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Why SDGs have to be implemented in corporate practice – and how it works

Rediscovering the „We Perspective“: Right to Reason, Values and Justice

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Sustainability Basics

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Tools and Methods of Sustainability Management

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Quality of Products, Processes and Services



Quality Management Systems



...



SUSTAINABILITY AS A GUIDING PRINCIPLE

GLOBAL DEVELOPMENTS AND THEIR SIGNIFICANCE FOR COMPANIES AND CITIZENS



Potenziale für Unternehmen durch die Orientierung an SDGs

1

RIGHT TO REASON, VALUES AND JUSTICE

CONSTITUTIONAL COMPLAINTS AGAINST CLIMATE PROTECTION LAW PARTIALLY SUCCESSFUL

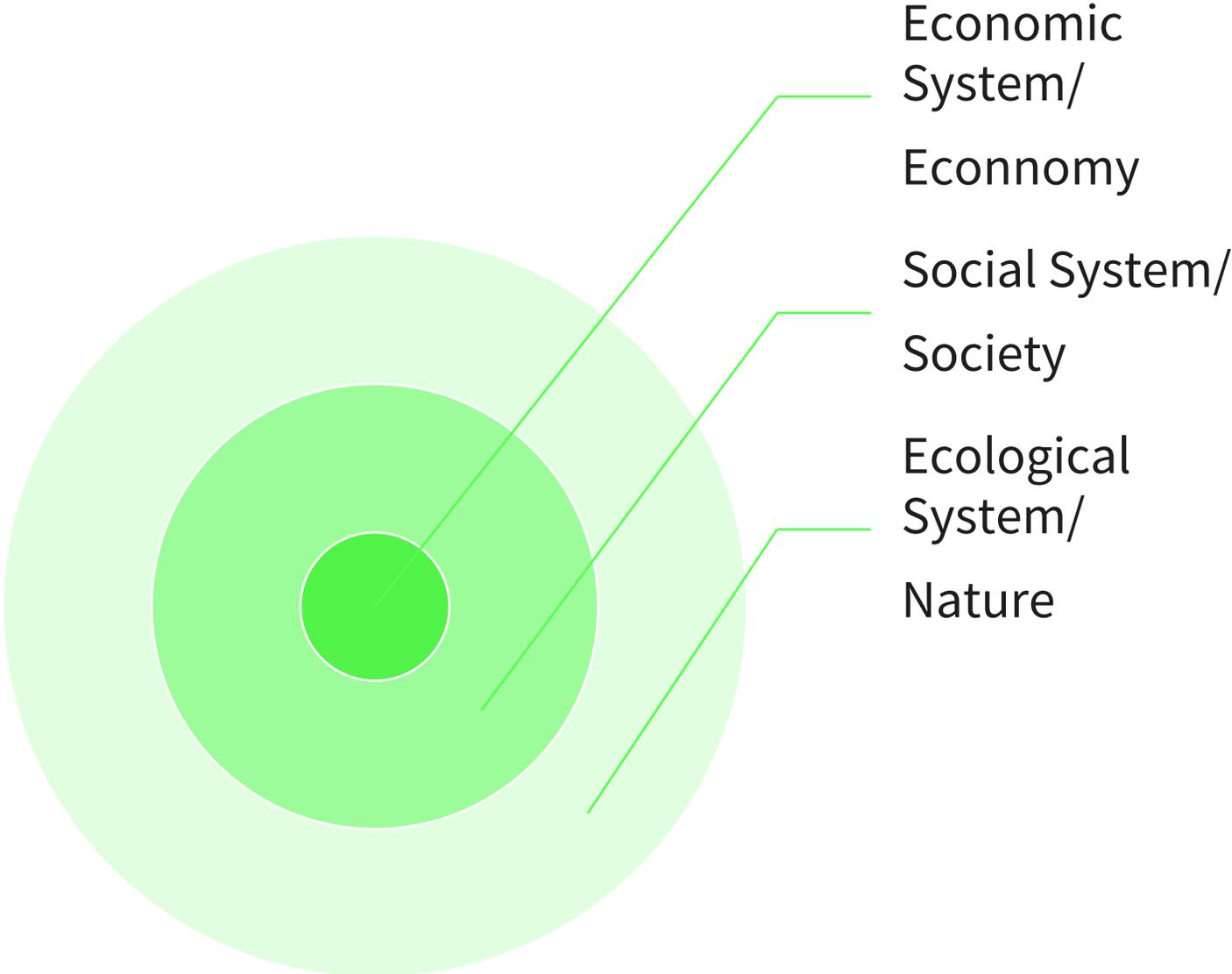
Decision from March 24, 2021

In the published decision of April 29, 2021, the First Senate of the Federal Constitutional Court ruled that the provisions of the Climate Protection Act of December 12, 2019 (Climate Protection Act <KSG>) on the national climate protection targets and the annual emission levels permitted until 2030 are **incompatible with fundamental rights** insofar as sufficient requirements for further emission reductions from 2031 are missing.

The Climate Protection Act responds to the need for increased climate protection efforts as seen by the legislature and is intended to protect against the effects of global climate change (Section 1 Sentence 1 KSG). According to Section 1 Sentence 3 of the Climate Protection Act, this is based firstly on the obligation under the Paris Agreement, which entered into force on November 4, 2016, to limit the increase in the average global temperature to well below 2 °C and, if possible, to 1.5 °C above the pre-industrial level, and secondly on the commitment of the Federal Republic of Germany to pursue greenhouse gas neutrality by 2050 as a long-term goal.

SUSTAINABILITY BASICS: IMPACT OF ECONOMIC ACTIVITIES ON THE GLOBAL ECOSYSTEM

THREE-DIMENSION-MODEL OF SUSTAINABILITY (ACCORDING TO HERMAN DAILY)



Quelle Abbildung: Paech & Pfriem, 2007, S. 101.

EARTH OVERSHOOT DAY

Earth Overshoot Day 2021 on July 29 indicates that humanity is "consuming" more nature than can be regenerated by the global ecosystem.

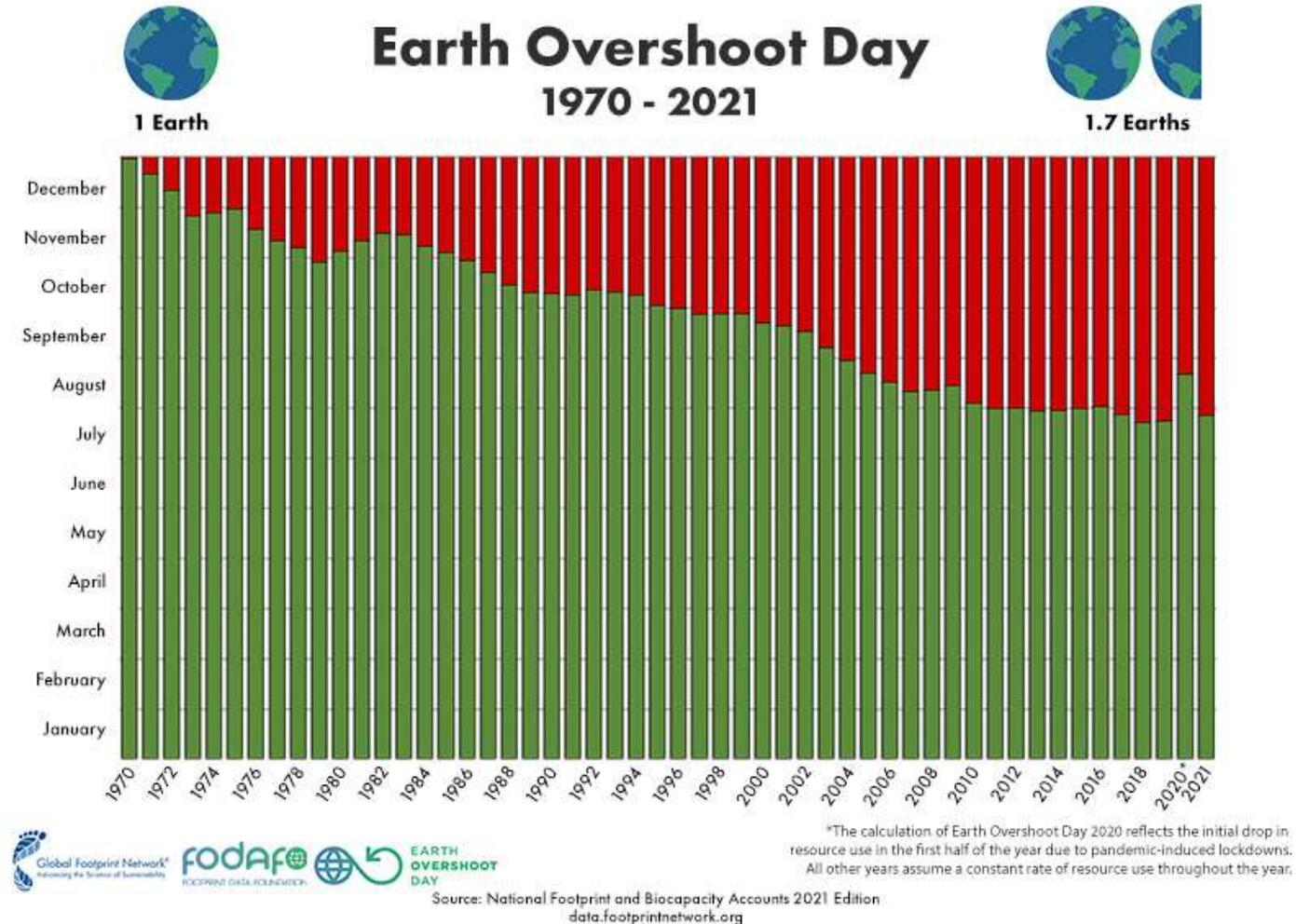
This means that in order to cover mankind's current resource consumption, we would now need 1.7 Earths.



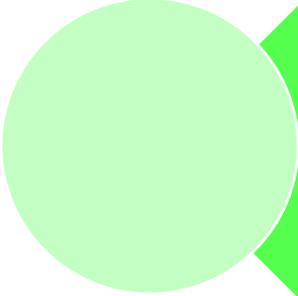
EARTH OVERSHOOT DAY

Until this day, the earth is deprived of its annual renewal potential of resources.

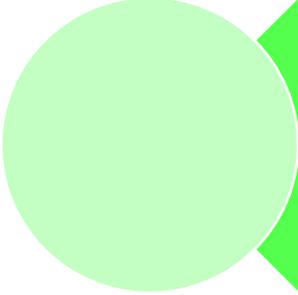
Many resources do not renew at all in periods of human generations.



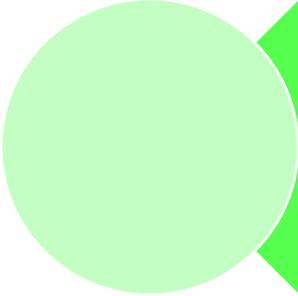
**SUSTAINABILITY MANAGEMENT RULES
(ACCORDING TO HERMAN DALY)**



1. Regeneration Rule

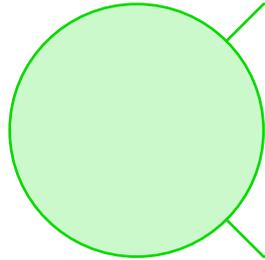


2. Substitution Rule

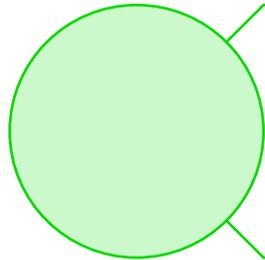


3. Adaptation Rule

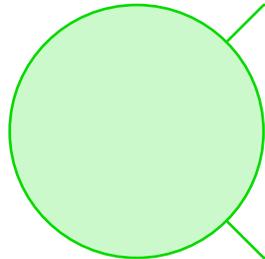
SUSTAINABILITY-STRATEGIES IN THE CONTEXT OF DALY'S RULES



1. Efficiency



2. Sufficiency



3. Consistency

DIE SDGS OF THE UNITED NATIONS

The SDGs are a further step on the way to concretizing the concept of sustainability and operationalizing its levels of action.



**DIE IPAT-FORMULA
(ACCORDING TO EHRLICH UND HOLDREN)**

$$I = P \cdot A \cdot T$$

Environmental Degradation

=

Population

·

Affluence

·

Technology

**DIE IPAT-FORMEL
(ACCORDING TO EHRLICH UND HOLDREN)**

I

= Impact (Auswirkung, Resultat)

P

= Population (Bevölkerung)

A

= Affluence (Wohlstand)

T

= Technology (Technologie)

The "average lifestyle" of the "basic ecological formula" (people - life style = future) is decomposed in the IPAT formula into the two individual factors "affluence" and "technology".

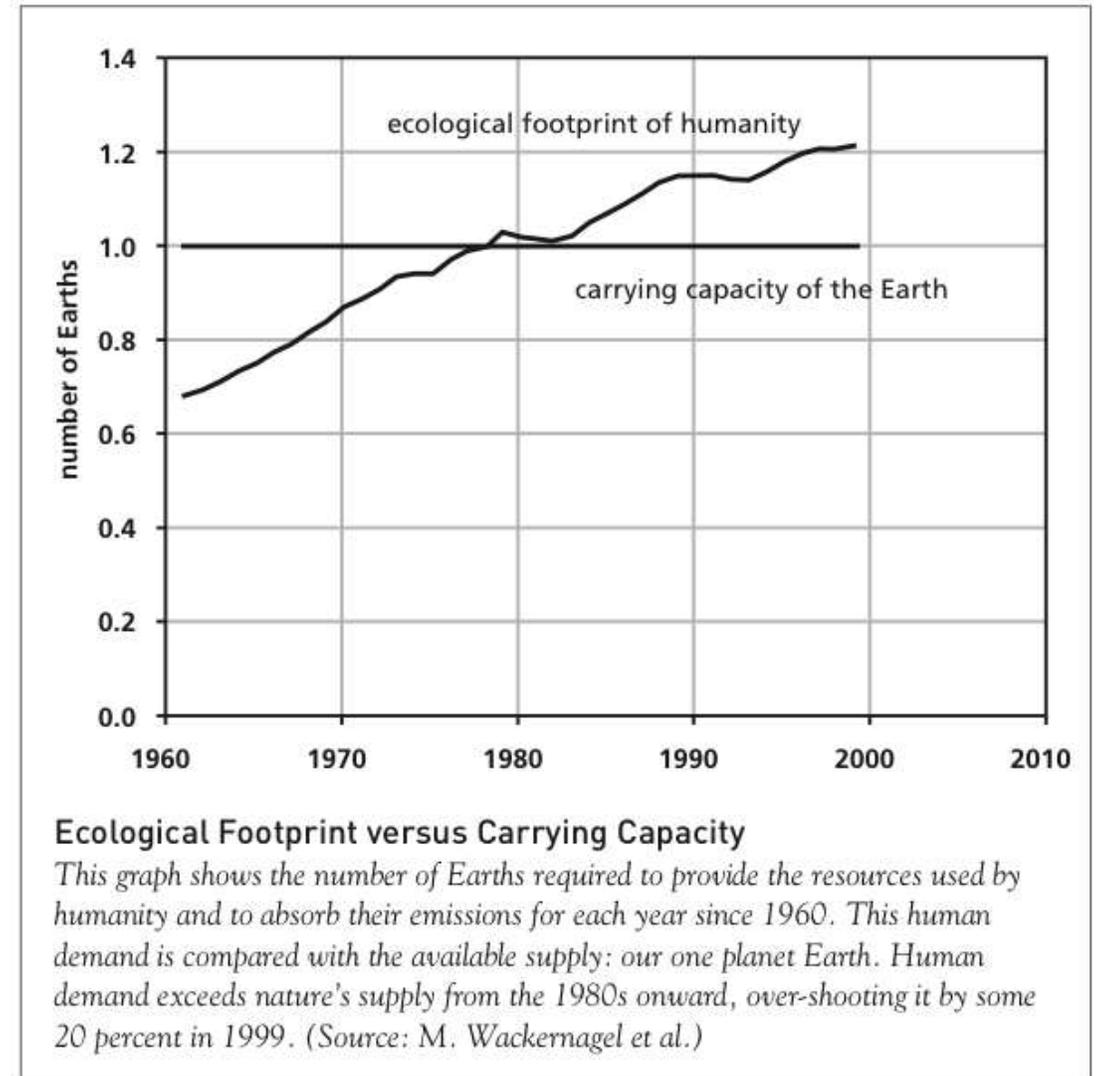
SUSTAINABILITY APPLIED



- ... **from** economic developments in the light of globalization, resource scarcity and corporate responsibility.
- ... **to** important historical milestones on the way to the concept of sustainable development.
- ... to better understand the cause-effect relationships of global crises (e.g. the current Corona pandemic and climate change) and to develop preventive action approaches to avoid such developments against the background of entrepreneurial action.

ECOLOGICAL FOOTPRINT VERSUS CARRYING CAPACITY

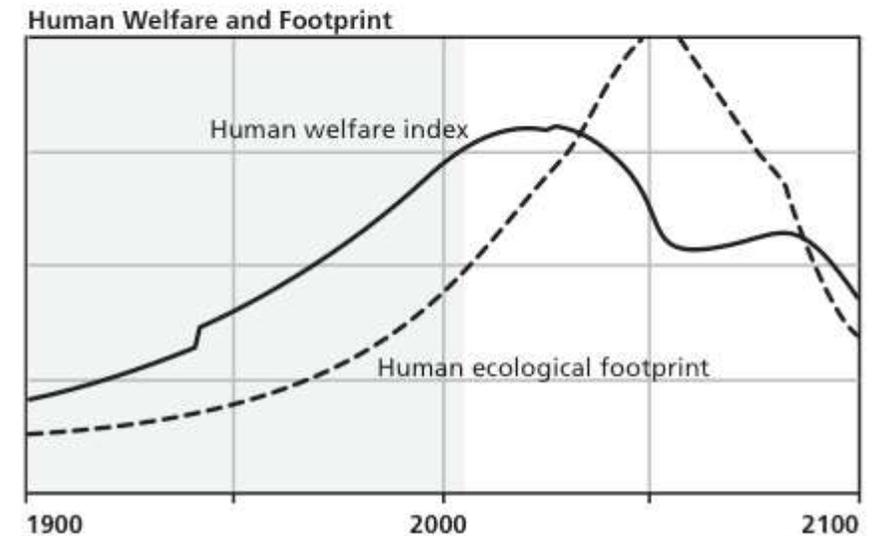
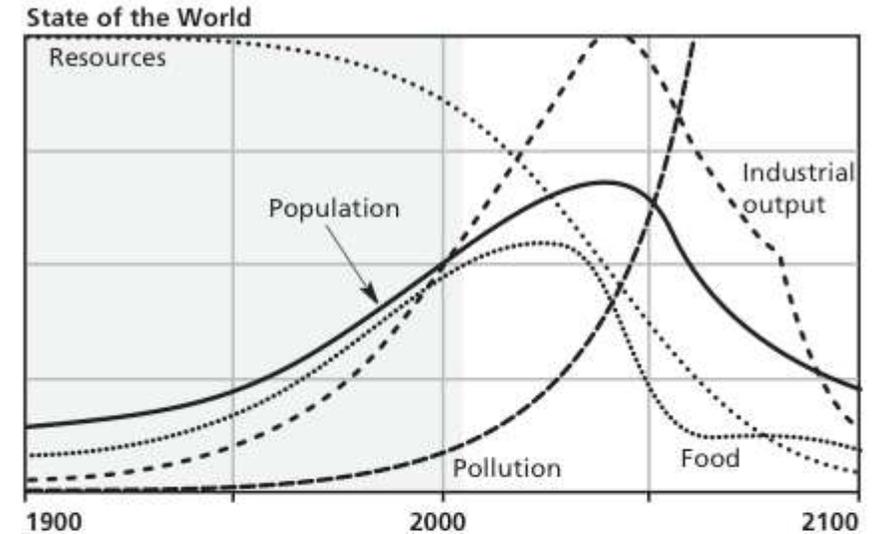
In their 30-year update of "Limits to Growth," the authors are even more pessimistic in their predictions. According to them, mankind has missed the chance to correct the current course in the last 30 years; and much has to change if the world wants to avoid the severe consequences of the overshoot in the 21st century.



THE WORLD3 SCENARIOS

In each scenario of the **World3 computer model** (up to the year 2100), some numbers are changed to test different estimates of "real world" parameters, or to include optimistic predictions about the evolution of technology, or to see what happens if the world chooses different policies, ethics, or goals.

Most of the scenarios presented lead to overshoot and collapse - through resource depletion, food shortages, industrial decline, or a combination of these or other factors.



The **1992 UN Environment and Development Summit** in Rio de Janeiro (Rio Conference, Earth Summit, UNCED) is widely regarded as the beginning of the international dialogue on sustainable development. Three of its most important documents are:



Corresponding events:

- World Climate Conferences from 1979 onwards (Conference of Parties/COP)
- Intergovernmental Panel on Climate Change (IPCC)
- Negotiations on a world climate agreement Rio+20 Conference (2012)
- Adoption of the SDGs in 2015
- Implementation of Agenda 21/2030 as a state goal: in Germany, environmental protection as a responsibility for future generations was included in Article 20a of the Basic Law (1994)

THE NEXT STEP:

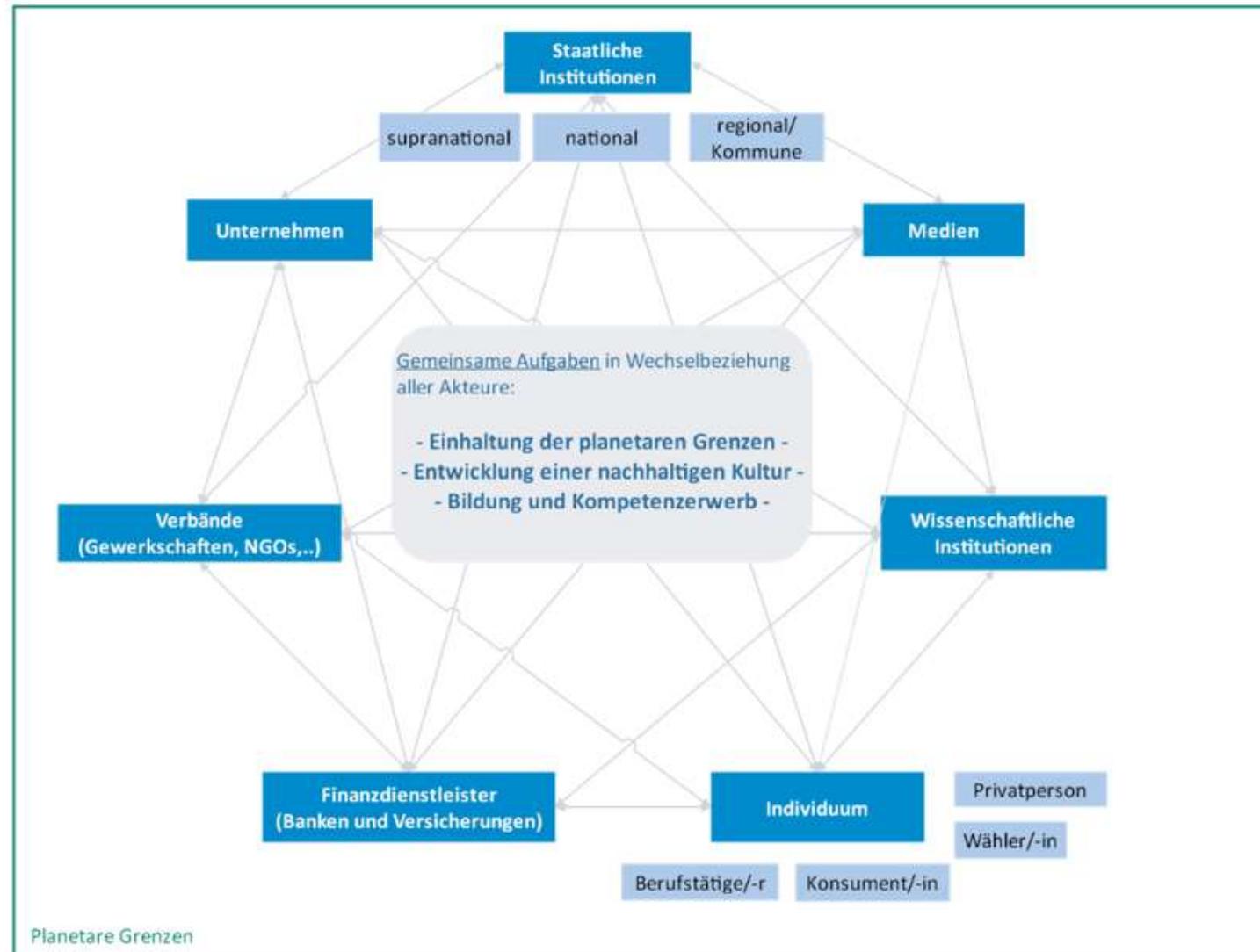


. . . from the application of basic principles of sustainability to the levels of implementation and the interrelationships of their actors . . .

LEVELS OF IMPLEMENTATION OF SUSTAINABILITY AND THE INTERRELATIONSHIPS OF THEIR KEY ACTORS

Interrelationships of societal actors for sustainable development:

- *Politics*
- *Economy*
- *Civil Society*



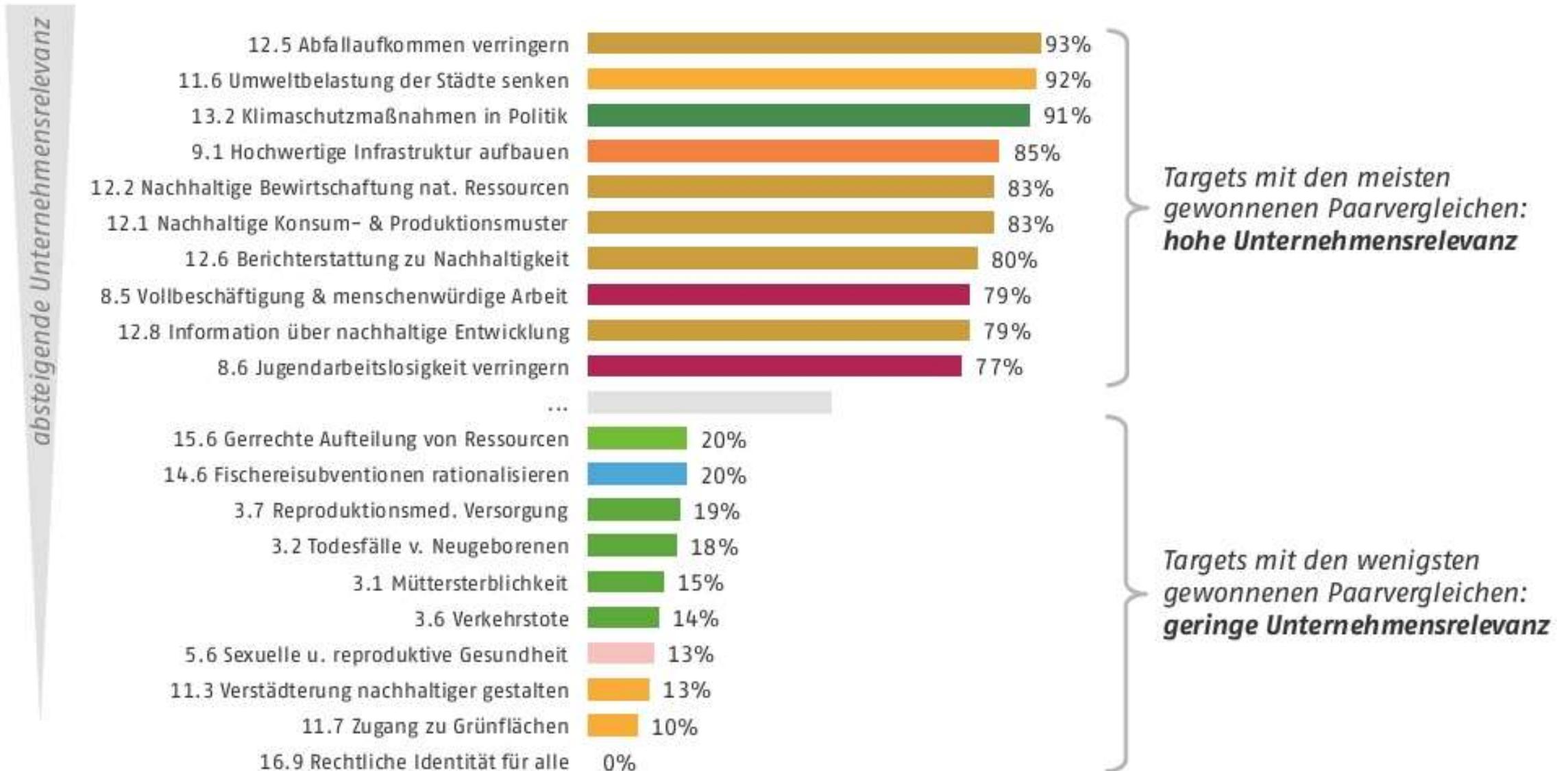
Agenda 2030-process

- Vision of transforming the world into a sustainable society by 2030
- Globally valid consensus on sustainability - signed by all UN states
- Involvement of civil society
- Globally valid targets: 17 goals and 169 objectives (targets)
- Businesses are requested to participate in achieving the targets

Changed framework conditions for companies

- Focus on positive contribution of companies to sustainable development
- Opening of a broad entrepreneurial spectrum: environment, education, health, ...
- Spirit of Shared Value: Companies should create entrepreneurial and social added value with their products.
- Entrepreneurial activity in the entire value chain (cycle) is thus required.

CORPORATE RELVANCE OF TARGETS



Tools and Methods of Sustainability Management

THE NEXT STEP:



*... **from** levels of sustainability implementation and the interrelationships of their societal actors/stakeholders*

*... **to** the description and forecast of complex systems regarding their future-oriented potential*

*... **to** the determination of societal goals and their implementation through political frameworks (e.g. legislation)*

*... **to** their systematic recording in sustainability and environmental management systems ...*

ENVIRONMENTAL LAW

Environmental law:

All legal norms that serve to protect the environment

The core area of environmental law:

I. Plant-, environmental media- and substance-related protection laws

- Water law
- Immission control law
- Soil protection law
- Waste law
- Chemicals law

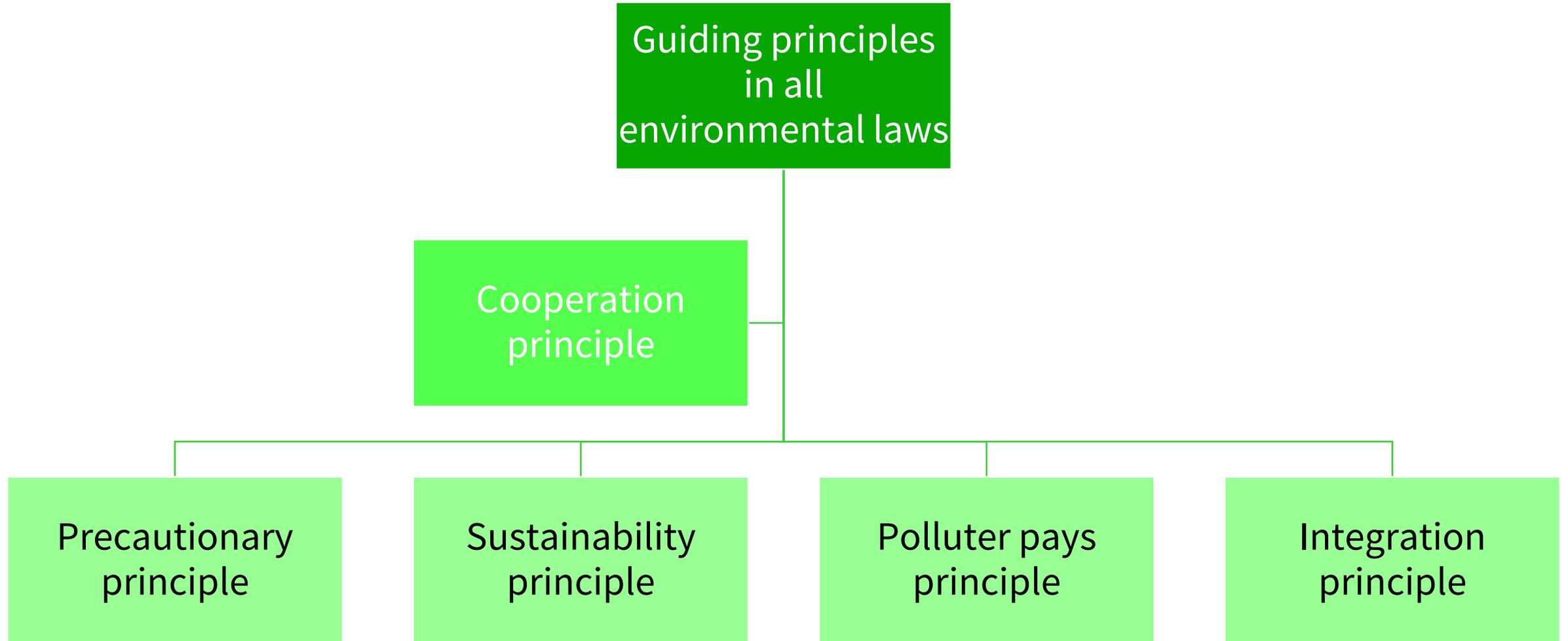
II. Higher-level environmental standards

- International Environmental Law
- Provisions of EU law
- Article 20a Basic Law

III. Cross-section laws

- EIA Act
- Environmental Information Act
- Environmental Damage Act
- Environmental Criminal Law

PRINCIPLES OF ENVIRONMENTAL LAW



Key Performance Indicators

Implementing strategies, targets and measures for integrating sustainability into corporate practice is one of the central challenges of sustainability and environmental management. KPIs are the appropriate toolbox for this.

Quantify and measure

Successfully implementing sustainability measures in companies requires quantifying and measuring them:

- *An accounting that establishes key performance indicators (KPIs), collects, prepares and evaluates data.*

Sustainability accounting:

- *Central component of sustainability reporting. Since 2017, a so-called CSR reporting obligation has applied to certain companies.*

Sustainability reports are also becoming increasingly important for companies not affected by this, because stakeholders and shareholders are increasingly interested in the social and environmental performance of companies.

SUSTAINABILITY REPORTING: A MANAGEMENT TOOL

REALIZING THE POTENTIAL OF SUSTAINABILITY IN COMPANIES THROUGH SUSTAINABILITY REPORTING



❖ **Sustainability reporting** acts as a

- Tool to measure the company's performance and
- Therefore help mitigate any business-related risks in future
- It communicates the social and environmental effects of organizations to its stakeholders and particular interest groups within society at large

THE SUSTAINABILITY CODEX (DNK): SCOPE OF REPORTING

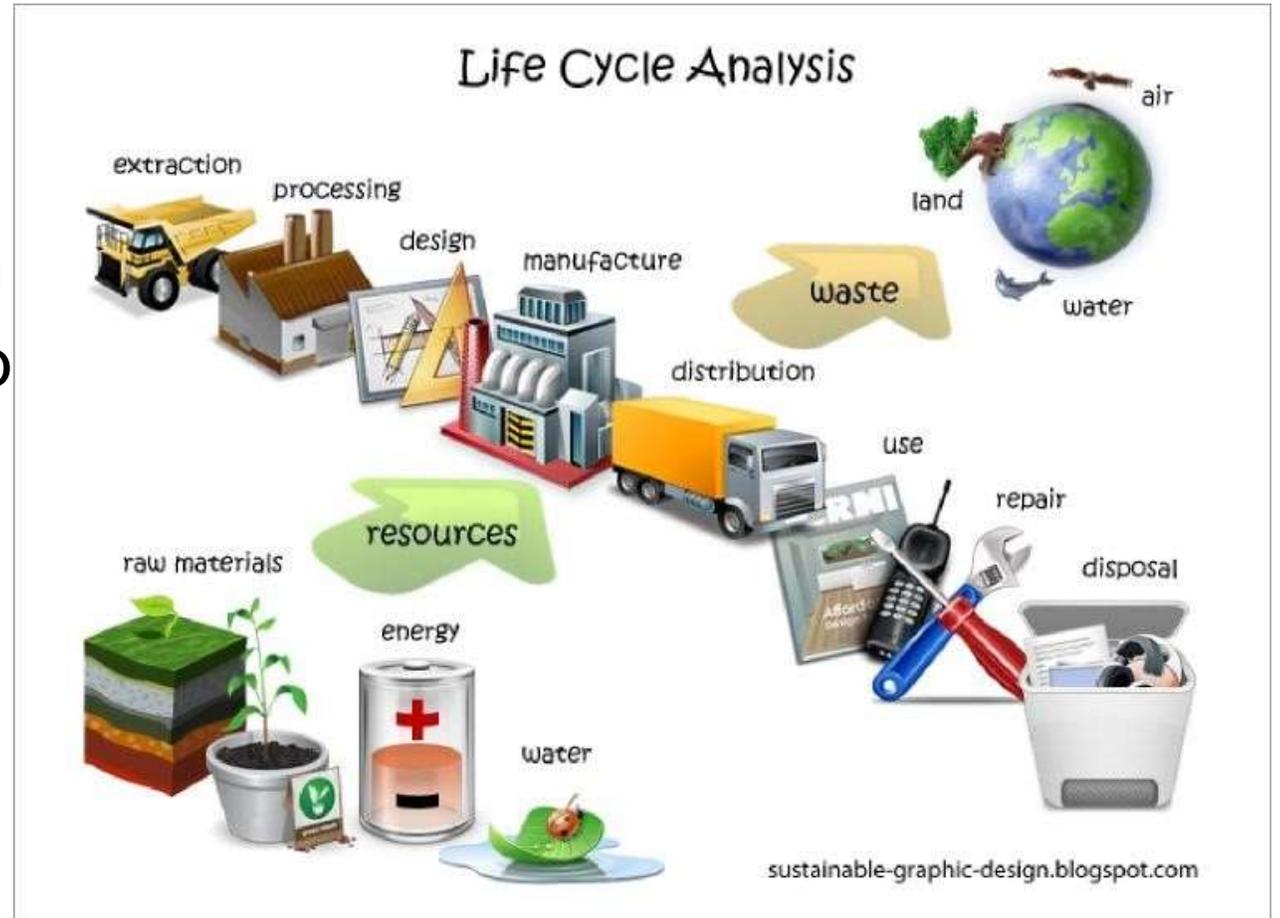
Sustainability Concept		Sustainability Aspects	
Strategy Criteria 1–4	Process Management Criteria 5–10	Environment Criteria 11–13	Society Criteria 14–20
<ul style="list-style-type: none"> – Strategic Analysis and Action – Materiality – Objectives – Depth of the Value Chain 	<ul style="list-style-type: none"> – Responsibility – Rules and Processes – Control – Incentive Schemes – Stakeholder Engagement – Innovation and Product Management 	<ul style="list-style-type: none"> – Usage of Natural Resources – Resource – Climate-Relevant Emissions 	<ul style="list-style-type: none"> – Employee Rights – Equal Opportunities – Qualifications – Human Rights – Corporate Citizenship – Political Influence – Conduct that Complies with the Law and Policy
Chosen set of indicators according to GRI SRS			
Chosen set of indicators according to EFFAS			

DNK/SUSTAINABILITY CODEX REPORTING OPTIONS



Life Cycle Assessment (LCA):

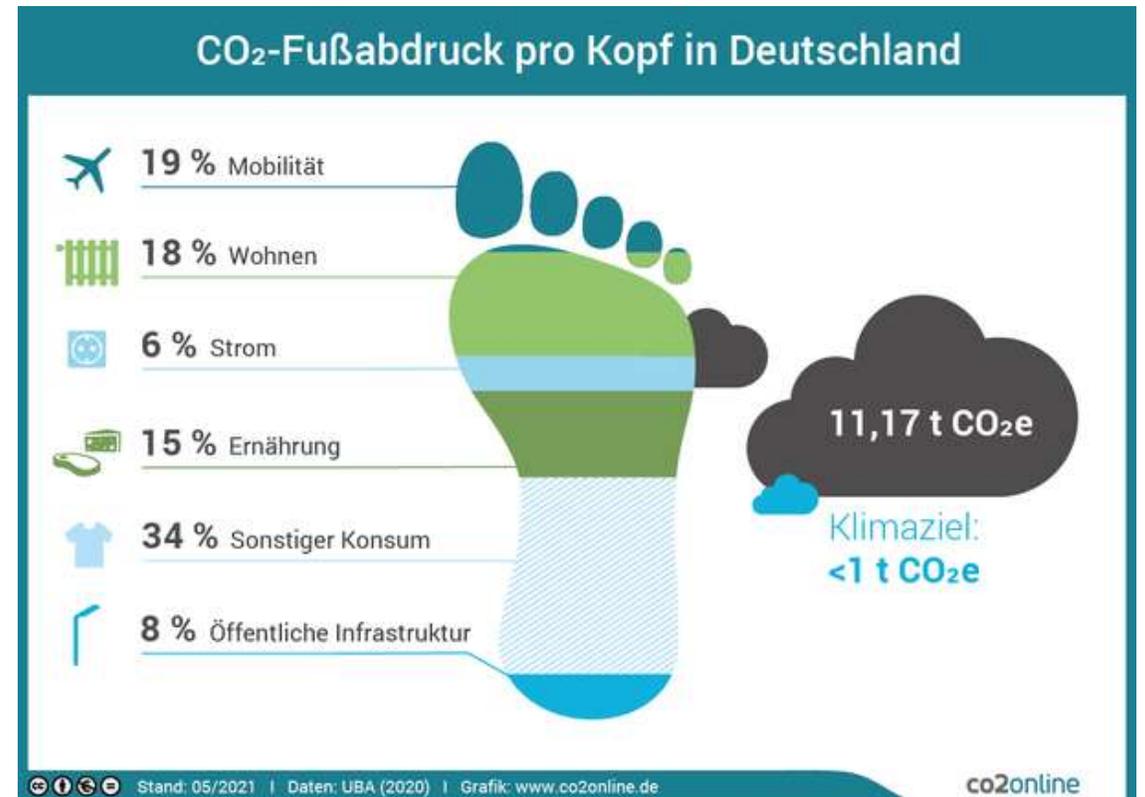
Life cycle assessment (LCA) plays arguably the most important role in technology assessment. It is used to comprehensively assess products or technical systems in terms of their environmental impact (product life cycle assessment or **Produkt-Ökobilanz**).



CARBON FOOTPRINT (CO₂-FUßABDRUCK)

Carbon Footprint:

- The "carbon footprint" is a globally valid measure for determining greenhouse gas emissions.
- **DIN EN ISO 14064 distinguishes between:**
 - Corporate Carbon Footprint (**CCF**), when it refers to a company.
 - Product Carbon Footprint (**PCF**), when it refers to a product.
- The **image of the footprint** is intended to illustrate that people and their economic activities leave traces in companies in the form of emissions.



Auditing:

- Organizations **participating in EMAS** must publish an environmental statement in which they report, among other things, on their impact on the environment (direct or indirect), their environmental performance and their environmental goals.
- Organizations that **successfully pass the verification** by the environmental verifier can be registered in the EMAS register (in Germany, this is kept by the responsible Chambers of Industry and Commerce and the Chambers of Crafts) and are allowed to use the EMAS logo for their corporate environmental protection.



Strengths and Potentials :

- The great strength of EMAS lies in the **measurement and publication** of the company's environmental impact in order to improve it in terms of **sustainable development**.
- This works both in terms of **direct environmental protection** and from the point of improving **eco-efficiency**, which can, for example, increase economic and ecological performance by reducing superfluous material flows (eco-efficiency).

Weaknesses and problems:

- As all management systems - it requires a high degree of willingness to learn and organize throughout the company. A reorganization merely ordered by management or external consultants will show little success if the willingness to change is not carried by the whole company (risk of greenwashing)
- EMAS does not cover many areas of companies or organizations.

Quality of Products, Processes and Services

THE NEXT STEP:



. . . from

- ✓ *the description and assessment of complex systems and*
- ✓ *their representation in German environmental law and*
- ✓ *their systematic recording in sustainability and environmental management systems*

. . . to

- *quality requirements of products, services and processes,*
- *methods of error reduction,*
- *their contribution to quality management and*
- *their significance in sustainability management.*

WAS IST QUALITÄT?

Quality: the best business plan

... is

- the sum of all properties of an object, system or process

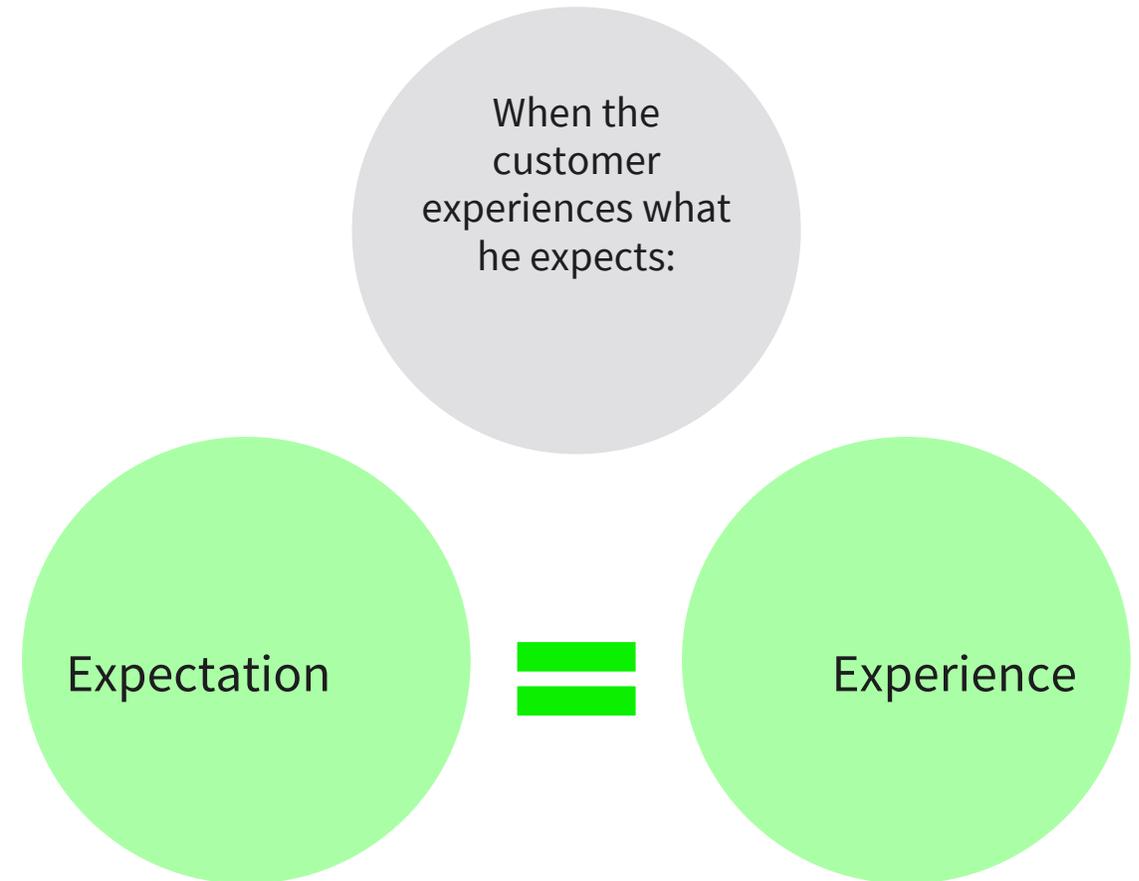
... evaluates

- the quality of all properties of an object, system or process

... defines

- the extent to which a customer's needs are satisfied by the nature of the product or service

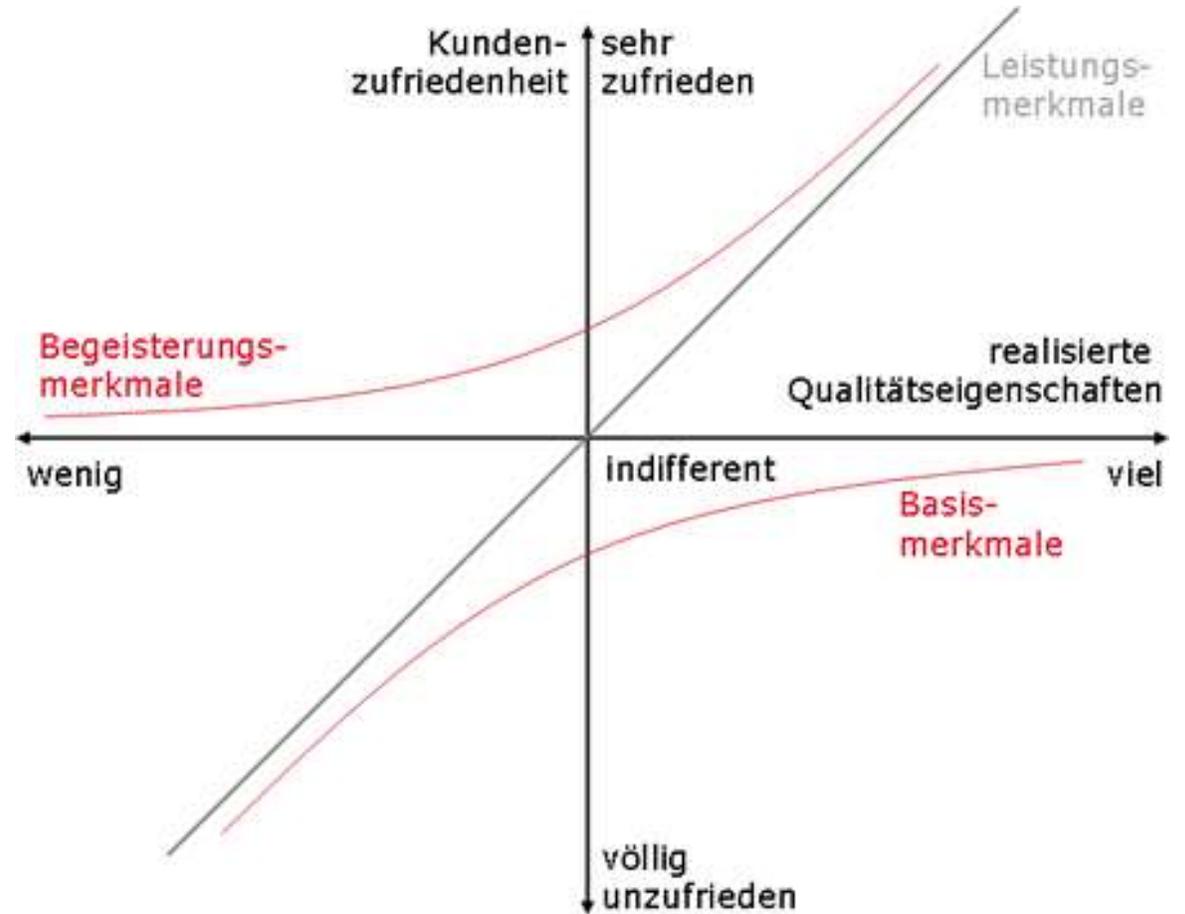
Definition Servicequalität



WHAT IS QUALITY?

The Kano-Model distinguishes:

- **Basic features** that are so fundamental/ self-evident that customers only become aware of them when they are not met (implicit expectations).
- **Performance and quality features** of which customers are aware; they can be met to varying degrees, eliminating dissatisfaction or creating satisfaction (depending on the degree).
- **Enthusiasm features** are in contrast unexpected features which the customer does not necessarily expect and which distinguish the product from the competition; they arouse enthusiasm (e.g. special equipment in a car).

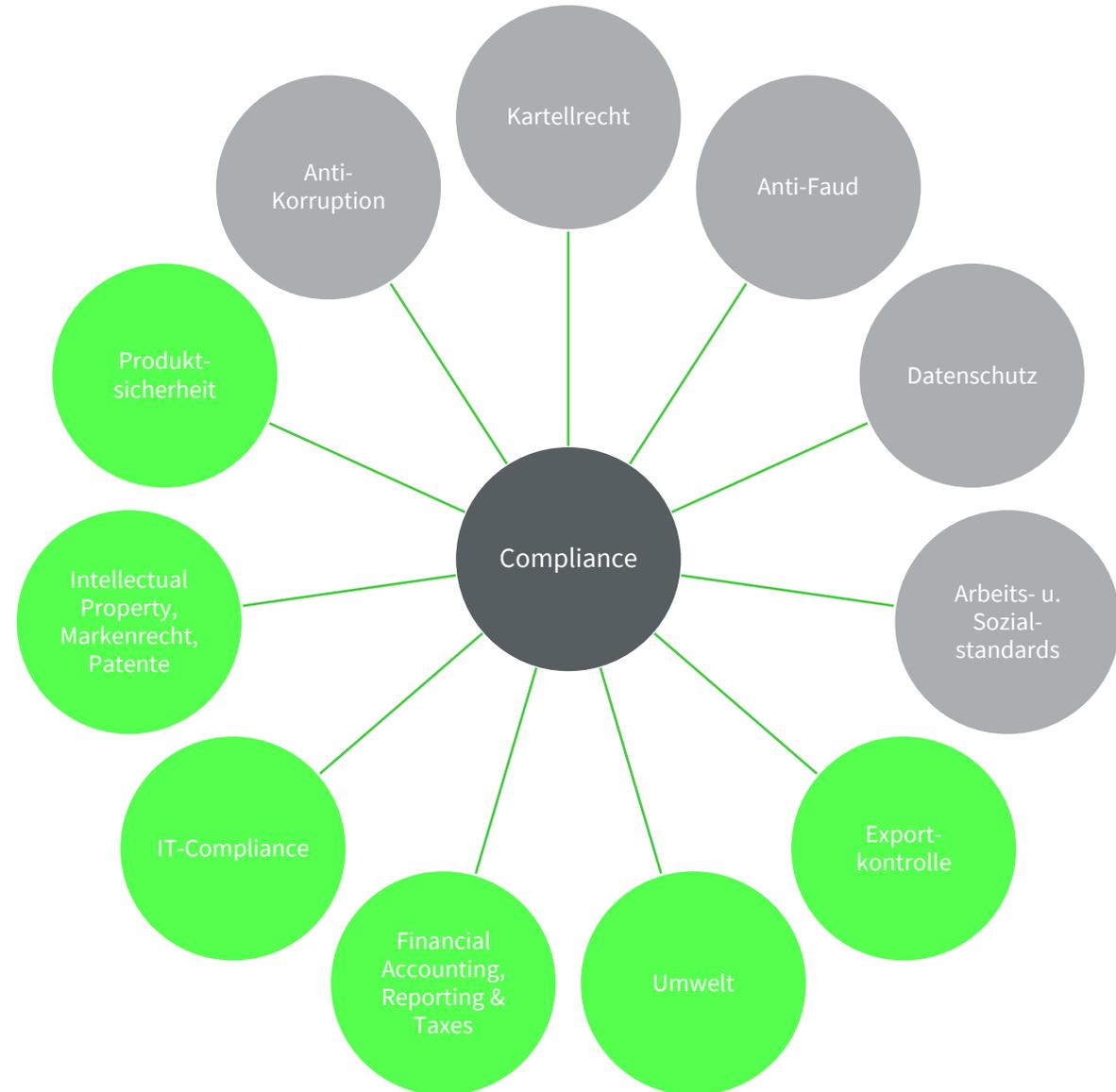


COMPLIANCE – CONFORMITY WITH THE RULES

Objective:

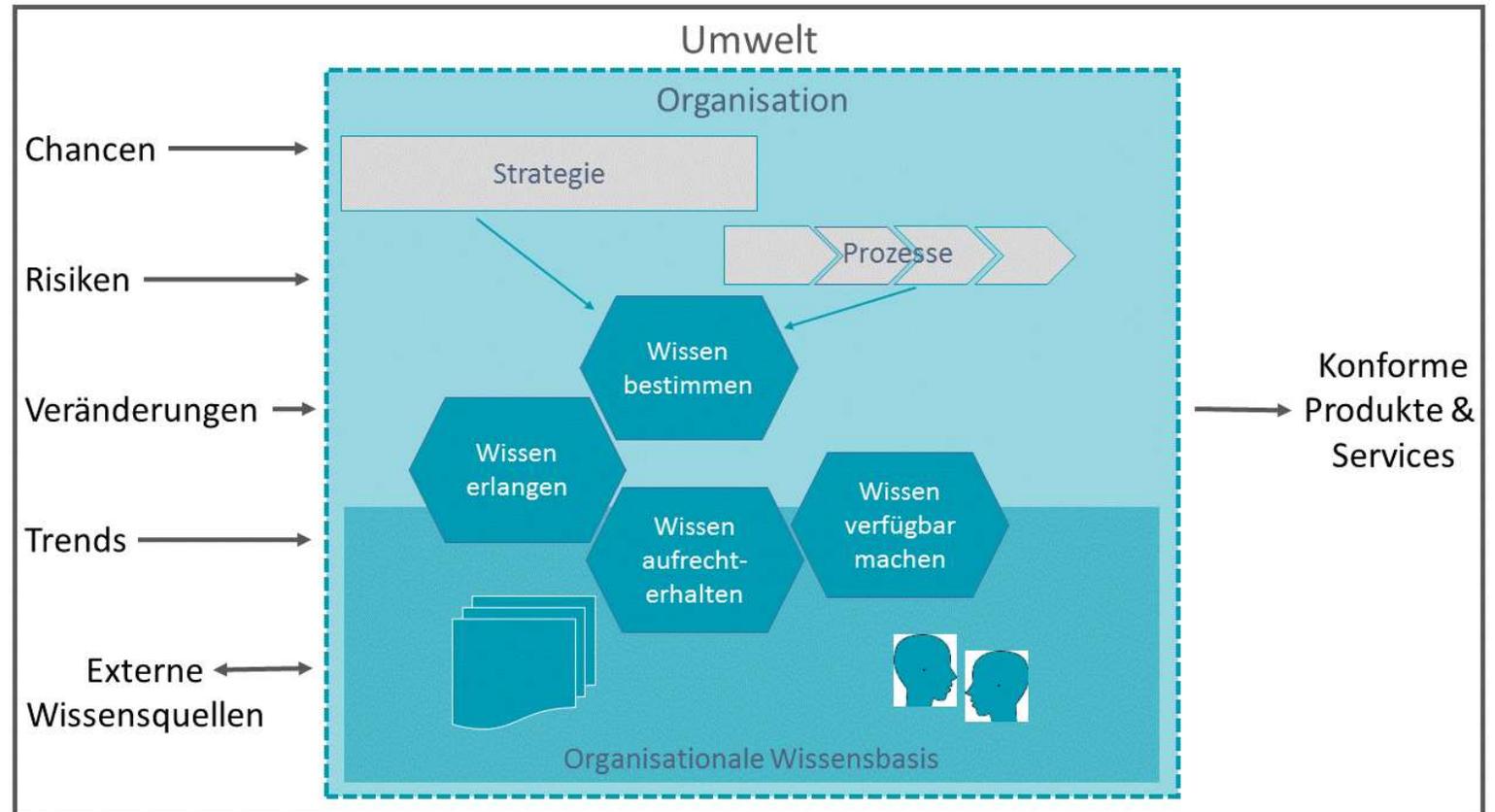
Operating compliance management, whether mandated or voluntary, is intended to ensure compliance with laws, rules and policies by ...

- ... strengthening the integrity of a company.
- ... avoiding negative headlines.



TRENDS: USING KNOWLEDGE FOR SUSTAINABILITY-COMPLIANT PRODUCTS AND SERVICES

- Digitalization
- Innovation management
- Supply change
- Sustainability
- Ethics
- Energy Management
- ...



PROCESSES AND SERVICES

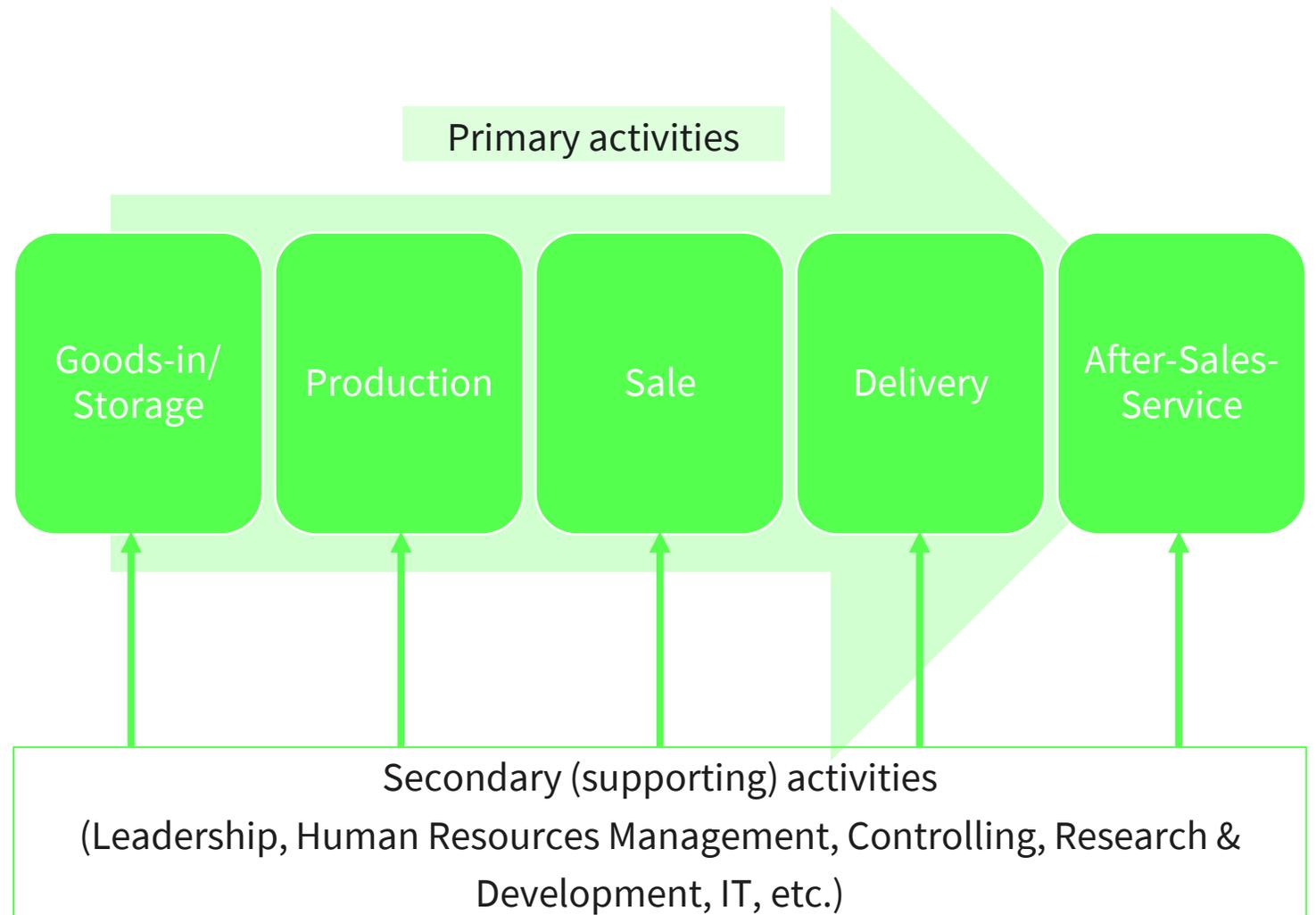
Quality cannot be tested into a product or service at the end. The **production process** must be influenced in order to change the result as well.

In other words, quality can only be improved if there are **changes to the structural quality** (e.g. a new machine) or to the **process quality** (by changing procedures)



PROCESSES AND SERVICES

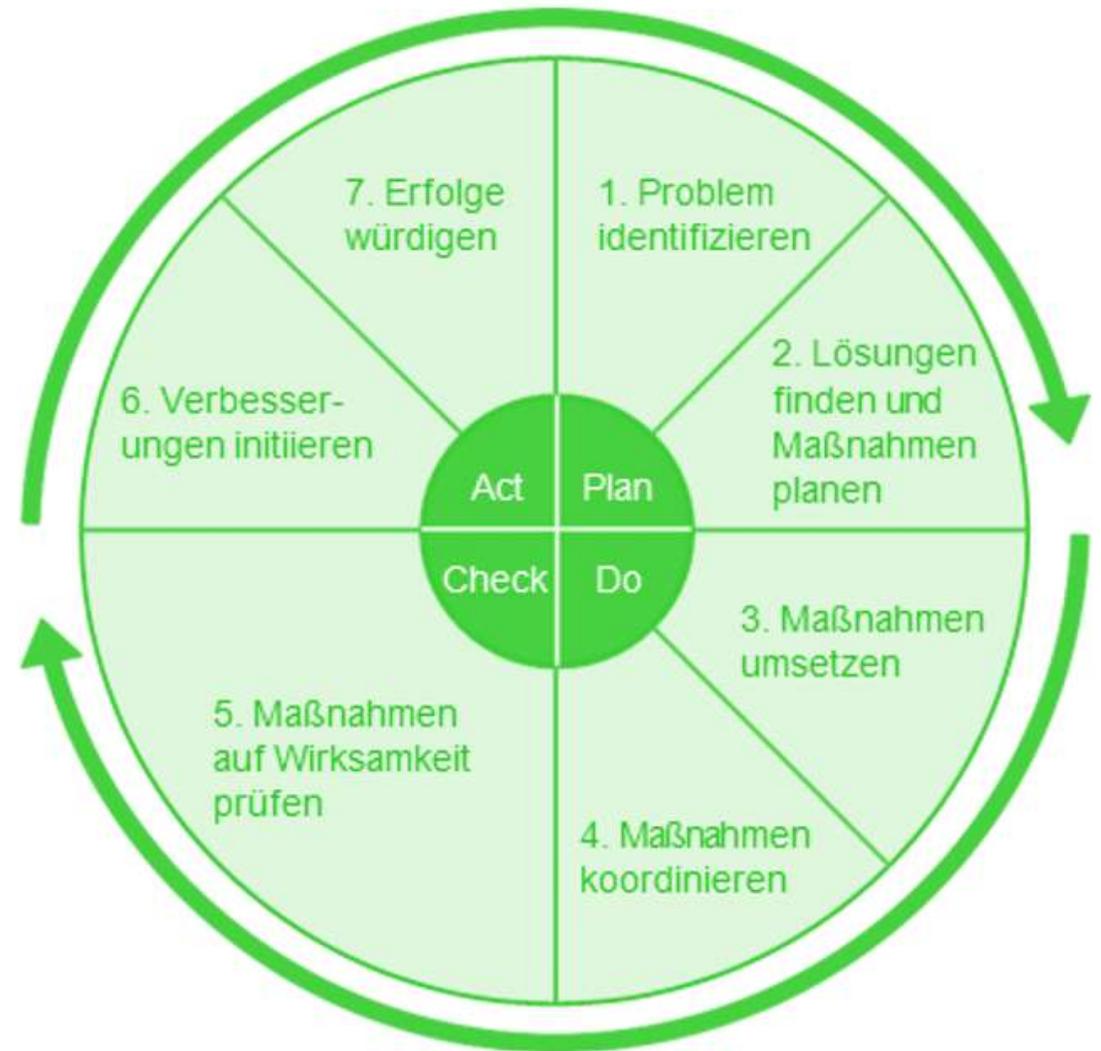
For the consideration of processes at the level of the entire company the concept of the **value chain** is established. This essentially involves how inputs (in the form of production factors such as material, human labor, capital, etc.) are transformed into outputs (products and/or services).



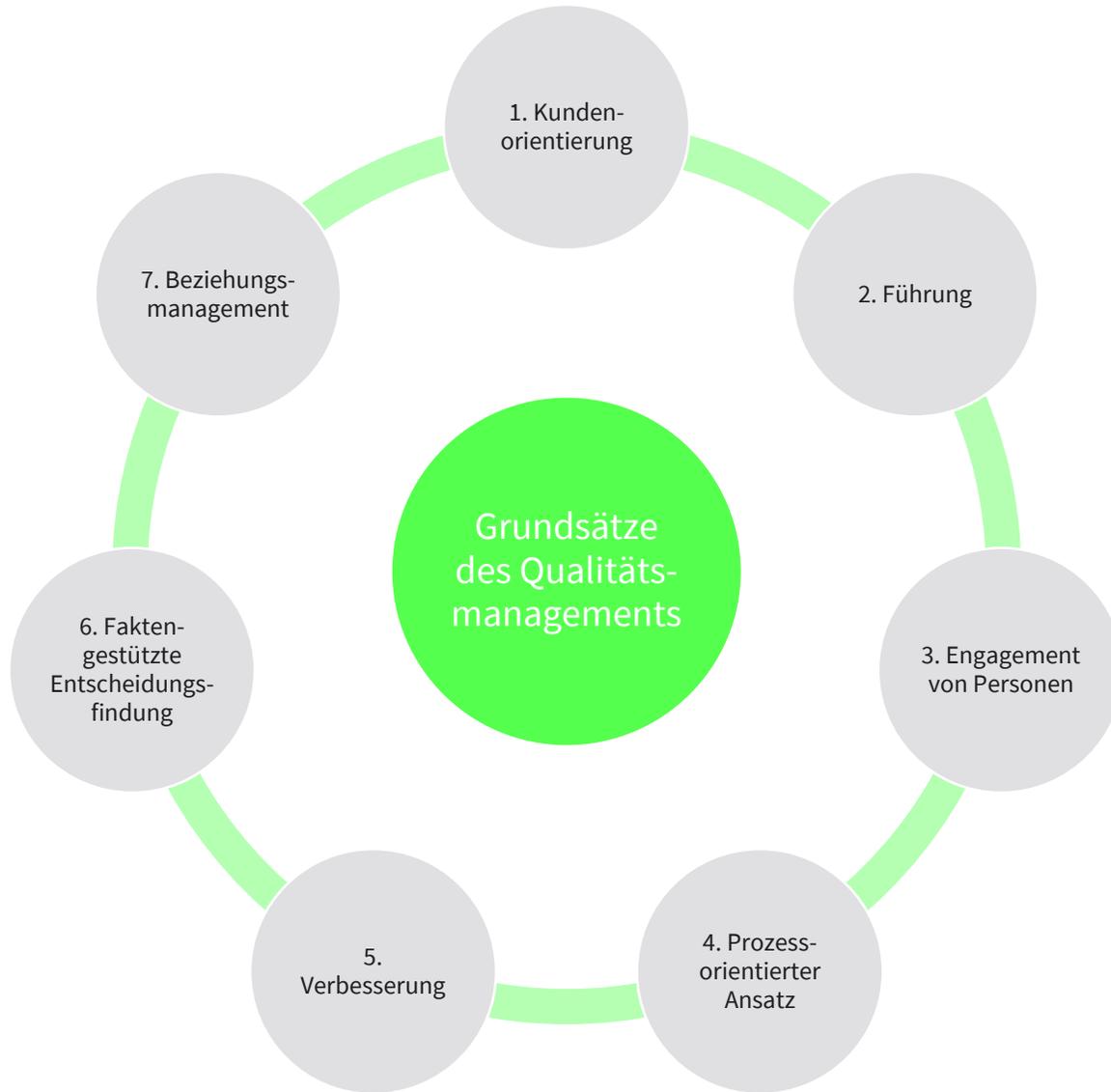
QUALITY MANAGEMENT SYSTEMS FOR SUSTAINABLE BUSINESS

Management systems enable companies

- ...
- to implement clear roles, rules and processes across divisions.
- to manage complex topics such as quality, sustainability, innovation, knowledge, and occupational safety in a structured manner
- and to optimize the implementation of management tasks across companies.



QUALITY MANAGEMENT: FIELDS OF ACTION



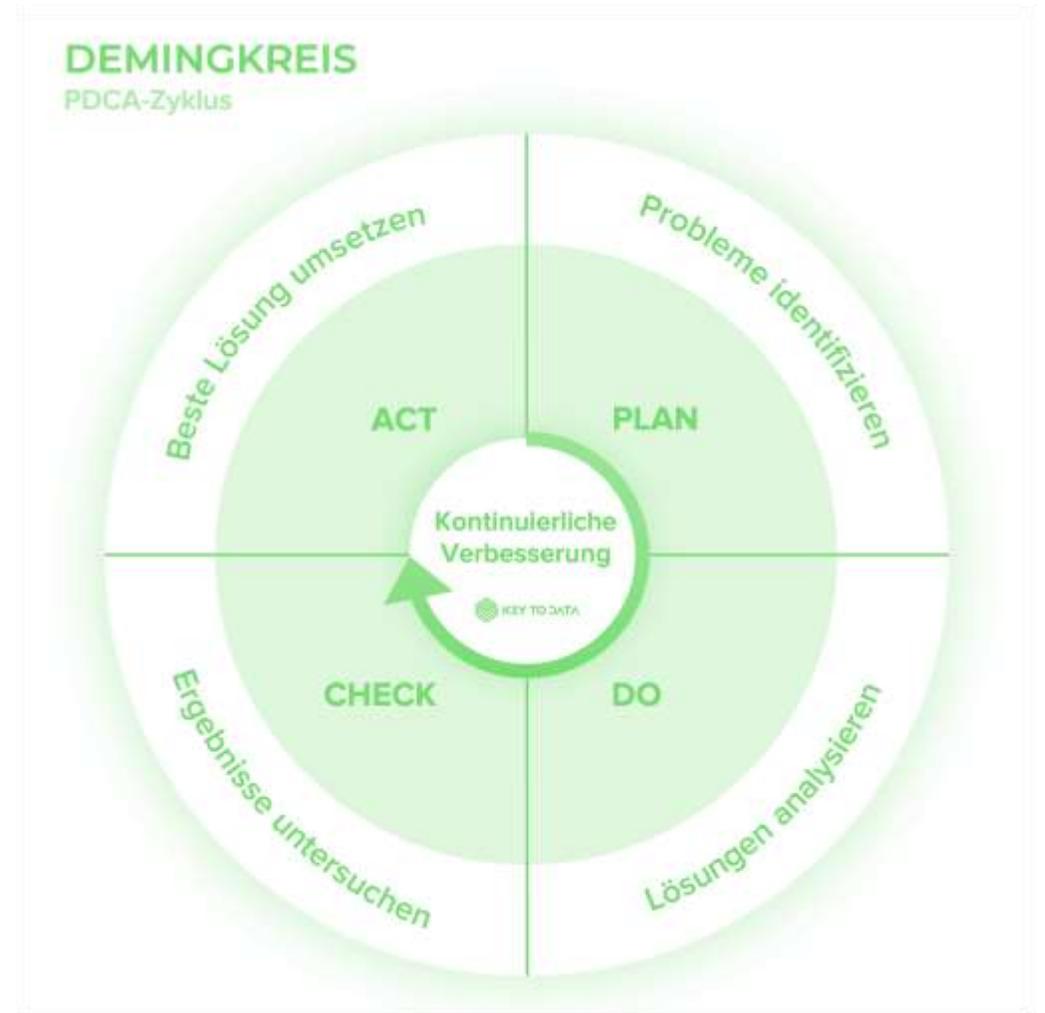
1. Meet and exceed customer expectations: sustainable success.
2. Implement QM through operational goals and measures; involve employees at all levels.
3. Empower employees and provide necessary resources.
4. Aligns with the processes. Leads to predictable and consistently good results.
5. CIP (continuous improvement process) constantly optimizes performance, processes, and products.
6. Subjective criteria are supported by numbers, data and facts.
7. Interested parties (stakeholders) are involved.

TQM-Concepts:

... go beyond DIN EN ISO 9001:2000 ff,
as they ...

... involve all stakeholders (including those of society,
environment, social, cultural concerns).

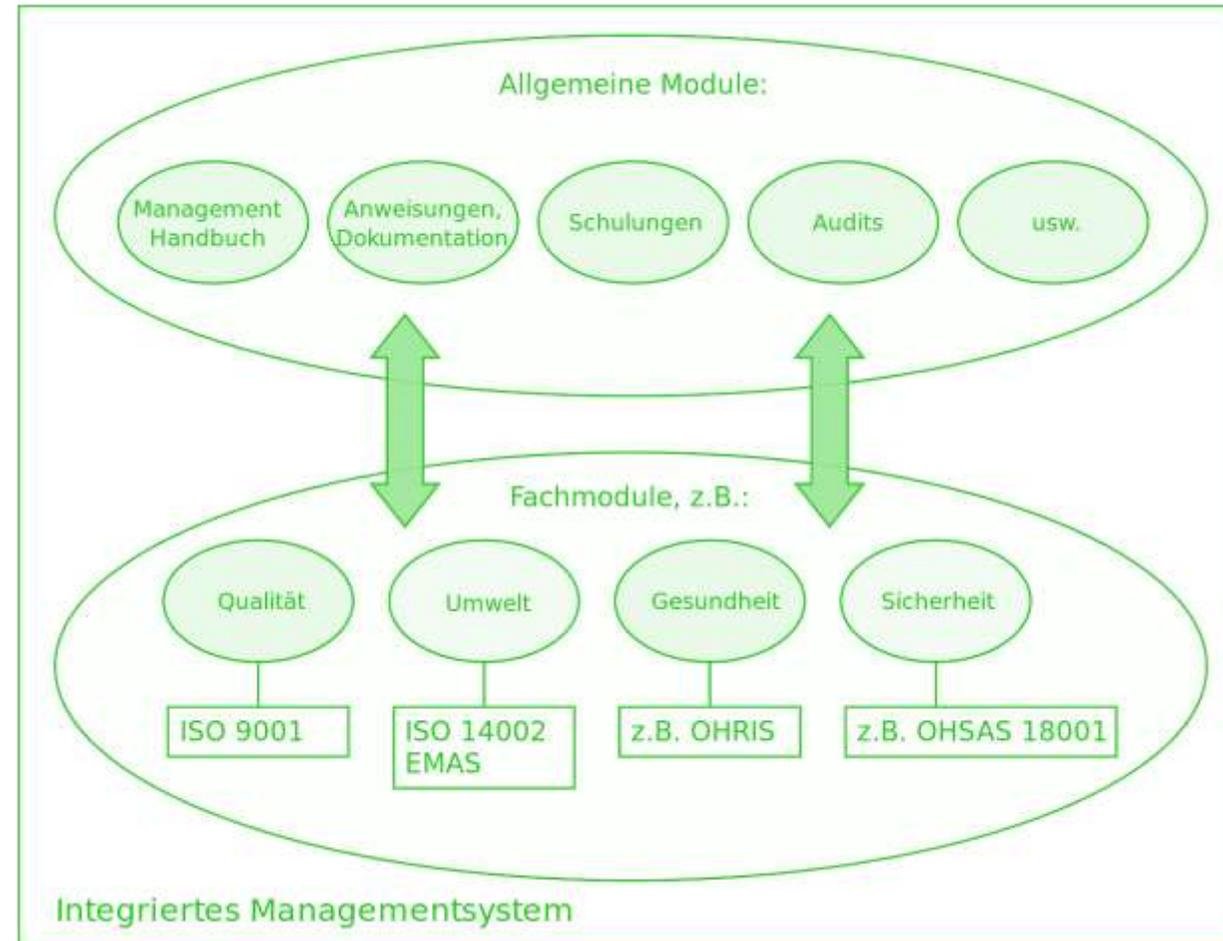
- ... not only check the suitability of the processes,
but also the actual results achieved.
- ... allow competition, e.g. by scoring points and
awarding quality prizes.
- ... require a successful focus on sustainability.



Integrated management systems

combine several existing and new systems under one umbrella because ...

- ... management systems affect virtually all parts of a company.
- ... it makes little sense to run different systems side by side.
- ... unnecessary effort is reduced as a result.
- ... confusion among managers and employees is avoided.



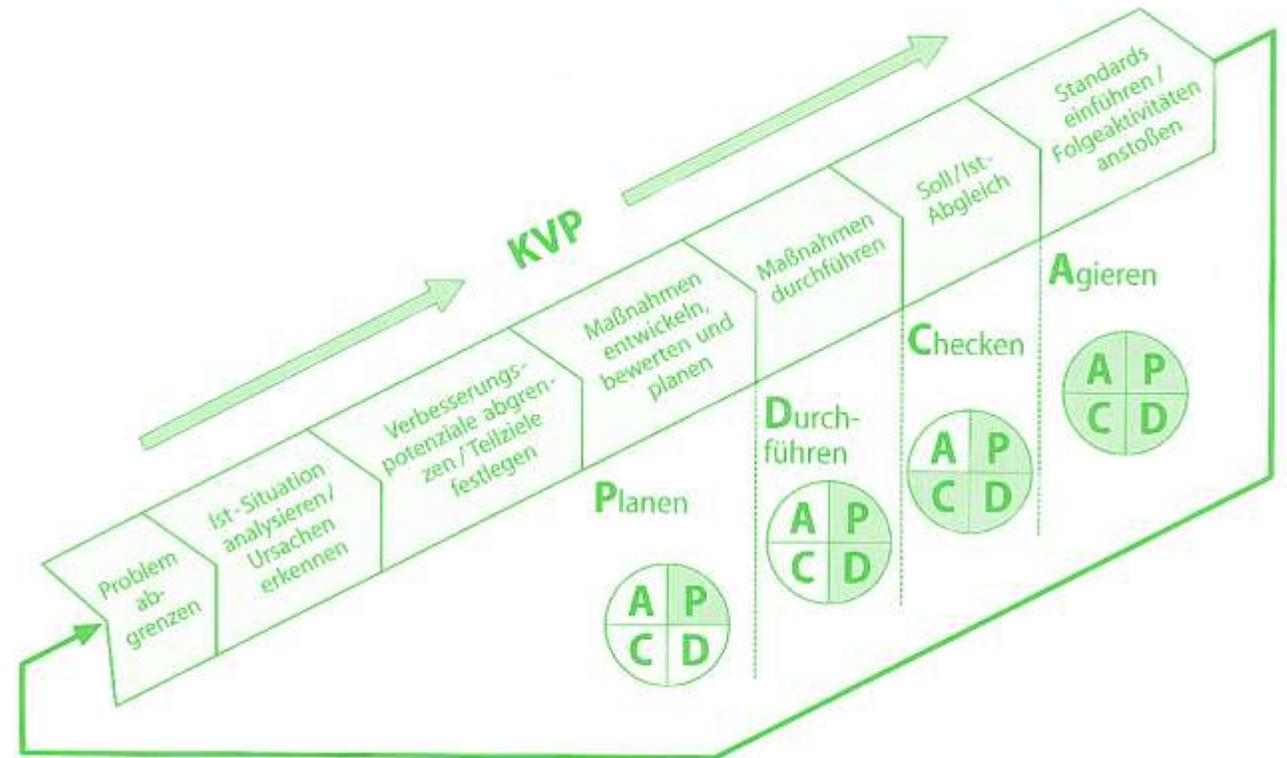
Quality as a process for sustainable products and services

- Continuous improvement of product and service quality in the product realization process results in products that lead to high customer satisfaction.
- The entire process contributes to the continuous improvement of the QM system.
- With constant improvements in small steps, the competitiveness of the companies is strengthened (process of continuous improvement



**THE SUSTAINABLE IMPROVEMENT CYCLE:
PLAN-DO-CHECK-ACT FOR SUSTAINABLE PRODUCTS AND SERVICES**

Based on "continuous improvement processes", the **Plan-Do-Check-Act cycle (PDCA cycle)**, the principles of sustainable development prepare a suitable framework for the development of sustainability quality requirements for products and services with the help of their quality management systems.



„**Sustainable Development Goals**“ (SDGs) voluntarily integrated into the quality management system and internal and external corporate processes using the CIP.