Q3 INTERIM REPORT 2017
Q3 INTERIM REPORT 2017

Q3 sales with € 39.3 million back on track; + 1.3 % over previous year

in € million

INDUSTRIAL | MEDICAL | MOBILITY

Q1 2016: 37.5 | 13.4 | 7.2 | 16.9
Q2 2016: 38.4 | 11.0 | 9.1 | 18.3
Q3 2016: 38.8 | 12.4 | 7.8 | 18.6
Q4 2016: 35.4 | 10.1 | 6.6 | 18.7
Q1 2017: 34.3 | 10.1 | 6.4 | 17.8
Q2 2017: 34.6 | 9.9 | 6.4 | 18.3
Q3 2017: 39.3 | 12.3 | 7.6 | 19.4

Comments

- Dynamic start into the second half of 2017
- Sales up 1.3 % on Q3 2016
- IND: +4.1%, MED: -3.0%, MOB: -0.4% compared to Q3 2016
Q3 INTERIM REPORT 2017

Share of sales in North America and Asia further climbing

Sales in € million, sales share in %

<table>
<thead>
<tr>
<th></th>
<th>9M 2016</th>
<th>9M 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>50.3 %</td>
<td>51.0 %</td>
</tr>
<tr>
<td>Europe</td>
<td>33.0 %</td>
<td>28.3 %</td>
</tr>
<tr>
<td>North America</td>
<td>8.8 %</td>
<td>10.5 %</td>
</tr>
<tr>
<td>Asia</td>
<td>9.9 %</td>
<td>9.9 %</td>
</tr>
<tr>
<td>Others</td>
<td>0.5</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Comments

Germany still accounts for half of sales

Other European Countries contribute 28.3 %

Strong performance in North America – sales doubled within the last two years – and in Asia
Q3 INTERIM REPORT 2017

Order intake still on high level at € 42.0 million

in € million

Comments

Order intake in Q3 almost on Q2 level

Total order intake in 2017 is € 121.5 million after € 103.6 million in 2016

Order backlog at Sept. 30: € 96.5 million

BtB ratio supports further growth
Q3 INTERIM REPORT 2017

Sales per employee rises to 50.1 TEUR in Q3 2017

Q3 2016
personnel expenses: € 11.2 million
sales per employee: € 48.8 thousand

Q3 2017
€ 11.3 million +1.6%
€ 50.1 thousand -2.6%

Comments

Number of employees largely unchanged

Increase of personnel expense by wage raise and shift to higher qualified staff

Sales per employee after nine month € 138.2 thousand (previous year: € 144.2 thousand)
### Q3 INTERIM REPORT 2017

Q3 earnings: Projects ‘Operative Excellence‘ delivering first results

*Strategy for Profitable Growth, presented on August 10, 2017*

<table>
<thead>
<tr>
<th></th>
<th>Target Markets</th>
<th>Key Products &amp; Customers</th>
<th>Forward Integration</th>
<th>Internationalization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industrial</td>
<td>Key Products &gt; 1 M€ p.a.</td>
<td>Sensor System</td>
<td>Germany</td>
</tr>
<tr>
<td></td>
<td>Medical</td>
<td>Key Customers &gt; 1 M€ p.a.</td>
<td>Sensor</td>
<td>Europe</td>
</tr>
<tr>
<td></td>
<td>Mobility</td>
<td></td>
<td>Component</td>
<td>North Amerika</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chip</td>
<td>Asia</td>
</tr>
</tbody>
</table>

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Operative Excellence
Operative Excellence focuses on three pillars

**Mindset:** ‘Employees FIRST’

**Management:** ‘Leading from the front’

**Economies:** ‘Scale and Efficiency’

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**THE FUNDAMENT: FOCUS ON OPERATIVE EXCELLENCE**

We concentrate on five core initiatives:

- **1.** Lead Time, On-Time Deliveries, Quality
- **2.** Core Processes
- **3.** New ERP
  - 1. January 2018
- **4.** T&Q Harmonization
- **5.** Retail Site Optimization
Q3 INTERIM REPORT 2017

EBIT of € 4.1 million in Q3, margin climbs to 10.4 percent

EBIT in € million, EBIT-margin %

<table>
<thead>
<tr>
<th>Quarter</th>
<th>EBIT</th>
<th>EBIT Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 15</td>
<td>1.5</td>
<td>4.4 %</td>
</tr>
<tr>
<td>Q2 15</td>
<td>1.4</td>
<td>4.2 %</td>
</tr>
<tr>
<td>Q3 15</td>
<td></td>
<td>-0.7</td>
</tr>
<tr>
<td>Q4 15</td>
<td></td>
<td>-1.9 %</td>
</tr>
<tr>
<td>Q1 16</td>
<td>2.2</td>
<td>6.0 %</td>
</tr>
<tr>
<td>Q2 16</td>
<td>3.2</td>
<td>8.4 %</td>
</tr>
<tr>
<td>Q3 16</td>
<td>2.9</td>
<td>7.6 %</td>
</tr>
<tr>
<td>Q4 16</td>
<td>1.6</td>
<td>4.4 %</td>
</tr>
<tr>
<td>Q1 17</td>
<td>1.8</td>
<td>5.1 %</td>
</tr>
<tr>
<td>Q2 17</td>
<td>1.6</td>
<td>4.6 %</td>
</tr>
<tr>
<td>Q3 17</td>
<td>4.1</td>
<td>10.4 %</td>
</tr>
</tbody>
</table>

Comments

9M margin 6.9 %

Increase in sales with positive effect on profitability

Also contribution by product mix (material cost ratio down to 48.3 percent) and efficiency gains
## Q3 INTERIM REPORT 2017

### Net profit burdend by one-off currency loss

<table>
<thead>
<tr>
<th>in € thousand</th>
<th>Q1 2016</th>
<th>Q2 2016</th>
<th>Q3 2016</th>
<th>Q4 2016</th>
<th>Q1 2017</th>
<th>Q2 2017</th>
<th>Q3 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenues</td>
<td>37,549</td>
<td>38,384</td>
<td>38,817</td>
<td>35,361</td>
<td>34,337</td>
<td>34,593</td>
<td>39,310</td>
</tr>
<tr>
<td>Other operating income</td>
<td>475</td>
<td>677</td>
<td>738</td>
<td>1,023</td>
<td>1,093</td>
<td>511</td>
<td>451</td>
</tr>
<tr>
<td>Changes in inventories</td>
<td>-354</td>
<td>-115</td>
<td>802</td>
<td>-1,584</td>
<td>10</td>
<td>-60</td>
<td>298</td>
</tr>
<tr>
<td>Other own work capitalized</td>
<td>276</td>
<td>309</td>
<td>231</td>
<td>607</td>
<td>299</td>
<td>463</td>
<td>522</td>
</tr>
<tr>
<td>Cost of material</td>
<td>-17,534</td>
<td>-19,655</td>
<td>-19,610</td>
<td>-15,583</td>
<td>-16,257</td>
<td>-16,665</td>
<td>-18,983</td>
</tr>
<tr>
<td>Gross profit</td>
<td>20,412</td>
<td>19,600</td>
<td>20,978</td>
<td>19,824</td>
<td>19,482</td>
<td>18,842</td>
<td>21,598</td>
</tr>
<tr>
<td>Personnel expenses</td>
<td>-10,696</td>
<td>-11,105</td>
<td>-11,156</td>
<td>-11,172</td>
<td>-11,426</td>
<td>-11,207</td>
<td>-11,332</td>
</tr>
<tr>
<td>Other operating expenses</td>
<td>-5,199</td>
<td>-2,948</td>
<td>-4,447</td>
<td>-4,676</td>
<td>-4,049</td>
<td>-3,826</td>
<td>-3,972</td>
</tr>
<tr>
<td>Operating result (EBITDA)</td>
<td>4,517</td>
<td>5,547</td>
<td>5,375</td>
<td>3,976</td>
<td>4,007</td>
<td>3,809</td>
<td>6,294</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>-1,680</td>
<td>-1,713</td>
<td>-1,834</td>
<td>-1,820</td>
<td>-1,646</td>
<td>-1,636</td>
<td>-1,619</td>
</tr>
<tr>
<td>Operating result before goodwill amortization (EBITA)</td>
<td>2,837</td>
<td>3,834</td>
<td>3,541</td>
<td>2,156</td>
<td>2,361</td>
<td>2,173</td>
<td>4,575</td>
</tr>
<tr>
<td>Goodwill amortization</td>
<td>-593</td>
<td>-593</td>
<td>-593</td>
<td>-593</td>
<td>-593</td>
<td>-569</td>
<td>-569</td>
</tr>
<tr>
<td>Earnings before interest and tax (EBIT)</td>
<td>2,244</td>
<td>3,241</td>
<td>2,948</td>
<td>1,563</td>
<td>1,768</td>
<td>1,604</td>
<td>4,106</td>
</tr>
<tr>
<td>Financial result</td>
<td>-153</td>
<td>-602</td>
<td>-375</td>
<td>-138</td>
<td>-348</td>
<td>-75</td>
<td>-1,934</td>
</tr>
<tr>
<td>Income before tax (EBT)</td>
<td>2,091</td>
<td>2,639</td>
<td>2,573</td>
<td>1,425</td>
<td>1,420</td>
<td>1,529</td>
<td>2,172</td>
</tr>
<tr>
<td>Taxes</td>
<td>-351</td>
<td>-227</td>
<td>-624</td>
<td>-1,229</td>
<td>-75</td>
<td>-688</td>
<td>-1,231</td>
</tr>
<tr>
<td>Net income</td>
<td>1,740</td>
<td>2,412</td>
<td>1,749</td>
<td>1,245</td>
<td>841</td>
<td>941</td>
<td></td>
</tr>
</tbody>
</table>

### Comments

- **EBITDA margin of 16.0%**
- **EBITA margin of 11.9%**
- **Financial result: extraordinary effect arising from the remeasurement of currency hedges**
- **Net income effected by tax payments**
Balance sheet total rises by 2.8 percent from € 154.0 to € 158.3 million

Comments

WC: Inventories and trade receivables + € 5.7 million

Net debt down to € 27.5 million

Equity ratio 50.7 %
Q3 INTERIM REPORT 2017

Operating Cashflow burdened by increase in Working Capital and taxes

in € million

Operating Cash Flow

Free Cash Flow

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9M 2016</td>
<td>8.8</td>
</tr>
<tr>
<td>9M 2017</td>
<td>5.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>9M 2016</td>
<td>5.0</td>
</tr>
<tr>
<td>9M 2017</td>
<td>-2.3</td>
</tr>
</tbody>
</table>

Comments

Changes in WC and taxes burdened CF

Investment volume up to almost € 8 mill after 9M
Q3 INTERIM REPORT 2017

Management confirms guidance 2017 at upper end of range

SALES REVENUES

140 - 145 MILLION EURO

EBIT MARGIN

5 - 6 PERCENT
GROWTH DRIVER LIDAR
OUR STRATEGY FOR PROFITABLE GROWTH

We generate and utilize economies of scale in 4 dimensions

1. **Target Markets**
   - Industrial
   - Medical
   - Mobility

2. **Key Products & Customers**
   - Key Products
     - > 1 M€ p.a.
   - Key Customers
     - > 1 M€ p.a.

3. **Forward Integration**
   - Sensor System
   - Sensor
   - Component
   - Chip

4. **Internationalization**
   - Germany
   - Europe
   - North Amerika
   - Asia

Operative Excellence
OUR STRATEGY FOR PROFITABLE GROWTH

Growth driver Lidar is relevant for all pillars of our strategy

1. **Target Markets**
   - Industrial
   - Medical
   - Mobility

2. **Key Products & Customers**
   - Key Products: > 1 M€ p.a.
   - Key Customers: > 1 M€ p.a.

3. **Forward Integration**
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   - Chip

4. **Internationalization**
   - Germany
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   - North America
   - Asia

Operative Excellence
### GROWTH DRIVER LIDAR

Main reason for accidents are preventable human mistakes

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mistakes of car drivers</td>
<td>63.9 %</td>
</tr>
<tr>
<td>Mistakes of bicyclists</td>
<td>13.5 %</td>
</tr>
<tr>
<td>Bad road conditions</td>
<td>7.7 %</td>
</tr>
<tr>
<td>Mistakes of motorbike riders</td>
<td>7.2 %</td>
</tr>
<tr>
<td>Mistakes of truck drivers</td>
<td>5.7 %</td>
</tr>
<tr>
<td>Mistakes of pedestrians</td>
<td>3.5 %</td>
</tr>
<tr>
<td>Technical issues</td>
<td>0.9 %</td>
</tr>
</tbody>
</table>

Source: German Federal Statistical Office 2016
GROWTH DRIVER LIDAR

Sensors in the car provide more safety

- Rear Collision Warning
- Surround View
- Park Assist
- Blind Spot Detection
- Cross Traffic Alert
- Traffic Sign Recognition
- Lane Departure Warning
- Emergency Braking
- Pedestrian Detection
- Collision Avoidance
- Adaptive Cruise Control
GROWTH DRIVER LiDAR

LiDAR plays a key role for many applications.

- Long-Range Radar
- Short-/Medium-Range Radar
- LiDAR
- Camera
- Ultrasound

- Surround View
- Blind Spot Detection
- Park Assist
- Rear Collision Warning
- Surround View
- Cross Traffic Alert
- Traffic Sign Recognition
- Lane Departure Warning
- Emergency Braking
- Pedestrian Detection
- Collision Avoidance
- Adaptive Cruise Control
## GROWTH DRIVER LIDAR

**Reason:** Highest resolution even for large distances

<table>
<thead>
<tr>
<th>Criteria</th>
<th>LIDAR (pulsed ToF)</th>
<th>Radar</th>
<th>Ultra-sonic</th>
<th>Cameras</th>
<th>PMD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Short distance</td>
<td>Long distance</td>
<td></td>
<td>Mono</td>
<td></td>
</tr>
<tr>
<td>Max range (m)</td>
<td>150 - 250</td>
<td>55 - 100</td>
<td>150 - 200</td>
<td>2 - 4</td>
<td></td>
</tr>
<tr>
<td>Min range (m)</td>
<td>1</td>
<td>0.25 - 1</td>
<td>1</td>
<td>0.25</td>
<td>0.3</td>
</tr>
<tr>
<td>Precision (m)</td>
<td>0.1 (newer: 0.04)</td>
<td>0.25 – 0.75</td>
<td>0.3 – 3.75</td>
<td>Very good</td>
<td>3</td>
</tr>
<tr>
<td>Velocity measurement</td>
<td>Indirectly via distance t1-t0</td>
<td>directly via Doppler effect</td>
<td>hardly</td>
<td>hardly</td>
<td>Indirect via dist.</td>
</tr>
<tr>
<td>Horizontal field of view</td>
<td>30° - 180°</td>
<td>55° Scan: 120°</td>
<td>16°, Scan: 60°</td>
<td>60°</td>
<td>45° - 190°</td>
</tr>
<tr>
<td>Horizontal resolution</td>
<td>0.01° - 1°</td>
<td>10.5°</td>
<td>3.5°</td>
<td>bad</td>
<td>&lt; 0.1° - 0.3°</td>
</tr>
<tr>
<td>Vertical field of view</td>
<td>3° - 16°</td>
<td>3° - 13°</td>
<td>3° - 13°</td>
<td>30°</td>
<td>45°</td>
</tr>
<tr>
<td>Vertical resolution</td>
<td>0.8° - 1°</td>
<td>4.5°</td>
<td>4.5°</td>
<td>bad</td>
<td>&lt; 0.1°</td>
</tr>
</tbody>
</table>

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First Sensor

www.first-sensor.com | 20
GROWTH DRIVER LIDAR
Different technologies are used in LIDAR systems

Source: Velodyne
GROWTH DRIVER LIDAR
Different technologies – different suppliers in the market

Source: YOLE
Consequently we will participate in the market growth

- 2017: 94 m vehicles produced (2.2% CAGR 17-22, 2017 IHS Markit)
- Automotive semiconductor revenue for ADAS grows with 20.9% (CAGR 17-22, 2017 IHS Markit)
- Estimates as high as 10% of new cars with self-driving features in 2020

Global driver assist market will grow to $102 billion by 2030

Source: Lux Research 2017
GROWTH DRIVER LIDAR

... in particular with our LiDAR products
GROWTH DRIVER LIDAR
First Sensor contributes more than 10 years of experience

- Single APD with amplifier
- DARPA Urban Challenge; First Sensor APDs in all winning teams
- Industrial hybrids (APD+TIA in one package)
- Few Pixel APD-Array in SMD package for ACC / AEC-Q 101 qualified by FIS

- 12 Pixel APD-Array in ceramic package for ACC
- Gesture recognition with 64 pixel APD-Array
- Receiver module with APD-Array, HV, TIA, MUX, Timing discriminator
- Receiver module with APD and electronics integrated in one package
GROWTH DRIVER LIDAR
LiDAR has also applications in industry and logistics,...
GROWTH DRIVER LIDAR

...applications in mapping and construction...
GROWTH DRIVER LIDAR

...and in traffic control & security
Q&A SESSION
## Q3 INTERIM REPORT 2017

### Financial Calendar

<table>
<thead>
<tr>
<th>When?</th>
<th>What?</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 16, 2017</td>
<td>Warburg Meet-the-Future Conference, Berlin</td>
</tr>
<tr>
<td>November 27-28, 2017</td>
<td>German Equity Forum, Frankfurt am Main</td>
</tr>
<tr>
<td>March 22, 2018</td>
<td>Annual Report 2017 and Financial Statement Press Conference 2018</td>
</tr>
</tbody>
</table>
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First Sensor AG
Corinna Krause
T +49 30 63 99 23 571
E corinna.krause@first-sensor.com