**ETHICAL NOMADS**
Design and manufacturing studio with focus on sustainable apparel.
Our mission is to enhance and simplify the production of garments in an environmental and socially responsible way.

**TRUECOLOURS TEXTILES**
Sustainable textile supplier.
Our mission is to enhance and simplify the sourcing process of textiles produced in an environmental and socially responsible way.
TEXTILES & APPAREL

Challenges of the supply chain management in a sustainable industry.
SUSTAINABILITY

What are our key parameters?
KEY PARAMETERS

ENVIRONMENTAL PARAMETERS

Water consumption
CO2 emissions
Chemicals usage
Waste creation
Biodiversity
Soil depletion
Air, water and land pollution

SOCIAL PARAMETERS

Labor practices
Health & safety
Community & ext. engagement
Supply chain

Textile and apparel stakeholder industries
SUPPLY CHAIN

Chemical industry
- Man-made fibres
  - Yarn formation
    - fibre preparation
    - texturising
    - spinning
  - Fabric formation
    - warping
    - slashing
    - weaving
    - knitting
- Textile producers
- Multinational chemical industry and/or local suppliers provide dye-stuff and chemical inputs
- Wet processing
  - preparation
  - dyeing
  - finishing
  - printing
- Fabrication
  - cutting
  - sewing
- Products
- Clothing manufacturers
- Clothing retailers
- Traders, merchants & agents involved at various stages

Natural fibres

Farmers and growers

Multinational chemical industry and/or local suppliers - pesticides, fertilisers and seeds
Jeans supply chain

Analysis of weak points in the supply chain
JEANS SUPPLY CHAIN

COTTON GROWN

- GMO AND PESTICIDE USE
- WORKERS: WORKING CONDITIONS, CHEMICAL EXPOSURE
- SOIL DEPLETION
- NATURAL ECO-SYSTEMS DISRUPTED
- WATER INTENSIVE
- FOSSIL FUELS FOR FARM EQUIPMENT
- PESTICIDES CHEMICAL FERTILIZERS
In sensitive areas workers are migrants with less rights, poor wages, no workers rights, limited access to clean water and high risk of child labor.

- Transport
- Exposure to loud sounds
- Energy
- Workers: exposure to chemical dust from pesticide residue
- Waste can be: composted used as soil nutrients
JEANS SUPPLY CHAIN

FABRIC DYED

WORKERS:
EXPOSURE TO CHEMICALS

DISPOSAL OF WASTE WATER

WATER

ENERGY

SYNTHETIC DYES, SULFUR, CHEMICALS
JEANS SUPPLY CHAIN

FABRIC WOVEN

ORGANIC POLLUTANTS

ENERGY

WORKERS
JEANS SUPPLY CHAIN

FABRIC CUT

ENERGY

WORKERS

DISPOSAL OF SCRAPS
JEANS SUPPLY CHAIN

JEANS ASSEMBLED

- High Energy Use
- Workers
- Organic Pollutants
- Solid Waste
- Copper Rivets
- Cotton Thread
- Detergents
- Chemicals
JEANS SUPPLY CHAIN

JEANS DISTRESSED

- Water
- Energy
- Chemicals
- Sandblasting silica
- Workers:
  - Working conditions
  - Chemical exposure
- Disposal of silica, pumice, sandpaper, other
Available solutions

Certifications and labels scope
## CURRENT SOLUTIONS

<table>
<thead>
<tr>
<th>CURRENT SOLUTIONS</th>
<th>GLOBAL ORGANIC TEXTILE STANDARD</th>
<th>Ecolabel</th>
<th>Certified</th>
<th>Confidence in Textiles</th>
<th>Bluesign</th>
<th>Global Recycled Standard</th>
<th>BCI Better Cotton Initiative</th>
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Directly implementable solutions

Environmental, social and overarching solutions to start implementing.
# DIRECTLY IMPLEMENTABLE SOLUTIONS

<table>
<thead>
<tr>
<th>Lever</th>
<th>Directly implementable solutions</th>
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</thead>
<tbody>
<tr>
<td>Closed loop recycling</td>
<td>Offer end-of-use in-store garment collection scheme</td>
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</tbody>
</table>
| Sustainable material mix             | Reduce conventional cotton use (focus: water consumption)  
                                        Increase use of sustainable materials |
| Reduced energy footprint             | Improve energy efficiency (focus: processing)  
                                        Increase renewable energy use (focus: processing) |
| Chemical & water optimization        | Reduce toxic fertilizer and chemicals in raw materials stage  
                                        Reduce water pollution  
                                        Improve chemicals management in processing |
| Production-to-demand                 | Intensify engagement with supplier base and provide order security for suppliers  
                                        Reduce overproduction and markdowns (“create what can be sold in store”) |
DIRECTLY IMPLEMENTABLE SOLUTIONS
Disruptive solutions

Environmental, social and overarching solutions to reach an ideal industry.
## DISRUPTIVE SOLUTIONS

<table>
<thead>
<tr>
<th>Lever</th>
<th>Disruptive solutions</th>
<th>Ambition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed loop recycling</td>
<td>Establish industry-wide end-of-use garment collection</td>
<td>100% closed loop</td>
</tr>
<tr>
<td>Sustainable material mix</td>
<td>Establish common standard for animal treatment</td>
<td>0% high impact materials¹</td>
</tr>
<tr>
<td>Reduced energy footprint</td>
<td>Design for recyclability</td>
<td>100% renewable utilities</td>
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<tr>
<td>Chemical &amp; water optimization</td>
<td>Breakthrough in recycling technology</td>
<td>0% hazardous chemical use, no water pollution</td>
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<tr>
<td>Production-to-demand</td>
<td>Establish 100% renewable energy use (focus: processing)</td>
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<td>Refine chemical- and water-reduced processing (focus: dyeing)</td>
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<td>Make hazardous chemical use redundant</td>
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<td>Offer to a ‘Segment of One’ (‘create what customers want’)</td>
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<td></td>
<td>Move toward automation at scale</td>
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<tr>
<td></td>
<td>Utilize 3D printing at scale</td>
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</table>

¹ High impact materials include materials that are difficult to recycle or have significant environmental impact.
DISRUPTIVE SOLUTIONS

- Individual company effort
- Collaborative industry effort

<table>
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<tr>
<th>Social</th>
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<th>Ambition</th>
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<tr>
<td>Rebalanced Industry economics</td>
<td>Move to living wages</td>
<td>Change industry standards for markup structures</td>
</tr>
<tr>
<td>Health &amp; safety excellence</td>
<td>Realize industry best practice safety levels</td>
<td>Use technology to drive assessment of Occupational Health and Safety (OHS)</td>
</tr>
<tr>
<td>Advocacy of human rights</td>
<td>Prevent child labor further upstream</td>
<td>Realize same opportunities regardless of orientation, beliefs and background</td>
</tr>
</tbody>
</table>
DISRUPTIVE SOLUTIONS

- **Transparency & traceability**
  - Use intermediaries as enforcers
  - Develop technologies enabling full source traceability

- **Consumer engagement**
  - Establish labels showing info on environmental LCA
  - Establish labels showing info on working conditions

- **Novel business models**
  - Sharing
  - Lifecycle management
  - Slow fashion
  - Customization

- Individual company effort
- Collaborative industry effort

- Ambition
- 100% enabled businesses
- 100% consumer information
- Full utilization
THANKS!

Any questions?

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