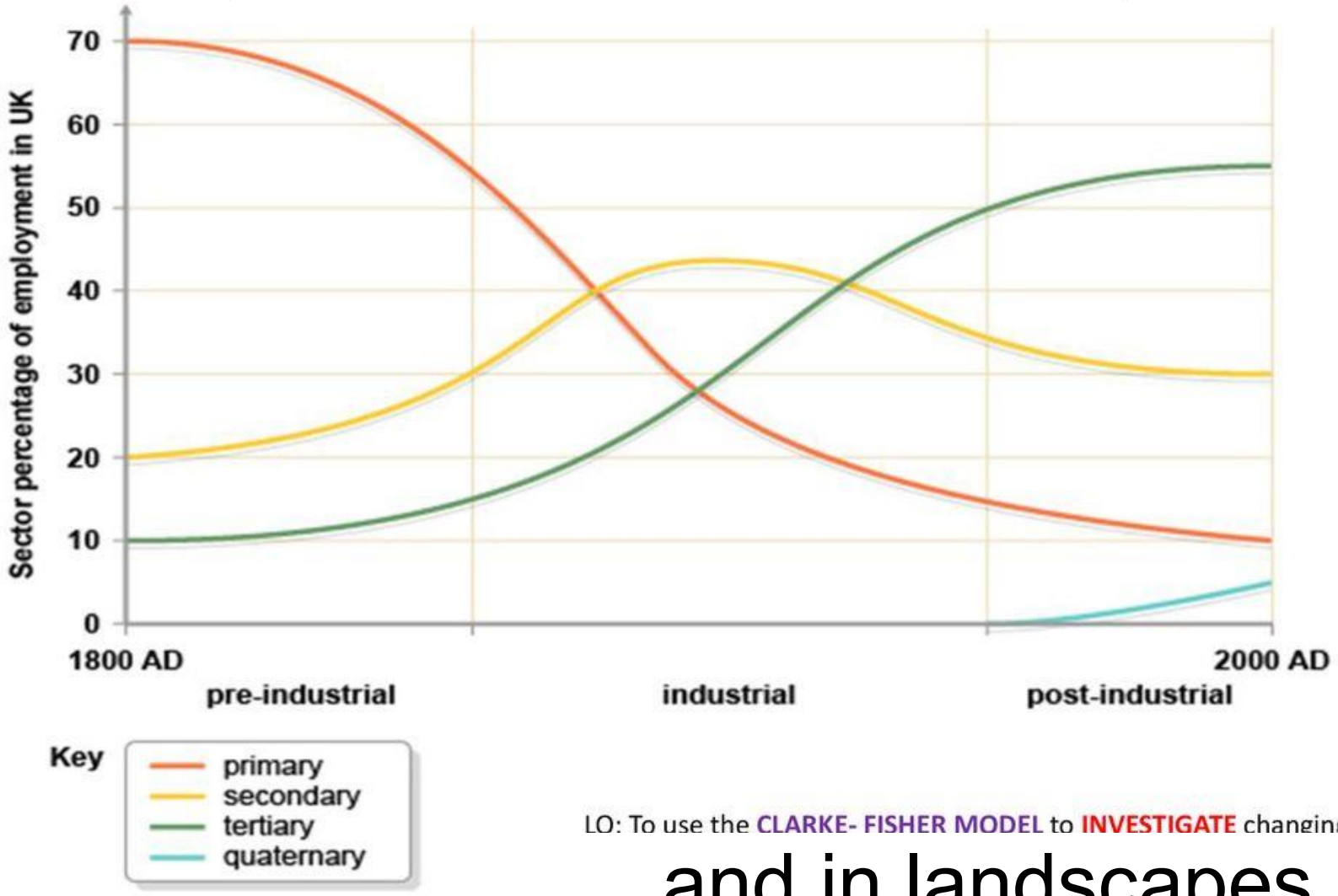
Fashion design campuses


Fashion campus of LPP in Gdańsk (JEMS Architects https://jems.pl/projekty/wybrane-prace/lpp.html

Concept of value added chain

Changes in employment structure

The Clarke-Fisher model




https://wroclaw.tvp.pl/20407537/powrot-do-lnu


https://jems.pl/projekty/wybrane-prace/lpp.html

LO: To use the CLARKE- FISHER MODEL to INVESTIGATE changing

…and in landscapes

Concept of value added chain

Sustainability Impact of (fast fashion) Value Added Chain

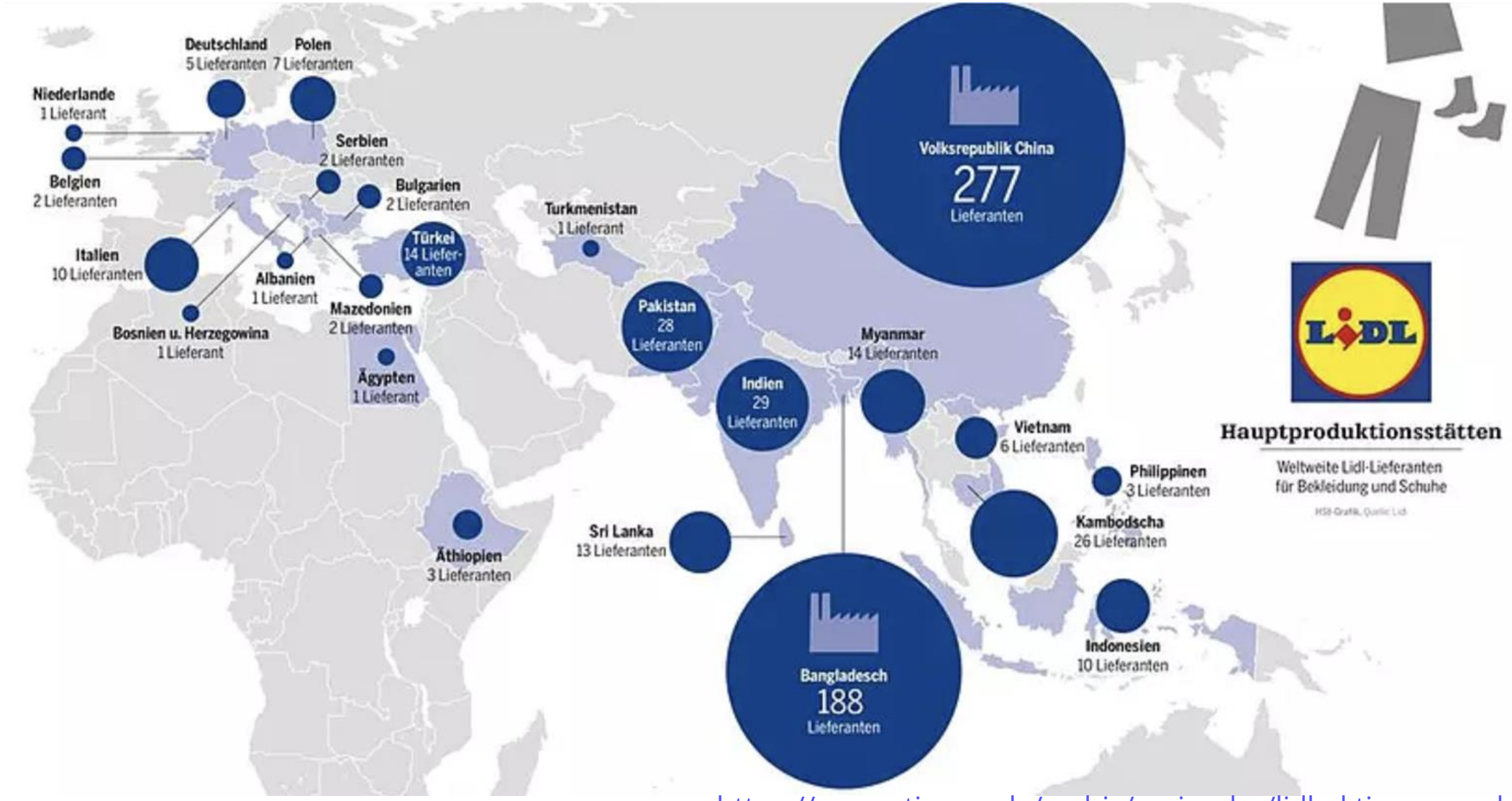
21st century: Logistics 15,172 km for a tshirt

1. The cotton may have been harvested in China, where the fluff is separated from the seeds and pressed into bales.
2. These bales are sent to textile mills in India where they go through a spinning process, they're twisted into yarn and then heat-treated, washed, bleached and dyed.
3. The cloth could then be sent to Bangladesh, where the fabric is cut and sewn into the t-shirt.

   The garment may then be sent to a processing factory for creating prints or embroideries.
4. Sent to a processing factory Sri Lanka.
5. Transported to the UK for point of sale.

https://smallbizclub.com/run-and-grow/operations/products-supply-chain-hits-countries-realize/; retrieved 25.05.2022

About 650 supplier for promotional goods (textile and shoes) from Lidl



https://www.stimme.de/archiv/region-hn/lidl-aktionsware-kommt-aus-asien-und-ost-europa-art-3811736 (2017)

Impact of (fast) fashion value added chain

Source: https://www.krone.at/2562900#fb-10555-9159cb8b; 01.10.2023

Ecological and social impact of the textile industry [1]

8-10 % of global greenhouse gas emissions [2]

17 to 20 percent of the world's industrial wastewater in textile finishing

approx. 1/3 of the world's microplastic comes from synthetic clothing

approx. 4.5 million tn. clothes end up in landfills in Europe per year

approx. 200 million predominantly women work in the textile industry, often under undignified conditions, without union protection and for wages that do not guarantee their livelihoods [3]

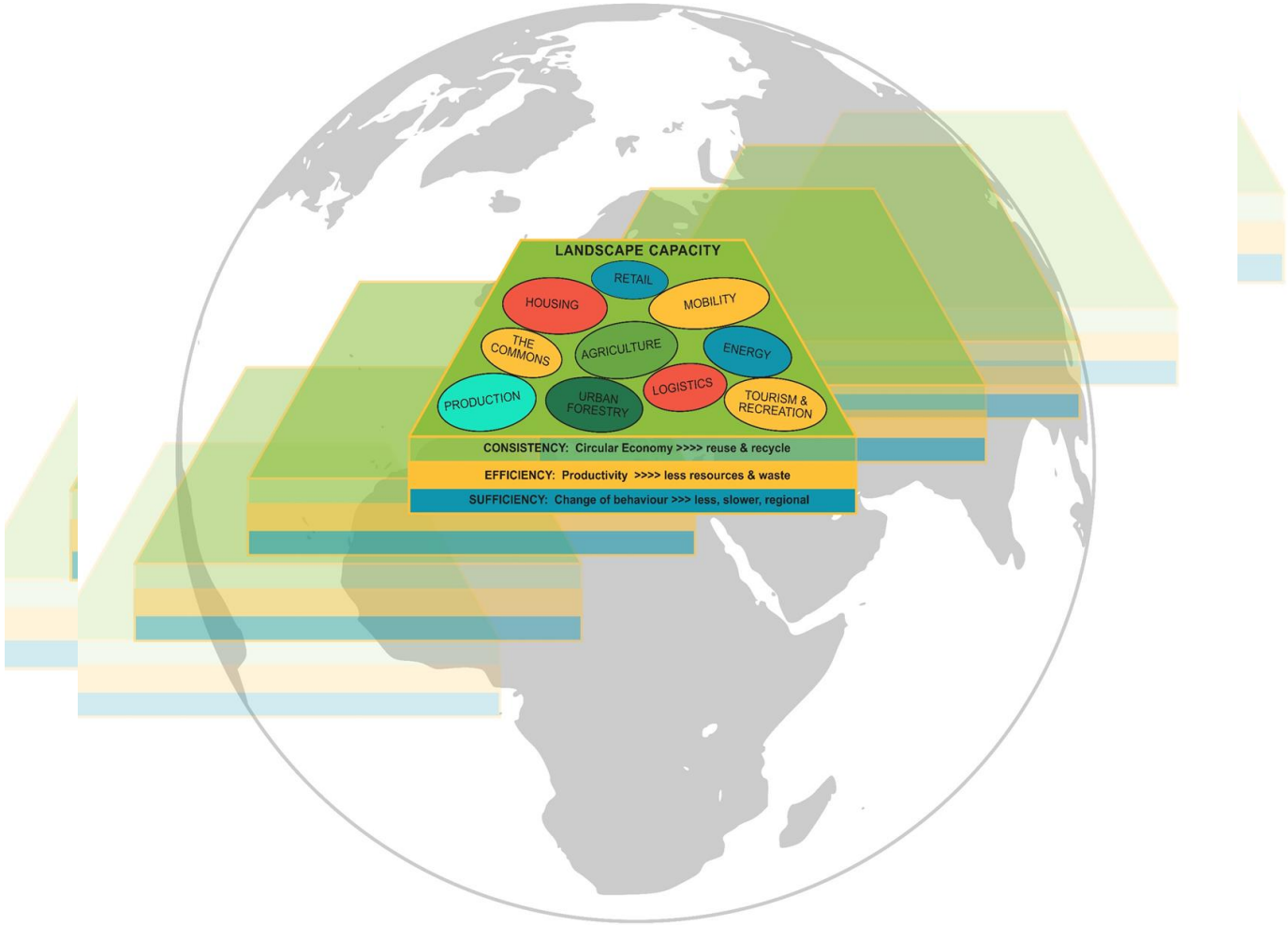
For every kilo of textiles that less is bought new, we save in the global value chain [4]

- 26 kg raw materials
- 600 l of water
- 27 sqm land consumption
- 18 kg CO_2 equivalents

1. https://doi.org/10.3389/fenvs.2022.973102
2. https://www.idos-research.de/uploads/media/DIE_Publikation_Textilwirtschaft_2019.pdf
3. https://www.europarl.europa.eu/news/en/headlines/society/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographic
4. Quelle: https://www.eea.europa.eu/data-and-maps/figures/eu27-apparent-consumption-of-clothing/

Hidden Landscapes

It is not only about the landscape that you see around you.



Transformation of Textile Landscapes along the Value Chain

raw material

19th century

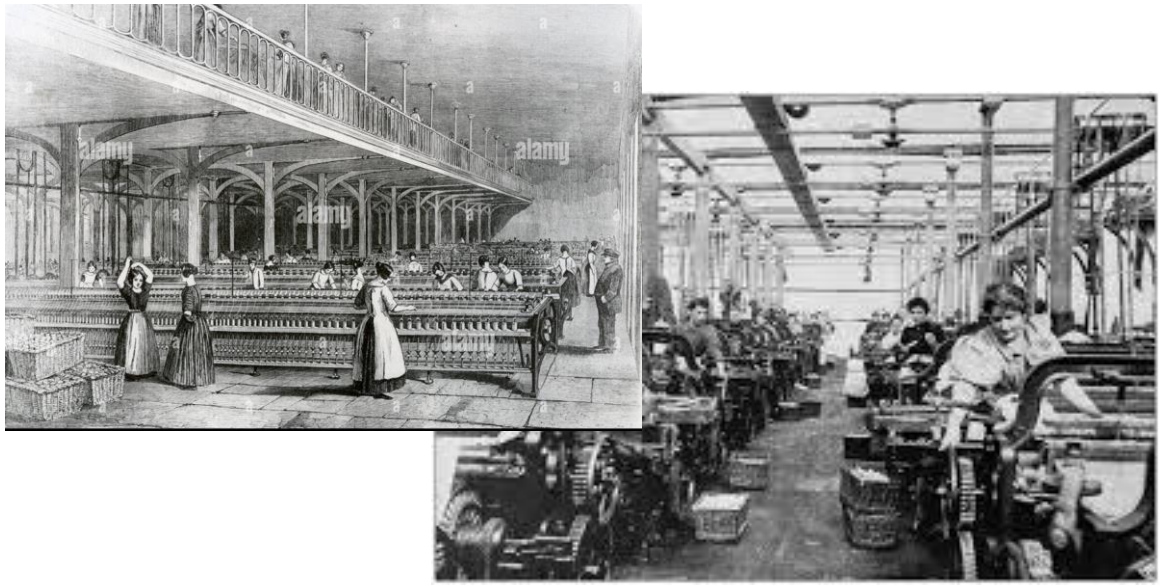
Decentralized in different places in Europe; materials: sheep wool, flax and hemp; until the end of the 18th century, sheep farming in Germany was a success story. Around 30 million sheep were kept solely for wool production. Sheep population 2022 in Germany: 1.5 million

today

Approximately 50 percent of the world's textiles are made of cotton. This is grown on around 30 million hectares (2% of arable land). The annual production volume is around 25 million tons. India and China are the largest cotton producers in the world, with over 6 million tonnes each.

spinning mill

19th century



Linen spinning and weaving in Germany was mainly located in low mountain ranges such as the Swabian Alb. In Germany, the linen industry, in contrast, was a trade closely associated with agriculture by the peasant population. Child labor was something completely normal in those years.

today

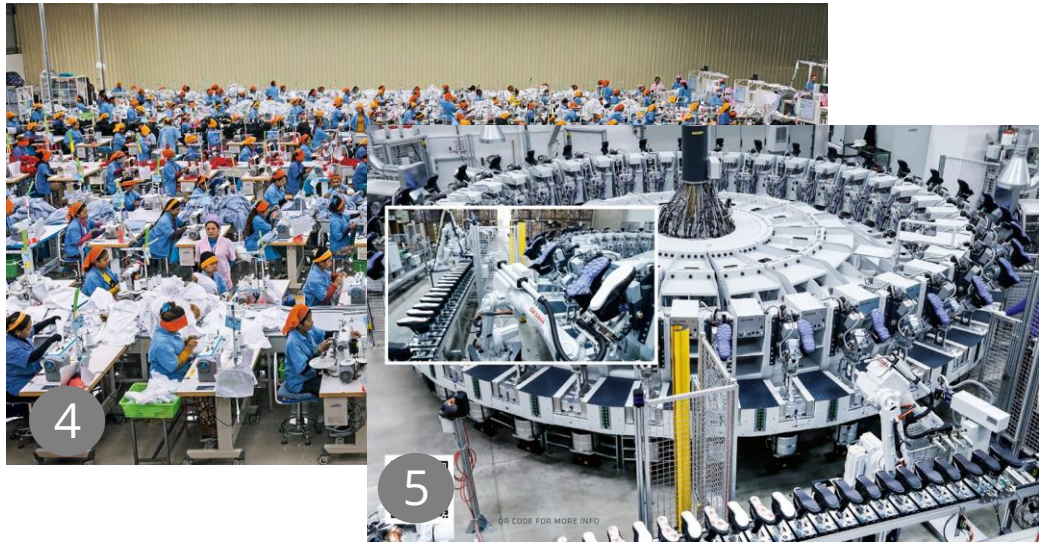
Today, only a few spinning mills exist in the industrialized countries. Most spinning fully automized mills are located in Asia, namely in China and India.

production of textiles

19th century

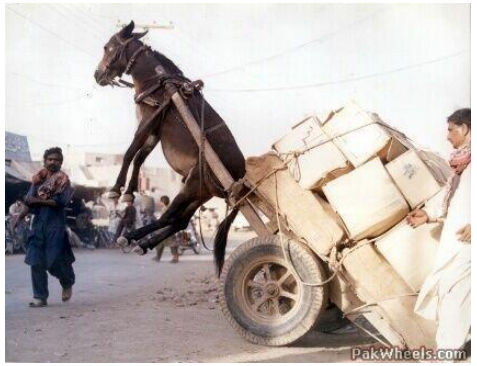
In the past, sewing work was done almost exclusively by women in home work, but they also took over sewing in sewing rooms or larger textile workshops. Before the sewing machine conquered the market in the 19th century as part of industrialization, people sewed exclusively by hand. (Picture: first sewing machine, 1830).

today



There are over 7,500 textile factories in India, where many women and children in particular work many hours a day under very poor conditions. They work 12 to 16 hours per day, controlled by male shift supervisors, for a lower wage of 20 € per month. Due to the development towards Industry 4.0 (digitalization), manual labor is increasingly being replaced by technology.

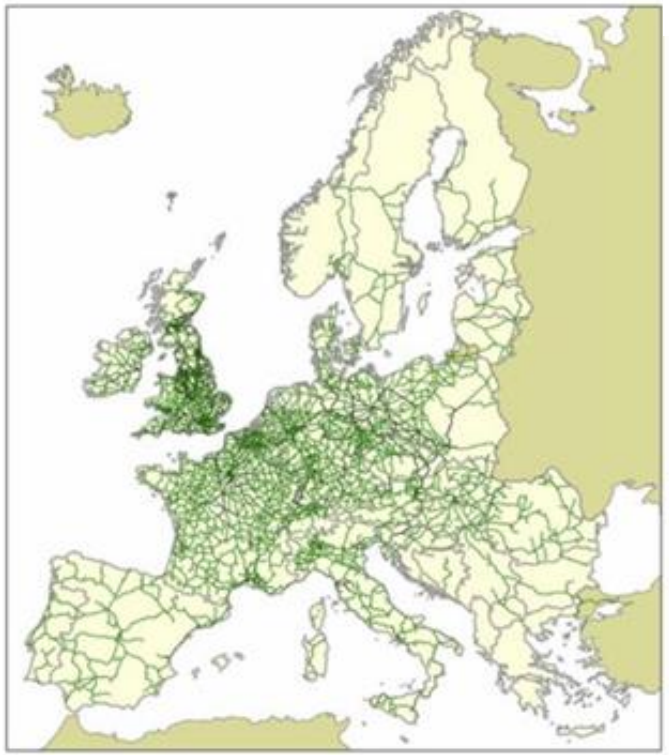
Transport



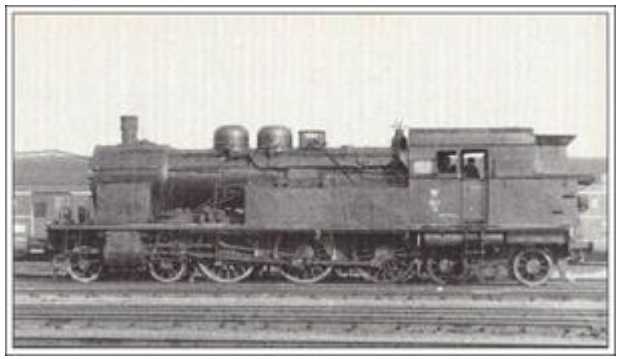
19th century

today

Railway map of Europe: 1850-1890.



1850-1890

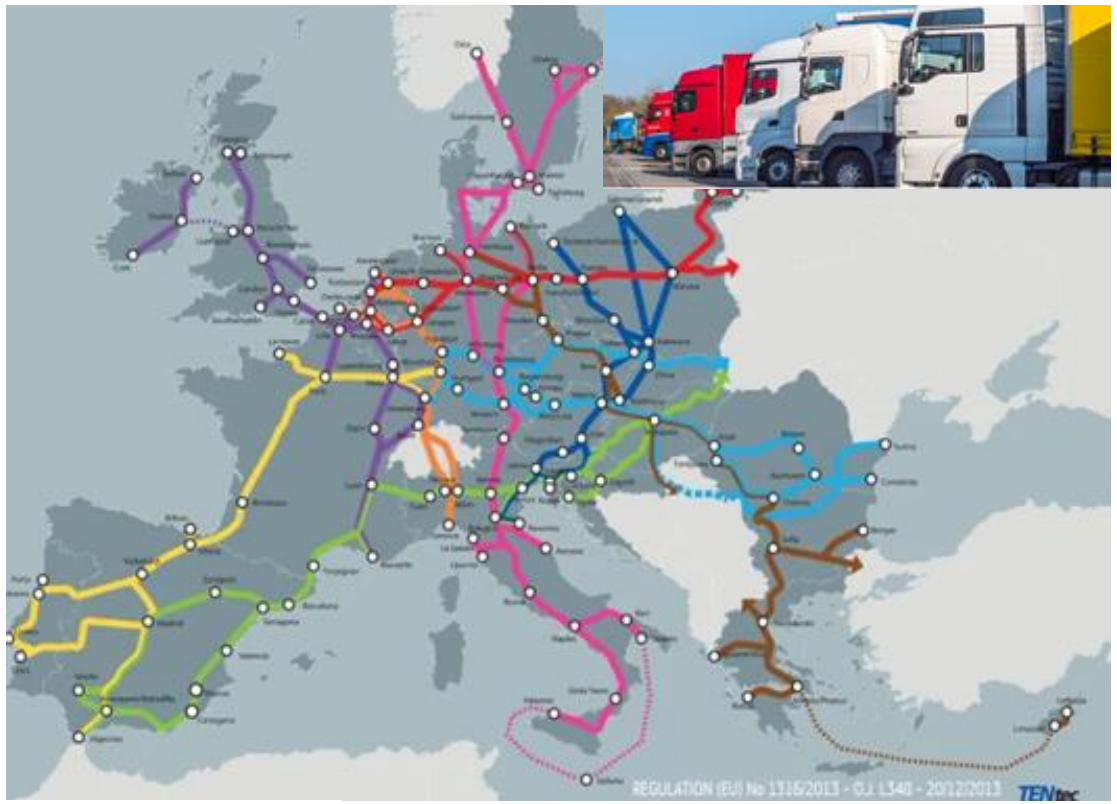


Opened since 1850

Closed since 1850

In service before 1850

The TEN-T network of transportation corridors across EU (2020).



Map: Journal of Geographic Information System, 2012, 4, 176-187
http://dx.doi.org/10.4236/jgis.2012.42023 Published Online April 2012 (http://www.SciRP.org/journal/jgis)
Picture: http://www.izba.centrum.zarow.pl/artykuly/872-lokomotywy-parowe-w-ruchu-pasazerskim-i-towarowym-na-odcinku-imbramowice-zarow-w4atach-1945-1965

Credit: European Commission.

Logistics and warehousing

See movie: https://sic.com.pl/

Textiles are still stored in beams, coupons and coils on racks (formerly wooden, now steel). However, due to the economies of scale and the large number of materials stored at the same time, today's warehouses are large automated halls where fabrics are stored on high racks and operated by stacker cranes. Hall buildings can have a projection of 3,000 - 5,000 m2 and heights from 12 m to even 50 m. They are usually accompanied by extensive zones of parking lots and roads. Due to their size, they are most often located on the outskirts of cities. The former warehouses, although they were large for their time, formed rather complexes of buildings with other warehouses, and loads were transported from them by rail or barges.

XIXth century warehouses in Hamburg, Germany

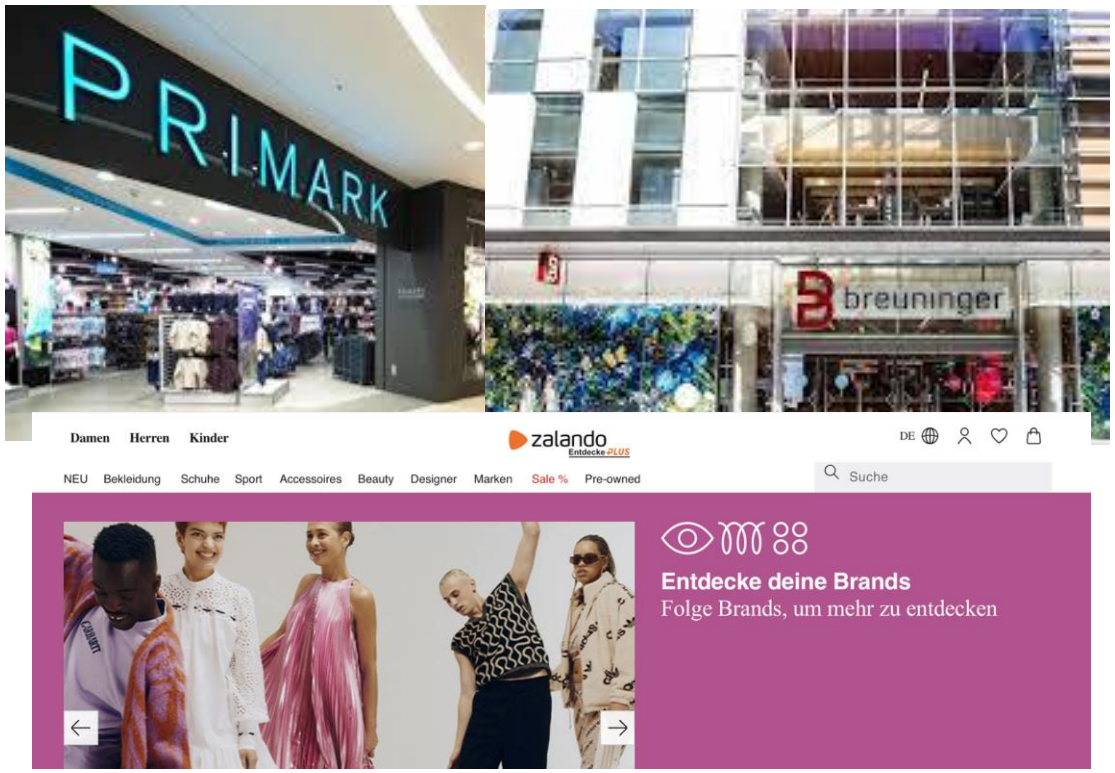
SIC sp. z o.o. in Łódź, Poland

https://sic.com.pl/en/warehouse-and-logistics/

selling textiles

19th century

today



In the 18th century, clothing was mostly homemade. The cloth could be bought at the market. The richer population had clothing made by a tailor. Today, there is mass distribution of textiles "off the rack," especially through international textile chains and online suppliers. Small & medium-sized suppliers are becoming less and less important.

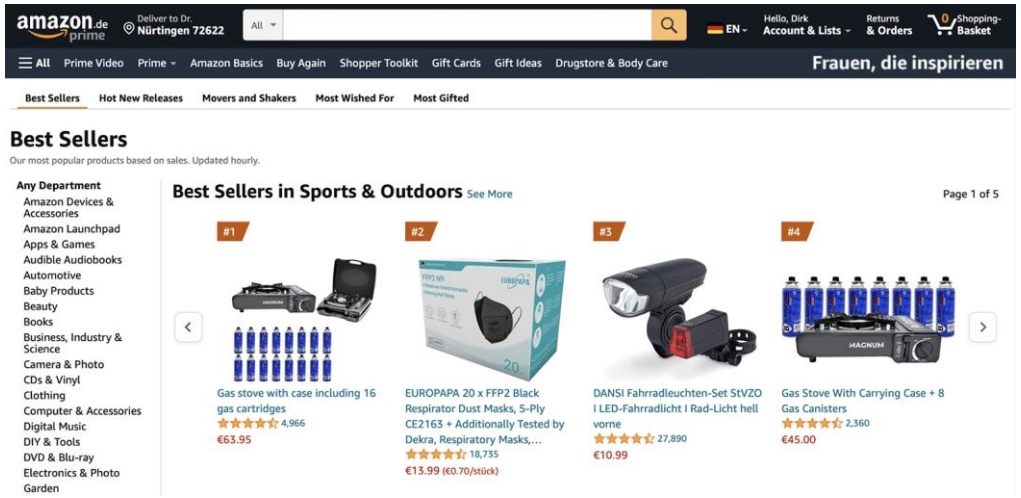
marketshare by size - german textile retailers			
turnover	2010	2019	delta
up to 5 Mio. €	28,2%	17,0%	-11,2%
5 - 100 Mio €	23,7%	21,5%	-2,2%
> 100 Mio. €	48,0%	61,4%	13,4%

Source: BTE

retail landscapes

transformation of landscape

Amazon landscapes



transformation of landscape

Waste and Landfill landscapes

92 million tonnes of textiles waste is produced every year
Of the 100 billion garments produced each year, 92 million tonnes end up in landfills. To put things in perspective, this means that the equivalent of a rubbish truck full of clothes ends up on landfill sites per second. If the trend continues, the number of fast fashion waste is expected to soar up to 134 mio. tonnes per year by the end of the decade.
(https://earth.org/statistics-about-fast-fashion-waste/, retrieved 01.10.2023)

https://earth.org/statistics-about-fast-fashion-waste/

https://netzfrauen.org/2023/01/09/fashion-9/

https://www.ft.com/content/39847318-ab6c-45f2-80b1-e1ea384f3596

Over 1 million jobs have been lost in the German textile industry since WW2. This has been accompanied by a different use of landscape and real estate.

Haux Brothers textile production swabian alb founded 1885

Insolvency 1987, today: location of a university

Neckar spinning mill, Wendlingen Oberbohingen founded 1861

closed 2020, in transformation project of IBA'27

„Kaiser“-House Nürtingen textile department store build 1868

sold 2023; in transformation „Worldhouse“ project of IBA'27

CASE STUDY
LPP, GDAŃSK, POLAND

LPP Gdańsk
CASE STUDY

BRAND EXPANSION

1998 | RESERVED

2004 | CROPP

2005 | ESOTIQ

(sold 2010/2011)

2008 | HOUSE, MOHITO

(both brands acquired as a result of the acquisition of Artmar

2013 | SINSAY

2016 | TALLINDER

(closed in 2017)

EXPANSION OF E-STORES BY COUNTRY

2011 | POLAND

2014 | GERMANY

2015 | CZECH REPUBLIC, SLOVAKIA, ROMANIA

2016 | HUNGARY

2017 | LITHUANIA, LATVIA, GREAT BRITAIN, RUSSIA

2018 | BAHRAIN, KUWAIT, UAE, SAUDI ARABIA, OMAN

2019 | CROATIA, UKRAINE

2019 | PAN-EUROPEAN ONLINE STORE: Denmark, Austria, Finland, Netherlands, Spain, Italy, France, Portugal, Belgium, Ireland, Sweden, Luxembourg, Greece

2020 | SLOVENIA, ISRAEL

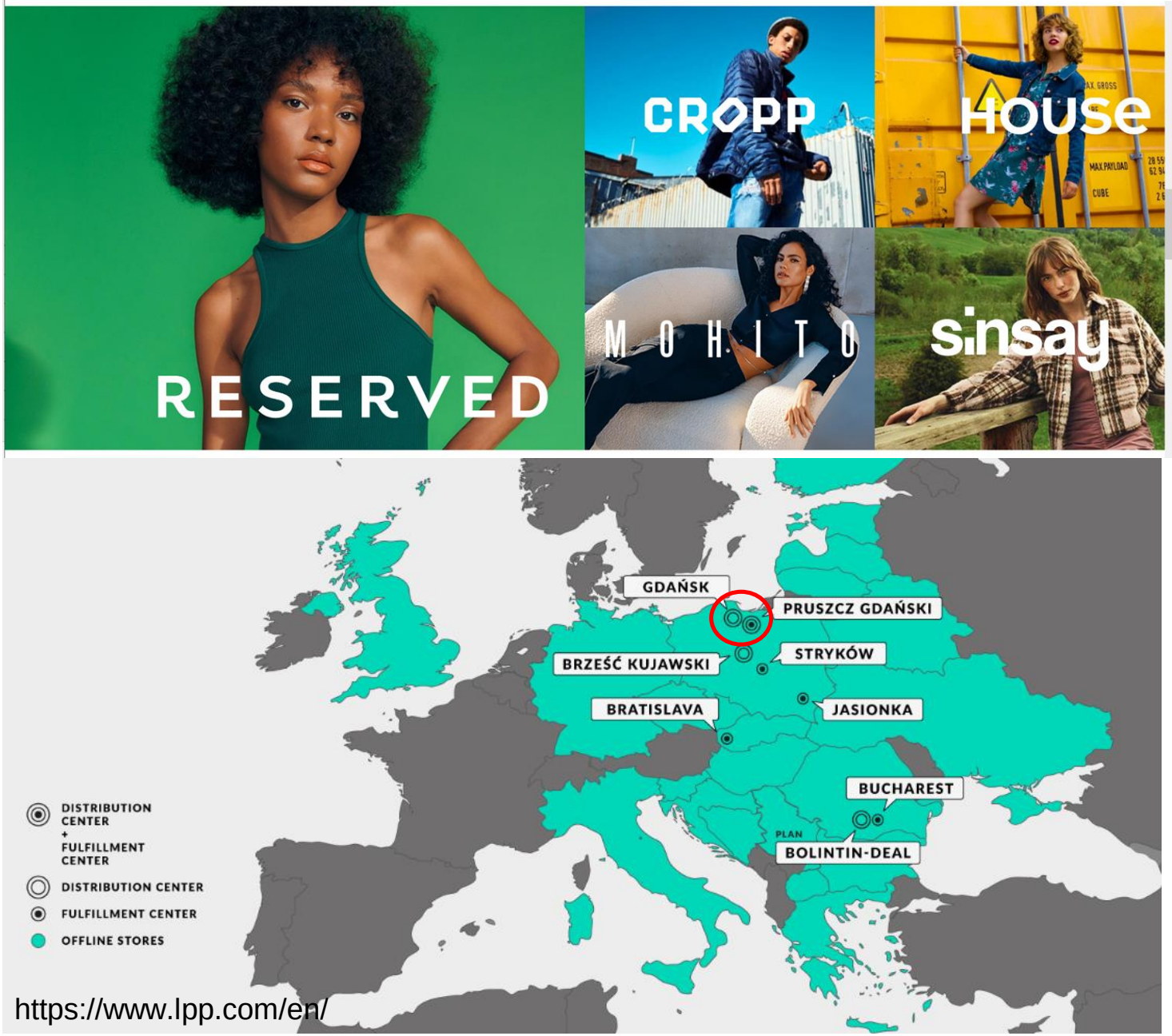
2021 | BULGARIA, QATAR

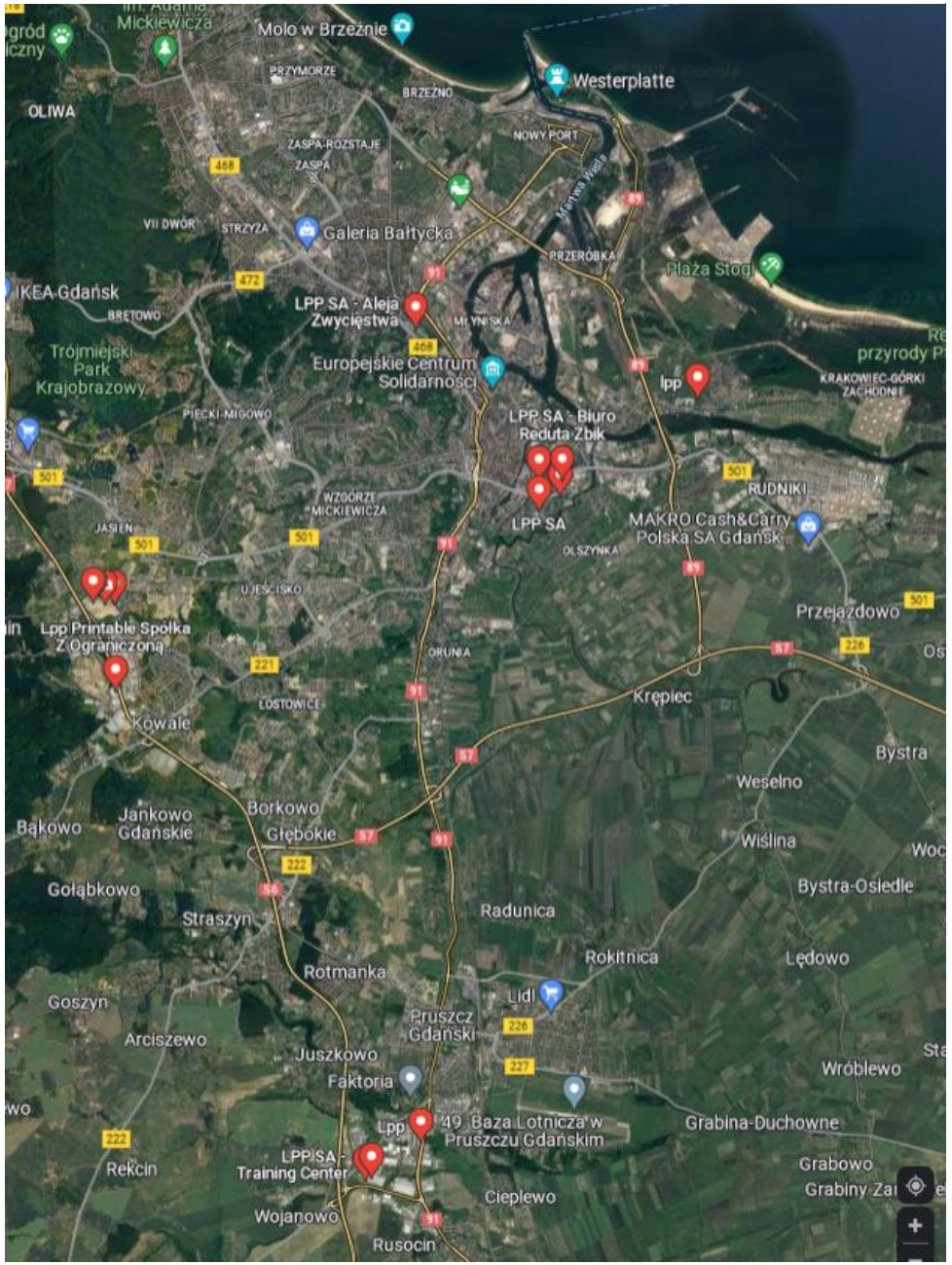
2022 | SERBIA, ITALY, LEBANON

2023 | GREECE

https://www.lpp.com/en/about-us/strategy/#strategy (access: November 2023)

LPP Gdańsk – CASE STUDY





https://www.lpp.com/en/

29 930 employees worldwide, including 16 686 in Poland	**1 962** stores in 27 countries on 3 continents	**Almost430mln** pieces of clothing sold annually

https://www.reserved.com/pl/pl/t-shirt-slim-fit-1895t-99x

KROK 1: PROJEKTOWANIE

KROK 2: PRODUKCJA

KROK 3: WYSYŁKA I LOGISTYKA

KROK 4: SPRZEDAŻ

STEP 1

DESIGN

3 design offices in Poland (Gdańsk, Cracow, Warsaw) and 1 office in Spain (Barcelona)

Over **338** designers, 5 diverse brands

STEP 2

PRODUCTION

1 238 suppliers from Asia and Europe

We do not own any manufacturing facilities

STEP 3

SHIPMENT AND LOGISTICS

Global supply and distribution network with:

4 Distribution Centres and **4** Fulfillment Centres

413 thous. m^2 of combined warehouse space

STEP 4

SALE

Our collections are available in **39** countries **27** offline and **34** online

1962 stores with the combined space of **1 673 thous. m^2**

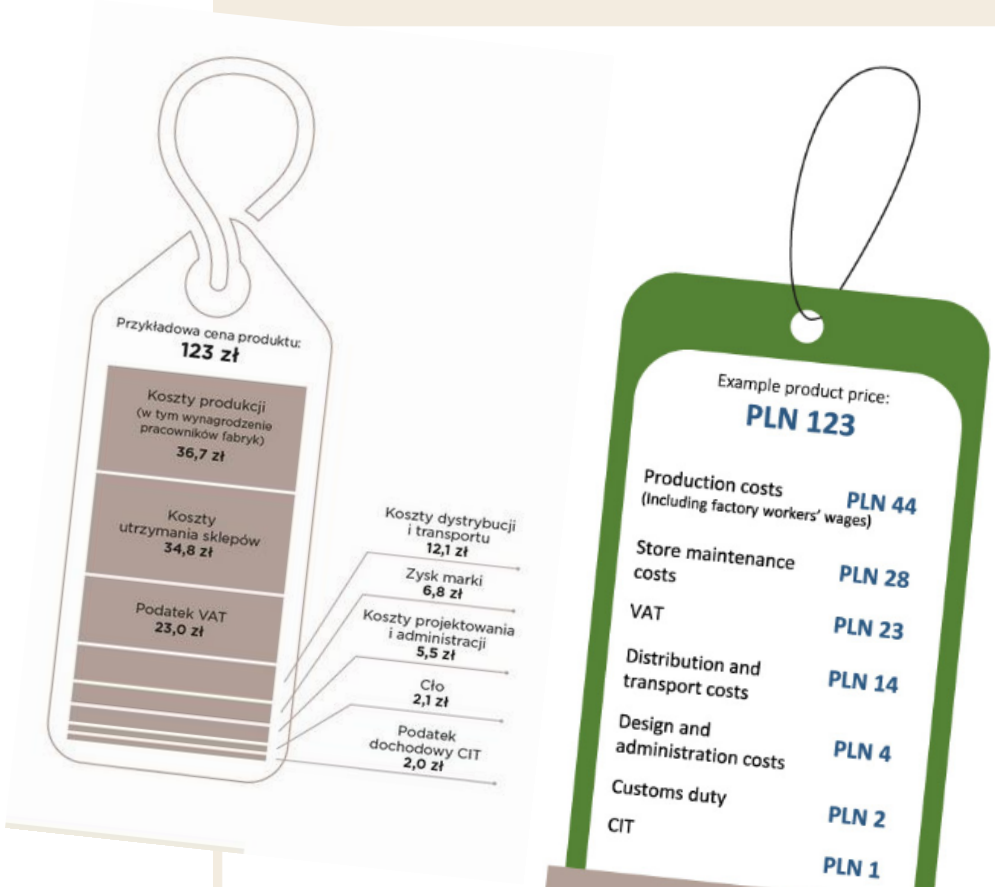
Almost **430 mln** items of clothing sold annually

https://www.lpp.com/en/sustainable-development/sustainability-report/ (access: November 2023)

Landscapes hidden behind a value added chain

Production, logistics, retail and consumptions are globally interconnected human activities, strictly bind with each other by technologies and supply interdependencies, which are creating a value added chain.

Business results



https://www.lpp.com/en/sustainable-development/sustainability-report/ (access: March 2023)

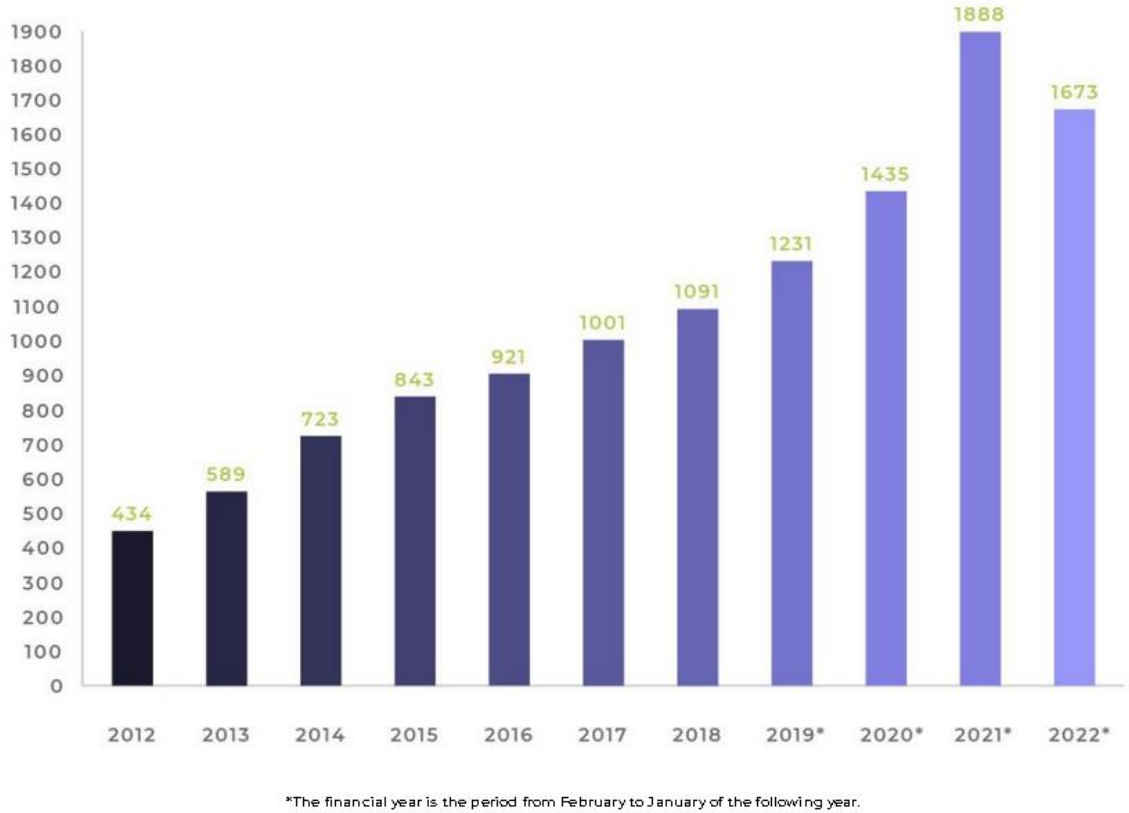
https://www.lpp.com/en/sustainable-development/sustainability-report/ (access: November 2023)

Our results in the financial year 2022/2023:

- Revenues from the e-commerce channel in the financial year 2021/22 amounted to PLN 4,392 million (19,3% increase y / y).
- High investment commitment at the level of PLN 1,157 million, including PLN 736 million for the development of the network of brick-and-mortar stores and PLN 421 million for infrastructure development (CAPEX).
- We drive Polish exports: its value in the reported financial year amounted to PLN 9 billion. Already 56.9% of the PLN 16.0 billion of our revenues comes from abroad.
- Our net sales revenues in the financial year 2022/23 are PLN 16 billion.
- Our contribution to the Polish budget amounted to over PLN 1.7 billion.

https://www.lpp.com/en/sustainable-development/sustainability-report/ (access: November 2023)

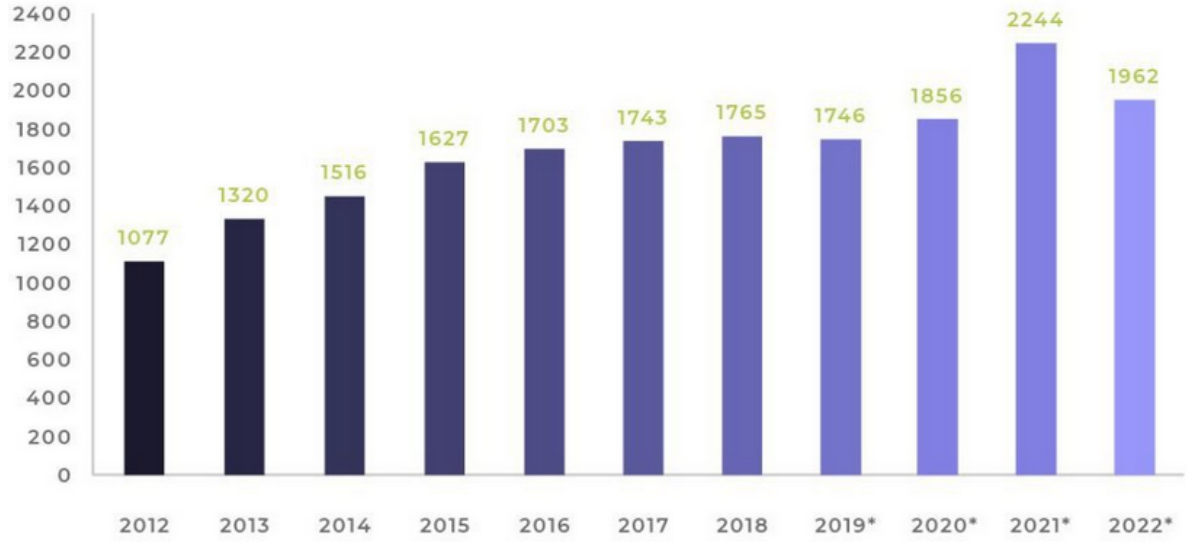
LPP – Area development in thousands m2 (2012-2022)



*The financial year is the period from February to January of the following year.

https://www.lpp.com/en/about-us/lpp-in-numbers/ (access: November 2023)

The development of the LPP stores network (2012-2022)



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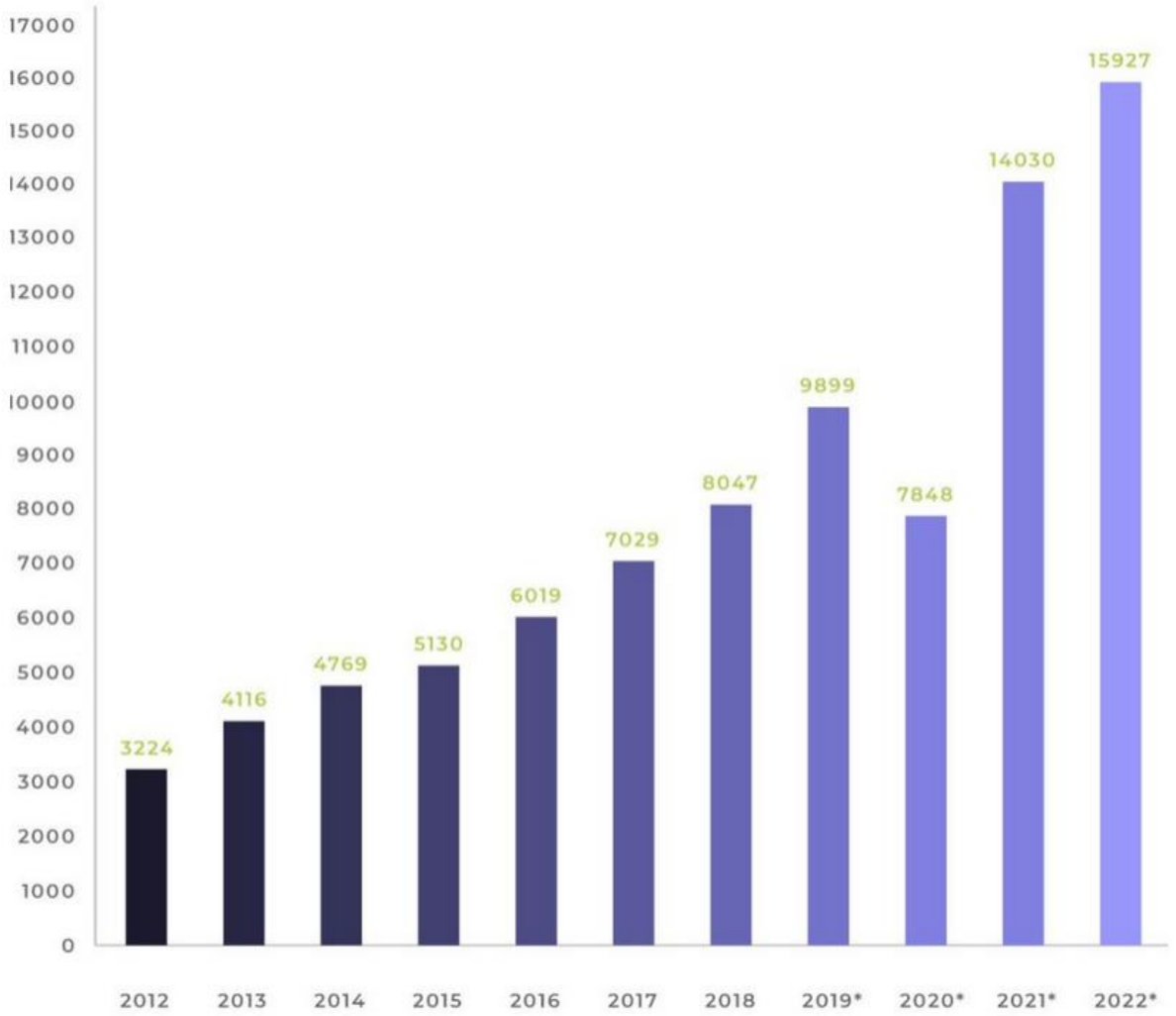
Sales (mln pln) (2012-2022)



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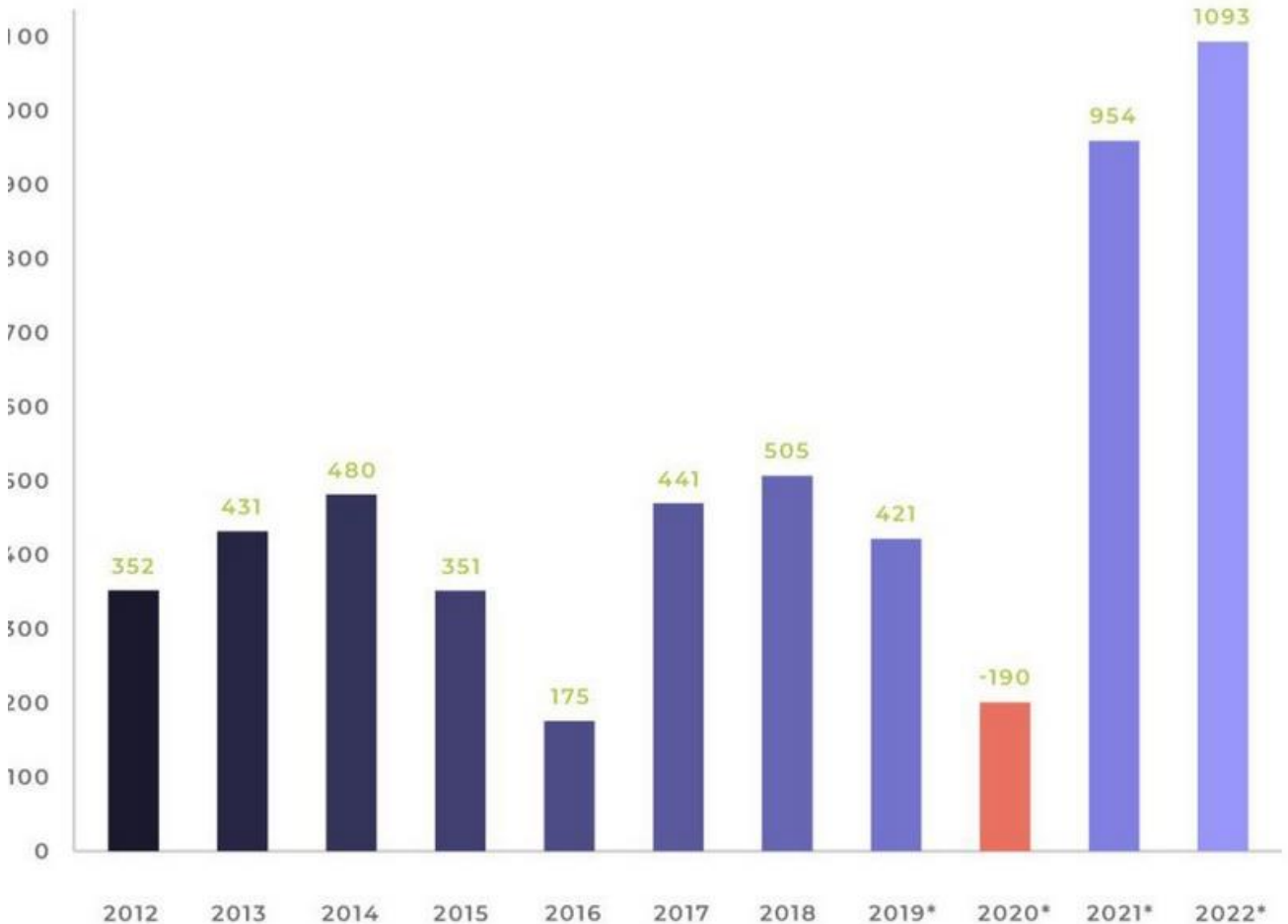
Net profit (mln pln) (2012-2022)



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https://www.lpp.com/en/about-us/lpp-in-numbers/ (access: November 2023)

GENERAL

30+

Years of experience in the clothing industry

24,000+

Employees

DISTRIBUTION CENTRES

1,800+

The supply of 1,800+ shops handled at the same time

175,000

175,000 m^2 of floor space

18 mln

Clothing articles sent weekly (maximum values)

https://www.lpp.com/en/about-us/lpp-in-numbers (access: March 2023)

30+

years of experience in the garment industry

29,930

jobs

2,141

stores supplied by logistics centres

413,000

m^2 of surface

3 milion

pieces of clothing shipped to stores on average per day

https://www.lpp.com/en/about-us/lpp-in-numbers/ (access: November 2023)

THE AXIS OF OUR BUSINESS MODEL

Suppliers

Our business model is based on a dispersed value chain. On a daily basis, we work with over a thousand suppliers from different parts of the world, various cultures and often operating according to different working standards. Therefore, monitoring the conditions applicable at our suppliers, especially in the context of compliance with the principles laid down in the LPP Code of Conduct, is an integral part of our operations.

FIND OUT MORE →

Collection of clothing

The linear model of clothing use, based on the short life cycle of clothes, most of which eventually end up in landfill, is one of the ills of modern times. To this end and for several years now, we have been consistently working to extend the life of textiles.

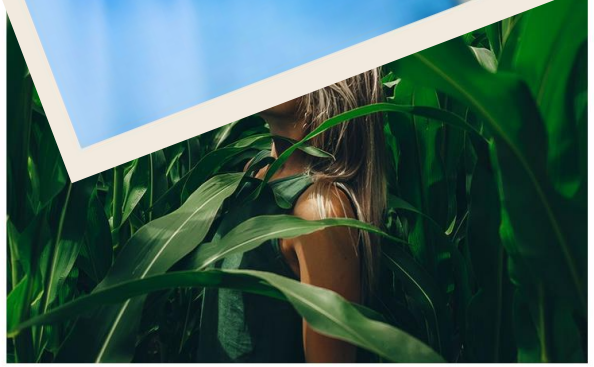
Since 2018, we have been collecting second hand clothing of any brand, which we donate to people in need. In 2022, we a…dy extended the used clothing collection pro… all our stores in Poland, and in 2023 we will e… to more countries where we sell our …nd hand clothing.

LPP sustainable development companies

…educing textile waste

The European Environ… Agency inc… European Union alone around 5.8m to… discarded each year. Only 1% of used… with a view to producing new textile…

To counteract this, we ensure tha… matched to the supply genera… achieved with the use of cu… developed by our team … science, machine lea… able to forecast th…



…OUR EMISSION…

Emissions

Since 2018, we have been measuring gree… emissions along the entire value chain from the… material sourcing, through production, transpo… by our customers. As a result, we are aware of o… environmental impact and which areas require… attention.

FIND OUT MORE →

WE AIM TOWARDS CLIMATE NEUTRALITY

Environment

Climate challenges are an area on which LPP's strategic initiatives have been focused for several years now. Our actions are based on scientific research, as only then can we be sure that our solutions will have a real impact on implementing positive environmental change.

1 584 t

of plastics less in our packaging (since 2017)

80%

of clothes produced in Bangladesh comply with ZDHC standards

Circu…

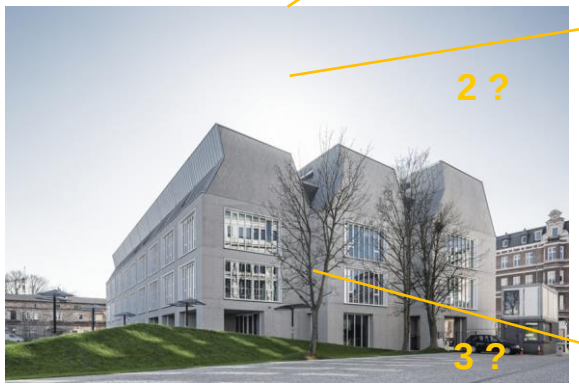
We are already working on solu… economy to turn textile waste into reso…

https://www.lpp.com/en/sustainable-development/people/ https://www.lpp.com/en/sustainable-development/environment/ (access: November 2023)

Excercice 1: Better understanding of system and challenges

Choose one picture of landscape from the following set (1-4) and answer the questions:

1. **How this landscape is connected with the LPP office?**
2. **What type of landscape existed presumably in this area before and what transformation it went through?**
3. **How do you perceive /evaluate the impact of this change on landscape transformation?**



LPP office in Gdańsk

1 ?

2 ?

3 ?

4 ?

System Change

deciders

System Change

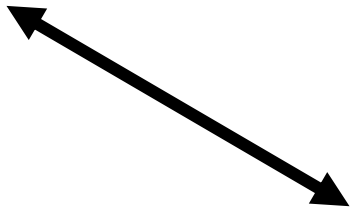
deciders

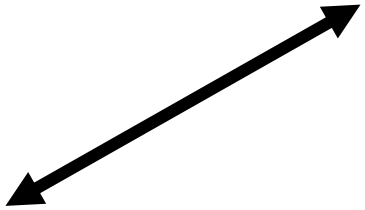
local
regional
national
international

governments

companies

charity
social enterprice
traditional business





people

consumer / voter / citizens

System Change – deciders (people as consumer)
attitude - behaviour gap

Sustainability awareness

Knowledge about and insight into she consequences of of individual purchasing and behaviour as well as the willingness to change behaviour.

?

Consumer behaviour

Targeted preference for those behaviours which, according to at least one criterion, are superior to similar behaviours.

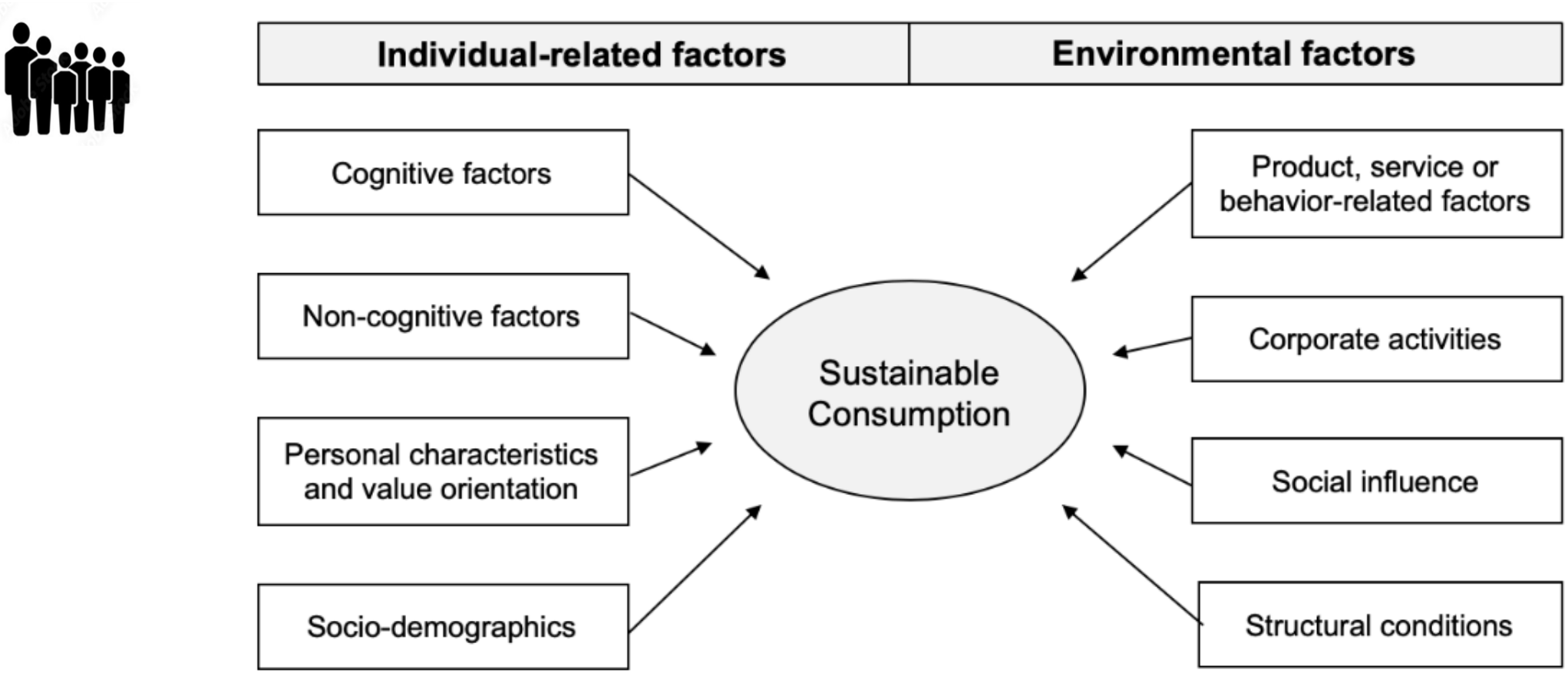
attitude - behavioural gap

A high correlation between awareness of social and ecological problems and and correspondingly adapted decisions and behaviour is not to be expected due to other influencing variables.

exemplary: Martinez, 2018 & Wintschnig, 2021.

System Change – deciders (people as consumer)

Factors influencing sustainable consumption



Wintschnig, 2021, p. 340.

System Change – deciders (people as consumer)

barriers of sustainable consumption - a stage model

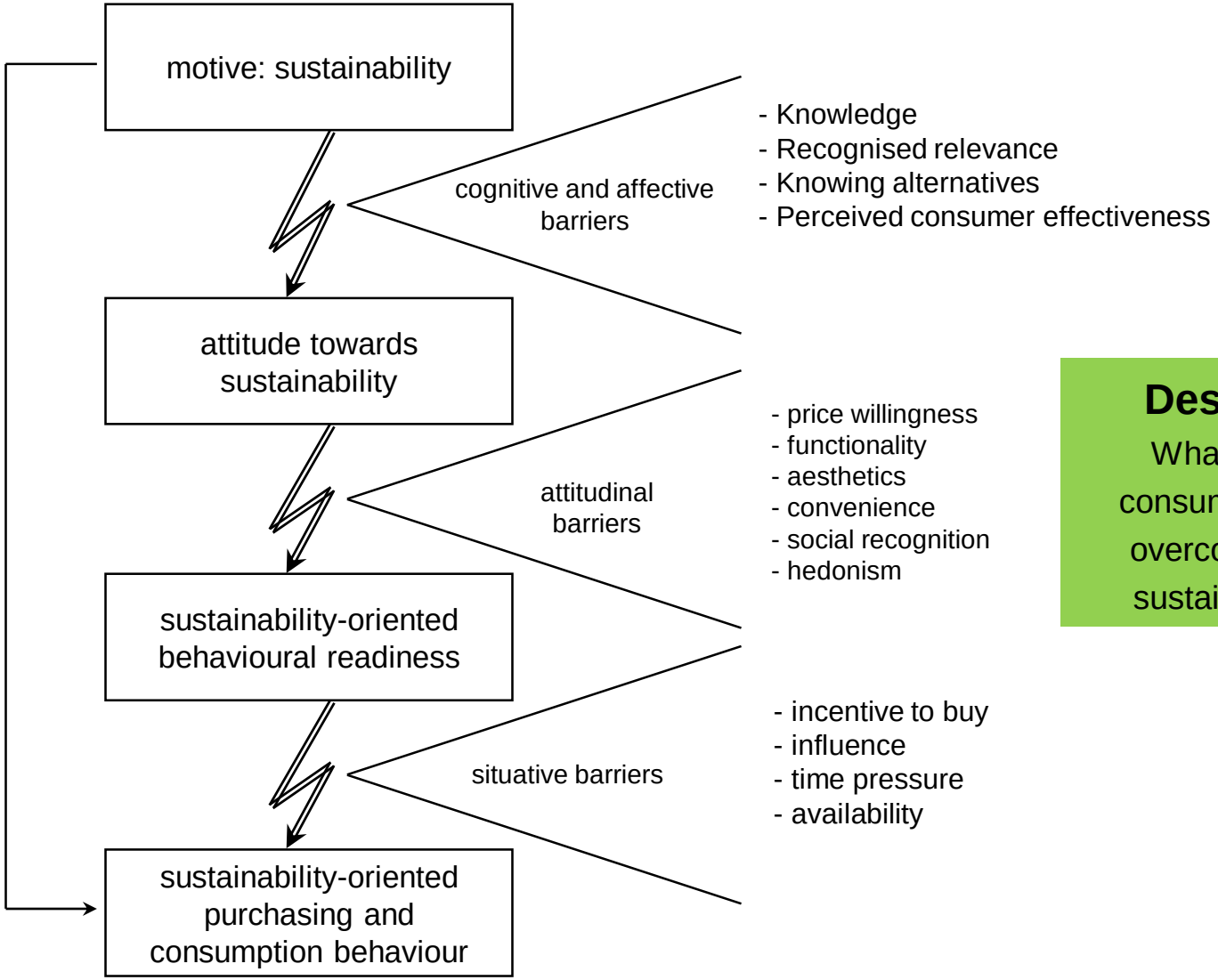
overarching values

attitude towards specific behaviours

?

situational assessment

action



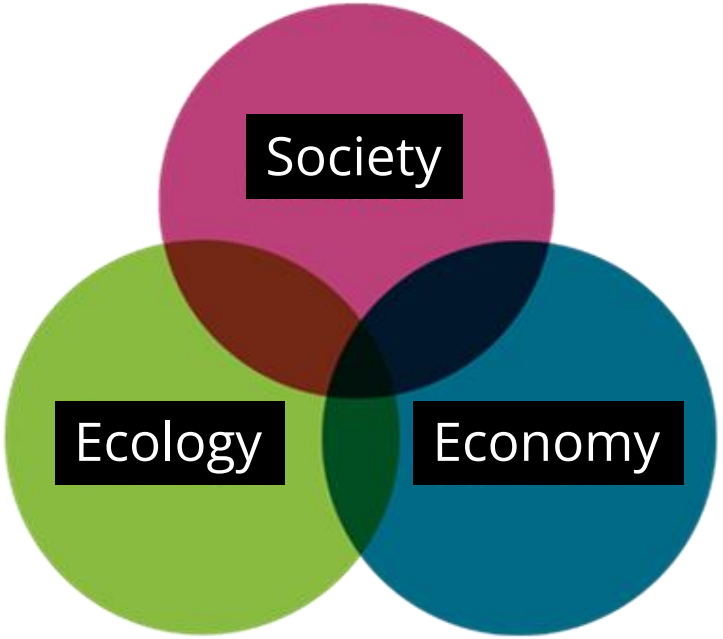
Design Challenge

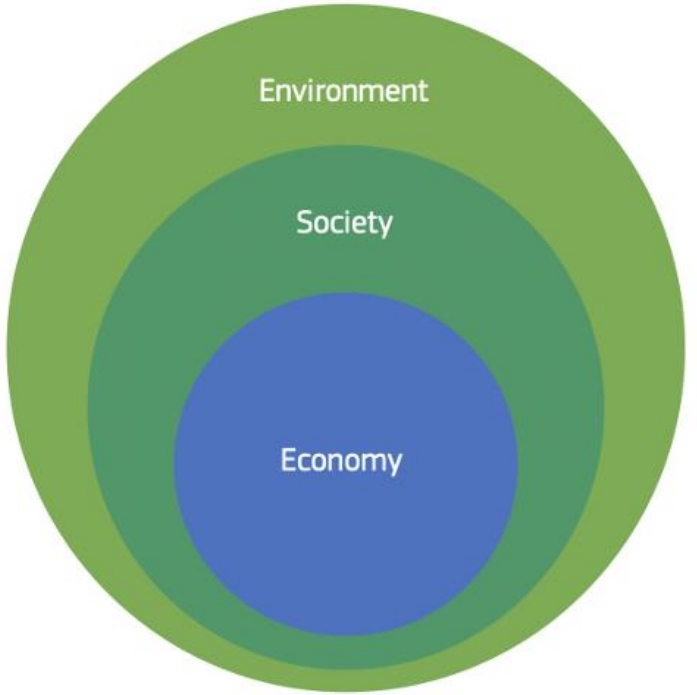
What can we do to help consumers be better able to overcome barriers to more sustainable consumption?

Based on and further developed:Funck, 1996

System Change – deciders (companies)

In which world do we live?



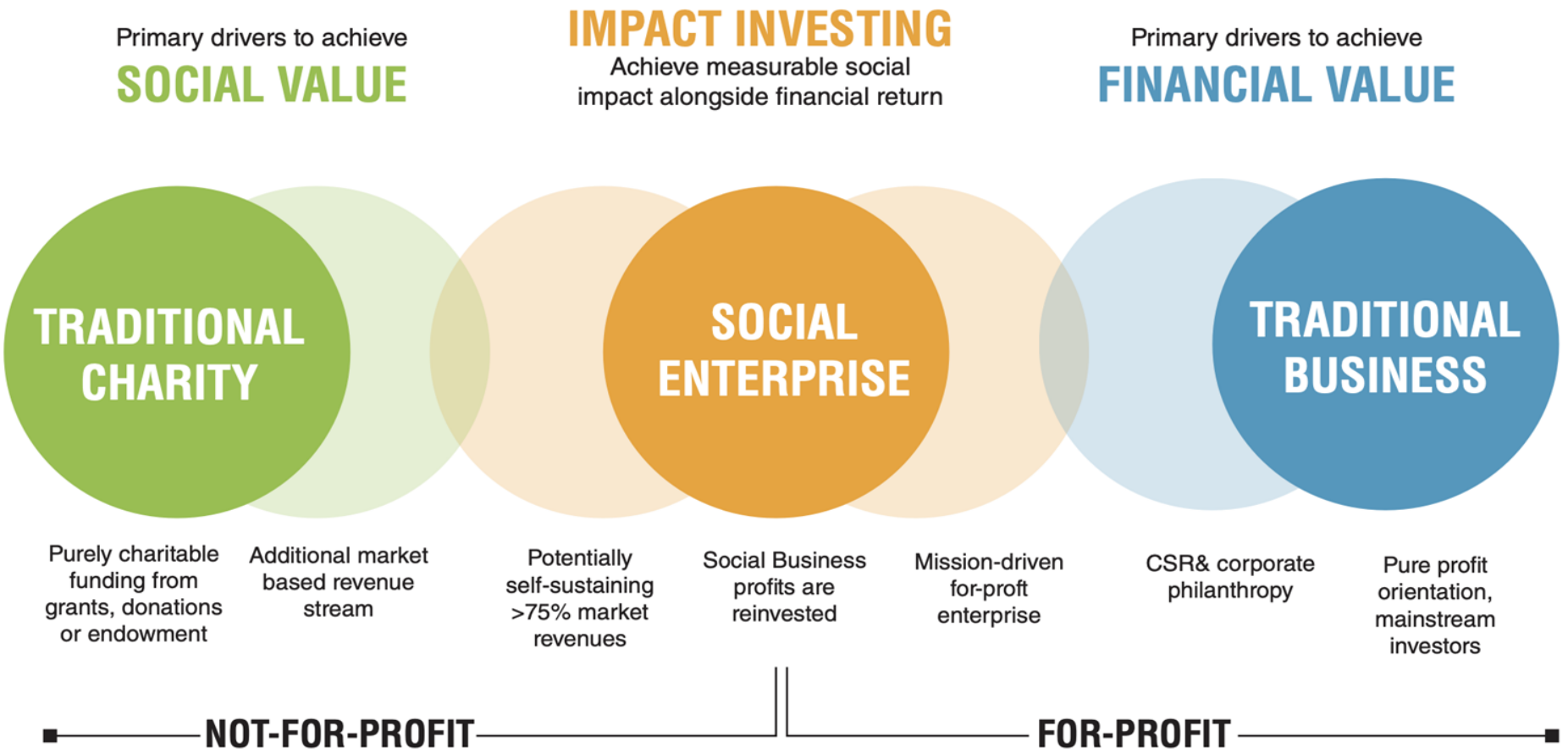


„My shareholders expect the highest possible return on investment. I cannot prioritise social and environmental issues.“

„Natural resources are limited. Growth and profit can only take place within the natural limits of the earth.“

System Change – deciders (companies)

Business for profit or not?



Design Challenge

What can we do to help more investors recognize the importance and value of impact investing?

System Change – deciders (governments)
economic policy

Economic policy is the term for all governmental and associational activities aimed at influencing the decisions of economic policy actors. This takes place at different levels: local, regional, national, international (e.g. EU).

Regulatory policy
Economic legislation that provides a long-term framework for economic agents.

e.g. Supply Chain Act, Circular Economy Action Plan

Shape Framework

Process policy
Direct, short- and medium-term interventions Interventions by the state (influencing prices, quantities, costs).

e.g. subsidies for e-cars, increase in mineral oil tax (Incentives to act / not act

Provide Incentives

Structural policy
Long-term regional or sectoral measures to enable economic / social change.

e.g. subsidies for charging stations for e-cars, subsidies for the expansion of bicycle paths.

Create Conditions

Design Challenge

How can we succeed in ensuring that policy makers systematically and consistently take into account the findings for a more sustainable orientation in their decisions?

System Change – deciders (governments)
policy guidance framework

- private property
- freedom of choice
- motivation of self interest
- competition
- growth and consume
- limited regulation
- GDP as a measure of welfare

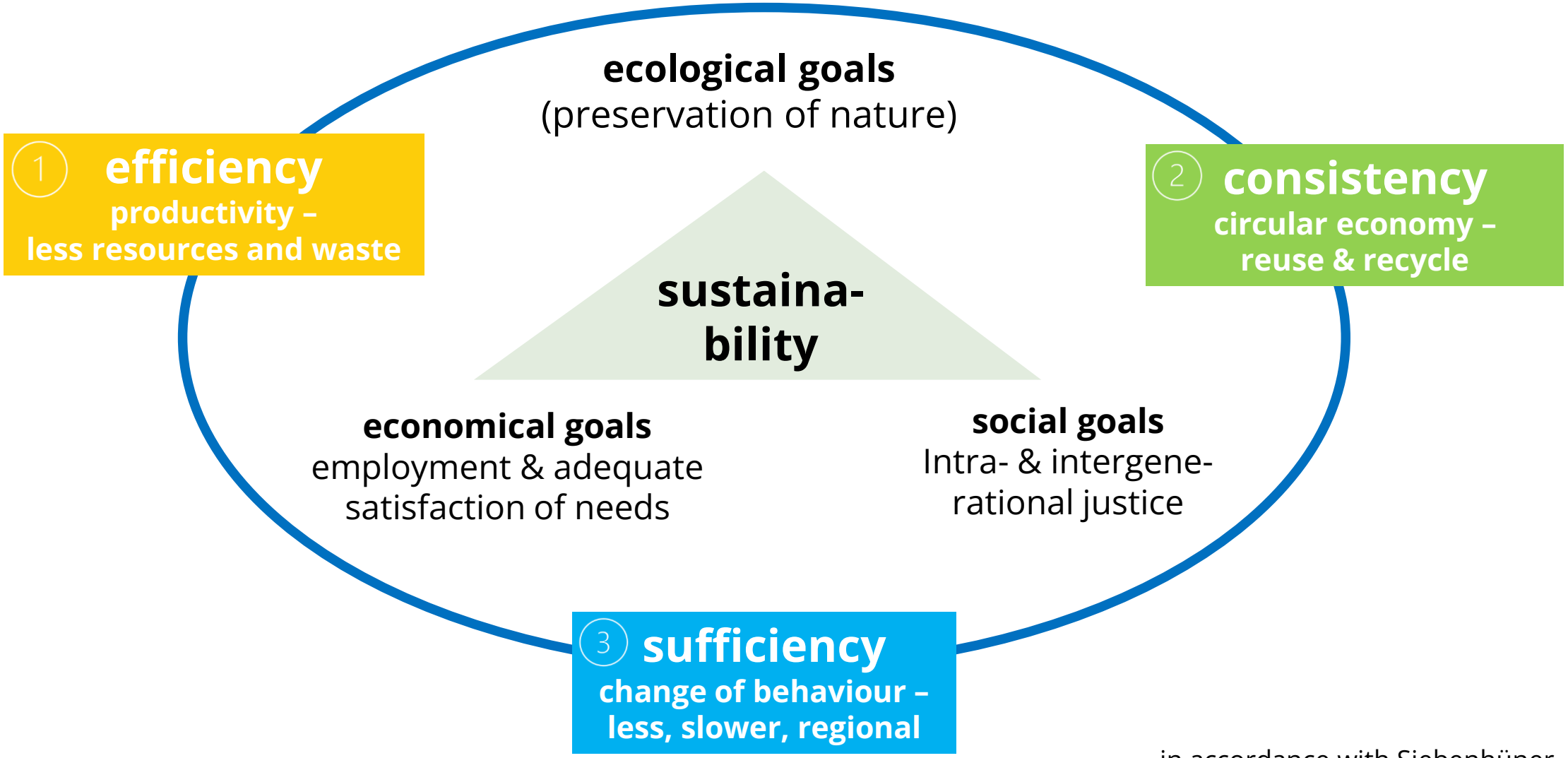
principles of free market economy

- more common goods
- more responsible consumption
- motivation of public welfare
- more co-operation
- circular economy & sufficiency
- more (worldwide) agreements
- ecological & social perspective

needs of sustainable economy

System Change
strategies

Sustainability Strategies

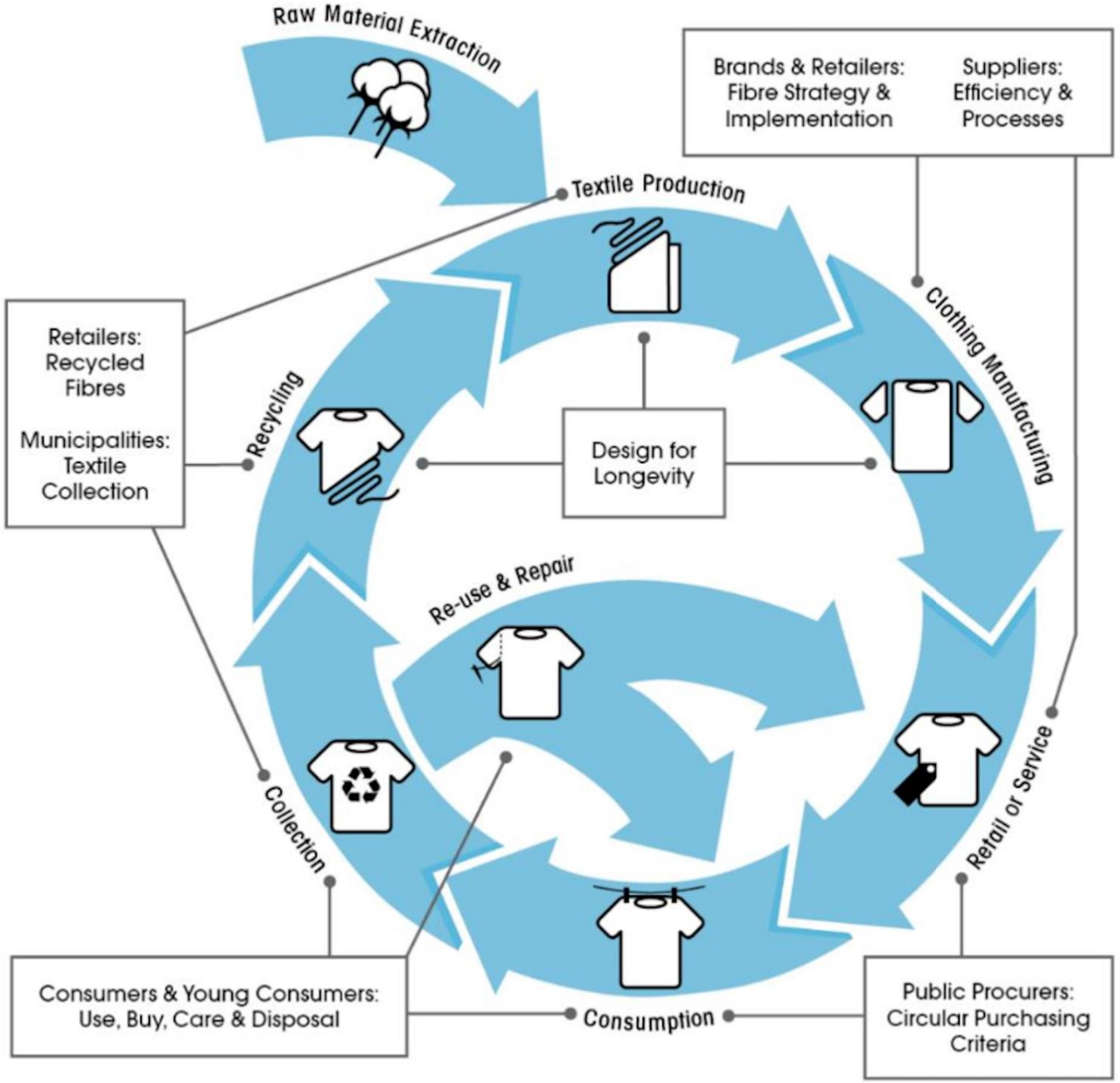


in accordance with Siebenhüner, B. (2001): homo sustines, Marburg, S. 78.

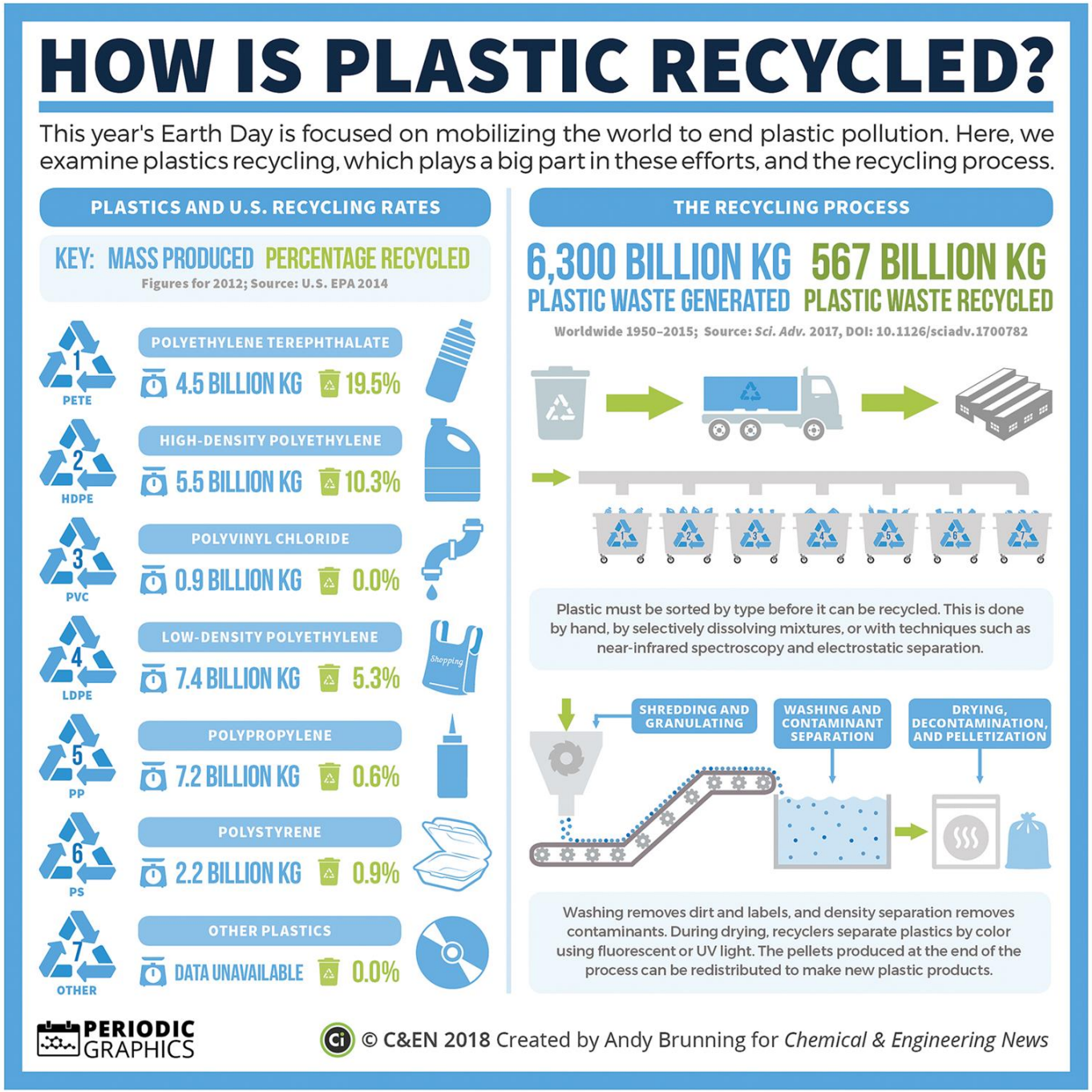
System Change

approaches / best practices

Sustainable Value Chain
efficient – consistent – sufficient



https://www.mckinsey.com/de/news/presse/2022-07-14--textile-recycling; published 14.07.2022



EU action plan for circular economy; initiative from producers

- **problem**: the proportion of recycled plastics in the EU is only 12 percent and many countries still allow plastic to be landfilled.
- **plan**: Europe's plastics manufacturers want to reduce the proportion of fossil raw materials used in plastics production to 35 percent by 2050.
- **investments/costs** about 235 billion euros across
- **challenge**: It encompasses entire supply chains, thousands of companies and products.
- **elements of change** along the supply chain
  - promote reuse
  - reduce single-use applications,
  - plan and design products in advance to be recyclable.
  - empower mechanical and chemical recycling
  - more plastics should be produced from alternative materials, such as biomass.

San Mateo County – local food value chain

https://sustainablesanmateo.org/home/indicators-report/key-indicator-food-systems/

15-minutes neighbourhood – Value Chains

IKEA in Vienna – sustainable retail and distribution concept

IKEA in Vienna: city center concept

- 22,000 sqm, 5 floors, 3,000 items
- green building, roof terrace, photovoltaics, biodiversity
- no parking spaces ("mobility without a car")
- App-based shopping possible
- pick-up on the outskirts or delivery

decentralized logistics concept

1. IKEA Wien Nord
Gewerbepark Kagran
Sverigestr. 1a
1220 Wien

2. IKEA Abholstation Wien Strebersdorf
Scheydgasse 45
1210 Wien

3. IKEA Vösendorf
Shopping City Süd
2334 Vösendorf

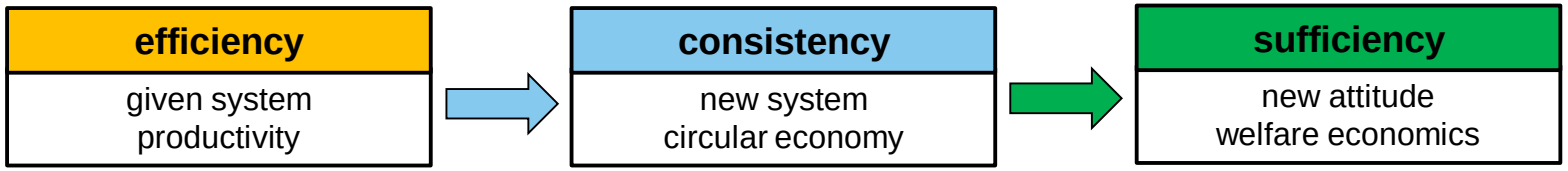
sustainability * showrooming * nice place to be

Framework for Impact Evaluation (KPIs)

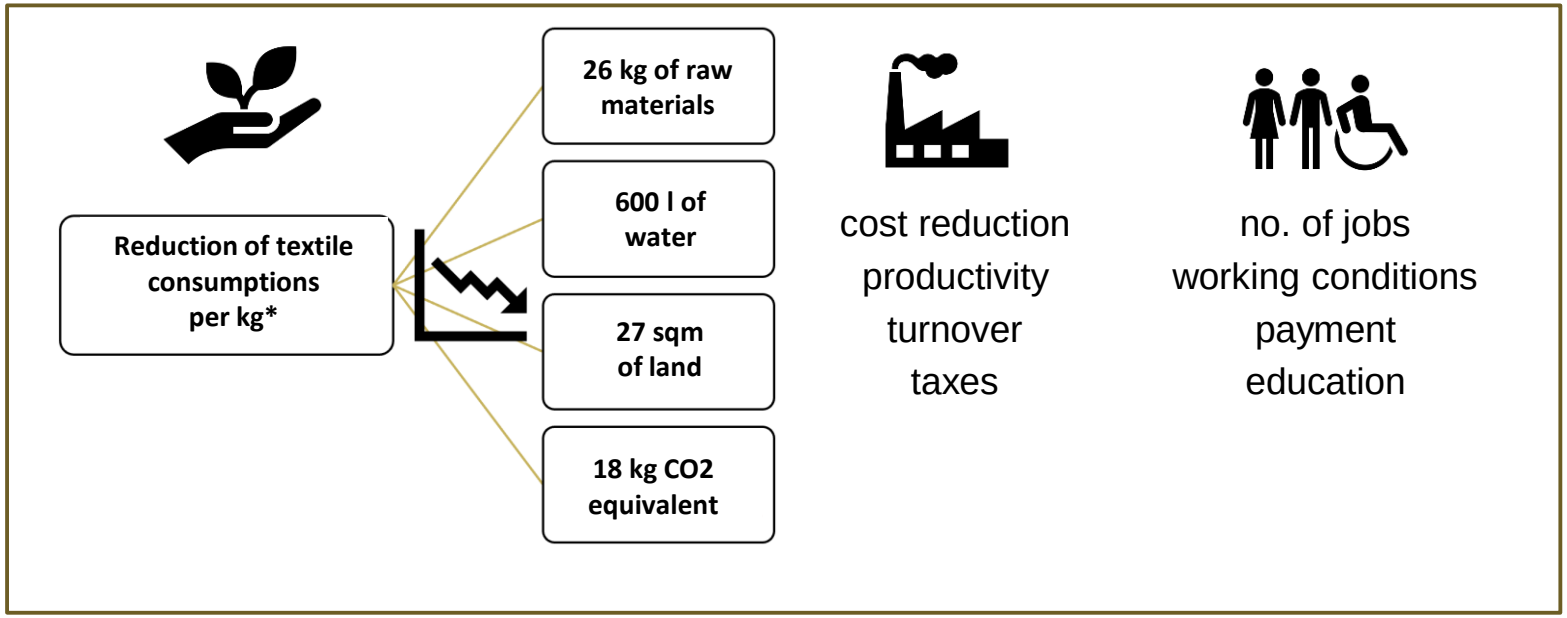
KPIs – (textile) value chain (1/2)

KPI textile value chain	efficiency (given system)	consistiency (new system)	sufficiency (changed attitudes)
economic	less energy for 1kg textiles (cost-reduction in €)	tax revenues from the textile value chain (to be ?)	% of sales with textiles from local production (to be increased)
social	higher productivity (volume of production per employee) lead to higher wages (in €); secondary condition: better social systems (% of employees with reggular contracts and social inscurance) in developing countries	% of employees in the textile value chain with a wage that covers the cost of living in the respective country (to be increased)	number of jobs with textiles from local production (to be increased)
ecological	enlarging the biological active surface (in sqm) for the same production quantity (kg textiles)	% of repaired / reused / recycled clothes (to be increased)	new clothing purchased per year in kg/person (to be reduced)

KPI – (textile) value chain (2/2)

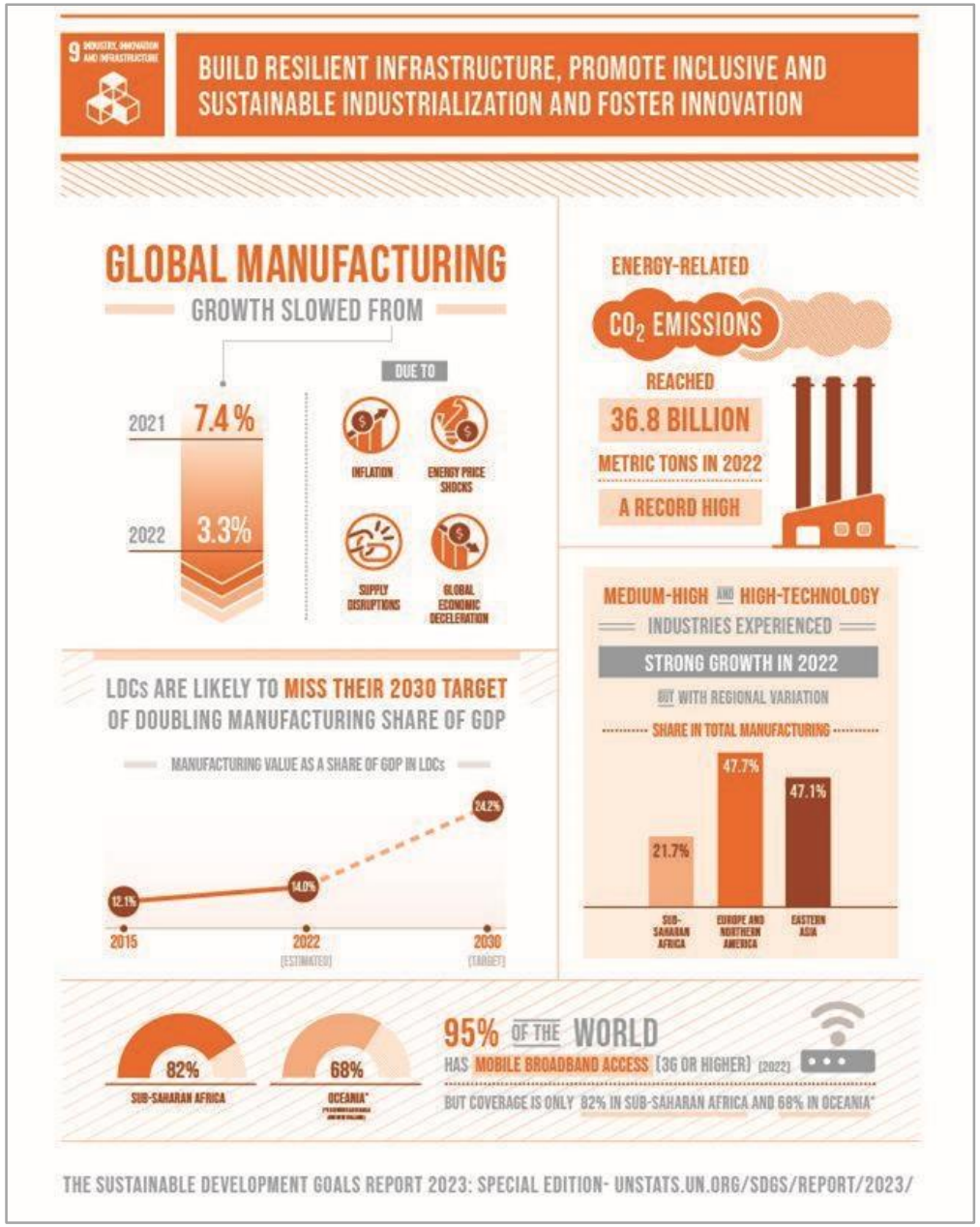


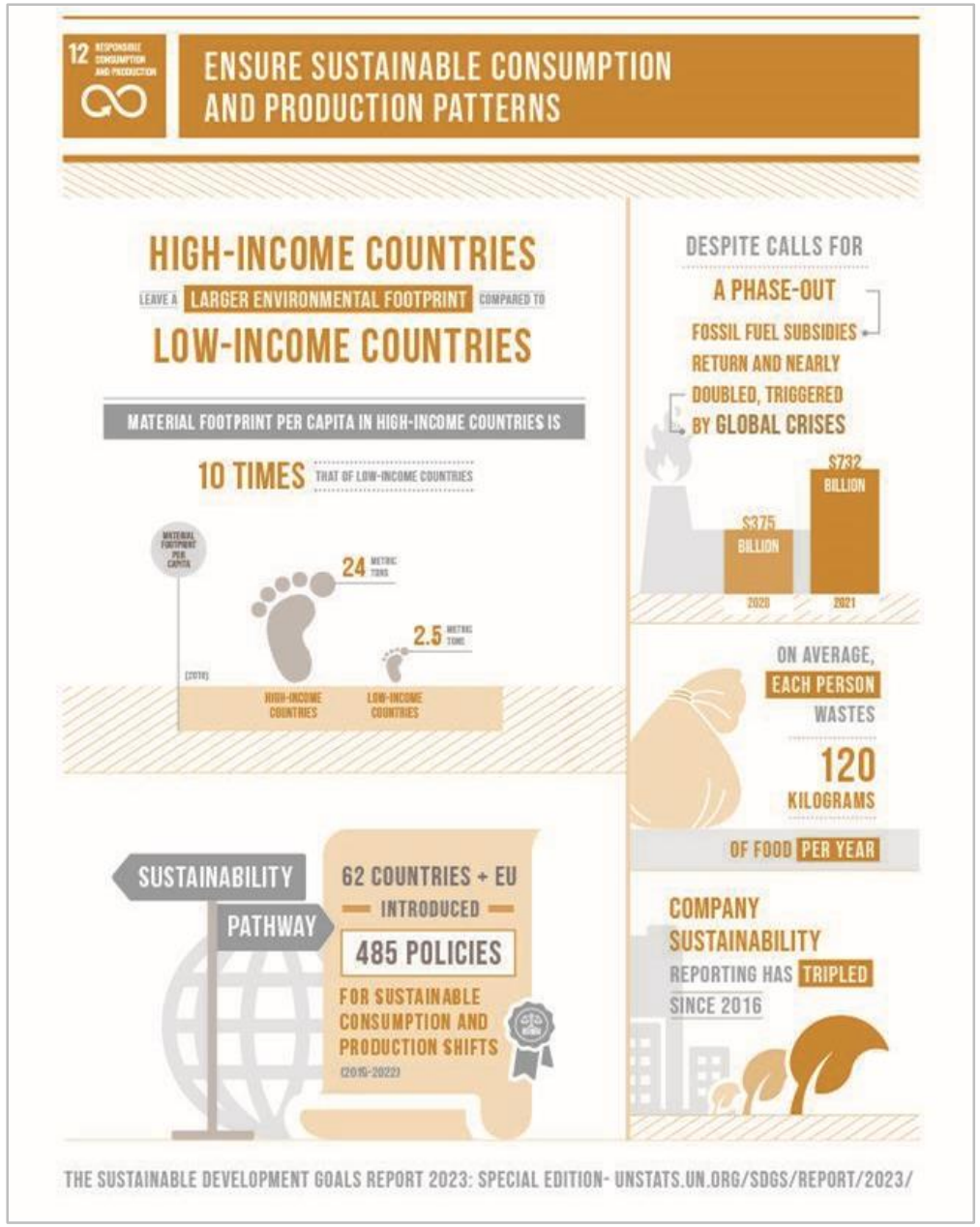
existing conflicts of objectives can (only) be resolved in the medium/long term



Source: https://www.eea.europa.eu/data-and-maps/figures/eu27-apparent-consumption-of-clothing/
https://sdgs.un.org/goals/goal12#progres_and_info

KPIs – SDG 9 & 12


9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
BUILD RESILIENT INFRASTRUCTURE, PROMOTE INCLUSIVE AND SUSTAINABLE INDUSTRIALIZATION AND FOSTER INNOVATION
GLOBAL MANUFACTURING
GROWTH SLOWED FROM
2021 7.4%
2022 3.3%
DUE TO
INFLATION
ENERGY PRICE SHOCKS
SUPPLY DISRUPTIONS
GLOBAL ECONOMIC DECELERATION
ENERGY-RELATED
CO_2 EMISSIONS
REACHED
36.8 BILLION
METRIC TONS IN 2022
A RECORD HIGH
LDCs ARE LIKELY TO MISS THEIR 2030 TARGET OF DOUBLING MANUFACTURING SHARE OF GDP
MANUFACTURING VALUE AS A SHARE OF GDP IN LDCs
12.1%
14.0%
24.2%
2015
2022 (ESTIMATED)
2030 (TARGET)
MEDIUM-HIGH AND HIGH-TECHNOLOGY INDUSTRIES EXPERIENCED
STRONG GROWTH IN 2022
BUT WITH REGIONAL VARIATION
SHARE IN TOTAL MANUFACTURING
21.7%
47.7%
47.1%
SUB-SAHARAN AFRICA
EUROPE AND NORTHERN AMERICA
EASTERN ASIA
82%
SUB-SAHARAN AFRICA
68%
OCEANIA*
95% OF THE WORLD
HAS MOBILE BROADBAND ACCESS (3G OR HIGHER) (2022)
BUT COVERAGE IS ONLY 82% IN SUB-SAHARAN AFRICA AND 68% IN OCEANIA*
THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2023: SPECIAL EDITION- UNSTATS.UN.ORG/SDGS/REPORT/2023/

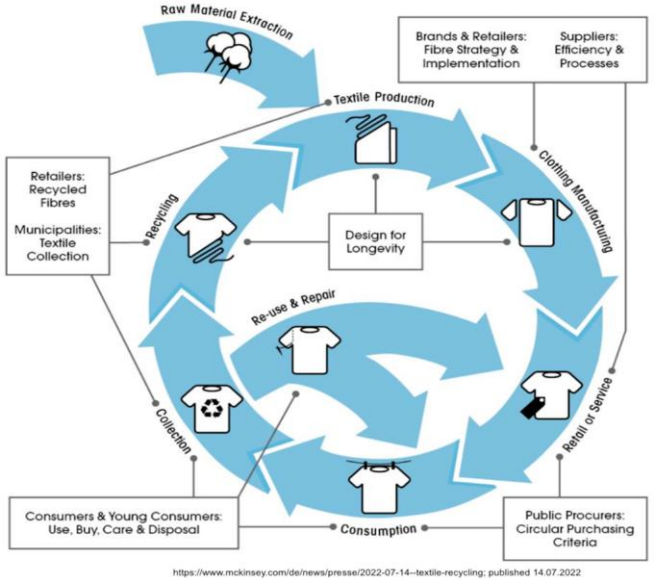

12 RESPONSIBLE CONSUMPTION AND PRODUCTION
ENSURE SUSTAINABLE CONSUMPTION AND PRODUCTION PATTERNS
HIGH-INCOME COUNTRIES
LEAVE A LARGER ENVIRONMENTAL FOOTPRINT COMPARED TO
LOW-INCOME COUNTRIES
MATERIAL FOOTPRINT PER CAPITA IN HIGH-INCOME COUNTRIES IS
10 TIMES THAT OF LOW-INCOME COUNTRIES
24 METRIC TONS
2.5 METRIC TONS
HIGH-INCOME COUNTRIES
LOW-INCOME COUNTRIES
DESPITE CALLS FOR A PHASE-OUT
FOSSIL FUEL SUBSIDIES RETURN AND NEARLY DOUBLED, TRIGGERED BY GLOBAL CRISES
$375 BILLION
$732 BILLION
2020
2021
ON AVERAGE, EACH PERSON WASTES
120 KILOGRAMS
OF FOOD PER YEAR
SUSTAINABILITY PATHWAY
62 COUNTRIES + EU INTRODUCED
485 POLICIES
FOR SUSTAINABLE CONSUMPTION AND PRODUCTION SHIFTS
(2015-2022)
COMPANY SUSTAINABILITY REPORTING HAS TRIPLED SINCE 2016
THE SUSTAINABLE DEVELOPMENT GOALS REPORT 2023: SPECIAL EDITION- UNSTATS.UN.ORG/SDGS/REPORT/2023/

What does implementing of consistency and sufficiency might mean for landscapes?

Possible scenarios …

Retail landscapes transformation scenario

What will happen whith shopping malls when…?



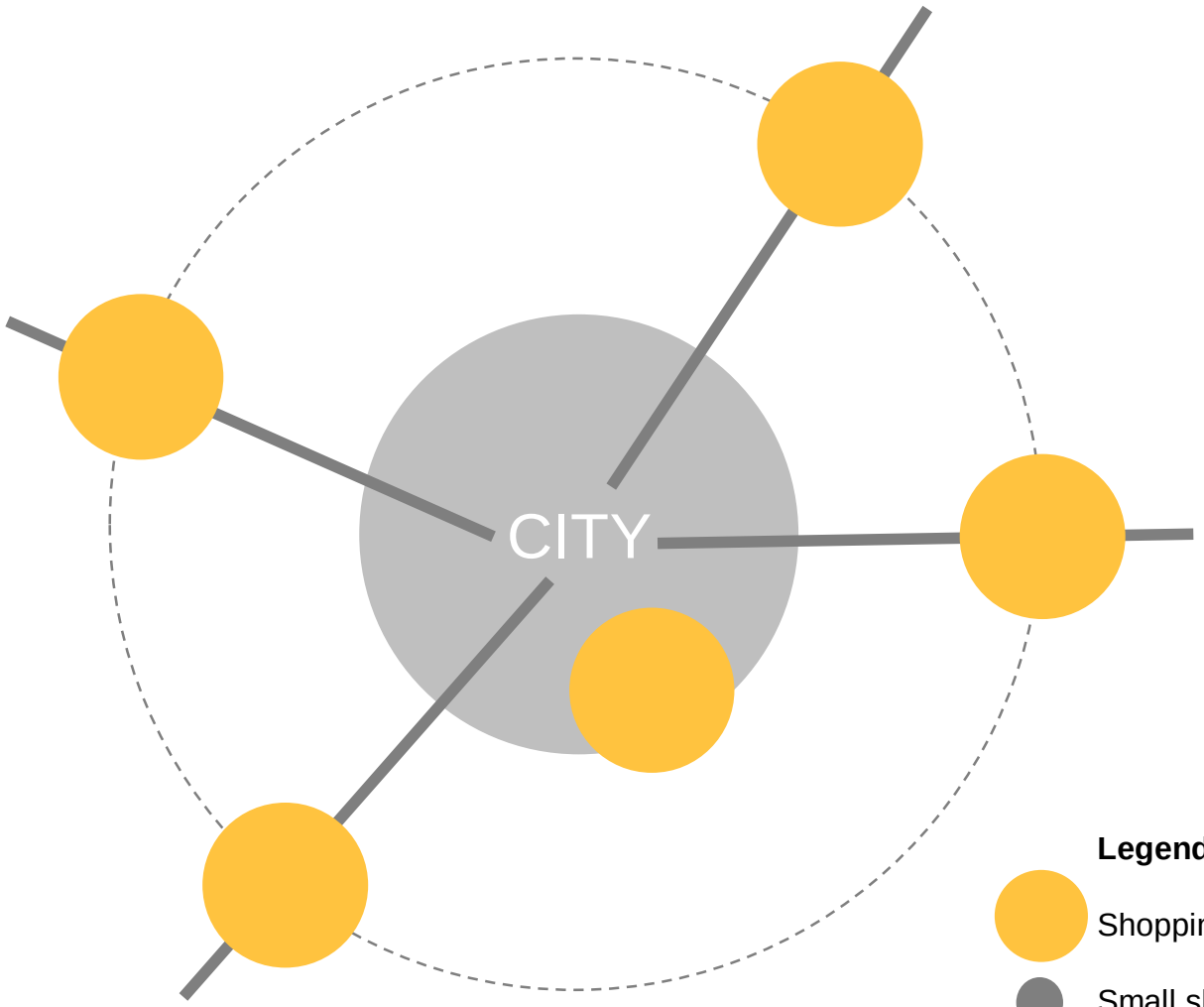
we will enhance the process of textile reuse, repair, recycle

the sufficiency will grow, the demand will decrease and we will need less clothes

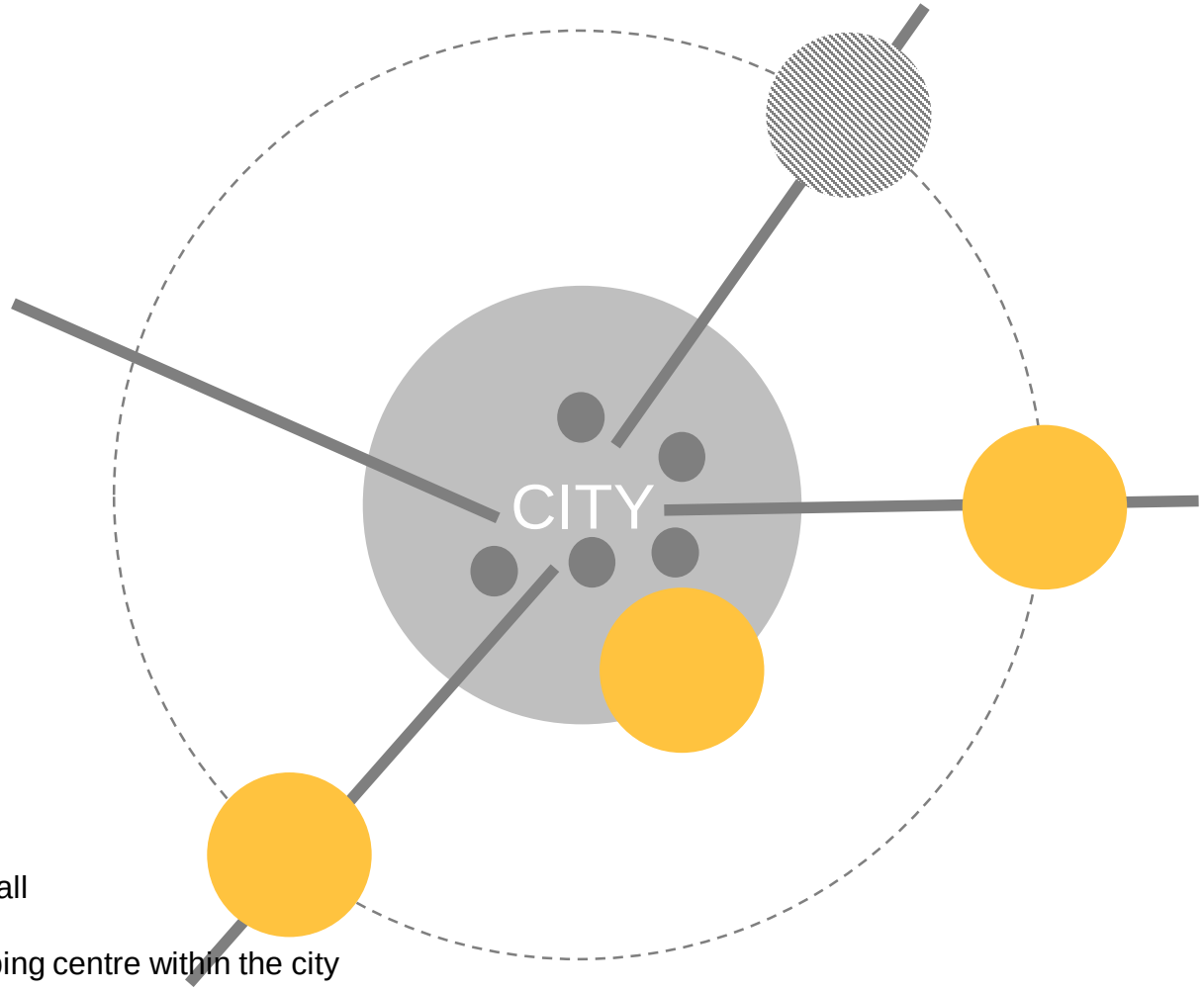
we will base more on local products and decrease of logistics flow

- large shopping mall will not be anymore the best economic model of sale
- the scale of textile and clothes' processing and retail will decrease and some of these functions may come back to a city
- the spatial dispersion of these functions will increase
- the individual time needed to manage "our wardrobe" will increase – maybe a place for new jobs?

Distribution of shopping malls within a city



Before system change



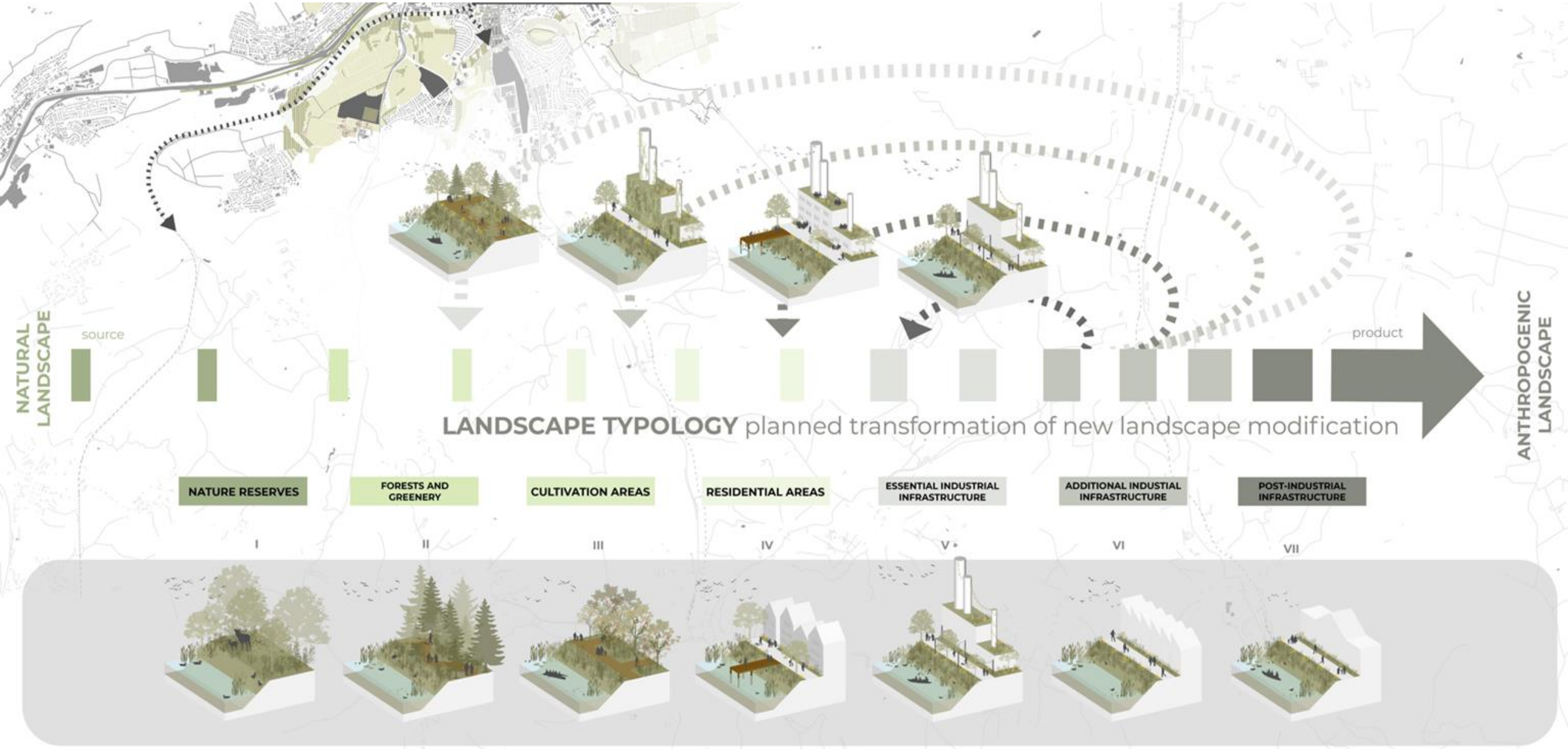
After system change

Legend

- Shopping mall
- Small shopping centre within the city
- Transformation of post-shopping area
- Main roads

Retail landscapes:
large shopping malls transformation scenario

Scenario: Transformation towards re-naturalisation



inż. arch. Natalia Fronczek, inż. arch. Marta Hrycyna, inż. arch. Marta Kloch, inż. arch. Liudmila Matsisovich, inż. arch. Szymon Jackowski | dr inż. arch. Izabela Burda, dr hab. inż. arch. Karolina Krośnicka, dr inż. arch. Magdalena Rembeza, dr hab. inż. arch. Dorota Wojtowicz-Jankowska, dr hab. inż. arch. Katarzyna Zielonko-Jung | 2022/2023

Retail landscapes:
large shopping malls transformation scenario

Transformation of a shopping mall into:

housing estate

natural biotop

agricultural land (green houses)

agricultural land

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2. **Deloitte (ed., 2022**): Global powers of retailing 2021 (https://www2.deloitte.com/de/de/pages/consumer-business/articles/global-powers-of-retailing-report.html)
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4. **Hunt, C. (2021):** How can retailers adapt to the 15-minute city trend?, Podcast: https://www.youtube.com/watch?v=v7m7GzworSg (55 Min.)
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Images: References

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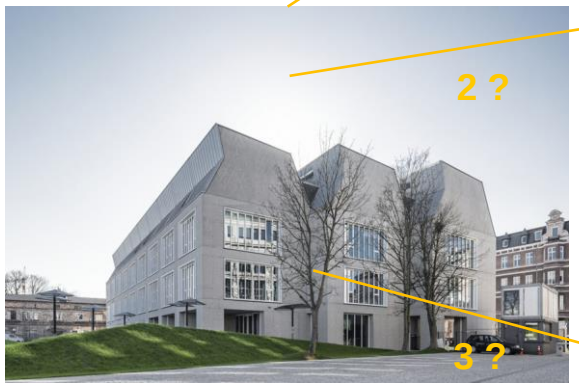
Excercice 2: Considering a system change - **Designing solutions**

Continuing the previous considerations (based on a chosen picture 1-4) on relations of a distant hidden landscape and the „decision centre” answer the question:

1. **Do you think it is possible to make this process more sustainable?**

2. **What is needed to make a system change within this process? What are the main obstacles to overcome?**

3. **Think about alternative scenarios of connections between hidden landscapes?**



LPP office in Gdańsk

1 ?

2 ?

3 ?

4 ?