

smart

INDIGO

WELCOME TO THE SMARTEST WAY TO INDIGO

BECAUSE IT MAKES A DIFFERENCE

A woman with long brown hair, wearing a light blue denim jacket over a grey and white knit sweater and a black skirt, is walking on a city street. The background is a blurred cityscape with buildings, trees, and traffic lights. The scene is captured in a cinematic style with soft lighting.

MEETING – SMART-INDIGO™

Presentation

- Organization chart
- Electricity instead of chemicals
- Comparison of the environmental impact
- The label stands for ...
- The vision



SMART-INDIGO™ ORGANIZATION CHART

Peak technology and excellent solutions for textiles

Savio Group is a network of excellent companies with:

- Qualified technologies
- High profitability
- Managed by a lean corporate headquarters structure
- Located close to the customers



ELECTRICITY INSTEAD OF CHEMICALS

Change the global footprint



A NEW WAY TO SUSTAINABLE DENIM



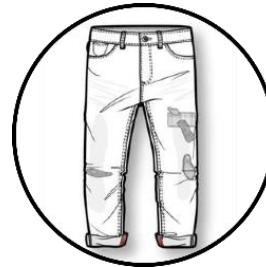
Cotton



Indigo-Dyeing



- + Indigo powder
- + Water
- + Additives
- = Reduced indigo / Leuco-indigo



Finishing



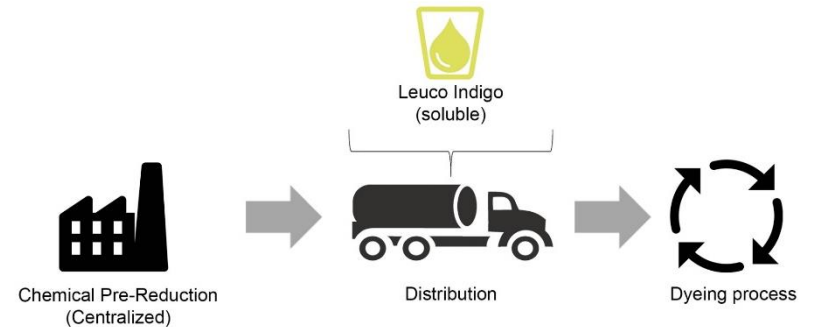
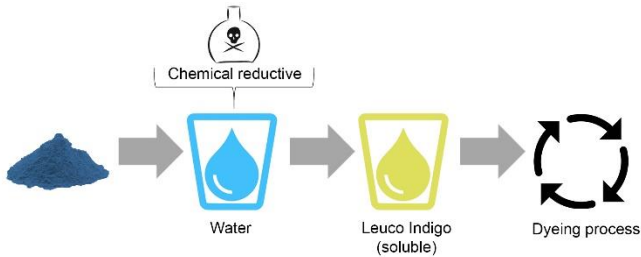
Retail

CONVENTIONAL LEUCO-INDIGO PRODUCTION



Chemical leuco-indigo production on-site

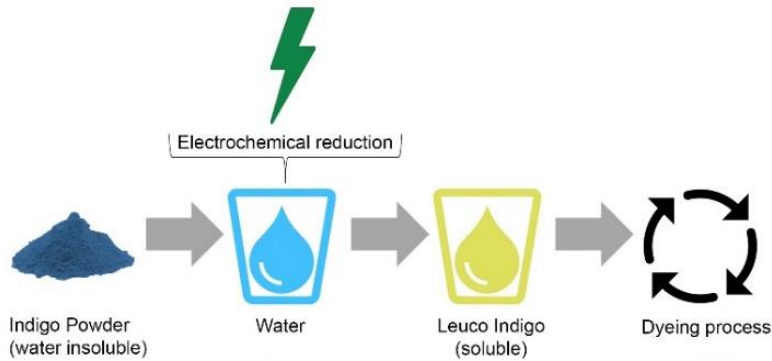
Chemical leuco-indigo production centralized



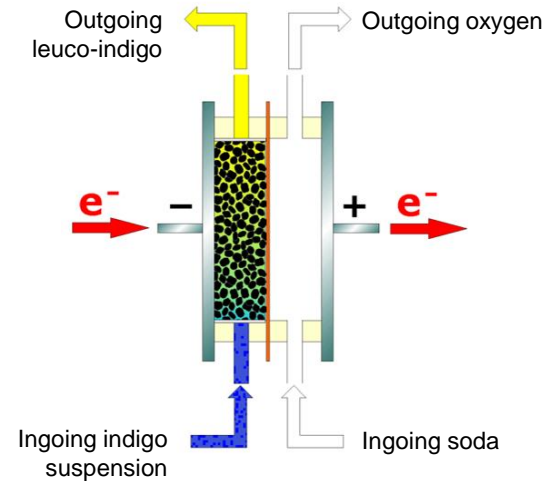
BECAUSE IT MAKES A DIFFERENCE

ELECTRICITY INSTEAD OF CHEMICALS

Smart-leuco-indigo production

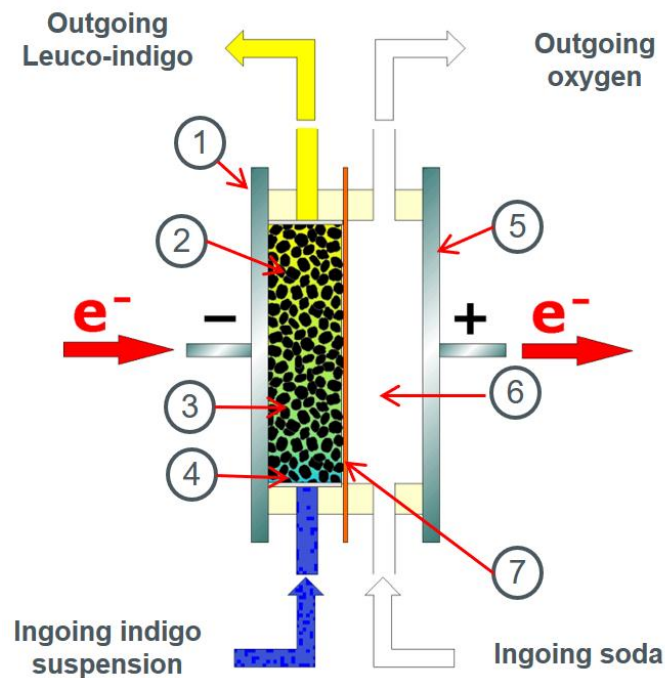


3-dimensional carbon electrode technology

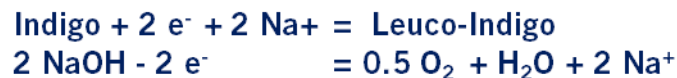


ELECTRICITY INSTEAD OF CHEMICALS

3-Dimensional Carbon electrode



The smartest way to leuco-indigo



Remark: The Na⁺ go through the membrane to equilibrate the charge. One di-anion Leuco-indigo²⁻ is bounded with two cation Na⁺.

1. Feeder electrode
2. Bed of particles
3. Cathodic compartment
4. Grid
5. Anode
6. Anodic compartment
7. Cationic exchange membrane

EP 06 012925.1, "Electrochemical reactor"
Dr. David Crettenand (2006)

ELECTRICITY INSTEAD OF CHEMICALS

Smart-leuco-indigo production on-site

Without

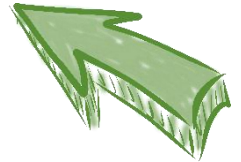
- Chemicals
- Environmental burdens
- Health hazards
- Long transportation ways

Using

- Indigo pigment
- Water
- Caustic soda
- Electricity

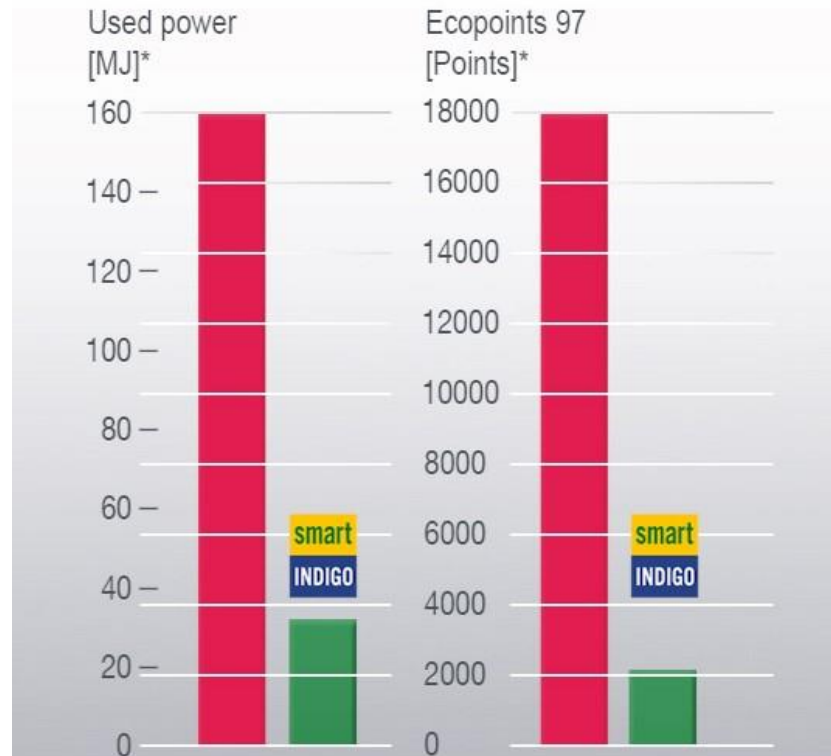
Discharging only

- Oxygen



COMPARISON OF THE ENVIRONMENTAL IMPACT

Chemical / Electrochemical



BECAUSE IT MAKES A DIFFERENCE

PLANET, PEOPLE, PROFIT

Planet – massively reduced pollution

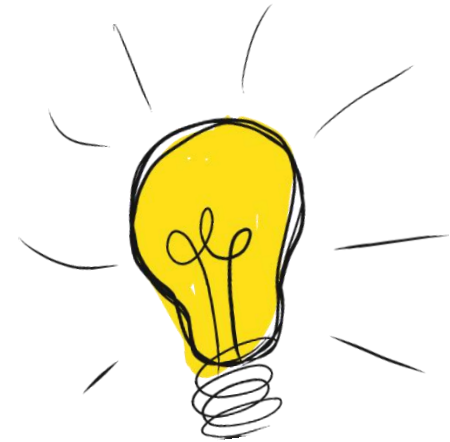
- No chemically contaminated wastewater
- 30% savings in water and energy*
- 6 times reduced CO² production*
- No transportation ways

People – healthier and safer work places

- No health hazards
- No toxic chemicals to handle
- No fire hazards

Profit – favorable production

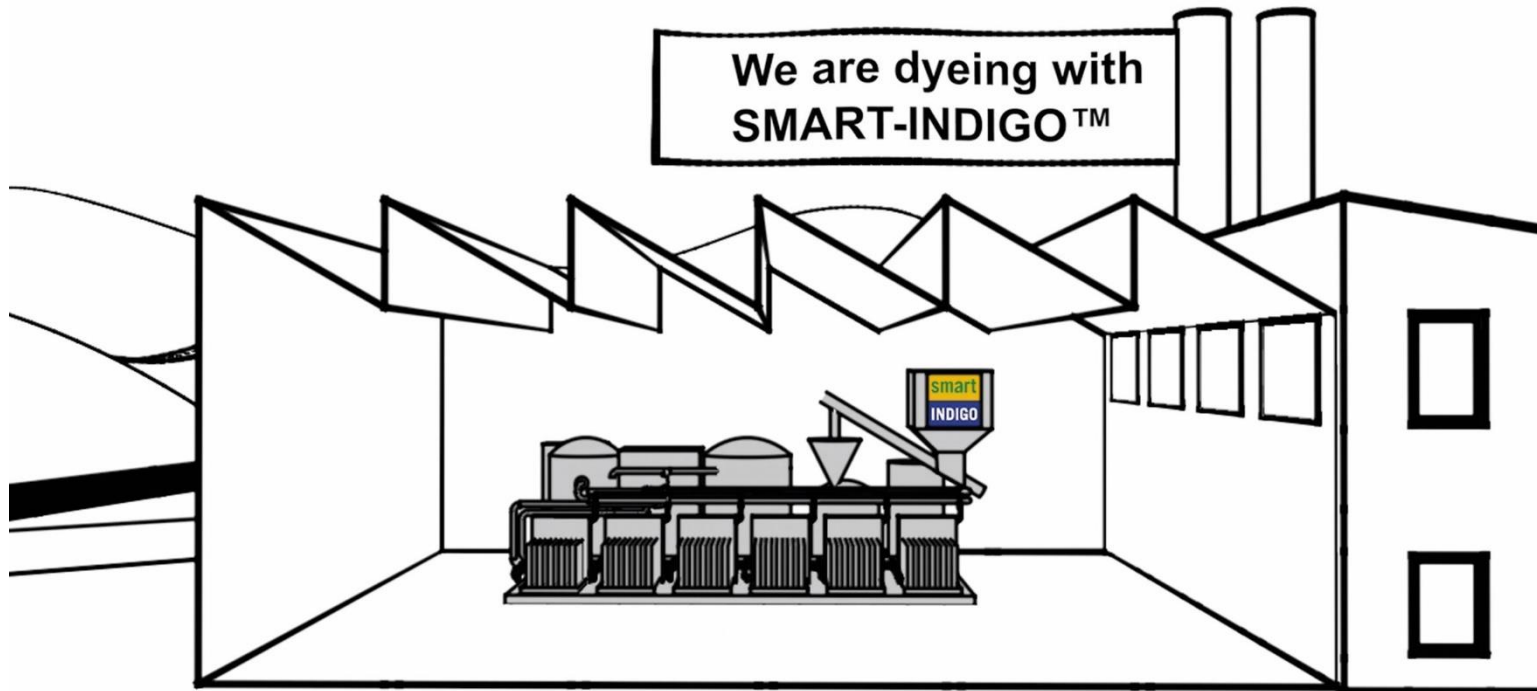
- No costs for chemicals or pre-reduces leuco-indigo
- Lower costs for water, energy & wastewater treatment*
- Higher reproducibility through better color consistency*



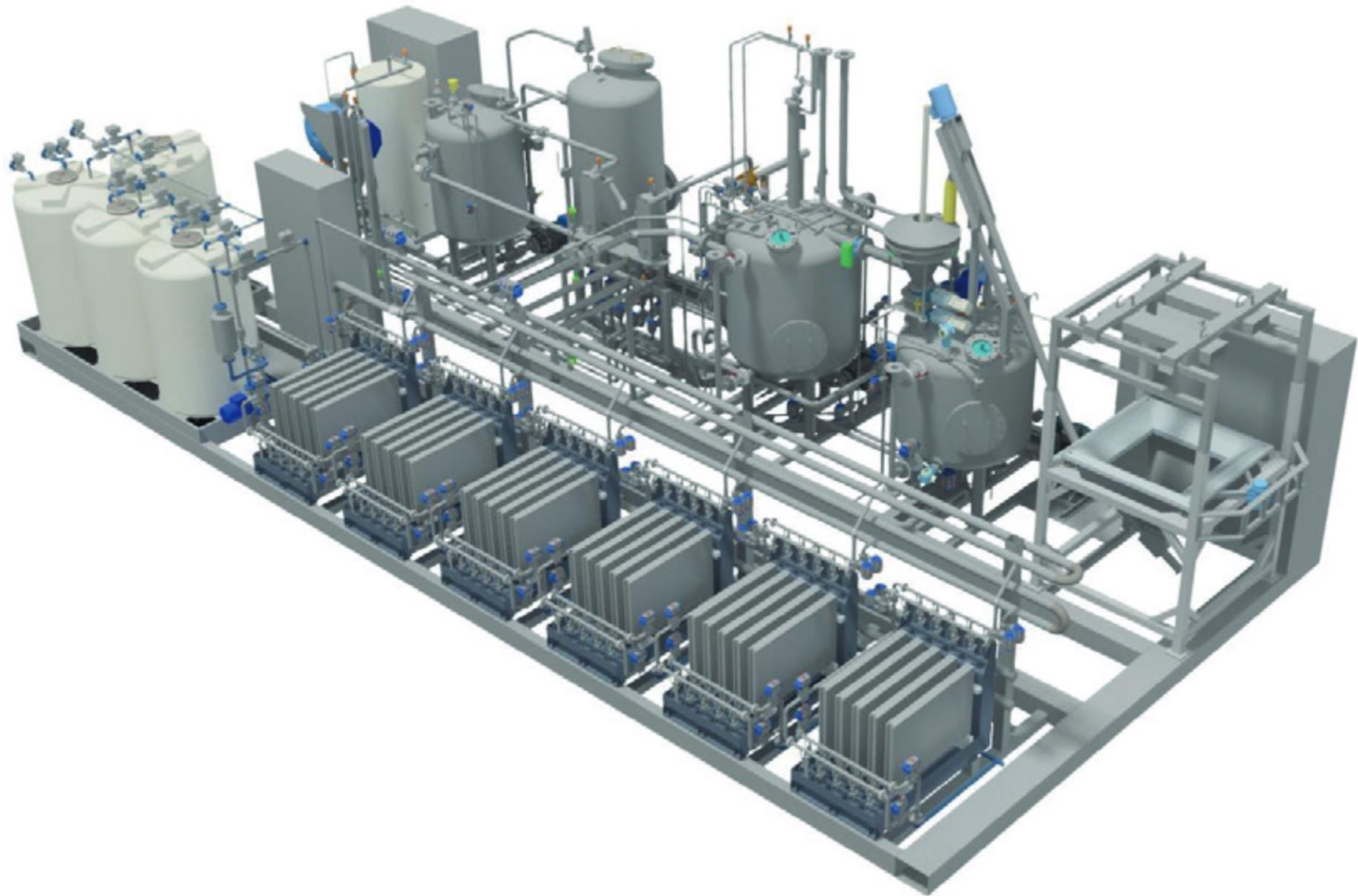
* Measured under real production conditions by customers

ELECTRICITY INSTEAD OF CHEMICALS

Machine in full production
since >2.5 year at Italdenim



ELECTRICITY INSTEAD OF CHEMICALS



BECAUSE IT MAKES A DIFFERENCE

Kingpins Show

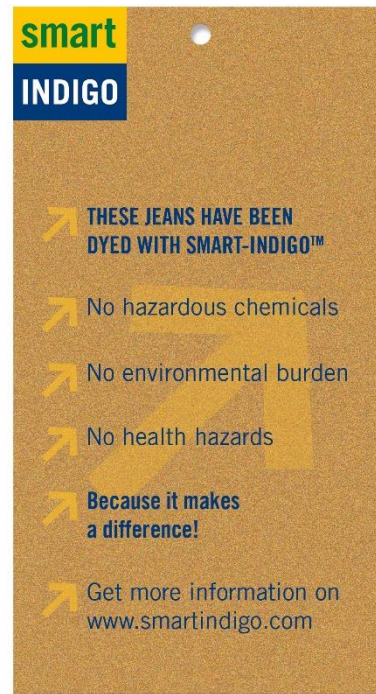


BECAUSE IT MAKES A DIFFERENCE

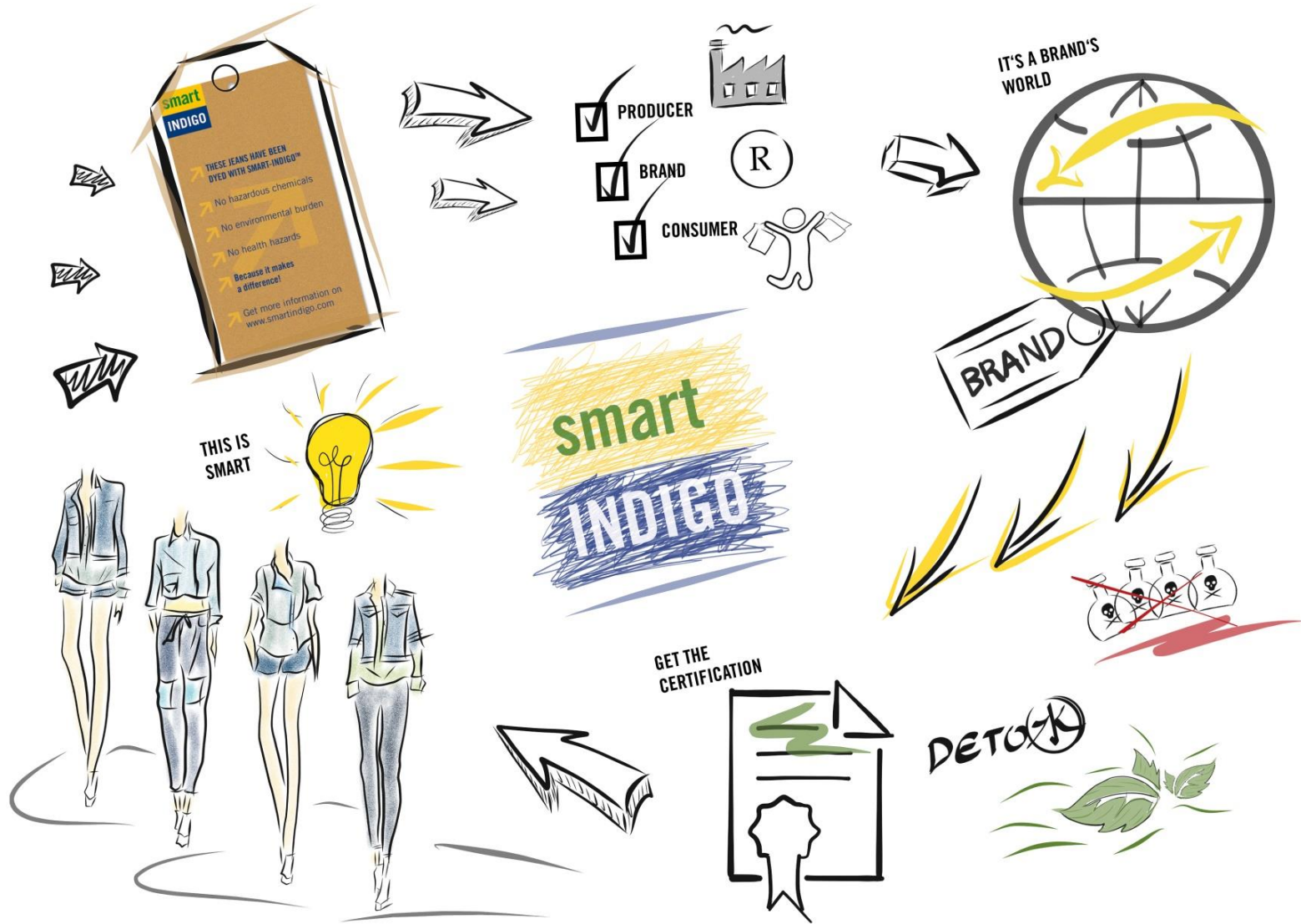
THE SMART-INDIGO™ LABEL STANDS FOR

The most sustainable indigo dyeing

- High sustainability
- Reduced health hazards
- Savings in wastewater treatment and energy
- Better color consistency and performance
- More ecological and economical



THE VISION



BECAUSE IT MAKES A DIFFERENCE