CHAPTER OVERVIEW

01 FINANCIAL DEVELOPMENT AND GOALS

02 HYDRO

03 PULP & PAPER

04 METALS

05 SEPARATION

06 ANDRITZ AUTOMATION

07 SUMMARY
ANDRITZ'S AUTOMOTIVE EXPOSURE WEIGHS ON SHARE PRICE

Auto-related companies have been under pressure during the last 12 months

<table>
<thead>
<tr>
<th>Performance comparison</th>
<th>Last 12 months*</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDRITZ</td>
<td>-37.4%</td>
</tr>
<tr>
<td>Valmet</td>
<td>-12.5%</td>
</tr>
<tr>
<td>Duerr</td>
<td>-39.7%</td>
</tr>
<tr>
<td>voestalpina</td>
<td>-45.4%</td>
</tr>
<tr>
<td>Daimler</td>
<td>-22.3%</td>
</tr>
<tr>
<td>BMW</td>
<td>-26.6%</td>
</tr>
<tr>
<td>Leoni</td>
<td>-69.2%</td>
</tr>
<tr>
<td>Continental</td>
<td>-29.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comparison of Multiples</th>
<th>EV/EBITA 2019E**</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDRITZ GROUP</td>
<td>7.8</td>
</tr>
<tr>
<td>Valmet</td>
<td>12.4</td>
</tr>
</tbody>
</table>

03/09/2018 – 30/08/2019

* September 1, 2018 – August 31, 2019
** Consensus estimate excl. one-offs
DURING THE LAST 10 YEARS, ANDRITZ ACHIEVED GROWTH OF ~8% P.A. ON AVERAGE

Growth evenly split between organic expansion and acquisitions

- Strong organic growth between 2009 and 2013
- Roughly two thirds of this growth came from acquisitions
- Share of large orders of over 100 MEUR accounts for 10-15% of total order intake per year
- Basically flat order intake from 2014, even when excluding large orders
EBITA MARGIN: GOOD STABILITY, HOWEVER NO CLEAR TREND
2009-2018 (in %)

Average EBITA margin adjusted 2009-2018: 6.8%
Average EBITA margin reported 2009-2018: 6.4%

* EBITA margin reported
** EBITA margin adjusted by extraordinary items
PULP & PAPER: SALES AND EARNINGS DEVELOPMENT

2009-2018

SALES (IN MEUR)

Practically flat sales development

CAGR 2009-2012: +35%

SALES (IN MEUR)

Sales of orders >100 MEUR

EBITA MARGIN (IN %)

Average EBITA margin adjusted 2009-2018: 6.5%
Average EBITA margin reported 2009-2018: 6.2%

* EBITA margin reported
** EBITA margin adjusted by extraordinary items

Revenue growth over the period

Sales (MEUR)
# HYDRO: SALES AND EARNINGS DEVELOPMENT 2009-2018

## Sales (in MEUR)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales MEUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,378</td>
</tr>
<tr>
<td>2010</td>
<td>1,579</td>
</tr>
<tr>
<td>2011</td>
<td>1,773</td>
</tr>
<tr>
<td>2012</td>
<td>1,837</td>
</tr>
<tr>
<td>2013</td>
<td>1,805</td>
</tr>
<tr>
<td>2014</td>
<td>1,752</td>
</tr>
<tr>
<td>2015</td>
<td>1,835</td>
</tr>
<tr>
<td>2016</td>
<td>1,752</td>
</tr>
<tr>
<td>2017</td>
<td>1,583</td>
</tr>
<tr>
<td>2018</td>
<td>1,518</td>
</tr>
</tbody>
</table>

CAGR 2009-2012: +10%

CAGR 2013-2018: -3%

## EBITA Margin (in %)

<table>
<thead>
<tr>
<th>Year</th>
<th>EBITA Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>7.3**</td>
</tr>
<tr>
<td>2010</td>
<td>7.5</td>
</tr>
<tr>
<td>2011</td>
<td>8.3</td>
</tr>
<tr>
<td>2012</td>
<td>8.3</td>
</tr>
<tr>
<td>2013</td>
<td>8.1</td>
</tr>
<tr>
<td>2014</td>
<td>8.3*</td>
</tr>
<tr>
<td>2015</td>
<td>7.9*</td>
</tr>
<tr>
<td>2016</td>
<td>7.3*</td>
</tr>
<tr>
<td>2017</td>
<td>7.8</td>
</tr>
<tr>
<td>2018</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Average EBITA margin adjusted 2009-2018: 8.1%

Average EBITA margin reported 2009-2018: 7.8%

* EBITA margin reported
** EBITA margin adjusted by extraordinary items
METALS PROCESSING: SALES AND EARNINGS DEVELOPMENT
2009-2018

SALES (IN MEUR)

Practically flat sales development

EBITA MARGIN (IN %)

Average EBITA margin adjusted 2009-2018: 3.5%
Average EBITA margin reported 2009-2018: 3.3%

* EBITA margin reported
** EBITA margin adjusted by extraordinary items
METALS FORMING - SCHULER: SALES AND EARNINGS DEVELOPMENT
2009-2018

SALES (IN MEUR)

Practically flat sales development

Acquisition by ANDRITZ

CAGR 2009-2012: +13%

EBITA MARGIN (IN %) SINCE ACQUISITION

Average EBITA margin adjusted 2013-2018: 7.3%
Average EBITA margin reported 2013-2018: 6.1%

* Business year October 1 – September 30
** First-time consolidation of the Schuler Group as of March 2013, pro forma
*** EBITA margin reported
**** EBITA margin adjusted by extraordinary items
SEPARATION:
SALES AND EARNINGS DEVELOPMENT
2009-2018

SALES (IN MEUR)

Growth 2009-2012

- Practically flat sales development

CAGR 2009-2012: +16%

EBITA MARGIN (IN %)

Average EBITA margin adjusted 2009-2018: 5.5%
Average EBITA margin reported 2009-2018: 4.8%

* EBITA margin reported
** EBITA margin adjusted by extraordinary items
ANDRITZ Fabrics and Rolls provides machine clothings and roll covers for paper, tissue, and board machines.
SERVICE SALES BY BUSINESS AREA

% of total business area sales

**HYDRO**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>25</td>
<td>26</td>
<td>26</td>
<td>29</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

**PULP & PAPER**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>41</td>
<td>40</td>
<td>30</td>
<td>29</td>
<td>36</td>
<td>35</td>
<td>37</td>
<td>41</td>
<td>42</td>
<td>48</td>
</tr>
</tbody>
</table>

**METALS Processing**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>3</td>
<td>8</td>
<td>10</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>15</td>
<td>20</td>
<td>30</td>
<td>28</td>
</tr>
</tbody>
</table>

**METALS Forming (Schuler)**

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>21</td>
<td>22</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>21</td>
</tr>
</tbody>
</table>

**SEPARATION**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>35</td>
<td>34</td>
<td>38</td>
<td>34</td>
<td>39</td>
<td>43</td>
<td>44</td>
<td>46</td>
<td>47</td>
<td>45</td>
</tr>
</tbody>
</table>

12 / ANDRITZ CMD 2019 - ANDRITZ GROUP, SEPTEMBER 17, 2019
• **Reclassification of late costs** from other liabilities to project provisions in 2015

• **Deterioration in all four business areas since 2014:**
  - Reduction of contract liabilities / increase of contract assets and receivables as larger orders of previous years have matured (Hydro, PP, Metals)
  - Increase of inventories due to increasing share of service (Asko, Xerium, etc.)

• **Improvement in H1 2019** due to increase of advance payments, mainly in PP
DEVELOPMENT OF CASH POSITION

*Since January 1, 2019, lease liabilities are excluded from the calculation of net liquidity.

- Acquisitions:
  ~770 MEUR, thereof Xerium (~700 MEUR), including net financial liabilities (mainly redemption of bond)

- Working Capital:
  ~200 MEUR, mainly due to lower advance payments from new projects and processing of existing orders (PP, HY)
### TARGET EQUITY RATIO BETWEEN 20-25%

#### TOTAL SHAREHOLDERS’ EQUITY (IN MEUR)

<table>
<thead>
<tr>
<th>Year</th>
<th>Equity (in MEUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>929</td>
</tr>
<tr>
<td>2014</td>
<td>1,038</td>
</tr>
<tr>
<td>2015</td>
<td>1,216</td>
</tr>
<tr>
<td>2016</td>
<td>1,344</td>
</tr>
<tr>
<td>2017</td>
<td>1,325</td>
</tr>
<tr>
<td>2018</td>
<td>1,331</td>
</tr>
</tbody>
</table>

#### EQUITY RATIO (IN %)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>16.7</td>
</tr>
<tr>
<td>2014</td>
<td>17.3</td>
</tr>
<tr>
<td>2015</td>
<td>21.0</td>
</tr>
<tr>
<td>2016</td>
<td>21.7</td>
</tr>
<tr>
<td>2017</td>
<td>21.1</td>
</tr>
<tr>
<td>2018</td>
<td>19.2</td>
</tr>
</tbody>
</table>

#### TANGIBLE EQUITY RATIO** (IN %)

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>5.6*</td>
</tr>
<tr>
<td>2014</td>
<td>6.0</td>
</tr>
<tr>
<td>2015</td>
<td>5.8</td>
</tr>
<tr>
<td>2016</td>
<td>6.2</td>
</tr>
<tr>
<td>2017</td>
<td>6.3</td>
</tr>
<tr>
<td>2018</td>
<td>6.9</td>
</tr>
</tbody>
</table>

---

* Total assets in bn. EUR

** Total shareholders’ equity minus goodwill divided by total assets
GROUP ROADMAP 2020-2022 (1)

Main challenges/goals for the coming years

Promote growth

**Organic:**
- Continue to develop intelligent mill services (Metris OPP, sensors, etc.)
- Further expand O&M business

**External:**
- Continue with complementary M&A
- Continued focus on existing four business areas
- High potential in service
Main challenges/goals for the coming years

**Improve Group profitability**
- Turnaround Metals Processing and Forming
- Keep high profitability in Pulp & Paper
- Retain solid profitability in Hydro despite stagnant market
- Further increase profitability in Separation

**Reduce negative project cost deviations**

**Full integration and exploitation of sales and cost synergies**
- Streamline organization, focus on underperforming affiliates
# UNCHANGED LONG-TERM FINANCIAL TARGETS

Achieve long-term profitable growth

<table>
<thead>
<tr>
<th>FINANCIAL TARGETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
</tr>
<tr>
<td>CAGR of 5-8% based on organic and external growth</td>
</tr>
<tr>
<td>GROUP Profitability</td>
</tr>
<tr>
<td>Achieve average EBITA margin of 8% over the next 3-5 years</td>
</tr>
<tr>
<td>Dividend</td>
</tr>
<tr>
<td>Payout of 50-60% of earnings on average, however depending on business development and large-scale acquisitions</td>
</tr>
</tbody>
</table>
LONG-TERM EBITA MARGIN GOALS
BY BUSINESS AREA

HYDRO

Long-term goal: 8.5-9.0%
NEW 7.0-8.5%

PULP & PAPER

Long-term goal: 7.0-8.0%
NEW 9.0-10.0%

METALS

Long-term goal: 6.0-7.0%
CONFIRMED

SEPARATION

Long-term goal: 8.0-9.0%
NEW 7.0-8.0%
CHAPTER OVERVIEW

01 FINANCIAL DEVELOPMENT AND GOALS

02 HYDRO

03 PULP & PAPER

04 METALS

05 SEPARATION

06 ANDRITZ AUTOMATION

07 SUMMARY
HYDRO: UNCHANGED MODERATE MARKET ENVIRONMENT

Selective award of individual projects, particularly in the growing Asian market

• New hydropower plants
  Some new, larger projects are currently in the planning phase, especially in Southeast Asia and Africa; selective award of individual projects is likely

• Pumps
  Good project activity

• Modernizations/rehabilitations
  The continuously growing and ageing fleet as well as reasonable wholesale electricity prices have led to a more active rehabilitation and modernization market with some growth opportunities

• Competition
  Stable competition at challenging level

ANDRITZ will supply four double-stage vertical pumps to the Shanxi Xiaolangdi Yellow River Diversion project. Each of these pumps has a flow rate of 5 m³/s.
GLOBAL HYDROPOWER MARKET DECLINED BY ONE THIRD SINCE PEAK IN 2011

Cost structures adjusted to market decline

Source: ANDRITZ
PUMPED STORAGE IS THE BULK STORAGE TECHNOLOGY # 1

Global operational electricity storage power capacity by technology

Electro-chemical storage is one of the most rapidly growing market segments, although operational installed battery storage power capacity is only approximately 1.9 GW.

Source: IRENA, Electricity Storage Cost, 2017
# GOOD PIPELINE FOR LARGE-SCALE HYDRO PROJECTS

Average investment cost for hydropower equipment: ~250-500 MEUR* / GW

<table>
<thead>
<tr>
<th>Planned projects</th>
<th>Country</th>
<th>GW total plant</th>
<th>Decision time frame</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caculo Cabaca</td>
<td>Angola</td>
<td>2.1</td>
<td>2019</td>
</tr>
<tr>
<td>Koysha (Gibe IV)</td>
<td>Ethiopia</td>
<td>2.3</td>
<td>2019</td>
</tr>
<tr>
<td>Carillon Rehab</td>
<td>Canada</td>
<td>0.6</td>
<td>Next 1-2 years</td>
</tr>
<tr>
<td>Dasu</td>
<td>Pakistan</td>
<td>2.2</td>
<td>Next 1-2 years</td>
</tr>
<tr>
<td>Rogun</td>
<td>Tajikistan</td>
<td>2.4</td>
<td>Next 1-2 years</td>
</tr>
<tr>
<td>Nurek Rehabilitation – Phase 2</td>
<td>Tajikistan</td>
<td>2.2</td>
<td>2021</td>
</tr>
<tr>
<td>Itaipu - Automation</td>
<td>Brazil</td>
<td>--</td>
<td>Next 1-3 years</td>
</tr>
<tr>
<td>Upper Cisokan</td>
<td>Indonesia</td>
<td>1.0</td>
<td>Next 1-3 years</td>
</tr>
<tr>
<td>Pfaffenboden</td>
<td>Austria</td>
<td>0.3</td>
<td>Next 1-3 years</td>
</tr>
<tr>
<td>Grand Coulee Units G1-G21</td>
<td>United States</td>
<td>1.8-2.3</td>
<td>Next 2-3 years</td>
</tr>
<tr>
<td>Turbine upgrade/rehabilitation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koralm</td>
<td>Austria</td>
<td>0.9</td>
<td>Next 3-5 years</td>
</tr>
<tr>
<td>Demwe Lower</td>
<td>India</td>
<td>1.9</td>
<td>Next 3-5 years</td>
</tr>
<tr>
<td>Grand Coulee Units G1-G18 Rewinds</td>
<td>United States</td>
<td>1.8-2.3</td>
<td>Medium to long term</td>
</tr>
<tr>
<td>Inga 3</td>
<td>Congo</td>
<td>4.8</td>
<td>Medium to long term</td>
</tr>
</tbody>
</table>

* Amount per GW depends on scope of supply
• Started in 2017
• Remote operations from Italy
• Accumulative order intake roughly 100 MEUR
• 2018/19 first contracts (large O&M) in Latam achieved
• Goal to further expand this business
• **Continue with structural adjustments in Hydro:**
  Global market volume for hydropower equipment is expected to remain stable for the next few years

• **Continuing capacity adjustments**

• **Secure earnings and profitability by correct sizing and reducing negative project deviations**

• **Focus on O&M and digitalization**
CHAPTER OVERVIEW

01 FINANCIAL DEVELOPMENT AND GOALS
02 HYDRO
03 PULP & PAPER
04 METALS
05 SEPARATION
06 ANDRITZ AUTOMATION
07 SUMMARY
PULP & PAPER: VERY GOOD MARKET ENVIRONMENT

- Pulp
  Very good project activity for both modernization of existing pulp mills and greenfield pulp mills (particularly in South America)

- Paper
  Satisfactory market development for tissue and packaging equipment continued

- Power generating boilers
  Very good project and investment activity, especially in Asia (Japan)

- Competition
  Stable competitive environment
MAJOR PULP ORDERS RECEIVED UNDERLINE ANDRITZ’S STRONG POSITION IN PULP

• Long-term maintenance and service contract for Arauco’s MAPA project in Chile. Start in September 2019 and run for more than nine years through to February 2029. It is the largest maintenance and service contract ANDRITZ has ever been awarded.

• Supply of major pulp production technologies and key process equipment (on EPC basis) for Klabin’s pulp mill in Brazil.

• Significant pulp mill order (on EPC basis) from an international pulp and paper producer to supply energy-efficient and environmentally friendly pulp production technologies and key process equipment.
Continued technological improvement

ANDRITZ has delivered 7 out of 9 fiberlines in South America since Fray Bentos

Note: figures indicate capacity in tons per year
### NEW PULP MILLS AND LINES IN PLANNING ≥0.5MT

#### USA:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUN BIO Arkansas</td>
<td>1.4</td>
<td>2023</td>
</tr>
</tbody>
</table>

#### BRAZIL:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eldorado – Três Lagoas</td>
<td>2.3</td>
<td>2022</td>
</tr>
<tr>
<td>Suzano</td>
<td>2.0</td>
<td>2022</td>
</tr>
<tr>
<td>Euca Energy - Alto Araguaia</td>
<td>2.0</td>
<td>2023</td>
</tr>
<tr>
<td>CRPE Holding S.A – Ribas do Rio Pardo</td>
<td>2.2</td>
<td>2024</td>
</tr>
<tr>
<td>Jari Cellulose</td>
<td>0.8</td>
<td>2024</td>
</tr>
<tr>
<td>Suzano – Três Lagoas</td>
<td>1.9</td>
<td>2025</td>
</tr>
<tr>
<td>Suzano – Aracruz</td>
<td>1.7</td>
<td>2025</td>
</tr>
<tr>
<td>Veracel – Eunápolis</td>
<td>1.8</td>
<td>2025</td>
</tr>
<tr>
<td>Braxel – Peixes</td>
<td>2.0</td>
<td>2025</td>
</tr>
<tr>
<td>Suzano – Imperatriz</td>
<td>1.3</td>
<td>2025</td>
</tr>
<tr>
<td>CMPC Brazil – Pelotas</td>
<td>1.8</td>
<td>2025</td>
</tr>
<tr>
<td>Aditya Birla &amp; Eco Brazil Florestas</td>
<td>1.0</td>
<td>2025</td>
</tr>
</tbody>
</table>

#### FINLAND:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kemijärvi</td>
<td>0.5</td>
<td>2021</td>
</tr>
<tr>
<td>Finnpulp – Kuopio</td>
<td>1.2</td>
<td>2022</td>
</tr>
<tr>
<td>MF Kemi</td>
<td>1.5</td>
<td>2023</td>
</tr>
</tbody>
</table>

#### ESTONIA:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est-For Oü</td>
<td>0.7</td>
<td>2025</td>
</tr>
</tbody>
</table>

#### PARAGUAY:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paraguay pulp project</td>
<td>1.5</td>
<td>2025</td>
</tr>
</tbody>
</table>

#### URUGUAY:

<table>
<thead>
<tr>
<th>Owner</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPM</td>
<td>2.1</td>
<td>2022</td>
</tr>
</tbody>
</table>

#### ARGENTINA:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agroforestal Oberá</td>
<td>0.6</td>
<td>2021</td>
</tr>
</tbody>
</table>

#### RUSSIA:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ust-Ilimsk</td>
<td>0.6</td>
<td>2021</td>
</tr>
<tr>
<td>Sibegeta/CAMCE</td>
<td>1.0</td>
<td>2024</td>
</tr>
<tr>
<td>Silverwood</td>
<td>0.9</td>
<td>2025</td>
</tr>
<tr>
<td>Krasleinvest</td>
<td>0.8</td>
<td>2025</td>
</tr>
<tr>
<td>China Metallurg. Group</td>
<td>0.5</td>
<td>2025</td>
</tr>
<tr>
<td>JSC Arkhangelsk</td>
<td>0.5</td>
<td>2025</td>
</tr>
<tr>
<td>Boguchansky</td>
<td>0.8</td>
<td>2025</td>
</tr>
</tbody>
</table>

#### MOZAMBIQUE:

<table>
<thead>
<tr>
<th>Owner</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portucel</td>
<td>1.5</td>
<td>2025</td>
</tr>
</tbody>
</table>

#### CHINA:

<table>
<thead>
<tr>
<th>Owner</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Paper – Beihai</td>
<td>0.8</td>
<td>2022</td>
</tr>
</tbody>
</table>

#### OTHER:

<table>
<thead>
<tr>
<th>Owner – project</th>
<th>Capacity/a*</th>
<th>Planned start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acacia Cellulose Malaysia</td>
<td>0.9</td>
<td>2022</td>
</tr>
<tr>
<td>Double A Thailand</td>
<td>0.6</td>
<td>2025</td>
</tr>
</tbody>
</table>

*Annual capacity in million tons (subject to change over time); source: Pöyry. Capacity/year refers to added gross capacity (i.e. relevant as accessible market) without taking into account possible shut-downs of existing capacities.
• Target to make it a 3 billion+ EUR business

• Further good growth potential seen in the power market

• Goal is to maintain high profitability in future →
  This should be supported by the strong technical market position in pulp and the further expansion of the service business

• Improve earnings in Paper Technology
CHAPTER OVERVIEW

01  FINANCIAL DEVELOPMENT AND GOALS
02  HYDRO
03  PULP & PAPER
04  METALS
05  SEPARATION
06  ANDRITZ AUTOMATION
07  SUMMARY
Good project activity in 2018, however tough competition

- **Overall good market conditions in 2018** with capacity utilizations in the carbon and steel industries of above 80%, however **tough price competition**

- **Strong development of order intake in 2018** due to many orders for the production of advanced high-strength steel grades as well as for the production of aluminum for the automotive industry

- ANDRITZ has reached **market leadership in processing lines and strip furnaces**

- **Weak earnings development** due to **cost overruns** on selective projects and **high price pressure** due to strong competition
• Focus on **light-weight materials for automotive applications:**
  - AHSS (Advanced High-Strength Steel): Galvanizing lines
  - Aluminum: Continuous annealing and processing lines
  - Tailor welded blanks: laser welding and ablation

• **High strength and special materials for aerospace, etc.**:
  heat treatment furnaces

• **Use synergies** with Schuler (e.g. railway wheels)

• Focus on **reducing cost overruns and negative project deviations**

• Push share of service

• In the longer-term a **sales volume of around 700 MEUR** and
  **EBITA margin of 6-7%** are targeted
Despite acquisitions order intake practically flat over the last five years

- Purchased in 2013 (purchase price: ~600 MEUR) → business plan assumed lower sales going forward
- Acquisition multiple: 4.1 EV/EBITDA
  - Actual six year average: 5 / 4.6 (excl. extraordinary items)
- Two restructuring programs in 2013 and 2015 with a total of 60 MEUR implemented
- Acquisition of Yadon in 2016 to expand business in the Chinese growth market
- Some shift of production capacities to China
- Weakness of the global automotive market in 2018 leads to under-absorption especially in Germany

* First-time consolidation of the Schuler Group as of March 2013; pro forma
** First-time consolidation of Yadon and Aweba as of July 2016
METALS FORMING: CHALLENGING MARKET CONDITIONS

- Weakness of the global automotive market
- Declining demand for press lines and forging presses in Europe, especially in Germany
- High price pressure due to market weakness
- Rising costs in Germany
- Change of product and geographical order mix leads to reduced need for in-house capacities and capacity shift to Emerging countries (China, Brazil)
Excluding acquisitions, total number of employees reduced by ~24% since acquisition in 2013

- Restructuring programs in 2013, 2015 and 2018 with net provisions of around ~65 MEUR in total
- Further restructuring program announced at the end of July → reduction of 500 people, mainly in manufacturing
- Since acquisition in 2013, headcount in Germany reduced by 34% (excluding acquisition of AWEBA)

* First-time consolidation of the Schuler Group as of March 2013; pro forma
** Figure includes reduction of ~500 employees from restructuring program at the end of July
• Restructuring based on 1.2 billion annual sales

• **Target** is to get to **1.5 billion EUR sales** and **6-7% EBITA margin** mid-term

• **Growth to be absorbed** by localization (Asia) and outsourcing

• **Automotive:**
  • Entry in „middle segment“ achieved → however more references needed

• **Industry segment:** Target to improve profitability and achieve growth

• Focus on **growth in service**

**Servo press in monoblock design from Schuler with 4,000 kN of force**
SEPARATION: GOOD PROJECT AND INVESTMENT ACTIVITY TO CONTINUE

Particularly for solid/liquid separation equipment

- **Municipal & Industrial**
  Rapid urbanization and industrialization, especially in emerging markets, lead to increasing focus on waste water treatment → **market expected to grow by 3.6% globally during the next 5 years**

- **Mining & Minerals**
  **Global market expected to grow by 5.5% p.a.** during the next 5 years, however high volatility possible depending on commodity prices and macro economic environment

- **Chemicals, Food & Beverage**
  **5% p.a. market growth expected** during the next 5 years

- **Unchanged market environment** with **some global and many regional competitors**
• ANDRITZ will supply **nine fluidized bed dryers** and **six EcoFluid fluidized bed boilers** for one of the world’s largest effluent treatment plants
• Order value of just under 120 million euros (60% for Pulp & Paper, 40% for Separation)
• Start-up at the end of 2019

• **Important references for sludge drying and incineration plants** in Asia:
  - Supply of four EcoFluid boilers to **Hong Kong** for power generation from sludge
  - Delivery of five drum drying plants to **Singapore** for water evaporation

---

EQUIPMENT FOR THE WORLD’S LARGEST PLANT FOR GENERATING POWER FROM SEWAGE SLUDGE

Bailonggang effluent treatment plant, Shanghai

---

Four ANDRITZ EcoFluid boilers generate power from sludge at the effluent treatment plant in Hong Kong

3D image of the planned extension to Bailonggang effluent treatment plant
• **ANDRITZ well positioned in growing industries** (starch, lithium, PVC, etc.) → further establish **ANDRITZ as premium brand** in the market

• Organic growth due to development from equipment supplier to **solution provider**

• Offer customers **attractive IIoT solutions** (Metris)

• Further **improve** profitability

• Evaluate probability to **grow to one billion EUR sales** in the long-term → M&A
ANDRITZ AUTOMATION
GLOBAL PRESENCE AND COMPETENCE

> 110 LOCATIONS
(ANDRITZ GROUP: > 280 locations)
Engineering, service and support
Headquarters in Graz, Austria

> 2,000 EMPLOYEES
(ANDRITZ GROUP: > 29,600 employees)
Complete automation solutions for the
industries Hydro, Pulp & Paper,
Metals and Separation
SALES GROUP ANDRITZ AUTOMATION

2009-2018

IN MEUR

CAGR 2009-2018: +11%

258 254 391 409 472 612 673 520 520 646

Complete automation solutions

Simulation of plants, machines and systems
• Full Automation Electrification Instrumentation (AEI) portfolio
• Detect savings potentials with regard to quality, sustainability and costs

Optimization of Process Performance (OPP)
• Improve mill performance with advanced analytical software and signal processing

Electrical engineering and automation as turnkey solution
• Low and medium voltage power supply and distribution
• Distributed control systems (DCS)

Platform independence
• Focus on customer requirements and infrastructure
• Seamless process integration

Complete life cycle service and trainings
• Maintenance and upgrade of plant and production, processes and systems
• Trainings of engineers and operators
Increasing importance of cyber security

Joint venture with OTORIO:
Risk assessment and management:
Penetration testing, incidence response, training
METRIS UX
Metris digitalization platform

METRIS X – Distributed control system
Metris UX digitalization platform
+ Control Studio
+ Process display
as an integrated part of the platform

METRIS OPP CONTRACT
Metris UX digitalization platform
+ Local analyst
Analysis of 5,000 to 125,000 real-time process variables collected by sensors, maximum data safety guaranteed

**Metris OPP** enhances plant efficiency and performance:

- Increase process stability
- Reduce energy or chemical cost
- Debottleneck production, increasing total production
- Increase mill availability
- Support plant operations with ANDRITZ engineers on site: diagnostics, start-up, mill-balance, knowledge exchange

- More than 22,000,000 adt/y pulp production
- Certain contracts running for more than 10 years
- 40 contracts worldwide
SMART WOODYARD

Prerequisite for an autonomous woodyard - Instrumentation, advanced process controls, decision support to ensure availability, performance rate and quality

TOOLS FOR MAXIMIZING AND MONITORING QUALITY
- Flow Scanner
- Chip Sampler
- ScanChip
- ChipScan LT
- Knife Systems
- Bulk material Scanner

FROM WOODYARD TO FIBERLINE:
CHIP FLOW, MOISTURE, SIZE, BARK CONTENT, ORIGIN INFORMATION (LOG DIAMETER, ETC.) DISTRIBUTIONS

TOOLS FOR DECISION SUPPORT
- Decision support wall

TOOLS FOR MAXIMIZING AVAILABILITY
- ChipperEKG
- CrusherEKG
- Drum tire monitoring
- Stone detection
- Logyard crane CSM
- Screen diagnostics (RD)

TOOLS FOR MAXIMIZING PERFORMANCE AND QUALITY
- Process Optimization
- Material flow measurements & mass balance estimations
  - BarkScan
  - WoodScan
  - Drum Infeed Scanner
  - Chipper Infeed Scanner
Main challenges/goals for the coming years

Focus on growth:
• Continue to push/launch internal innovations in digitalization and service
• Complementary acquisitions in all four business areas, especially in service

Focus on profitability:
• Turnaround Metals, keep high profitability in Pulp & Paper, retain solid profitability in Hydro, improve Separation:
  • Reduce negative project deviations
  • Expand high-margin service business
  • Streamline company and organizational structures
MANY THANKS!

ANDRITZ CAPITAL MARKET DAY 2019

SEPTEMBER 17, 2019