Dr. Christian Schindler  
Director General  
International Textile Manufacturers Federation (ITMF)  
christian.schindler@itmf.org

«Trends in the Global Textile (Machinery) Industry»

Destination Africa Conference 2018

“Sustainable Textiles: What’s Next?  
A Dialogue about Challenges & Possibilities for Africa”

November 19th, 2018  
Cairo, Egypt
Contents

World textile/apparel industry

New disruptive technologies

Geographical re/distribution across the industry

Implications for the global textile industry
Situation & outlook for the global textile/apparel industry for manufacturing
Textile/apparel industry | Disruption | Re/distribution | Implications

Apparel and Clothing Exports (1980-2016)

- Other
- Bangladesh
- China
- EU28
- India
- Vietnam

Growth (00-16)

Vietnam: x 14
China: x 5
Bangladesh: x 5.5
India: x 3
EU28: x 1.6
Store-based retailing is shrinking...

Source: Euromonitor 2018
Store-based retailing is shrinking…

Deep Discount Has Become a Norm

APPAREL OFFERED ON SALE AT KEY U.S. RETAILERS IN 2016

- Fast Fashion: 8%
- Mass Stores: 16%
- Specialty: 42%
- Department: 73%

Source: Cotton Incorporated 2016 Retail Monitor™ Survey
... internet retailing grew strongly since 2010.

Source: Euromonitor 2018
Comparison of Turnover: Alibaba on Singles’ Day (November 11th) vs. Thanksgiving Weekend in the USA (in billion USD, 2011-2018)

Source: statista (2018)
Apparel sales will grow strongest in Asia and Latin America

Source: Euromonitor 2018
<table>
<thead>
<tr>
<th>Region</th>
<th>Retail value in USD bn, constant 2015 prices, fixed exchange rate</th>
<th>Mean annual growth rate 2015 to 2020 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2015</td>
<td>2020</td>
</tr>
<tr>
<td>China</td>
<td>276</td>
<td>341</td>
</tr>
<tr>
<td>India</td>
<td>50</td>
<td>70</td>
</tr>
<tr>
<td>Indonesia</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Subtotal (C+I+I+V)</strong></td>
<td>336</td>
<td>424</td>
</tr>
<tr>
<td>Egypt</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Morocco</td>
<td>1.3</td>
<td>1.4</td>
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<tr>
<td>Nigeria</td>
<td>3.9</td>
<td>4.7</td>
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<tr>
<td>South Africa</td>
<td>8.9</td>
<td>9.6</td>
</tr>
<tr>
<td><strong>Subtotal (E+M+N+SA)</strong></td>
<td>16.5</td>
<td>18.3</td>
</tr>
<tr>
<td>USA</td>
<td>267</td>
<td>289</td>
</tr>
<tr>
<td>EU</td>
<td>299</td>
<td>303</td>
</tr>
<tr>
<td><strong>USA and EU combined</strong></td>
<td>566</td>
<td>592</td>
</tr>
<tr>
<td><strong>World</strong></td>
<td>1'306</td>
<td>1'475</td>
</tr>
</tbody>
</table>

Source: Euromonitor (2017)
New disruptive technologies and innovation in textile manufacturing
High demand for ever more automated and ever more energy- and water-efficient textile machines
Power Costs: A Relevant Cost Factor

Manufacturing costs for ring-spinning in 2016

Source: ITMF
Energy efficiency has improved constantly

Energy consumption in spinning (average of countries)

- **Ring-spinning**: -9%
- **Rotor-spinning**: -61%

Source: ITMF
Industrial trends

Mass customization

Industry 4.0

Environmental sustainability

Infrastructure projects
Industrial trends:

Mass customization

“Producing goods and services to meet individual customer's needs with near mass production efficiency.” (Tseng, M.M.; Jiao, J. (2001)
Industrial trends:

Industry 4.0

“The fourth industrial revolution, is the current trend of automation and data exchange in manufacturing technologies.”
Industrial trends:

Environmental sustainability
Industrial trends:

Infrastructure

One Road one Belt Initiative

Canals of Panama and Suez
Political trends:

- Increasing national sentiment among countries and political leaders affecting countries’ national and international political and economic positions.

- Inability to reach agreement on key issues within countries because of diverging or extreme values, political or religious views.

- Shifting power from state to non-state actors and individuals, from global to regional levels, and from developed to emerging market and developing economies.

(WEF - Descriptions of Global Risks and Trends 2018)
Where are currently the areas of investments in textile manufacturing?

- Spinning Machines
- Texturing Machines
- Weaving Machines
- Circular Knitting Machines
- Electr. Flat Knitting Machines
- Finishing Machines
1. Shipments - Short-staple Spindles

Last year world growth: +8.5%
1. Shipments - Short-staple Spindles

- China's share vs Rest of the World

- Chinese investments increased last year by: +7.5%
1. Shipments - Short-staple Spindles

The biggest investors in 2017
1. Shipments - Short-staple Spindles

China's position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>America, North</th>
<th>Africa</th>
<th>America, South</th>
<th>Europe, East</th>
<th>Europe, West</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>7'349'216</td>
<td>263'420</td>
<td>80'240</td>
<td>93'408</td>
<td>70'960</td>
<td>7'932</td>
<td>17'176</td>
<td>7'882'352</td>
</tr>
<tr>
<td>2017</td>
<td>8'115'226</td>
<td>166'876</td>
<td>111'375</td>
<td>76'132</td>
<td>15'792</td>
<td>50'796</td>
<td>15'136</td>
<td>8'551'333</td>
</tr>
</tbody>
</table>
2. Shipments - Open-end Rotors

- **China's share**
- **Rest of the World**

<table>
<thead>
<tr>
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<td>2016</td>
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<td>2017</td>
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<td>100</td>
</tr>
</tbody>
</table>

**Installed OE-Rotors Capacity (1974 - 2016)**

- **World**: 638.1 thousand rotors
- **Asia & Oceania**: 545.2 thousand rotors
- **Turkey**: 100 thousand rotors
- **America, North**: 100 thousand rotors
- **America, South**: 100 thousand rotors
- **Europe, West**: 100 thousand rotors
- **Europe, East**: 100 thousand rotors
- **Africa**: 100 thousand rotors

**Notes**
- China's share: +1%
- Rest of the World: -9%
2. Shipments - Open-end Rotors

The biggest investors in 2017

China's position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>America, South</th>
<th>America, North</th>
<th>Europe, West</th>
<th>Europe, East</th>
<th>Africa</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>582'702</td>
<td>21'978</td>
<td>6'422</td>
<td>9'072</td>
<td>6'900</td>
<td>2'154</td>
<td>4'834</td>
<td>634'062</td>
</tr>
<tr>
<td>2017</td>
<td>545'232</td>
<td>49'108</td>
<td>20'808</td>
<td>10'128</td>
<td>6'044</td>
<td>5'736</td>
<td>1'040</td>
<td>638'096</td>
</tr>
</tbody>
</table>

Egypt

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>760</th>
</tr>
</thead>
</table>
3. Shipments – Texturing Spindles

China's share of shipments has increased by +23% from 2008 to 2017.

The Rest of the World's share has increased by +17% during the same period.
3. Shipments - Texturing Spindles

China's position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Africa</th>
<th>Turkey</th>
<th>America, South</th>
<th>Europe, East</th>
<th>America, North</th>
<th>Europe, West</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016:</td>
<td>229'415</td>
<td>12'000</td>
<td>13'368</td>
<td>6'886</td>
<td>6'720</td>
<td>4'800</td>
<td>3'017</td>
<td>276'206</td>
</tr>
<tr>
<td>2017:</td>
<td>308'552</td>
<td>6'960</td>
<td>4'560</td>
<td>6'000</td>
<td>5'902</td>
<td>6'062</td>
<td>2'960</td>
<td>340'996</td>
</tr>
</tbody>
</table>

The biggest investors in 2017

relative size = number of units per country

Egypt: 4'560
3'120
4. Shipments - Shuttel-less Looms

- China's share increased by 14% from 2008 to 2017.
- Rest of the World decreased by 2% from 2008 to 2017.

World:
- Asia & Oceania
- Europe, Other
- Turkey
- Africa
- America, South
- Europe, East
- America, North

Installed Shuttel-less Looms (1974 – 2016)
4. Shipments - Shuttel-less Looms

The biggest investors in 2017

China's position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>Europe, West</th>
<th>Africa</th>
<th>America, North</th>
<th>Europe, East</th>
<th>America, South</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>77'183</td>
<td>3'095</td>
<td>2'018</td>
<td>479</td>
<td>693</td>
<td>770</td>
<td>460</td>
<td>84'698</td>
</tr>
<tr>
<td>2017</td>
<td>87'718</td>
<td>3'203</td>
<td>1'904</td>
<td>1'533</td>
<td>781</td>
<td>643</td>
<td>389</td>
<td>96'171</td>
</tr>
</tbody>
</table>

Egypt

<table>
<thead>
<tr>
<th>Year</th>
<th>Egypt</th>
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</thead>
<tbody>
<tr>
<td>2016</td>
<td>118</td>
</tr>
<tr>
<td>2017</td>
<td>339</td>
</tr>
</tbody>
</table>
5. Shipments – Circular Knitting Machines

- 2008: World 20 thousand machines, China's share 28.0%, Rest of the World 23.6%
- 2017: World 20 thousand machines, China's share 28.0%, Rest of the World 23.6%

-7% decrease from 2008 to 2017.

- Asia & Oceania: Stable trend
- Europe, West: Increase from 2008 to 2011
- Europe, Other: Decrease from 2008 to 2011
- America, South: Stable trend
- America, North: Stable trend
- Africa: Stable trend
- Europe, East: Stable trend

Graphs illustrating the comparison of shipments and their regional shares over the years.
5. Shipments – Circular Knitting Machines

The biggest investors in 2017:

Turkey’s position relative to world shipments (units):

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>Europe, West</th>
<th>Africa</th>
<th>America, South</th>
<th>America, North</th>
<th>Europe, East</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>24'238</td>
<td>1'191</td>
<td>725</td>
<td>690</td>
<td>452</td>
<td>444</td>
<td>234</td>
<td>27'974</td>
</tr>
<tr>
<td>2017</td>
<td>23'627</td>
<td>1'189</td>
<td>1'173</td>
<td>626</td>
<td>569</td>
<td>200</td>
<td>28'010</td>
<td></td>
</tr>
</tbody>
</table>
6. Shipments – Electr. Flat Knitting Machines

- **World**
- **Asia & Oceania**
- **Turkey**
- **Europe, West**
- **Europe, East**
- **America, South**
- **Africa**
- **America, North**

**Graphs:**
- **Shipments to China from the rest of the world**
- **Chines domestic shipments**
- **China's share**
- **Rest of the World**
6. Shipments – Electr. Flat Knitting Machines

The biggest investors in 2017

China
Bangladesh
Vietnam
Thailand
India
Hong Kong
Turkey
Cameroon
Italy
Russia
Myanmar
Brazil
Indonesia
Korea, Rep.

China’s position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>Europe, West</th>
<th>Europe, East</th>
<th>America, South</th>
<th>Africa</th>
<th>America, North</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>131'398</td>
<td>2'975</td>
<td>2'138</td>
<td>1'060</td>
<td>988</td>
<td>653</td>
<td>422</td>
<td>139'634</td>
</tr>
<tr>
<td>2017</td>
<td>194'609</td>
<td>1'721</td>
<td>1'602</td>
<td>1'417</td>
<td>1'322</td>
<td>449</td>
<td>607</td>
<td>201'727</td>
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</tbody>
</table>

Egypt

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>10</td>
</tr>
<tr>
<td>2017</td>
<td>57</td>
</tr>
</tbody>
</table>
7. Shipments – Finishing Machines

- **World**
- **Asia & Oceania**
- **Turkey**
- **Europe, West**
- **America, North**
- **Africa**
- **Europe, East**
- **America, South**

- **China's share**
- **Rest of the World**

- **2015**: + 44%
- **2016**: + 2%
- **2017**: + 2%
6. Shipments – Finishing Machines

The biggest investors in 2017

China's position relative to world shipments (units)

<table>
<thead>
<tr>
<th>Year</th>
<th>Asia &amp; Oceania</th>
<th>Turkey</th>
<th>Europe, West</th>
<th>America, North</th>
<th>Africa</th>
<th>Europe, East</th>
<th>America, South</th>
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<tbody>
<tr>
<td>2016:</td>
<td>3'147</td>
<td>121</td>
<td>77</td>
<td>63</td>
<td>30</td>
<td>27</td>
<td>12</td>
<td>3'477</td>
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<tr>
<td>2017:</td>
<td>4'638</td>
<td>133</td>
<td>67</td>
<td>58</td>
<td>64</td>
<td>45</td>
<td>12</td>
<td>5'017</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016:</td>
<td>15</td>
</tr>
<tr>
<td>2017:</td>
<td>29</td>
</tr>
</tbody>
</table>
7. Shipments – Finishing Machinery  (Fabrics (Wovens & Knits), 2017)

[Diagram showing the distribution of finishing machinery shipments by region and type of machinery.]

- **Continuous**
  - Washing (stand-alone)
  - Stenters
  - Singeing Line
  - Sanforizers / Compacters
  - Relax Dryers / Tumblers
  - Mercerizing - Line
  - Dyeing - Line (Hotflue)
  - Dyeing - Line (CPB)
  - Bleaching - Line

- **Discontinuous**
  - Overflow Dyeing
  - Jigger Dyeing/Beam Dyeing
  - Air Jet Dyeing

Legend:
- Asia & Oceania
- Not Specified
- Europe, Other
- Africa
- Europe, West
- America, North
- Europe, East
- America, South

---

39
Order Intake (Textile Machines) from Northern Africa in 2018

Perspectives for the order intake from Northern Africa 2nd half 2018 (year-on-year)?

1. Very good 3.8 %
2. Good 40.0 %
3. Moderate 38.8 %
4. Bad 13.8 %
5. Very bad 3.8 %
Competitive Chinese Textile Industry

Competitiveness as Measured by Unit Labor Cost

Implications for the global textile industry
Textile Mill Consumption

- Advent of synthetic fibres
  - Wearing comfort improves
  - Functional clothing
  - Technical textiles
  - Easy to control quality and quantity

- Cotton consumption stagnated in recent years due to both volatile and relative high cotton prices since 2010.

Source: PCI Fibres (2017)
### Fiber Production - World (in million tons)

<table>
<thead>
<tr>
<th>Fiber Type</th>
<th>2017</th>
<th>2020 **</th>
<th>%-change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton *</td>
<td>24.50</td>
<td>25.00</td>
<td>2%</td>
</tr>
<tr>
<td>Wool *</td>
<td>1.15</td>
<td>1.17</td>
<td>2%</td>
</tr>
<tr>
<td>Acrylic</td>
<td>1.68</td>
<td>1.69</td>
<td>0%</td>
</tr>
<tr>
<td>Nylon (filament)</td>
<td>0.19</td>
<td>0.22</td>
<td>14%</td>
</tr>
<tr>
<td>Nylon (staple)</td>
<td>4.26</td>
<td>4.71</td>
<td>11%</td>
</tr>
<tr>
<td>Polypropylene (staple)</td>
<td>0.35</td>
<td>0.37</td>
<td>6%</td>
</tr>
<tr>
<td>Polypropylene (filament)</td>
<td>1.65</td>
<td>1.90</td>
<td>15%</td>
</tr>
<tr>
<td>Polyester (staple)</td>
<td>16.76</td>
<td>17.58</td>
<td>5%</td>
</tr>
<tr>
<td>Polyester (filament)</td>
<td>35.49</td>
<td>39.28</td>
<td>11%</td>
</tr>
<tr>
<td>Cellulosic (staple)</td>
<td>4.28</td>
<td>5.10</td>
<td>19%</td>
</tr>
<tr>
<td>Cellulosic (filament)</td>
<td>0.27</td>
<td>0.29</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total MMF</strong></td>
<td>64.94</td>
<td>71.14</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total Fibre Production</strong></td>
<td>90.59</td>
<td>97.31</td>
<td>7%</td>
</tr>
</tbody>
</table>

* Consumption figures

** Forecast

Source: PCI Fibres (2017)
## World Man-made Fibre Production by Country/Region (million tons)

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>2017</th>
<th>2020 *</th>
<th>%-change</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>44.96</td>
<td>48.89</td>
<td>9%</td>
</tr>
<tr>
<td>Western Europe</td>
<td>2.52</td>
<td>2.69</td>
<td>7%</td>
</tr>
<tr>
<td>Eastern Europe</td>
<td>.74</td>
<td>.88</td>
<td>18%</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.38</td>
<td>1.75</td>
<td>27%</td>
</tr>
<tr>
<td>Africa/Middle East</td>
<td>.80</td>
<td>.90</td>
<td>13%</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>1.77</td>
<td>1.79</td>
<td>1%</td>
</tr>
<tr>
<td>North America</td>
<td>2.84</td>
<td>3.19</td>
<td>12%</td>
</tr>
<tr>
<td>India</td>
<td>5.93</td>
<td>6.96</td>
<td>17%</td>
</tr>
<tr>
<td>Japan</td>
<td>.67</td>
<td>.66</td>
<td>-2%</td>
</tr>
<tr>
<td>South Asia</td>
<td>4.87</td>
<td>5.66</td>
<td>16%</td>
</tr>
<tr>
<td>S. Korea</td>
<td>.05</td>
<td>.05</td>
<td>6%</td>
</tr>
<tr>
<td>Latin America</td>
<td>1.71</td>
<td>1.67</td>
<td>-2%</td>
</tr>
<tr>
<td>Australasia</td>
<td>.79</td>
<td>.90</td>
<td>14%</td>
</tr>
<tr>
<td><strong>Total Fibre Production</strong></td>
<td><strong>69.03</strong></td>
<td><strong>75.99</strong></td>
<td><strong>10%</strong></td>
</tr>
</tbody>
</table>

* Forecast

Source: PCI Fibres (2017)
## World Polyester Production by Country (million tons)

<table>
<thead>
<tr>
<th>Country</th>
<th>2017 Polyester (staple)</th>
<th>2017 Polyester (textile filament)</th>
<th>2020 * Polyester (staple)</th>
<th>2020 * Polyester (textile filament)</th>
<th>%-change Polyester (staple)</th>
<th>%-change Polyester (filament)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>10.14</td>
<td>26.95</td>
<td>9.93</td>
<td>29.64</td>
<td>-2%</td>
<td>10%</td>
</tr>
<tr>
<td>India</td>
<td>1.51</td>
<td>3.48</td>
<td>1.70</td>
<td>4.29</td>
<td>13%</td>
<td>23%</td>
</tr>
<tr>
<td>USA</td>
<td>.65</td>
<td>.75</td>
<td>.76</td>
<td>.80</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>Turkey</td>
<td>.26</td>
<td>.24</td>
<td>.51</td>
<td>.30</td>
<td>97%</td>
<td>28%</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>.53</td>
<td>.80</td>
<td>.57</td>
<td>.80</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>South Korea</td>
<td>.76</td>
<td>.64</td>
<td>.74</td>
<td>.61</td>
<td>-3%</td>
<td>-5%</td>
</tr>
<tr>
<td>Indonesia</td>
<td>.67</td>
<td>.69</td>
<td>.71</td>
<td>.69</td>
<td>6%</td>
<td>0%</td>
</tr>
<tr>
<td>Thailand</td>
<td>.33</td>
<td>.37</td>
<td>.35</td>
<td>.38</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>.11</td>
<td>.26</td>
<td>.12</td>
<td>.26</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Vietnam</td>
<td>.18</td>
<td>.33</td>
<td>.43</td>
<td>.41</td>
<td>131%</td>
<td>25%</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>.07</td>
<td>.06</td>
<td>.07</td>
<td>.06</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>Others</td>
<td>1.54</td>
<td>.94</td>
<td>1.70</td>
<td>1.02</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16.76</strong></td>
<td><strong>35.49</strong></td>
<td><strong>17.58</strong></td>
<td><strong>39.27</strong></td>
<td><strong>5%</strong></td>
<td><strong>11%</strong></td>
</tr>
</tbody>
</table>

* Forecast  
Source: PCI Fibres (2017)
Economic catch-up in Asia continues

Growing global GDP, current prices (billion USD)

<table>
<thead>
<tr>
<th>Year</th>
<th>World</th>
<th>Europe</th>
<th>USA</th>
<th>China</th>
<th>India</th>
<th>Middle East &amp; North Africa</th>
<th>Sub-Saharan Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>87.5</td>
<td>22.9</td>
<td>20.4</td>
<td>14.1</td>
<td>2.9</td>
<td>3.1</td>
<td>1.7</td>
</tr>
<tr>
<td>2023</td>
<td>114.3</td>
<td>28.1</td>
<td>24.5</td>
<td>21.6</td>
<td>4.66</td>
<td>3.8</td>
<td>2.6</td>
</tr>
</tbody>
</table>

Growth % 30.7 22.7 20.2 53.1 63.5 25.1 55.8

GDP per capita, current prices (thousand USD)

<table>
<thead>
<tr>
<th>Year</th>
<th>World</th>
<th>Europe</th>
<th>USA</th>
<th>China</th>
<th>India</th>
<th>Middle East &amp; North Africa</th>
<th>Sub-Saharan Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>11.7</td>
<td>30.9</td>
<td>62.2</td>
<td>10.1</td>
<td>2.1</td>
<td>6.6</td>
<td>1.7</td>
</tr>
<tr>
<td>2023</td>
<td>14.5</td>
<td>37.9</td>
<td>71.8</td>
<td>15.2</td>
<td>3.3</td>
<td>7.5</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Growth % 23.5 22.6 15.1 50.5 53.5 13.6 37.1

Sources: IMF, UN

- Global GDP is expected to increase by over 30% from 2018 to 2023
- Economic growth in emerging and developing countries will be strong
- Asian retail markets for textile and apparel become more and more important
- Customer preferences in Asian countries change towards Western-style. On the other hand, Asian-style will influence textile industry
Strong increase in fibres consumption in China and India

Higher per capita fibre consumption (kg per capita)

<table>
<thead>
<tr>
<th>Period</th>
<th>World</th>
<th>West Europe</th>
<th>Turkey</th>
<th>North America</th>
<th>China*</th>
<th>India</th>
<th>Africa/Middle East</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>12.5</td>
<td>22.4</td>
<td>26.8</td>
<td>32.6</td>
<td>20.1</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>2020</td>
<td>13.1</td>
<td>23.1</td>
<td>26.9</td>
<td>34.1</td>
<td>21.9</td>
<td>6.3</td>
<td>5.9</td>
</tr>
<tr>
<td>2030</td>
<td>15.2</td>
<td>26.5</td>
<td>29.0</td>
<td>38.5</td>
<td>29.0</td>
<td>8.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>

*with Hong Kong

Source: PCI-Fibres (2017)
Global Textile Mill Consumption

- **Cotton**
- **Cellulosic Filament**
- **Nylon Staple**
- **Acrylic**
- **Wool**
- **Polyester Staple**
- **Polyester Filament**
- **Nylon Filament**
- **Cellulosic Staple**
- **Polypropylene (Filament + Staple)**

Source: PCI Fibres (2017)
Summary

- Growing Global Textile & Apparel Market
- Share of e-Commerce is on the rise
- New technologies allow mass customized production
- Internet of Things (IoT) offers new potential to increase productivity
- Sustainability is a trend and an integral part of business (CSR)
- Infrastructure Projects create new opportunities
- Textile production concentrated in Asia, especially in China
- Shifts of textile and apparel production to other countries (Asia + Africa)
- Production in other regions (Africa, Americas, Europe) has more potential due to
  - Technologies (digital and 3-D printing, automation)
  - Fashion trends (fast fashion)
  - Reduced cost differentials (rising labor costs)
  - Sustainability (traceability, circular economy)
- Global fiber consumption is on the rise (higher GDP and population)
- Man-made fibers (mmf) are benefiting most
- Within mmf, cellulosic staple + polyester filaments are growing strongly
- Wool has become a «luxury» fibre
- Is cotton is becoming a «luxury» fiber as well?
THANK YOU FOR YOUR ATTENTION!

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