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DyStar®

We Now Live In a World Where Sustainability can not be neglected

CADIRA LAUNDRY

SUSTAINABLE LAUNDRY SOLUTIONS

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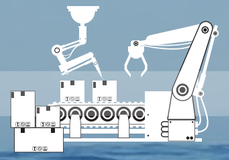
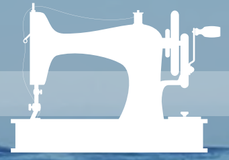
We are Living In a Different Era !

Life Cycle of Washing Industry



Cotton Production

Dyeing & Fabric Production

Garment Manufacturing

Garment Finishing/Laundry

Transportation /Distribution

Consumer Use

End of Life

3,781 liters

Water used during the life cycle of a pair of Levi's jeans

11 billion kilograms

Amount of clothing that ends up in U.S. landfills each year—that's 32 kg per person

1 billion liters

Amount of water saved by Levi's since 2011 by using new garment finishing processes

15%

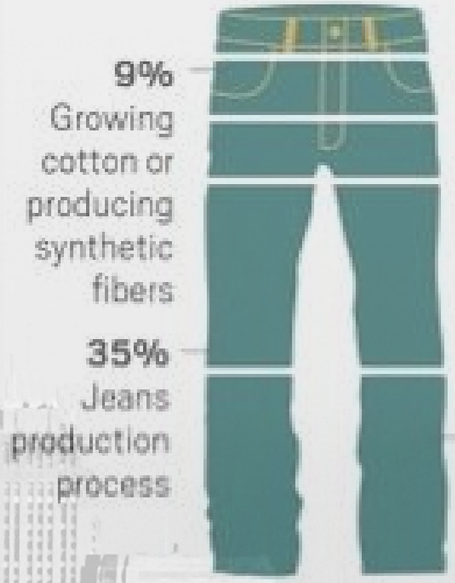
Percentage of recycled cotton that can be used in a new pair of jeans, using current technologies

3 years

Average life of a pair of Levi's jeans

33.4 kilograms

CO_2 emissions during the life cycle of a pair of Levi's jeans



Fast Fashion Is the Second Dirtiest Industry in the World

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What happens if we do not take any action?

- ***By 2020, H&M Group aims to source 100% sustainable cotton***
- ***By 2030, H&M Group aims for 100% recycled or other sustainably sourced materials.***
- ***By 2040, H&M Group aims to have a climate positive value chain***
- ***BESTSELLER has set a goal to be powered by 100 percent renewable energy by 2021 in our owned and operated buildings globally. In 2019, we will unveil a project to get to 100 percent.***
- ***The ZDHC Programme developed an initial work plan (the Joint Roadmap) to organise and set a path towards addressing the challenge of zero discharge by 2020..***

Depleted Resources
Global Warming
Fast fashion is second dirtiest industry in world

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Consumer Behaviour on Sustainable Fashion

- *60.1 % of people said they would buy a garment which is made from recycled materials. Once the useful life of the piece is over, it will biodegrade, instead of adding to a landfill.*
- *67 % of people said they would buy a garment that is made by a company who follows standards of environmentalism and social policy in areas related to production of goods.*
- *61.1 % of people said they would buy a garment produced by natural fibers that have been grown without any pesticides and other toxic materials, preserving the health of humans and the environment.*
- *44.1 % of people said they would buy products that have been made without the use of animal tissue products*

Adopting this change will likely result in highly positive future for our partners

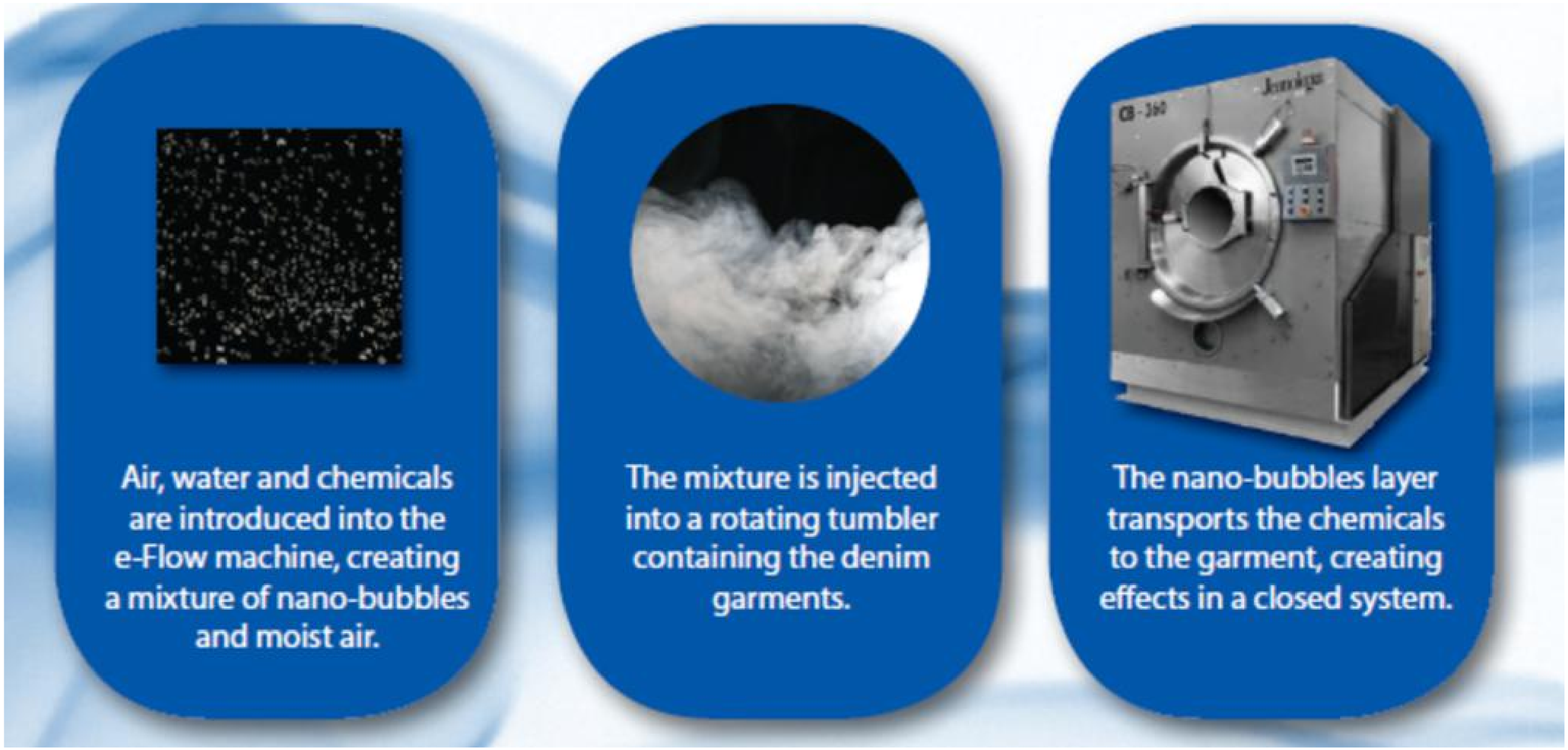
Laser Technology

The energy provided by a laser beam has two effects on indigo dyed fabrics. On one side, the thermal effect of the laser sublimates indigo dyestuff, bleaching to a certain extent those areas of contact. From another side, this thermal effect is burning the surface of the fabric, eliminating coloured fibres and revealing the undyed yarn/fibre below.

Ozone Technology

Ozone is a strong oxidising agent which decomposes indigo and other dyestuffs. The oxidising characteristic of ozone is used to fade down denim jeans

Nano bubble technology



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The conventional vehicle to convey the chemicals to the fabric is water, injection system uses air.

In new technology, air from the atmosphere is transformed into nanobubbles.

Products and water then naturally distribute themselves forming the nanobubble skin, making a **perfectly homogeneus mix** between water, products and air.

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CURRENT APPLICATIONS WITH NANO BUBBLE TECHNOLOGY

Softening

Resins for 3D effects

Easy care Wrinkle free

Water repellence finishes

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What has changed with Dystar Cadira?

Water Consumed
Up to
90 %
Less

Energy Consumed
Up to
40 %
Less

Chemical Impact
Up to
60 %
Less

Worker Impact
Up to
45 %
Less

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The basic elements that make a trousers washing process harmful to the environment

Water&Energy Consumption

- All applications are being done in room temperature conditions
- Chemical solutions are applied on the garments with the usage amounts only as much as the garments needed
- Less waste water and sometimes zero discharge

Impact on human health during the production, use and later disposal of used chemicals

- Reducing the amount of chemical waste left and changing the risky hazardous chemicals used in the processes with enzymes while reducing the amount of waste water.

Factors that put worker's health at risk during labor operations

- No hazardous chemical bleaching agents usage
- All chemicals are applied in closed system with certified machines

Sludge formation due to pumice stone

- No pumice stone usage.

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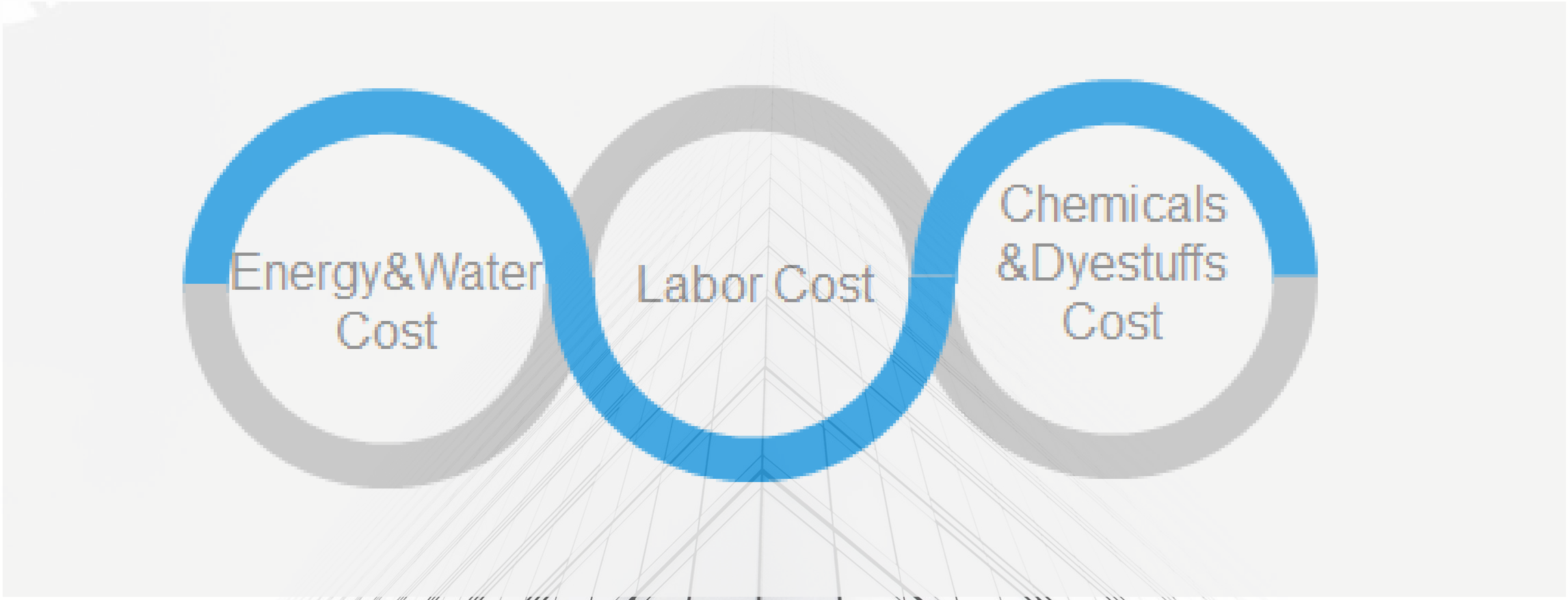
WHAT IS OUR REAL COST?



- Desizing
- Cold Rinse
- Enzyme Washing
- Cold Rinse

Process combination is possible with Lava Cell NEF with e-Flow applications

- Hypochloride Bleaching
- Neutralization
- Cold Rinse

Enzymatic bleaching system can be used in room temperature conditions with e-Flow applications

- Tumbler Drying
- Permanganate application
- Neutralization
- Hot Rinse
- Cold Rinse
- Softening
- Tumbler Drying

Local color fade down effect can be achieved by using laser activating system and no neutralisation needed

Water consumption: Over 100 Liter/garment produced

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- Desizing + Enzyme Washing *
- Cold Rinse
- Enzymatic Bleaching*
- Neutralization with Soda Ash
- Cold Rinse
- Tumbler Drying
- Laser Pretreatment with Laser activator*
- Laser
- Detergent Washing
- Softening*
- Tumbler Drying

Water consumption: 11 L/garment by nano-bubble application

DenimSafe®

The combination of certified systems and enzymes for mist technology

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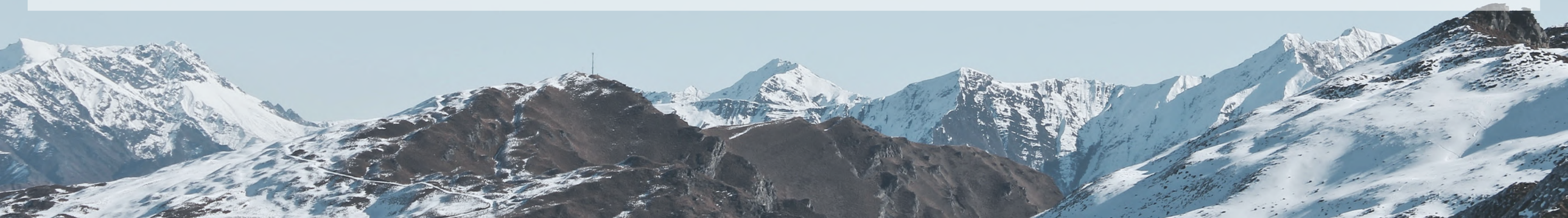
On-Going Value

Technical Support

Specialized Collections

Ecological Awareness

Laundry Academy



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Together, we can change the world..

Follow up for more updates...

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