From Milligrams to Megatons

bluesign®

It has become *way* too complicated to push the problem back upstream

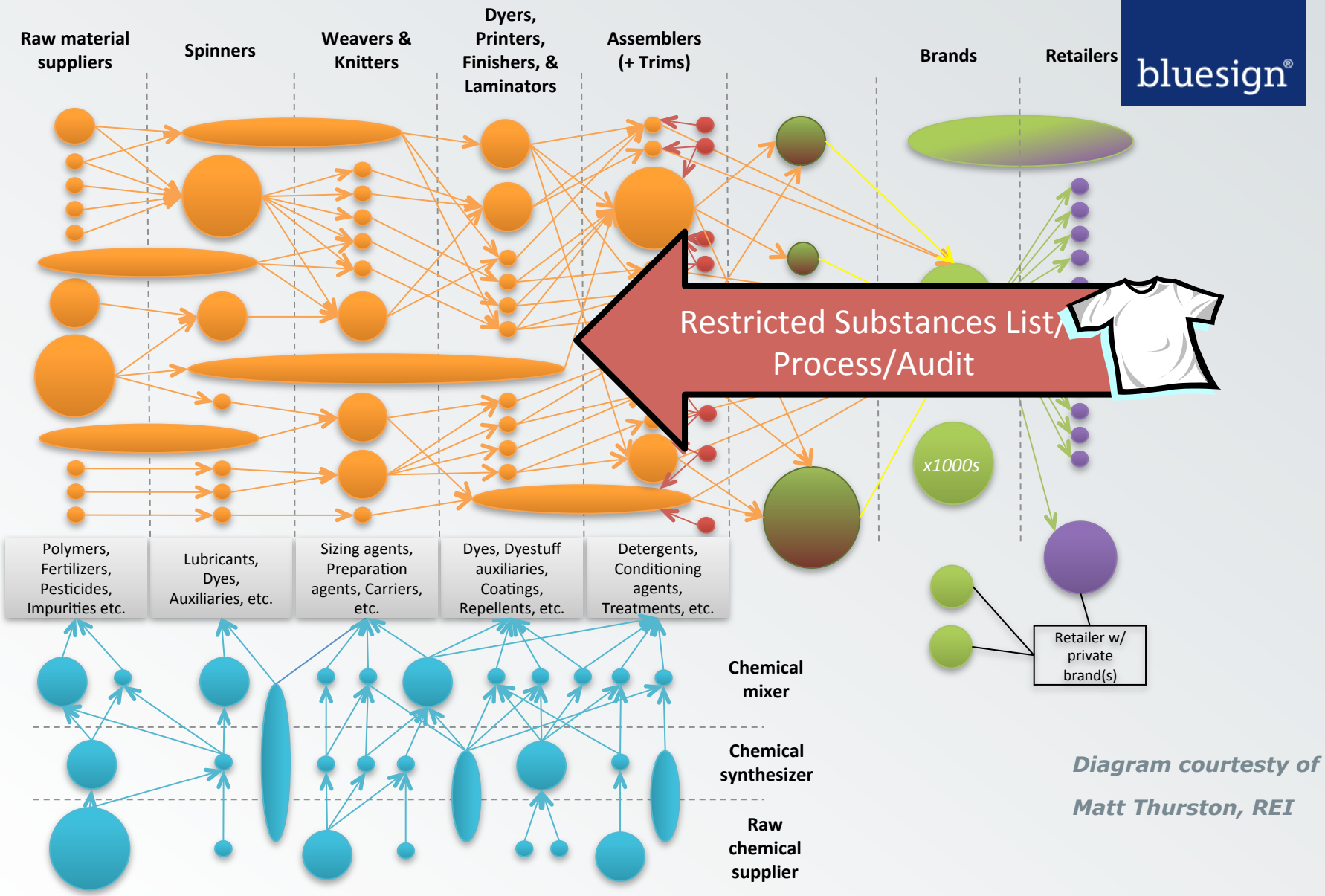
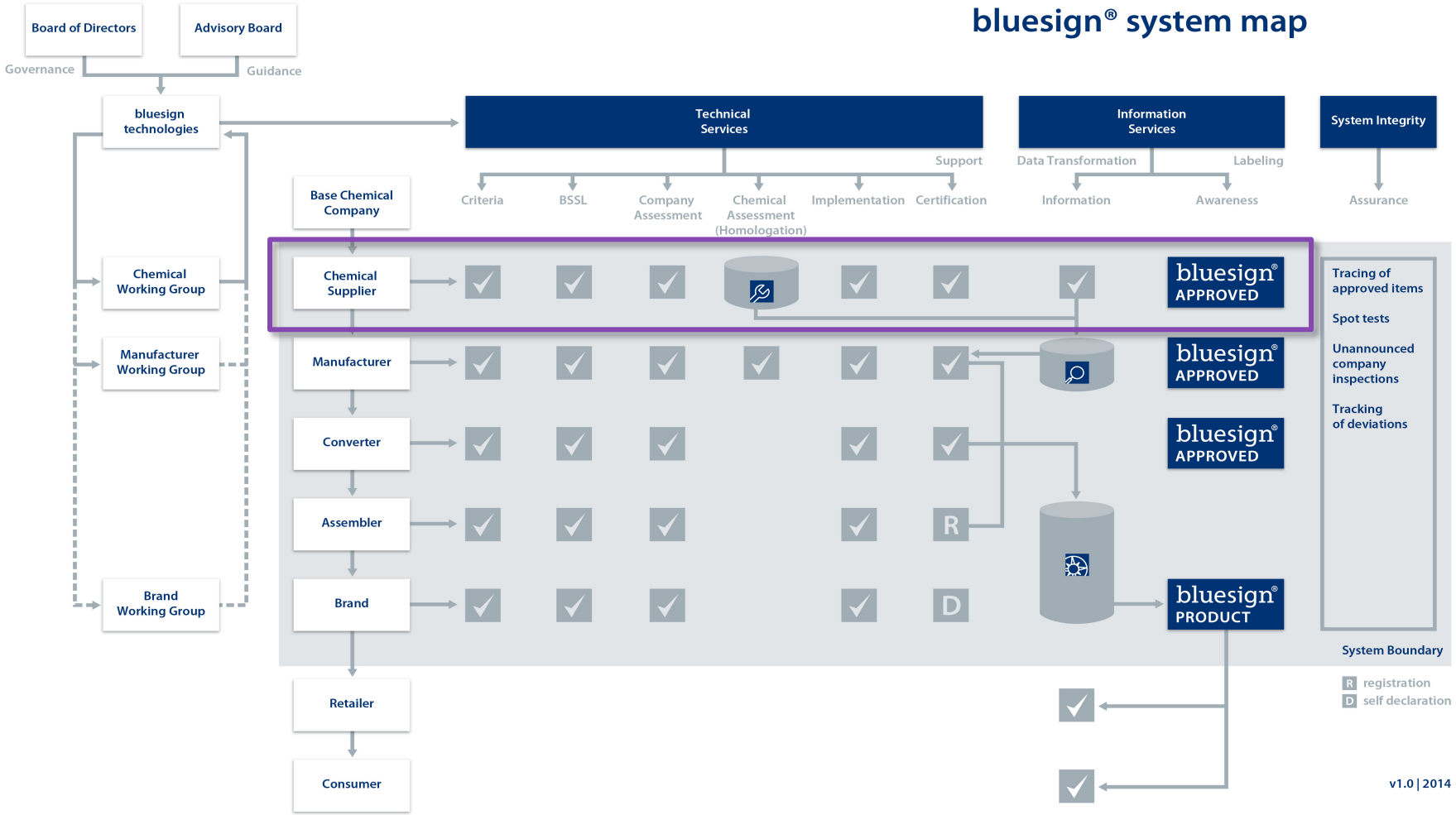


Diagram courtesy of Matt Thurston, REI

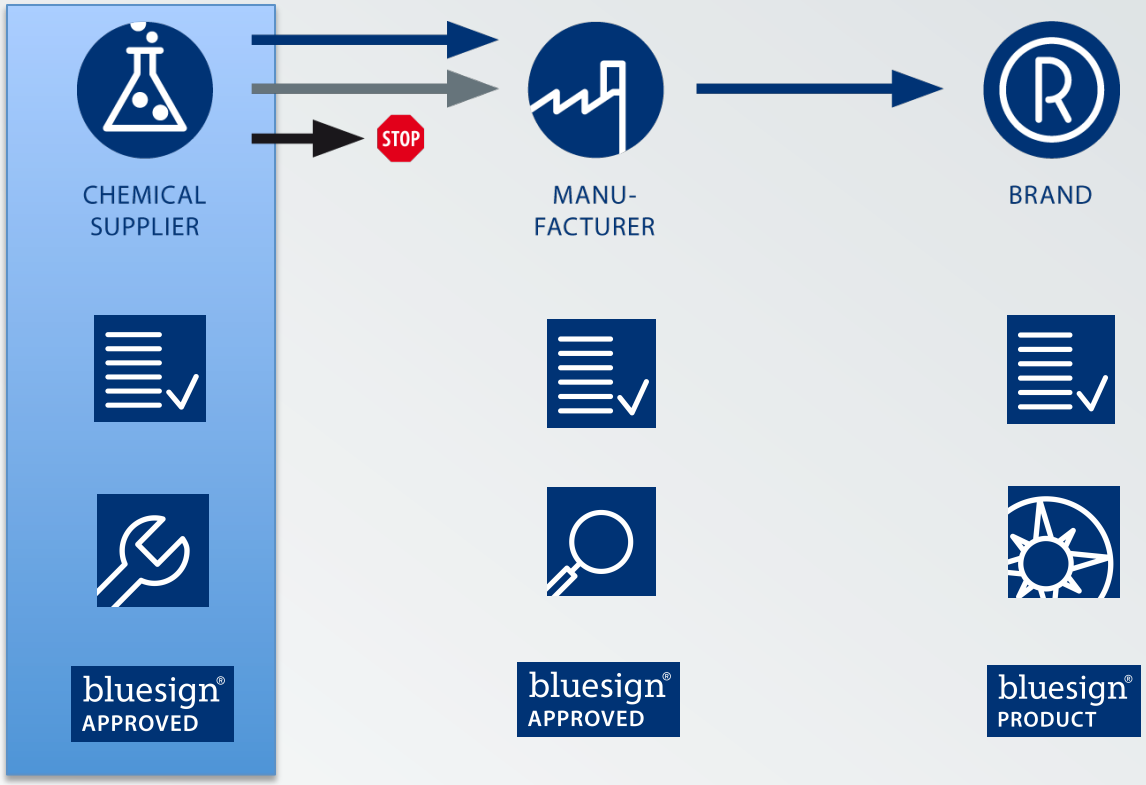
The bluesign® system

bluesign® system map



Input Stream Management

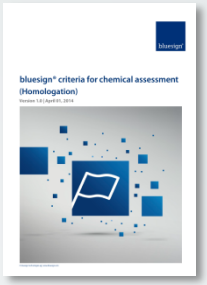
Overview bluesign® Service



Overview bluesign® Criteria

bluesign® system

bluesign® criteria



bluesign® Criteria

bluesign® criteria
for production sites

ANNEX DOKUMENTS

Chemical Suppliers

Textile Manufacturer

Garment Manufacturer/Assembler

Leather Processing

Surface Treatment of Metals

Down & Feathers Processing

bluesign® Criteria for Production Sites

1. Introduction
2. Definitions
3. Guiding principle
4. Legal compliance
5. Social responsibility
6. **Management system**
7. **Input stream management**
8. **Product stewardship**
9. Resource productivity
10. Emissions
11. Occupational health and safety
12. Handling and storage of hazardous chemicals
13. etc.

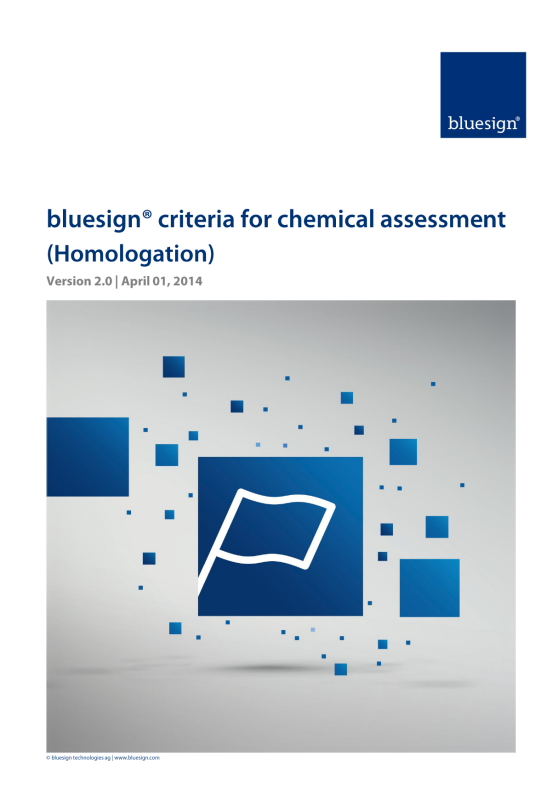
Product Stewardship

- Responsibility for your products during product life cycle
- … to reduce product‘s environmental, health and safety impacts (US - EPA)

Result from bluesign® Audits in Chemical Companies

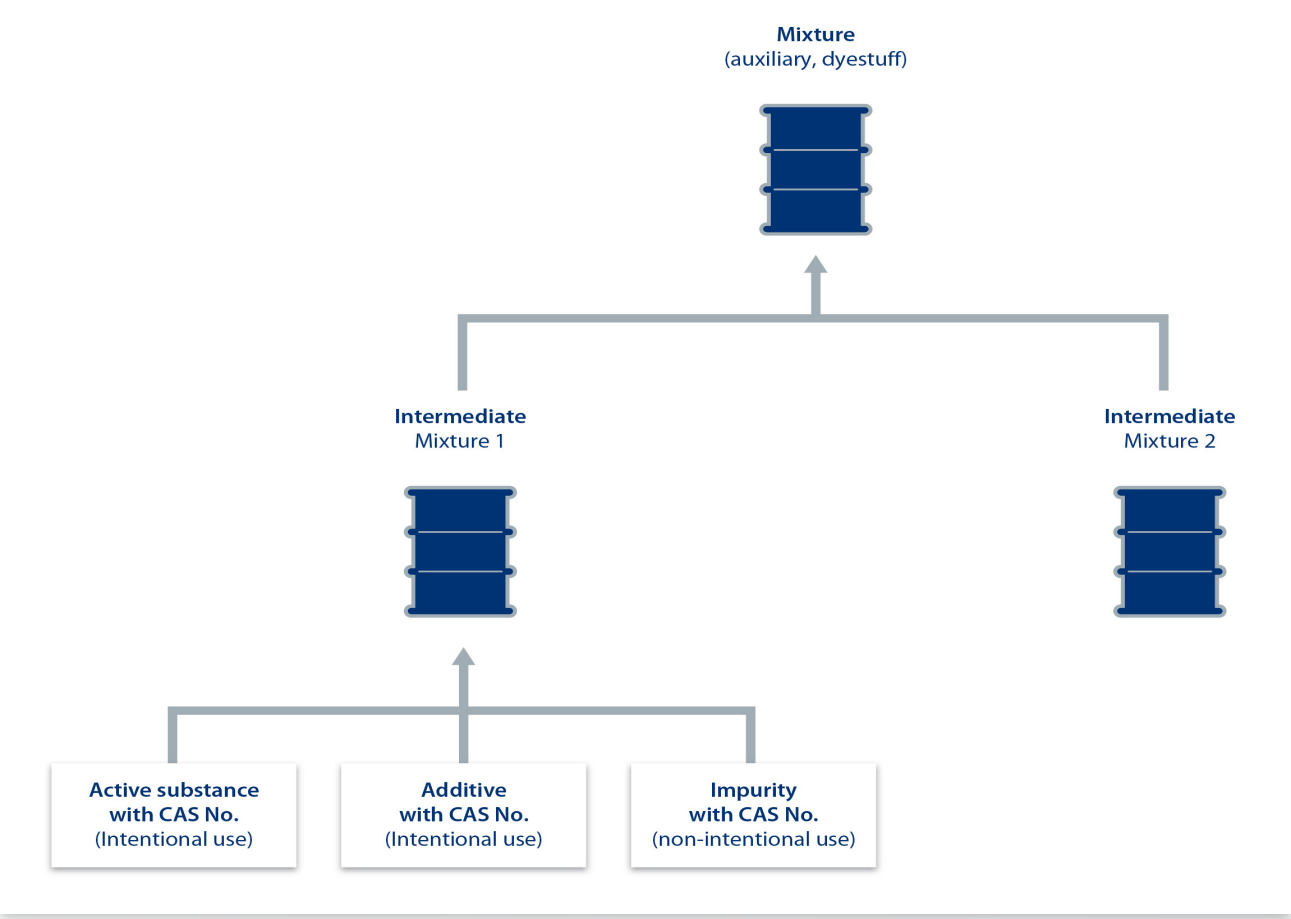
- Around 35% chemical companies fail in the audit process!
- Implementation of a „Product Stewardship Program" takes time. There are costs - but offset by compliance and quality.
- Chemical data evaluation without a „Product Stewardship Program" is NOT feasible!
- Only an audit of a chemical company with fully implemented actions gives confidence in the reliability of the data!

bluesign® Criteria for Chemical Assessment



1. Introduction
2. Scope
3. Definitions
4. Concept
5. Data sources
6. **Hazard assessment**
7. **Exposure assessment**
8. **Risk assessment**
9. Validity
10. Other applicable documents
11. Supplement

Chemical Compounds and Mixtures



Information in a MSDS

bluesign®


HUNTSMAN

Huntsman Textile Effects

SICHERHEITSDATENBLATT (2001/58/EG)

HANDELSNAME

OLEOPHOBOL 7713

1. STOFF- / ZUBEREITUNGS- UND FIRMENBEZEICHNUNG

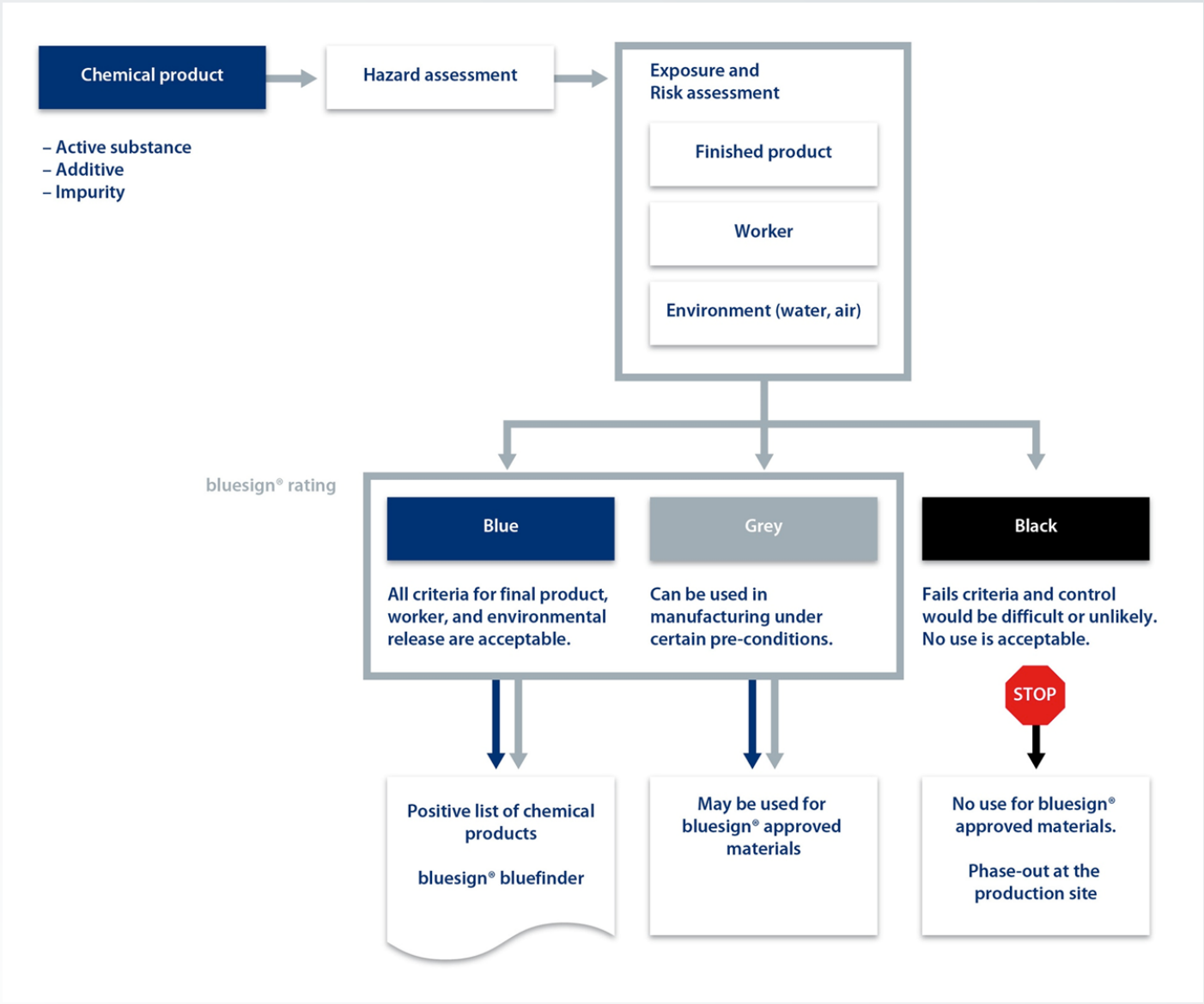
2. ZUSAMMENSETZUNG/ ANGABEN ZU BESTANDTEILEN

3. MÖGLICHE GEFAHREN

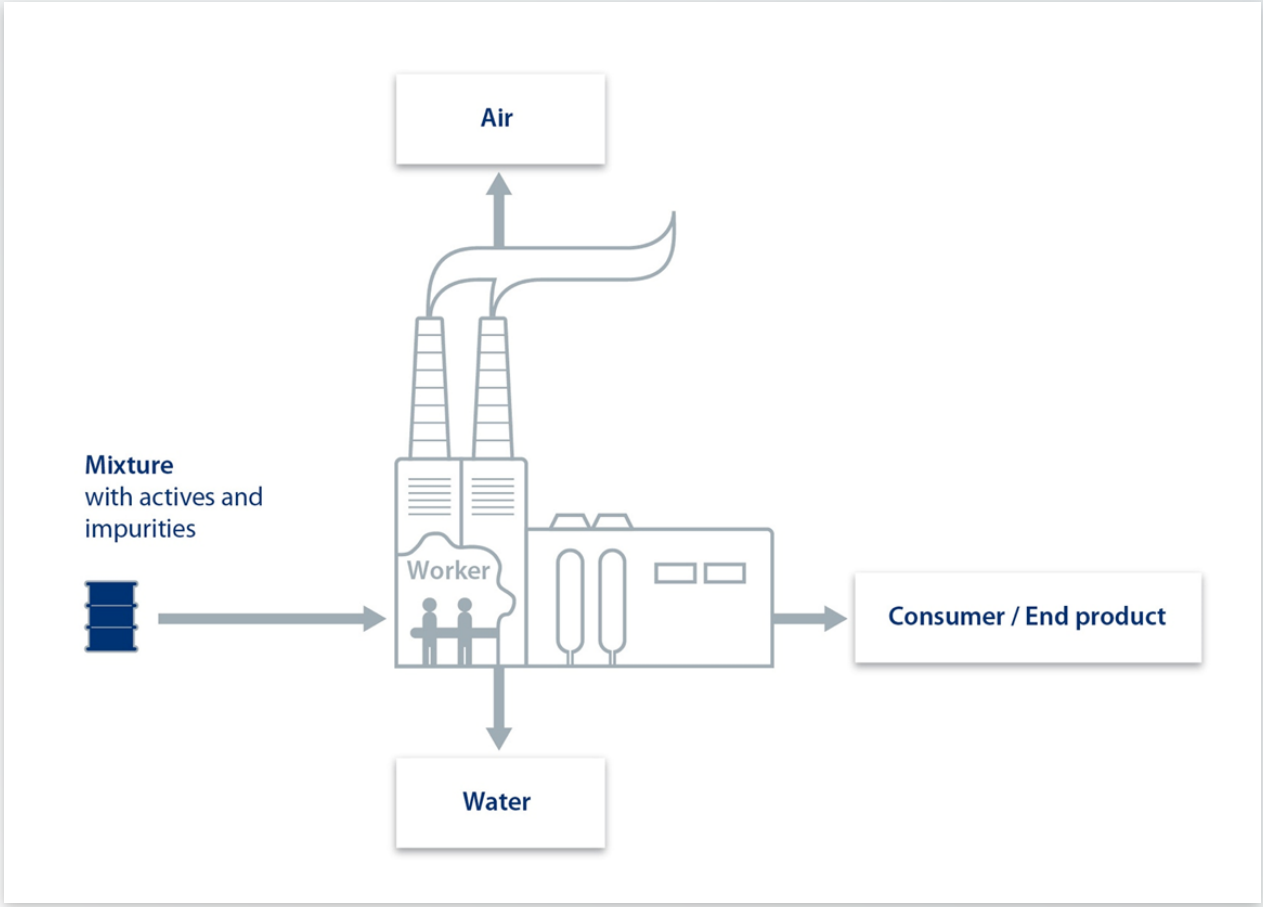
4. ERSTE-HILFE-MASSNAHMEN

5. MASSNAHMEN ZUR BRANDBEKÄMPFUNG

- A perfect MSDS is not the full story
  - No impurities mentioned e.g. APEO, PFOA or banned Amines
  - No by-products mentioned
  - No reaction products mentioned e.g. p-phenylendiamine in disperse dyes or butanonoxime in blocked isocyanides
  - Most of the above criteria are RSL relevant!
  - Content of ecological or toxicological data different from country to country



Exposure and Risk Assessment



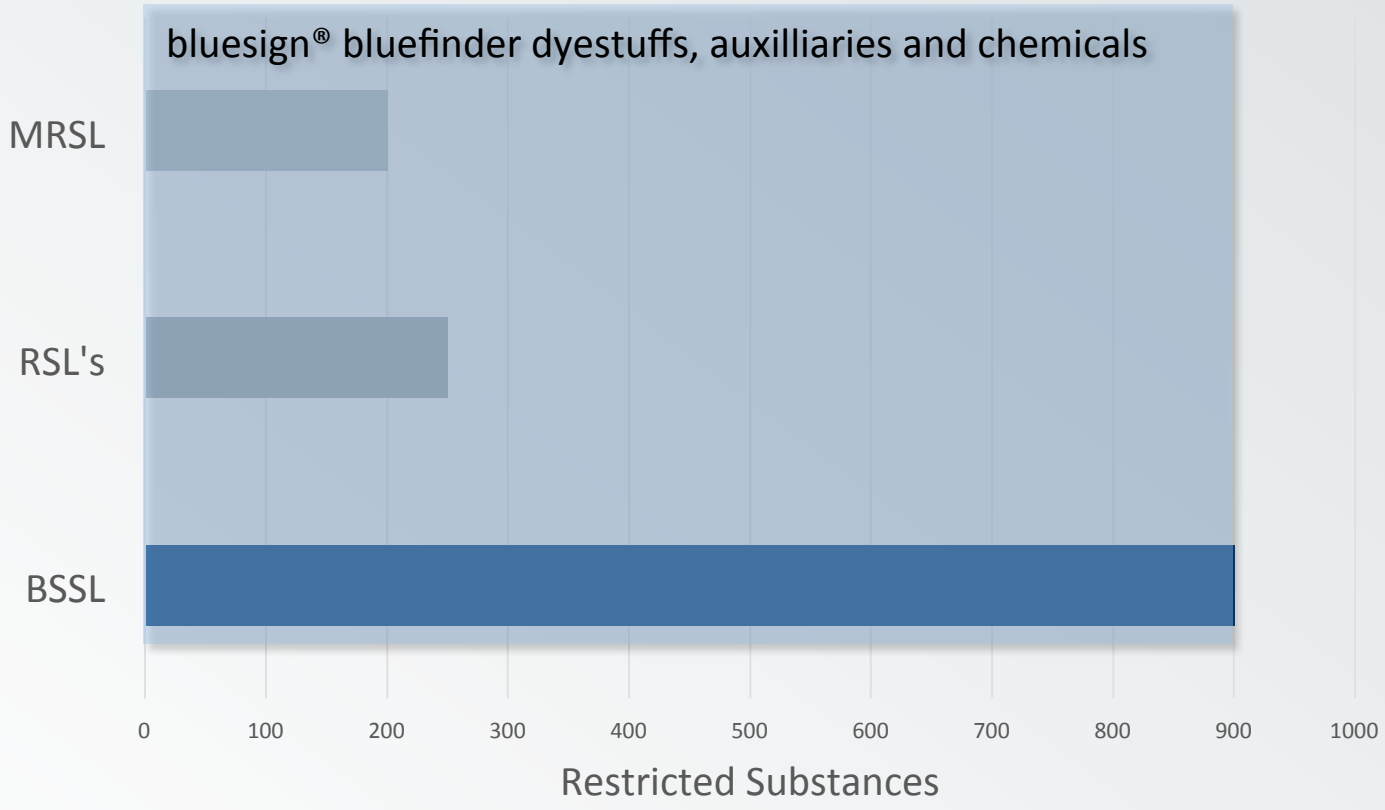
bluesign® bluefinder

With more than 6’500 chemical products in the bluesign® bluefinder we can realize today:

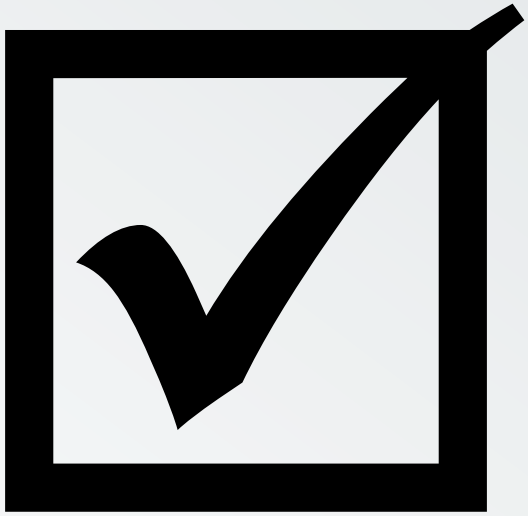
100% color shades
and
95 to 98% of all possible finishes!

2 to 5% on the radar for optimization!

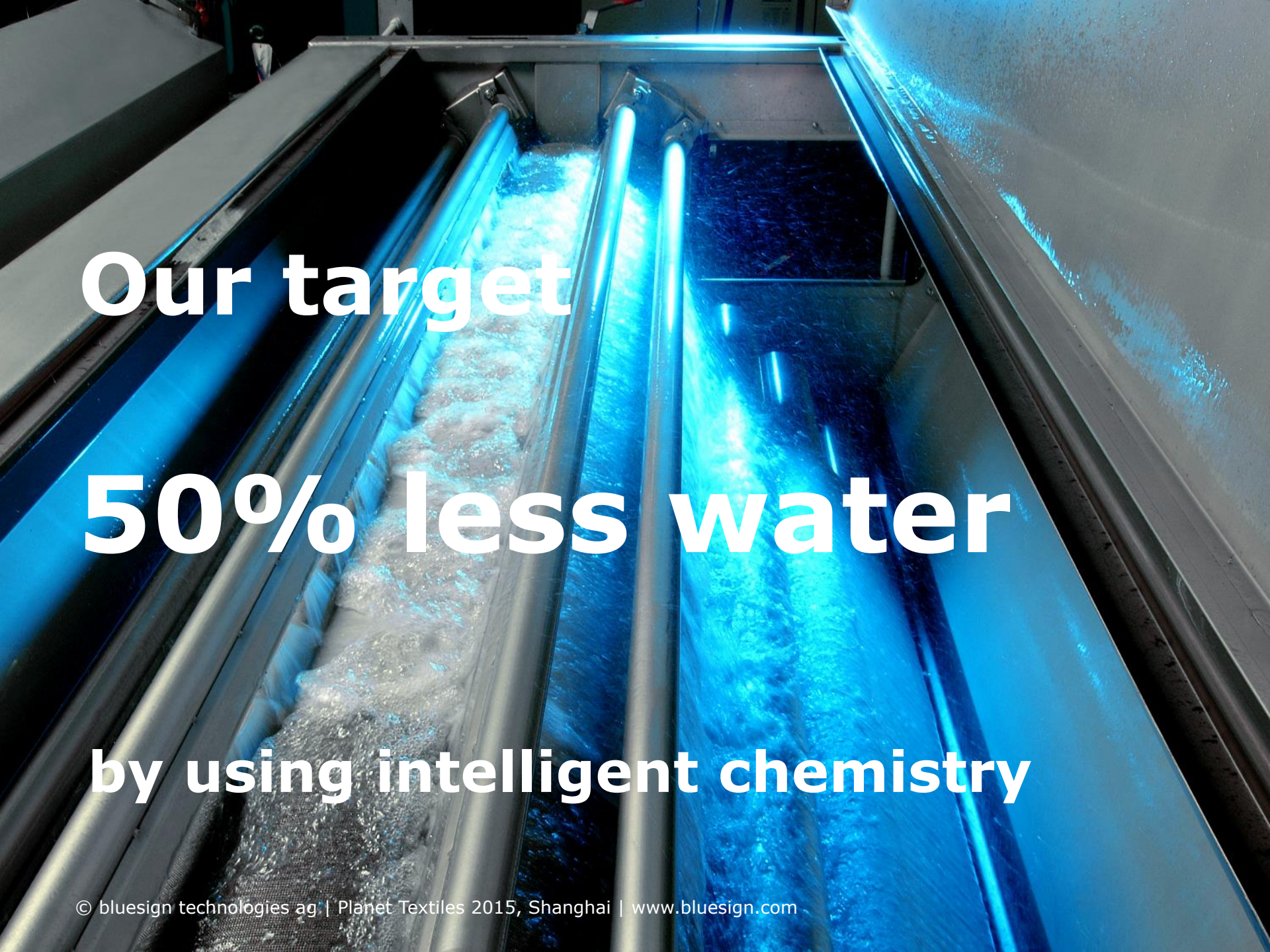
BSSL vs. ZDHC MRSL and RSL's

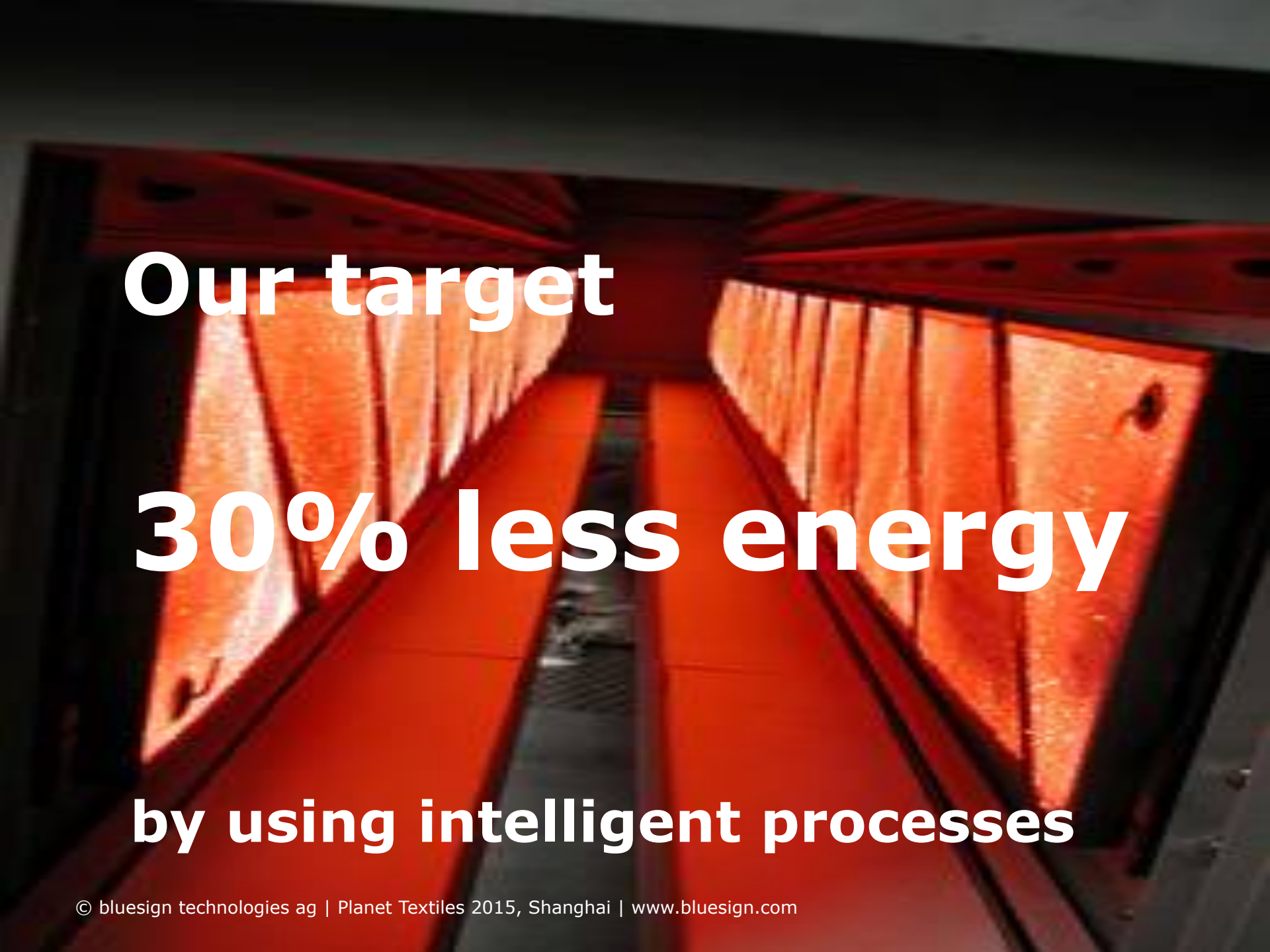


Chemicals Management

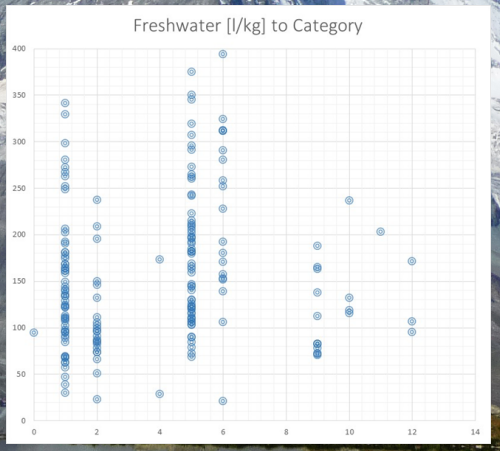


From Milligrams to Megatons




Our target
30% less energy
by using intelligent processes

166 liters of water per kilogram textile



What is needed to provide sustainable solutions?

bluesign® blueXpert

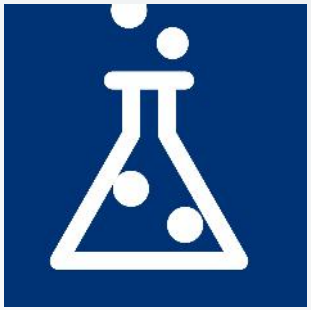
revolutionary approach

- Huge expert knowledge generated over decades available on-line
- Unique combination of clean chemistry with process knowledge
- "Best Available Technology"
- Information about impacts to the environment before production starts


Protection
guaranteed
by bluesign®
data center

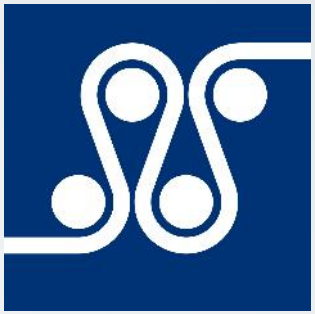
Process

Chemicals



Process Technology

Machine



Material

bluesign® blueXpert – Resource Productivity Calculator

- bluesign® network and server structure
- bluesign® approved auxiliaries and dyestuffs integrated from bluesign® bluefinder
- EHS data from bluesign® bluetool
- Work with BAT processes from bluesign® chemical suppliers
- Machine industry will make available BAT machines profiles

How does it work?

Saving potential from the resource analysis of the bluesign® screening given?

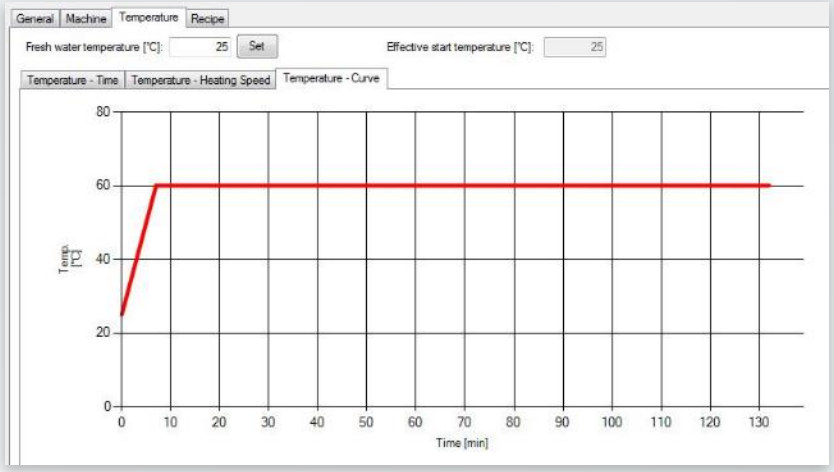
Start working with the bluesign® blueXpert:

- Input factory base data
- Insert your processes
- Insert your fabric details
- Calculate your actual figures
- Search and calculate BAT processes with your conditions
- Benchmark
- Achieve savings
- Start process and chemical change management

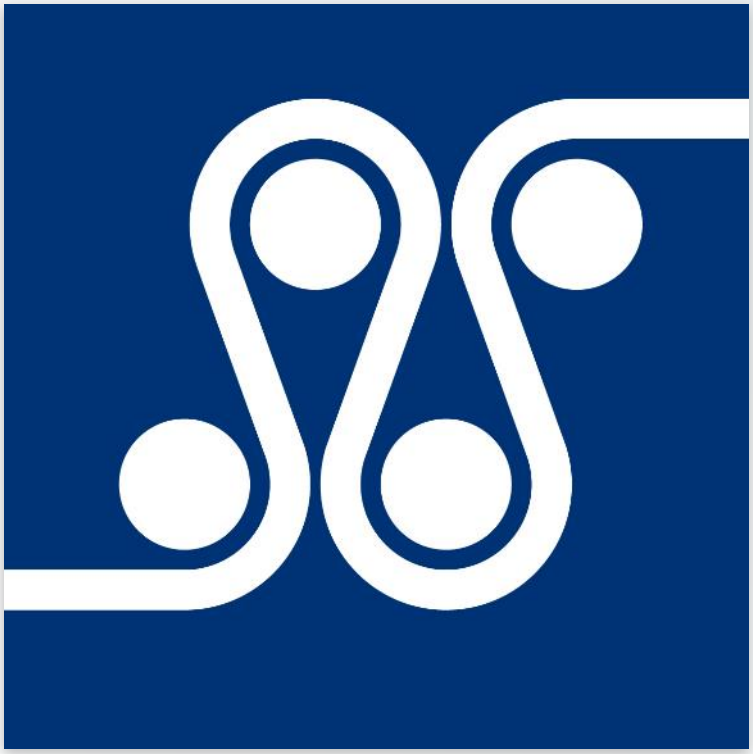
Specific Factory Base Data

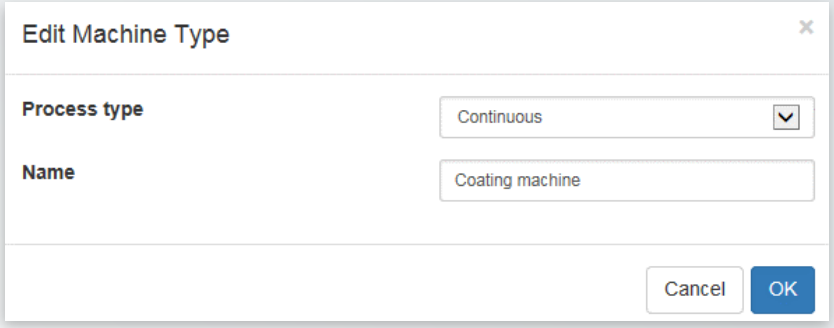
- Machines in operation
- Define your machine data
- Energy types
- Define your effective costs

Record Local Process Technology

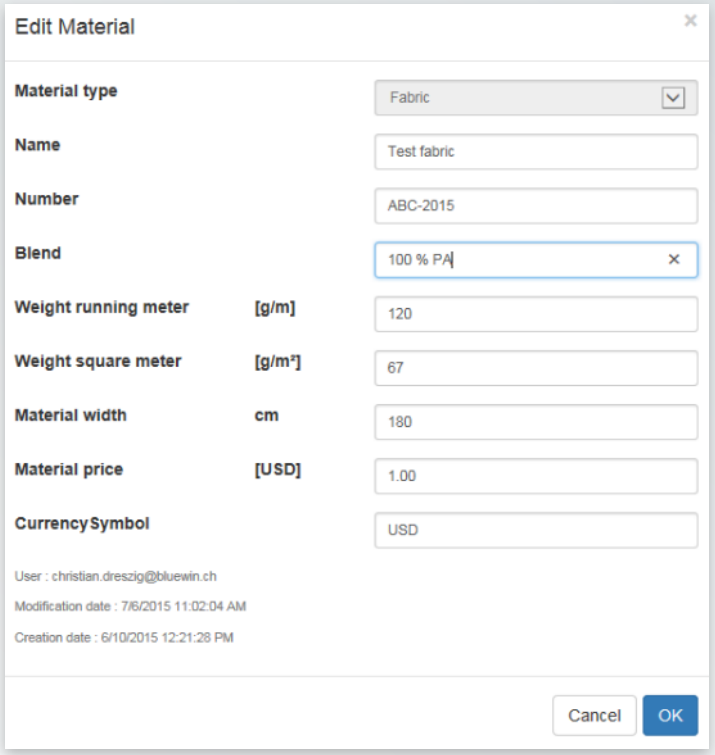


Define Machine Types and Specific Machine Data





Collect Specific Material Data



bluesign® blueXpert

Select Intelligent Processes with Smart Chemistry

Calculation Based on Verified Algorithm

Typical Example of Reduction of Impact and Costs

- 44 %	- 38 %	- 11 %	- 14 %	- 31 %	- 18 %
Water	Energy	Chemicals	CO2	Time	Costs

- Peace of mind that dyes and auxiliaries are RSL/MRSL and BSSL compliant
- Overall production cost savings
- Capacity increase

bluesign® blueXpert

Available
for bluesign®
system partners
Q.1/2016

Conclusion

The bluesign system addresses the concerns of milligrams/kg pollutants

and

megatons of wasted resources

Thank you

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