

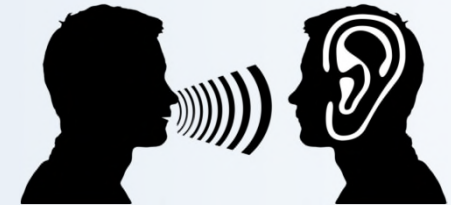
# **Tools making Value Chains more efficient**

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# Increase of Resource Efficiency through Standardization Processes - Products - Management

- First Standard of Mankind: Language! → Communication
  - influenced by and on culture
  - logic
  - efficiency



- Development of "suitable" languages
  - scores -> music
  - IT: programming languages
  - "SMS" or "WhatsApp" (CU4Dnr)
  - technical ("Academese")
  - Norms and technical standards (ISO, EN, AFNOR, ASTM)



**Influence on Efficiency of communication and processes!**

# Increase of Resource Efficiency through Standardization Processes - Products - Management

## 4 Examples

- 1) Experience with standards - and the need of improvements
- 2) Importance of reliable and trusted environmental standards
  - promoting international value chains and businesses
- 3) Standards in management - and the need to break them
- 4) Existential challenges in ecology and the need to define new standards
  - pollution of inland and marine waters with microplastics
  - example: antifouling paints for ships reducing > 95 % of biocide polluted microplastic

# Increase of Resource Efficiency through Standardization

## 1) Experience with standards and the need of improvements

- International norms (e.g. EN, ISO) encompassing national norms (DIN, AFNOR, BS..) = "speaking the same language"
- creating reliable base for international supply chains and business enabling quality and supply agreements without need of double testing
- accredited test labs as executive authority of international standards
- duty to keep norms on same level and avoid national/local "interpretations"

**BUT!**

- significant deviations between measurements of different accr. test labs still happen (-> example)

→ develop improvements where inaccuracies have been discovered together with ISO



# Increase of Resource Efficiency through Standardization

## 2) Environmental standards promoting international value chains and businesses

- Environmental labels have to be popular, honest, reliable and demanding
  - values and properties have to be desirable or unique
  - Example: **German Blue Angel**
  - criteria defined and controlled by German Government (UBA, RAL)
- ➔ high demand from Chinese customers for products for healthy living enabling new business







# Increase of Resource Efficiency through Standardization

## 3) Standards in Management - and the Need to break them

- Management processes and rules are necessary ....

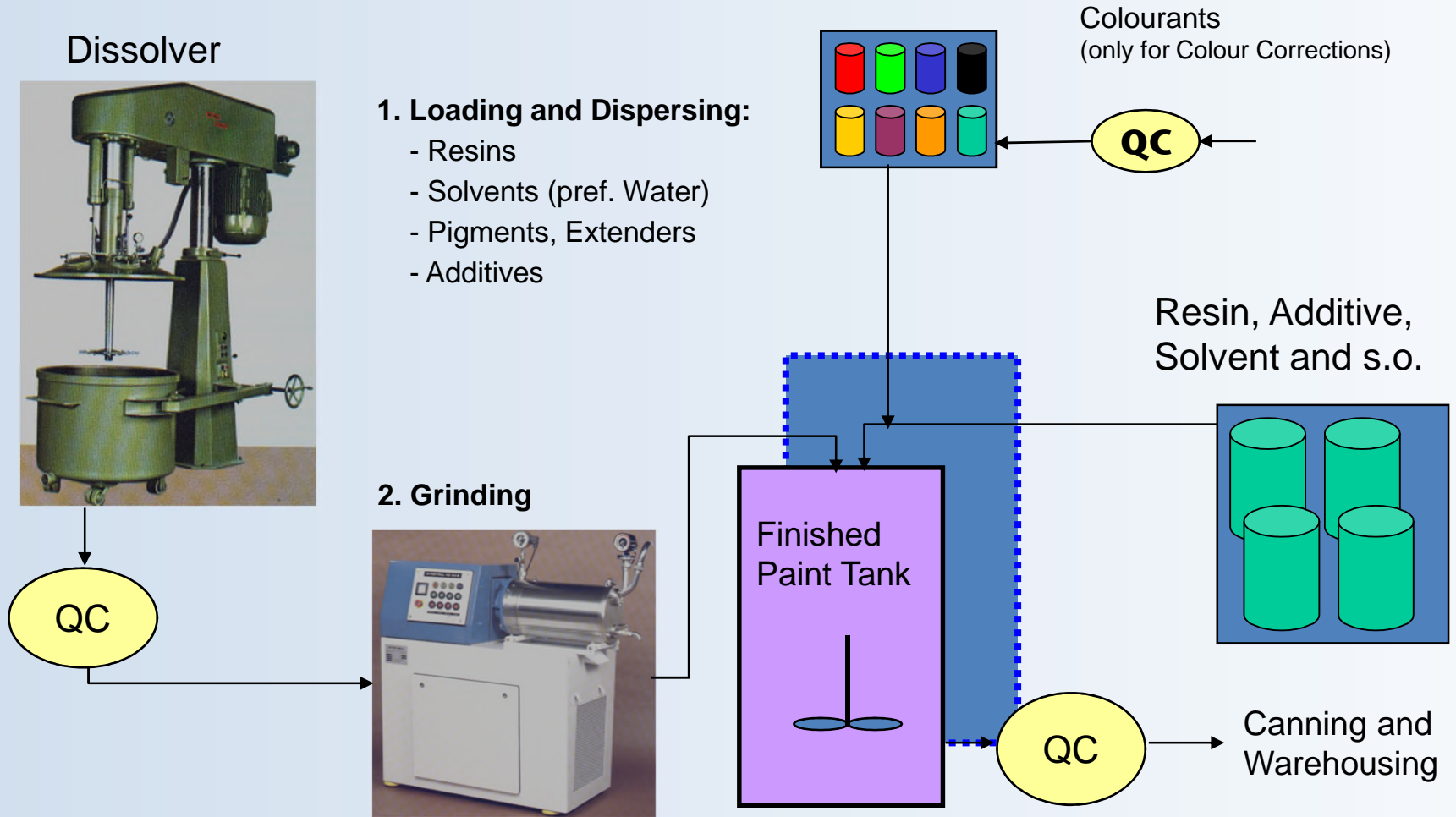
**BUT!**



- **break the rules!**
- **think around the corner!**
- **create new standards!**

- Example how to revolutionize the production process of paint →

# Standard Production Process of Coloured Glosses / Trim typical batch sizes 50 -500 l



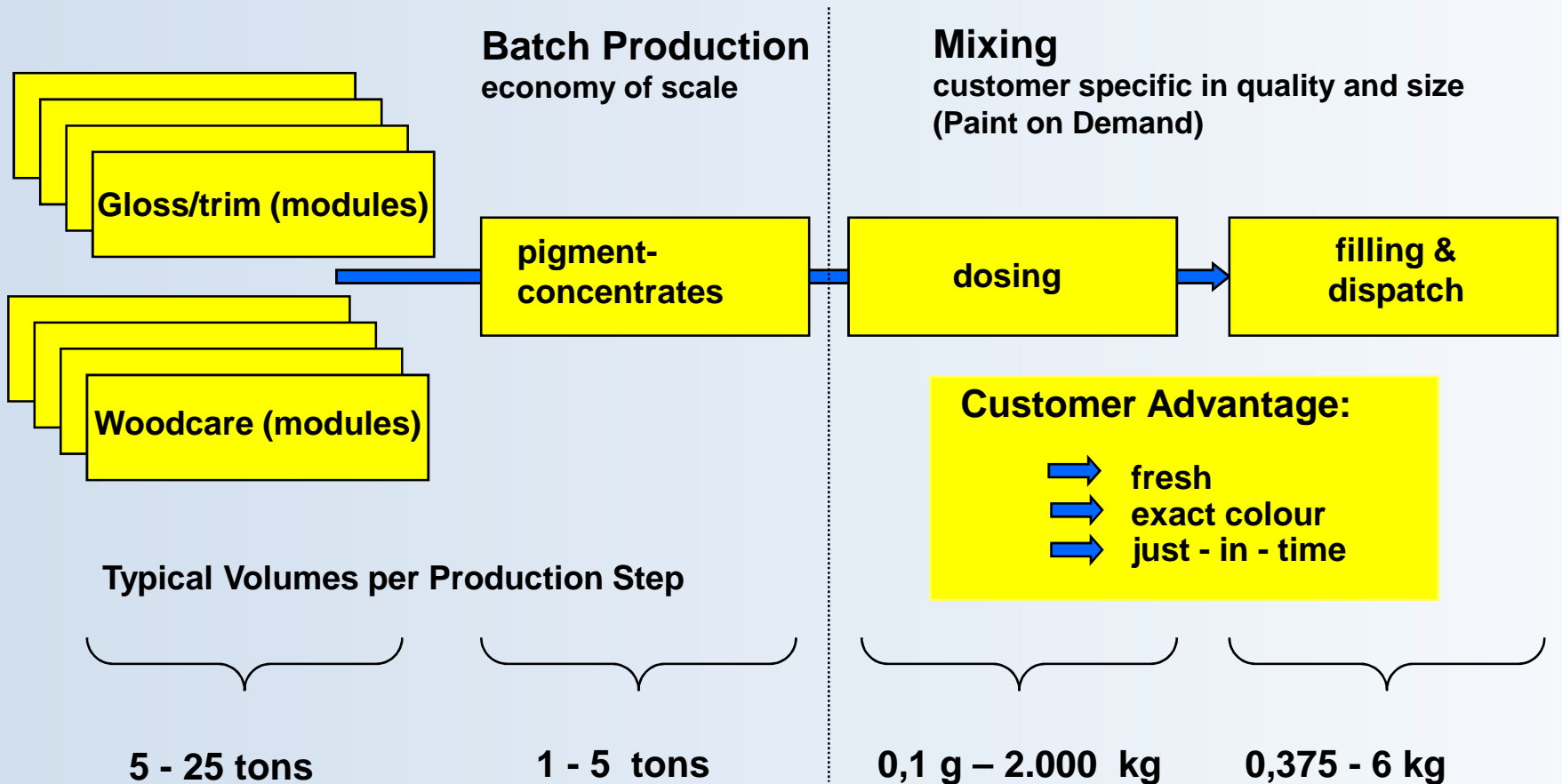
Smaller batches -> work, time, testing, cleaning, waste



# Increase of Eco Efficiency through new Standards

## New Standard: Modular Platform Technology Production Concept

Principle: standardized big batch production - small amounts with fast and accurate dosing



**Saving up to 85 % energy, emission, waste - checked, approved and awarded as "Reference Plant" by German Ministry of Environment (BMUB), 2005**



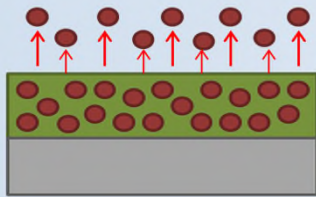
# Increase of Eco Efficiency needs new Standards

## 4) Existential Challenges in Ecology and the Need of new Standards

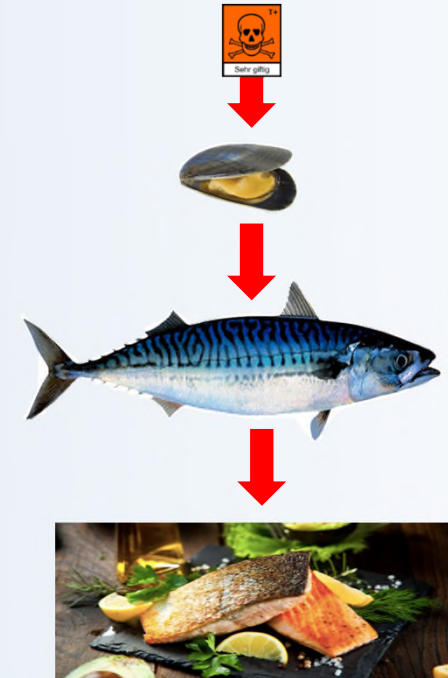
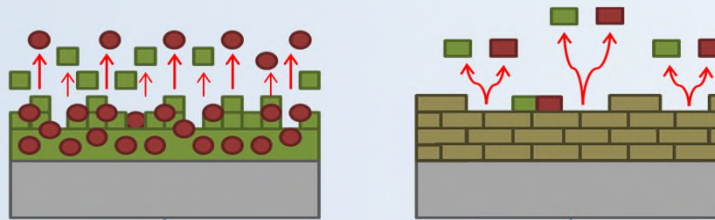
### Example: Microplastic

- Pollution through anti-fouling coatings of ships/boats

Anti Fouling



Fouling Release Coatings



- **> 400 tons of Biocides and Microplastics every year!**  
just through private sport boats, just in Germany
- **> 95% can be avoided by a new biocide free thin film coating\***  
only 5  $\mu\text{m}$ , extremely hard, porous free for low bio adhesion and easy cleaning

**→ to be defined as new standard for the sake of our waters and food**

**Thank You!**