PLATFORM FOR INDUSTRIAL INTELLIGENCE

PSI Company Presentation
German Equity Forum, Frankfurt, 25-26 November 2019
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PSI Software – Optimizing the flow of energy and materials
PSI segments and vertical markets (in percentage of sales revenues)

<table>
<thead>
<tr>
<th>Energy Management</th>
<th>Production Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical &amp; combined grids 33%</td>
<td>Metals 24%</td>
</tr>
<tr>
<td>Gas grids/oil 10%</td>
<td>Automotive/machinery 17%</td>
</tr>
<tr>
<td>Energy trading 3%</td>
<td>Logistics 9%</td>
</tr>
<tr>
<td>Public transport 4%</td>
<td></td>
</tr>
</tbody>
</table>

PSI Java Platform with shared modules, common tool chain and resource pools

Shared world wide sales & service centers
New orders and order backlog 2014-2018

- New orders with strong growth in energy, public transport and logistics
- New orders 2018 with 217 million EUR 14.2 % above last years level
- Order backlog on 31 December 2018 at 139 million EUR 8.6 % above last year
- Order coverage*: approx. 8 months

* Without yearly maintenance and upgrade prolongation
Sales revenue analysis 2009-2018

- Group sales 7.0 % above last year
- Licenses 31.4 % above last years level
- Maintenance + upgrades 9.7 % above last year
- Share of software product business grows to 52 % (maintenance, license, services billed according to cost)

- Number of employees grows mainly in electric grids, transport and logistics
Sales revenues by regions 2014-2018

- Organic growth in Germany
- Acquisition BTC Smart Grid effective 1 January 2019
- New products based on PSI Java Framework
- Grow West campaign

**Trend:**
- Growth in western industrialized countries in Europe and North America is slowing down
- Recovery in commodity-rich countries like Russia, Gulf States and Malaysia
- Uncertainty over tariffs delays award of contracts by European steel industry
Earnings 2014-2018

- EBITDA grows by 12.9 %
- EBIT improved by 15.7 % to 15.5 million EUR
- Increased tax expense
- Net result increased by 11.5 % to 10.6 million EUR
- Earnings per share up from 0.61 EUR to 0.68 EUR

**EBITDA**

<table>
<thead>
<tr>
<th>Year</th>
<th>EBITDA</th>
<th>EBIT</th>
<th>EBT</th>
<th>Group net result</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>7.7*</td>
<td>5.7</td>
<td>4.1</td>
<td>11.5*</td>
</tr>
<tr>
<td>2015</td>
<td>11.1</td>
<td>9.4</td>
<td>7.5</td>
<td>15.4</td>
</tr>
<tr>
<td>2016</td>
<td>11.8</td>
<td>11.2</td>
<td>8.6</td>
<td>16.1</td>
</tr>
<tr>
<td>2017</td>
<td>13.4</td>
<td>12.5</td>
<td>9.5</td>
<td>17.7</td>
</tr>
<tr>
<td>2018</td>
<td>15.5</td>
<td>14.5</td>
<td>10.6</td>
<td>20.0</td>
</tr>
</tbody>
</table>

*adjusted

IFRS in million EUR
Sales revenues and EBIT 2017-2018 by Segments

- Energy management with 8.8% growth, especially in electric grids and with recovery in gas grids and in Southeast Asia
- Production management 5.3% above last year due to growth in logistics and metals production, better results in metals and automotive and with growth investments in logistics

<table>
<thead>
<tr>
<th>Segment</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy management</td>
<td>91.6</td>
<td>186.1</td>
</tr>
<tr>
<td>Production</td>
<td>94.5</td>
<td>99.7</td>
</tr>
<tr>
<td>Management</td>
<td>99.5</td>
<td>199.2</td>
</tr>
<tr>
<td>PSI Group</td>
<td>13.4</td>
<td>15.5</td>
</tr>
</tbody>
</table>

*IFRS in million EUR*
Cash flow and cash 2014-2018

- Cash flow from operating activities jumps due to higher prepayments and lower increase in working capital to 19.0 million EUR (2017: 1.2 million EUR)
- Cash flow from investment activities after acquisition of Moveo Software -7.4 million EUR (2017: -4.1 million EUR)
- Cash flow from financing activities -4.8 million EUR (2017: -1.1 million EUR after taking up of loan)
- Cash up to 44.6 million EUR (2017: 38.1 million EUR)
- Dividend proposal: 0.25 EUR per share

=> After dividend payment PSI continues to have sufficient funds for targeted takeovers
Sales revenues 1st Nine Months of 2019 by Segments

- Energy management with acquisition in electrical energy and growth in gas grids and public transport
- Production management with growth in logistics and automotive & industry
- Overall 12.8% higher sales

**Energy management**

1st Nine Months 2017: 64.3
1st Nine Months 2018: 68.9
1st Nine Months 2019: 81.0

**Production management**

1st Nine Months 2017: 68.8
1st Nine Months 2018: 72.6
1st Nine Months 2019: 78.7

**PSI Group**

1st Nine Months 2017: 133.1
1st Nine Months 2018: 141.6
1st Nine Months 2019: 159.7

IFRS in million EUR
EBIT 1st Nine Months of 2019 by Segments

- Energy management with improved results in electrical energy, gas grids, public transport and integration costs after acquisition in electrical energy
- Production management with investments in mines & roads and improvements in logistics, automotive & industry and metals
- Group EBIT grows by 5%

![EBIT Chart](image-url)

<table>
<thead>
<tr>
<th>Segment</th>
<th>1st Nine Months 2017</th>
<th>1st Nine Months 2018</th>
<th>1st Nine Months 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy management</td>
<td>2.9</td>
<td>4.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Production management</td>
<td>-1.0</td>
<td>-0.8</td>
<td>-1.0</td>
</tr>
<tr>
<td>Reconciliation</td>
<td>6.3</td>
<td>6.6</td>
<td>7.0</td>
</tr>
<tr>
<td>PSI Group</td>
<td>8.2</td>
<td>10.0</td>
<td>10.5</td>
</tr>
</tbody>
</table>

IFRS in million EUR
PSI share price 2009-2019 (vs. TecDAX)
PSI shares and shareholder structure

- Number of shares: 15.7 million shares
- Share price (15/11/19): 19,20 Euro
- Market capitalisation: 301 million Euro
- Market segment: Prime Standard
- Designated Sponsors: equinet, HSBC
- Analyst coverage: DZ Bank, First Berlin, GSC Research, Dr. Kalliwoda, MATELAN Research, Quirin Privatbank, Pareto Securities, Solventis

According to WpHG voting rights announcements
Research and development

- R&D costs at 11 % of revenues
- Ongoing investments in core topics like industry 4.0, artificial intelligence, energy, traffic and heat transition
- Further development and rollout of the group software platform, e.g. business process management and WORA web mobile
- Preparation and use of generic platform products such as Advanced Scheduling and Monitoring (ASM), Time Series Management (TSM), Java-based Supervisory Control and Data-Acquisition (JSCADA) and Deep Qualicision CNN/AFL/LP-Optimization
- Cloud software-as-a-service and on-premise upgrade-as-a-service

Research and development Costs

<table>
<thead>
<tr>
<th>Year</th>
<th>Cost (million EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>16,1</td>
</tr>
<tr>
<td>2015</td>
<td>19,5</td>
</tr>
<tr>
<td>2016</td>
<td>16,8</td>
</tr>
<tr>
<td>2017</td>
<td>18,5</td>
</tr>
<tr>
<td>2018</td>
<td>22,0</td>
</tr>
</tbody>
</table>
PSI industrial intelligence systems

+ **industrial robustness**
+ **industrial precision**
+ **combined logics**
+ **process integration**

example: automatic tire quality inspection system with Convolutional Neural Networks and Advanced Fuzzy Logics
Integrated PSI production and logistics software suite

warehouse management
supply chain management
advanced line sequencing
advanced swarm production
transport management system

enterprise resource planning
operational sales planning
production order management
manufacturing execution system
quality inspection and management

User interface by PSI Click Design

BPM Process flow with Camunda
New growth potential from climate action programme of German government

- **National emission trading for heat and traffic**
  - Rising demand for trading software
- **Lower electricity prices will drive electrification**
  - Higher investments in smart grid technologies
- **Incentives for replacement of oil-fired heating**
  - Investments in gas grid infrastructure
- **Pushing e-mobility (charging stations, e-vehicle funding)**
  - Rising demand for smart charging management
  - New e-vehicle production lines based on swarm production
- **Investments in public transport and rail traffic**
  - Rising demand for vehicle management, train management and depot management software
  - Rising demand for transport management software in logistics
- **Coal phase-out and structural change in the energy sector**
  - Higher investments in grid infrastructure for more renewables
- **Investments in energy efficiency in production processes**
  - More investments in production optimization with energy management and PSI Industrial Intelligence
- **More R&D for Hydrogen, Biogas and Biofuels**
  - Investments in pipelines and gas grid infrastructure
PSI decision support and autopilot for electric grids with high share of renewable energy

- Maximizing safety and profit margins
- Artificial Intelligence predicts renewables based on weather data
- Deep learning, extended fuzzy goal solver

- Reactive power forecast and decision support
- Learning weather-based renewable generation and load forecast
- Voltage stability forecast and decision support
- Deep Learning Extended Fuzzy Logic goal solver and long term calibration
- Areas of influence
- Phase angle forecast and decision support

Maximizing safety and profit margins
Artificial Intelligence predicts renewables based on weather data
Deep learning, extended fuzzy goal solver
PSI electrical & combined grids – customers in Germany

**TSO**
380kV, 220kV

**DSO**
110kV, Medium Voltage

**Integrated & Municipal Utilities**
Power, Gas, District Heating, Water
Acquisition of business unit BTC Smart Grid

- PSI took over the "PRINS" Smart Grid unit of BTC AG with effect from 1 January 2019.
- Traditional provider with 98 customers and 143 employees in Germany and 35 in Poland.
- PSI integrates the business as division for integrated utilities, industry and infrastructure.
- On 2 January 2019, 60 of 143 employees were underutilized; 50+ of them are now utilized.
- A further 35 employees of BTC Polska in Poznan integrated as of 1 May 2019.
- Additional revenues of 6 million EUR are expected, a further 6 million EUR from utilization.
- Learning curve costs in Q1, Q2 and Q3 amount to about 2 million EUR. Profits from capacity utilization, better pricing power, scale effects and risk reductions will have a positive effect.

*Source: PSI AG
PSI Java Framework: internal framework and open platform for customers & partners

Flexible business process management (BPMN2 Camunda)

PSI Click Design & GUI run identically on Rich- and Web-Clients

Vertical market PSI products (Java)

Generic PSI products (Java)

PSI Platform for interconnectivity and automated object relational persistence

Platform independence

PSI modelling framework interface

Customer or Partner Application
Web / Mobile and WORA principle

- WORA principle
  - **Write Once, Run Anywhere**

- Main enabler: model driven applications
  - PSIgui is based on a *presentation model* (PM, “Click Design”)
  - Persistence/Database is based on a *domain and persistence model* (DPML)
  - Data transfer to PSIgui is based on a *query model* (QM)
  - The “wiring” of PSIgui actions with PSIbus commands can be achieved in a declarative way by **configurable actions**.

- Click Design is already supported with current PSIweb client
  - Configurable lists
  - Configurable edit views
  - Configurable view compositions (e.g. master/detail)
  - Editing models on the web client
PSI Digital Sales & Services Initiative 2020

Automated multi-cloud deployment
(or license certificates for on premise installations)

Self-service portal

App store
PSI employees by countries as of 30 September 2019

![Map showing PSI employees by countries](image)
**Review 2018 and Guidance 2019**

<table>
<thead>
<tr>
<th></th>
<th>Revenues</th>
<th>EBIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management guidance</td>
<td>200</td>
<td>15+</td>
</tr>
<tr>
<td>Analysts’ estimates</td>
<td>200,6</td>
<td>15,8</td>
</tr>
<tr>
<td>Actual 2018</td>
<td>199,2</td>
<td>15,5</td>
</tr>
</tbody>
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<tbody>
<tr>
<td>Management guidance</td>
<td>220</td>
<td>17</td>
</tr>
<tr>
<td>Analysts’ estimates</td>
<td>220</td>
<td>17,1</td>
</tr>
</tbody>
</table>

- Growing upgrade-as-a-service business
- New PSI Java Framework identical in web (WORA)
- First customers carry out factory rollouts themselves

**Long-term trends**
- Internet logistics
- Industry 4.0 swarm production
- Commercial energy transition begins worldwide
- Beginning change to electro mobility

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**Graphs:**
- New orders
- Sales revenues
- Employees
- Order book volume
- Share of maintenance and upgrade subscription
- EBIT
## Financial calendar 2019/2020

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/26 November 2019:</td>
<td>German Equity Forum, Frankfurt</td>
</tr>
<tr>
<td>28 April 2020:</td>
<td>Report on the 1&lt;sup&gt;st&lt;/sup&gt; Quarter of 2020</td>
</tr>
<tr>
<td>14 May 2020:</td>
<td>Annual General Meeting, Berlin</td>
</tr>
<tr>
<td>28 July 2020:</td>
<td>Report on the 1&lt;sup&gt;st&lt;/sup&gt; Six Months of 2020</td>
</tr>
<tr>
<td>30 October 2020:</td>
<td>Report on the 3&lt;sup&gt;rd&lt;/sup&gt; Quarter of 2020</td>
</tr>
</tbody>
</table>
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