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# Rafako

**Sector:** Construction  
**Fundamental rating:** Sell (→)  
**Market relative:** Neutral (→)  
**Price:** PLN 1.42  
**12M EFV:** PLN 0.60 (↑)

**Market Cap:** US\$ 47 m  
**Bloomberg code:** RFK PW  
**Av. daily turnover:** US\$ 0.20 m  
**12M range:** PLN 0.60-1.54  
**Free float:** 57%

## Investment summary and rating

In their 1Q21 financial report Rafako described the key uncertainties materially affecting the Company's prospects with respect to continuing operations which pertain to: (i) reaching of the composition agreement with creditors of the parent company, (ii) execution of the contracts signed and settlement of the contract the execution of which was stopped due to its termination by both parties, (iii) finding new funding sources, and (iv) finding a strategic investor. The composition agreement reached in the restructuring procedure came into effect at the June-end and in the beginning of July Rafako was granted financial support for restructuring by the Agency for the Development of Industry; we believe the reconstruction of the backlog, restoration of relationships with suppliers and repayment of creditors may be a long and arduous process. We uphold our LT fundamental Sell recommendation and issue ST relative Underweight rating given an expected supply of new shares for the creditors within the composition agreement scheme.

## The composition agreement

In the June-end the Regional Court in Gliwice dismissed the appeal regarding the District Court's decision on the approval of the arrangements with Rafako's creditors and finally the composition agreement resulting from the summary proceedings came into effect. This decision for which the Company had been waiting for half a year gives Rafako an opportunity to return to the market. Last year was marked with numerous corrective actions undertaken by the Company such as the optimization of employment (downsizing to 1,000 employees from c. 1,500) and of organizational structure coupled with termination of unprofitable contracts.

### Guide to adjusted profits

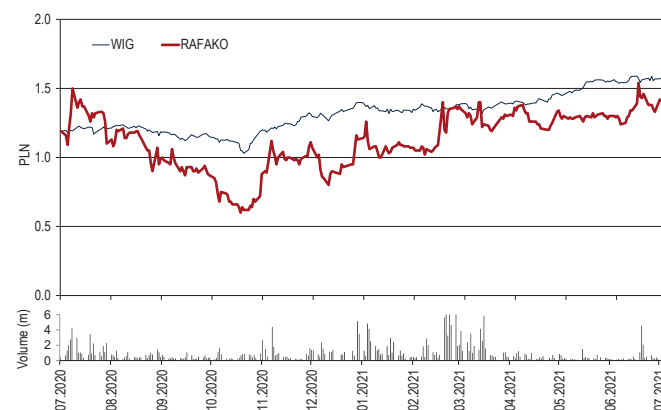
Profits adjusted for Voluntary Leave program provision release of PLN 5.9 million.

### Key data

| IFRS consolidated    |       | 2020    | 2021E   | 2022E   | 2023E   |
|----------------------|-------|---------|---------|---------|---------|
| Sales                | PLN m | 1,207.8 | 1,002.5 | 1,310.5 | 1,318.8 |
| EBITDA               | PLN m | -293.0  | 19.9    | 40.6    | 39.4    |
| EBIT                 | PLN m | -308.1  | 7.2     | 28.4    | 27.7    |
| Net profit           | PLN m | -316.9  | -0.8    | 12.7    | 12.1    |
| EPS                  | PLN   | -2.52   | -0.01   | 0.10    | 0.09    |
| EPS yoy chg          | %     | n.m.    | n.m.    | n.m.    | -5      |
| Net debt             | PLN m | 16.9    | 137.7   | 166.9   | 137.7   |
| P/E                  | x     | neg.    | neg.    | 14.3    | 15.0    |
| P/CE                 | x     | neg.    | 15.2    | 7.3     | 0.0     |
| EV/EBITDA            | x     | neg.    | 16.0    | 8.6     | 0.0     |
| EV/EBIT              | x     | neg.    | 44.5    | 12.2    | 0.0     |
| DPS                  | PLN   | 0.00    | 0.00    | 0.00    | 0.00    |
| Gross dividend yield | %     | 0.0     | 0.0     | 0.0     | 0.0     |
| No. of shares (eop)  | m     | 127.4   | 127.4   | 127.4   | 127.4   |

Source: Company, DM BOŚ SA estimates

### Stock performance



Source: Bloomberg

### Upcoming events

1. 2Q21 financial results release: September 23
2. 3Q21 financial results release: November 22

## Support from the Agency for the Development of Industry

The aid for restructuring will be granted for 120 months and will secure the guarantees in the amount of PLN 46 million and operating costs related to the underway contracts and future contracts totaling PLN 54 million. The Agency for the Development of Industry will take up bonds worth PLN 100 million with an annual interest at 4.15%. The bond repayment will consist of 3 instalments: the first tranche paid on December 31, 2028 in the amount of PLN 33 million, the second tranche paid on December 21, 2029 in the amount of PLN 33 million and the third one in the amount of PLN 34 million will be paid on the redemption day which is December 31, 2030 and the date of interest payment for the entire period is set on the bond redemption day, with the early repayment option.

## New strategy

According to the Company, the energy transformation may constitute some opportunity as Rafako would not engage as the general contractor in big projects like the construction of a 910 MW power unit in Jaworzno. It will remain the technological company based on design, construction and production services, frequently in a cooperation with global partners. The expansion abroad will continue to be the important element of the Company's strategy, including the markets where Rafako has not been present. According to the new strategy, the Company would also explore the RES market.

We assess positively the Company's withdrawal from big projects as the general contractor as they bring about numerous hardships related to the management of various risks. We also like the Company's willingness to use their competence and skills gained through years in the environmental protection installations for desulphurization and denitrification of flue gases. Rafako owns numerous solutions and patents to implement on this turf.

## FY20 financial results

From the P&L perspective FY20 financials should be viewed critically and smaller yoy loss is poor consolation. However, positive OCF can be deemed

as a nice surprise. We also like the restructuring activities the Company undertook in this period.

FY20 sales stood at PLN 1,207.8 million and a PLN 37.1 million yoy drop stems mainly from (i) diminished engagement in the projects in progress and (ii) termination of the contract for the construction of a co-generation biofuel unit for UAB Vilnius Kogeneracine Jegaime.

On the domestic market Rafako's sales grew by almost 16% yoy with the biggest increases seen in (i) the air protection equipment segment (up PLN 72.1 million) under the positive impact of contracts related to modernization of the installation for desulphurization of flue gases for units 3-6 and 8-12 in PGE's power plant in Bełchatów and (ii) power plant blocks and boilers segment (up PLN 55.8 million) under the favorable impact of the power plant coke-fueled unit construction in Radlino for JSW. In the segment of assemblies and machinery and power equipment parts FY20 sales fell significantly (yoy decline stood at PLN 81.4 million).

Costs of sales of goods, services, and materials in FY20 reached PLN 1,396.2 million which translates into a gross loss on sales amounting to PLN 188.4 million (compared to FY19 loss at PLN 287.3 million).

FY20 loss is mainly a consequence of the costs estimates update related to 5 vital projects:

- the Jaworzno project: in FY20 its effect on the Company's consolidated result amounted to PLN -27.9 million (PLN -50.7 million when adjusted for a provision for warranty repairs);
- the Vilnius project: its effect on the Company's consolidated result amounted to PLN -99.7 million;
- the Radlin project: its effect on the Company's consolidated result amounted to PLN -43 million;
- the gas compression station in Kędzierzyn and gas pipeline in Goleniów-Płoty: their effect on the Company's consolidated result amounted to PLN -12.1 million.

### Factors that may affect Rafako's financials in the upcoming quarters

- possible changes to cost estimates with respect to realized contracts (resulting *inter alia* from the purchase of goods and services that may have a negative/positive impact on the result);
- the risk of creation of provisions for contractual penalties for untimely delivery or failure to ensure technical and operational parameters of some contracts;
- necessity to bear possible costs of repairs, renovations, modernization in the contractual warranty period not covered by the provision for warranty repairs;
- PLN/EUR rate as volatility of the EUR rate may have a material impact on the profitability of contracts in EUR;
- the risk related to failure to secure necessary financial guarantees enabling the acquisition of new contracts and their realization;
- economic SARS-CoV-2 pandemic fallout.

### Financial forecasts

A further erosion of the Company's backlog makes us revise our financial forecasts once again. Our 12M EFV goes slightly up, to PLN 0.6 per share from PLN 0.5 per share.

Fig. 1. Rafako; Changes in DM BOŚ SA forecast

| IFRS consolidated<br>(PLN m) | 2021E   |          |        | 2022E   |          |        |
|------------------------------|---------|----------|--------|---------|----------|--------|
|                              | current | previous | change | current | previous | change |
| Sales                        | 1,002.5 | 1,342.5  | -25%   | 1,310.5 | 1,453.3  | -10%   |
| EBITDA                       | 19.9    | 44.8     | -56%   | 40.6    | 51.1     | -21%   |
| EBIT                         | 7.2     | 32.1     | -78%   | 28.4    | 38.9     | -27%   |
| Net profit                   | -0.8    | 14.6     | n.m.   | 12.7    | 19.9     | -36%   |
| Net debt                     | 137.7   | 253.8    | -46%   | 166.9   | 212.7    | -22%   |

Source: DM BOŚ SA estimates

Fig. 2. Rafako; DCF valuation

| PLN m   | 2021E        | 2022E        | 2023E        | 2024E        | 2025E        | 2026E        | 2027E        | 2028E        | 2029E        | >2029E       |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Sales   | 1,002.5      | 1,310.5      | 1,318.8      | 1,327.1      | 1,335.7      | 1,344.4      | 1,353.3      | 1,362.3      | 1,371.6      |              |
| chg yoy   | -17%         | 31%          | 1%           | 1%           | 1%           | 1%           | 1%           | 1%           | 1%           | 1%           |
| EBIT  | 7.2          | 28.4         | 27.7         | 26.9         | 26.1         | 25.3         | 23.4         | 21.3         | 19.2         |              |
| chg yoy   | -102%        | 296%         | -3%          | -3%          | -3%          | -3%          | -8%          | -9%          | -10%         |              |
| Effective cash tax rate (T)                     | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        |              |
| EBIT (1-T)                                      | 5.7          | 22.4         | 21.8         | 21.2         | 20.6         | 20.0         | 18.5         | 16.8         | 15.2         |              |
| chg yoy   | -102%        | 296%         | -3%          | -3%          | -3%          | -3%          | -8%          | -9%          | -10%         |              |
| EBITDA  | 19.9         | 40.6         | 39.4         | 38.3         | 37.3         | 36.4         | 34.4         | 32.4         | 30.3         |              |
| chg yoy   | -107%        | 104%         | -3%          | -3%          | -3%          | -2%          | -5%          | -6%          | -7%          |              |
| Depreciation                                    | 12.7         | 12.2         | 11.8         | 11.4         | 11.2         | 11.1         | 11.1         | 11.1         | 11.1         |              |
| EBIT (1-T) + D                                  | 18.4         | 34.6         | 33.6         | 32.7         | 31.8         | 31.1         | 29.5         | 27.9         | 26.2         |              |
| chg yoy   | -106%        | 88%          | -3%          | -3%          | -3%          | -2%          | -5%          | -5%          | -6%          |              |
| Capex   | -10.2        | -6.7         | -7.4         | -8.1         | -8.9         | -9.8         | -10.8        | -11.2        | -11.2        |              |
| Change in NWC                                   | -80.6        | -52.2        | 11.1         | 7.0          | 3.5          | 0.5          | -0.6         | -2.3         | -2.8         |              |
| <b>FCFF</b>                                     | <b>-72.4</b> | <b>-24.3</b> | <b>37.4</b>  | <b>31.6</b>  | <b>26.4</b>  | <b>21.8</b>  | <b>18.1</b>  | <b>14.4</b>  | <b>12.3</b>  |              |
| chg yoy   | n.m.         | n.m.         | n.m.         | -16%         | -16%         | -17%         | -17%         | -20%         | -15%         | 1%           |
| <b>Cost of equity</b>                           |              |              |              |              |              |              |              |              |              |              |
| Risk free rate (nominal)                        | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         | 2.0%         |
| Equity risk premium                             | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         | 6.5%         |
| Unlevered beta                                  | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         | 1.20         |
| Leveraged beta                                  | 1.62         | 1.63         | 1.61         | 1.59         | 1.56         | 1.54         | 1.51         | 1.50         | 1.40         | 1.40         |
| <b>Required rate of return</b>                  | <b>12.5%</b> | <b>12.6%</b> | <b>12.5%</b> | <b>12.3%</b> | <b>12.2%</b> | <b>12.0%</b> | <b>11.8%</b> | <b>11.8%</b> | <b>11.1%</b> | <b>11.1%</b> |
| <b>Cost of debt</b>                             |              |              |              |              |              |              |              |              |              |              |
| Cost of debt (pre-tax)                          | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         | 5.0%         |
| Effective tax rate                              | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        | 21.0%        |
| <b>After-tax cost of debt</b>                   | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  | <b>4.0%</b>  |
| <b>WACC</b>                                     |              |              |              |              |              |              |              |              |              |              |
| Weight of equity                                | 55.4%        | 54.8%        | 57.0%        | 59.4%        | 61.8%        | 64.5%        | 67.4%        | 68.3%        | 78.5%        | 78.5%        |
| Cost of equity                                  | 12.5%        | 12.6%        | 12.5%        | 12.3%        | 12.2%        | 12.0%        | 11.8%        | 11.8%        | 11.1%        | 11.1%        |
| Weight of debt                                  | 44.6%        | 45.2%        | 43.0%        | 40.6%        | 38.2%        | 35.5%        | 32.6%        | 31.7%        | 21.5%        | 21.5%        |
| After-tax cost of debt                          | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         | 4.0%         |
| <b>WACC</b>                                     | <b>8.7%</b>  | <b>8.7%</b>  | <b>8.8%</b>  | <b>8.9%</b>  | <b>9.0%</b>  | <b>9.1%</b>  | <b>9.2%</b>  | <b>9.3%</b>  | <b>9.6%</b>  | <b>9.6%</b>  |
| Discount multiple                               | 1.00         | 1.04         | 1.13         | 1.23         | 1.34         | 1.47         | 1.60         | 1.75         | 1.92         |              |
| Discount factor                                 | 1.00         | 0.96         | 0.88         | 0.81         | 0.74         | 0.68         | 0.62         | 0.57         | 0.52         |              |
| <b>PV of free cash flow</b>                     | <b>-</b>     | <b>-23.4</b> | <b>33.1</b>  | <b>25.6</b>  | <b>19.6</b>  | <b>14.9</b>  | <b>11.3</b>  | <b>8.2</b>   | <b>6.4</b>   |              |
| Sum of FCFFs PVs                                |              |              |              |              |              |              |              |              |              | 95.8         |
| Weight of debt in the residual period           |              |              |              |              |              |              |              |              |              | 22%          |
| Weight of equity in the residual period         |              |              |              |              |              |              |              |              |              | 78%          |
| Average cost of equity in the definite period   |              |              |              |              |              |              |              |              |              | 12.1%        |
| Average WACC in the definite period             |              |              |              |              |              |              |              |              |              | 9.0%         |
| WACC in the residual period                     |              |              |              |              |              |              |              |              |              | 9.6%         |
| <b>Residual growth of FCFFs</b>                 |              |              |              |              |              |              |              |              |              | <b>1.0%</b>  |
| Residual value                                  |              |              |              |              |              |              |              |              |              | 144.4        |
| Present value of the residual value             |              |              |              |              |              |              |              |              |              | 75.3         |
| <b>Value of Rafako's operations</b>             |              |              |              |              |              |              |              |              |              | <b>171.1</b> |
| Cash and equivalents                            |              |              |              |              |              |              |              |              |              | 223.8        |
| Interest-bearing debt                           |              |              |              |              |              |              |              |              |              | 361.5        |
| Dividend paid between now and valuation horizon |              |              |              |              |              |              |              |              |              | 0.0          |
| Minority interest                               |              |              |              |              |              |              |              |              |              | -39.0        |
| <b>Equity value</b>                             |              |              |              |              |              |              |              |              |              | <b>72.4</b>  |
| No. of shares (m)                               |              |              |              |              |              |              |              |              |              | 127.4        |
| <b>12M EFV Rafako's share (PLN)</b>             |              |              |              |              |              |              |              |              |              | <b>0.6</b>   |

Źródło: prognozy DM BOŚ SA

## Risk factors

1. Loss of liquidity – a payment of contractual penalties may result in insolvency.
2. Failure in new funding acquisition – KPMG Advisory was employed as an advisory to review possibilities of accessing new funding. When this fails, Rafako may turn up undercapitalized.
3. Failure to have the claims related to the composition proceedings satisfied (in part or in full amount) from PBG – due to the joint and several responsibility arising from cooperation in projects.
4. Meagre contracting scale – material slowdown of new contracts acquisition may translate into inferior financial results and weaker financial condition of the Company.
5. Increasing competition – no room for a construction of new coal-fueled power units in Poland may result in increasing competition in the remaining market segments such as: construction of environmental protection installations or oil&gas construction. The enhanced market competition may have an adverse impact on the profitability of newly acquired contracts.
6. Contractual penalties – contractual penalties, usually in the amount of 10% of the contract value, can undermine the Company's financial condition.
7. Materials price hikes – though curbed by the cost provisions created by the Company at the stage of the offer calculation this risk will burden the financial result in the case of a strong cost increase exceeding the level of provisions created.
8. Underestimated costs of projects execution.

## Catalysts

1. Acquisition of new funding – would improve the cash position.
2. Third-party claims enforceability – will allow the Company to maintain the profitability of contracts and stable financial position.
3. The negative OCF trend reversal – should become a material catalyst for the Company's share price.
4. Backlog increase – new contracts acquisition will translate into a future business scale-up.
5. Launch of new technologies – may constitute a vital competitive edge
6. Access to new banking and insurance guarantees – better access to funding will enable Rafako to enter a bigger number of tenders and scale up its business.
7. Complying to the provisions of the composition agreement.

**Financials (IFRS consolidated)**

Fig. 3. Rafako; Income Statement

| PLN m  | 2018           | 2019           | 2020           | 2021E          | 2022E          | 2023E          | 2024E          |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Sales</b>                                       | <b>1,268.8</b> | <b>1,244.9</b> | <b>1,207.8</b> | <b>1,002.5</b> | <b>1,310.5</b> | <b>1,318.8</b> | <b>1,327.1</b> |
| COGS   | -1,150.1       | -1,532.2       | -1,396.2       | -922.3         | -1,205.7       | -1,213.3       | -1,221.0       |
| <b>Gross profit on sales</b>                       | <b>118.7</b>   | <b>-287.3</b>  | <b>-188.4</b>  | <b>80.2</b>    | <b>104.8</b>   | <b>105.5</b>   | <b>106.2</b>   |
| Selling costs                                      | -24.4          | -22.9          | -14.3          | -14.6          | -14.9          | -15.2          | -15.5          |
| General administraton costs                        | -51.9          | -49.7          | -48.7          | -51.6          | -52.6          | -53.7          | -54.8          |
| R&D costs  | -6.2           | -11.3          | -6.2           | -5.0           | -6.6           | -6.6           | -6.6           |
| <b>Net profit on sales</b>                         | <b>36.2</b>    | <b>-371.2</b>  | <b>-257.7</b>  | <b>8.9</b>     | <b>30.7</b>    | <b>30.0</b>    | <b>29.2</b>    |
| Other operating income                             | 12.7           | 5.9            | 47.9           | 5.0            | 6.6            | 6.6            | 6.6            |
| Other operating costs                              | -8.4           | -72.2          | -98.3          | -6.8           | -8.9           | -8.9           | -9.0           |
| <b>EBIT</b>  | <b>40.5</b>    | <b>-437.6</b>  | <b>-308.1</b>  | <b>7.2</b>     | <b>28.4</b>    | <b>27.7</b>    | <b>26.9</b>    |
| Financial income                                   | 8.5            | 9.3            | 6.5            | 0.1            | 0.1            | 0.1            | 0.1            |
| Financial costs                                    | -5.8           | -47.4          | -7.8           | -6.8           | -10.7          | -10.7          | -10.7          |
| <b>Pre-tax income</b>                              | <b>43.2</b>    | <b>-475.7</b>  | <b>-309.3</b>  | <b>0.5</b>     | <b>17.9</b>    | <b>17.1</b>    | <b>16.3</b>    |
| Income tax   | -9.7           | -1.9           | -18.9          | -0.1           | -3.8           | -3.6           | -3.4           |
| <b>Net profit (loss) from continuing operation</b> | <b>33.5</b>    | <b>-477.6</b>  | <b>-328.2</b>  | <b>0.4</b>     | <b>14.1</b>    | <b>13.5</b>    | <b>12.9</b>    |
| Minority interest in net profit                    | -0.1           | -4.5           | -11.3          | 1.2            | 1.4            | 1.4            | 1.4            |
| <b>Net profit</b>                                  | <b>33.6</b>    | <b>-473.1</b>  | <b>-316.9</b>  | <b>-0.8</b>    | <b>12.7</b>    | <b>12.1</b>    | <b>11.4</b>    |
| <b>EBITDA</b>                                      | <b>55.4</b>    | <b>-420.0</b>  | <b>-293.0</b>  | <b>19.9</b>    | <b>40.6</b>    | <b>39.4</b>    | <b>38.3</b>    |

Source: The Company, DM BOŚ SA estimates

**Fig. 4. Rafako; Balance Sheet**

| PLN m  | 2018           | 2019           | 2020           | 2021E          | 2022E          | 2023E          | 2024E          |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>LT assets</b>                                 | <b>294.7</b>   | <b>303.5</b>   | <b>228.6</b>   | <b>172.9</b>   | <b>178.5</b>   | <b>174.4</b>   | <b>171.4</b>   |
| Fixed assets                                     | 146.6          | 147.4          | 125.1          | 115.9          | 109.2          | 103.4          | 98.7           |
| Goodwill   | 9.2            | 6.7            | 0.5            | 0.5            | 0.5            | 0.5            | 0.5            |
| Intangible assets                                | 8.0            | 6.8            | 4.9            | 11.5           | 12.8           | 14.1           | 15.6           |
| Public ground lease                              | 29.0           | 15.8           | 7.2            | 7.2            | 7.2            | 7.2            | 7.2            |
| LT other receivables                             | 40.4           | 77.8           | 63.9           | 15.0           | 19.7           | 19.8           | 19.9           |
| Shares in other units                            | 1.4            | 1.5            | 1.5            | 1.5            | 1.5            | 1.5            | 1.5            |
| LT financial assets                              | 14.1           | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| Deferred tax                                     | 42.0           | 42.7           | 25.6           | 21.2           | 27.7           | 27.9           | 28.1           |
| Accruals   | 4.1            | 4.9            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| <b>ST assets</b>                                 | <b>1,075.3</b> | <b>998.8</b>   | <b>804.5</b>   | <b>733.9</b>   | <b>733.7</b>   | <b>755.6</b>   | <b>776.0</b>   |
| Inventories                                      | 34.2           | 33.0           | 23.1           | 12.8           | 10.2           | 7.7            | 6.2            |
| ST trade receivables                             | 532.5          | 608.0          | 496.8          | 316.7          | 293.1          | 287.3          | 284.7          |
| Construction contracts assets                    | 381.4          | 269.8          | 208.0          | 180.4          | 235.9          | 237.4          | 238.9          |
| Tax receivables                                  | 0.2            | 0.6            | 0.2            | 0.1            | 0.2            | 0.2            | 0.2            |
| Derivatives                                      | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| Other ST financial assets                        | 7.6            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| ST loans granted                                 | 11.4           | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| Cash & equivalents                               | 88.7           | 66.1           | 76.4           | 223.8          | 194.2          | 223.0          | 246.1          |
| Accruals   | 19.4           | 21.3           | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| Assets available for sale                        | 0.2            | 0.1            | 4.5            | 0.0            | 0.0            | 0.0            | 0.0            |
| <b>Total assets</b>                              | <b>1,370.2</b> | <b>1,302.4</b> | <b>1,037.6</b> | <b>906.8</b>   | <b>912.2</b>   | <b>930.1</b>   | <b>947.4</b>   |
| <b>Equity</b>                                    | <b>589.1</b>   | <b>110.2</b>   | <b>-205.7</b>  | <b>-206.5</b>  | <b>-193.8</b>  | <b>-181.8</b>  | <b>-170.3</b>  |
| <b>Minorities</b>                                | <b>8.5</b>     | <b>4.0</b>     | <b>-7.2</b>    | <b>-6.0</b>    | <b>-4.6</b>    | <b>-3.1</b>    | <b>-1.7</b>    |
| <b>Liabilities</b>                               | <b>772.6</b>   | <b>1,188.2</b> | <b>1,250.5</b> | <b>1,119.3</b> | <b>1,110.6</b> | <b>1,115.0</b> | <b>1,119.5</b> |
| LT liabilities                                   | 75.3           | 94.0           | 148.4          | 291.4          | 317.1          | 317.5          | 317.9          |
| Interest-bearing                                 | 8.3            | 7.6            | 3.1            | 206.6          | 206.2          | 205.8          | 205.6          |
| Non-interest-bearing                             | 36.5           | 50.1           | 53.6           | 24.2           | 31.7           | 31.8           | 32.1           |
| Reserves   | 30.4           | 36.4           | 91.7           | 60.7           | 79.3           | 79.8           | 80.3           |
| ST liabilities                                   | 697.3          | 1094.1         | 1102.1         | 827.8          | 793.5          | 797.5          | 801.6          |
| Trade payables                                   | 342.5          | 628.7          | 752.1          | 553.4          | 482.3          | 485.3          | 488.4          |
| Interest-bearing                                 | 112.5          | 118.5          | 90.2           | 154.9          | 154.9          | 154.9          | 154.9          |
| Non-interest-bearing                             | 173.5          | 251.6          | 216.1          | 90.2           | 117.9          | 118.7          | 119.4          |
| Reserves   | 31.6           | 26.5           | 0.6            | 1.1            | 1.4            | 1.4            | 1.4            |
| Accruals   | 15.2           | 47.1           | 42.7           | 28.2           | 36.9           | 37.1           | 37.4           |
| Others   | 21.1           | 21.5           | 0.0            | 0.0            | 0.0            | 0.0            | 0.0            |
| Liabilities related to assets available for sale | 1.0            | 0.2            | 0.4            | 0.0            | 0.0            | 0.0            | 0.0            |
| <b>Total liabilities and equity</b>              | <b>1,370.2</b> | <b>1,302.4</b> | <b>1,037.6</b> | <b>906.8</b>   | <b>912.2</b>   | <b>930.1</b>   | <b>947.4</b>   |

Source: The Company, DM BOŚ SA estimates

Fig. 5. Rafako; Cash Flow

| PLN m                            | 2018         | 2019          | 2020          | 2021E         | 2022E        | 2023E        | 2024E        |
|----------------------------------|--------------|---------------|---------------|---------------|--------------|--------------|--------------|
| <b>Gross income (loss)</b>       | <b>43.2</b>  | <b>-475.7</b> | <b>-309.3</b> | <b>0.5</b>    | <b>17.9</b>  | <b>17.1</b>  | <b>16.3</b>  |
| Depreciation and amortization    | 14.8         | 17.6          | 15.1          | 12.7          | 12.2         | 11.8         | 11.4         |
| NWC change:                      | -140.5       | 402.4         | 318.5         | -80.6         | -52.2        | 11.1         | 7.0          |
| Change in receivables            | -47.3        | -113.1        | 151.3         | 228.9         | 19.0         | 5.6          | 2.5          |
| Change in inventories            | -5.3         | 1.1           | 9.9           | 10.3          | 2.6          | 2.6          | 1.5          |
| Change in payables               | -79.3        | 288.9         | 112.0         | -180.3        | -66.8        | 3.1          | 3.2          |
| Change in reserves               | -9.1         | 37.9          | 19.0          | -41.2         | 20.8         | 0.6          | 0.6          |
| Change in construction contracts | 0.6          | 187.5         | 26.3          | -98.3         | -27.7        | -0.7         | -0.8         |
| Tax paid                         | -9.3         | -2.5          | -2.0          | -0.1          | -3.8         | -3.6         | -3.4         |
| Others                           | 0.6          | 39.0          | 16.3          | -36.5         | 14.0         | 10.7         | 10.7         |
| <b>Operating cash flow</b>       | <b>-91.2</b> | <b>-19.1</b>  | <b>38.5</b>   | <b>-104.0</b> | <b>-11.9</b> | <b>47.1</b>  | <b>42.0</b>  |
| Capital expenditures             | 0.0          | -0.2          | 6.1           | -10.2         | -6.7         | -7.4         | -8.1         |
| Others                           | 1.9          | 0.1           | 0.4           | 0.1           | 0.1          | 0.1          | 0.1          |
| <b>Investing cash flow</b>       | <b>1.9</b>   | <b>-0.2</b>   | <b>6.5</b>    | <b>-10.0</b>  | <b>-6.6</b>  | <b>-7.3</b>  | <b>-8.1</b>  |
| Equity issue                     | 0.0          | 0.0           | 0.0           | 0.0           | 0.0          | 0.0          | 0.0          |
| Change in interest-bearing debt  | 0.9          | 2.1           | -32.6         | 268.2         | -0.4         | -0.3         | -0.3         |
| Dividends payment                | 0.0          | 0.0           | 0.0           | 0.0           | 0.0          | 0.0          | 0.0          |
| Interest                         | -4.3         | -4.6          | -2.2          | -6.8          | -10.7        | -10.7        | -10.7        |
| Others                           | 0.8          | -0.8          | 0.1           | 0.0           | 0.0          | 0.0          | 0.0          |
| <b>Financing cash flow</b>       | <b>-2.6</b>  | <b>-3.3</b>   | <b>-34.7</b>  | <b>261.4</b>  | <b>-11.1</b> | <b>-11.0</b> | <b>-10.9</b> |
| <b>Total cash flow</b>           | <b>-91.9</b> | <b>-22.6</b>  | <b>10.4</b>   | <b>147.4</b>  | <b>-29.5</b> | <b>28.8</b>  | <b>23.0</b>  |

Source: The Company, DM BOŚ SA estimates

Fig. 6. Rafako; Ratios

|                           | 2018 | 2019   | 2020   | 2021E | 2022E  | 2023E | 2024E |
|---------------------------|------|--------|--------|-------|--------|-------|-------|
| Sales growth (yoy)        | -29% | -2%    | -3%    | -17%  | 31%    | 1%    | 1%    |
| Gross profit growth (yoy) | -25% | -342%  | -34%   | -143% | 31%    | 1%    | 1%    |
| EBITDA growth (yoy)       | -12% | -859%  | -30%   | -107% | 104%   | -3%   | -3%   |
| EBIT growth (yoy)         | -17% | -1180% | -30%   | -102% | 296%   | -3%   | -3%   |
| Net profit growth (yoy)   | 707% | -1509% | -33%   | -100% | -1616% | -5%   | -5%   |
| A/R turnover days         | 146  | 167    | 167    | 148   | 85     | 80    | 79    |
| Inventory turnover days   | 10   | 8      | 7      | 7     | 3      | 3     | 2     |
| A/P turnover days         | 116  | 116    | 180    | 258   | 157    | 146   | 146   |
| Cash cycle                | 40   | 60     | -6     | -103  | -68    | -63   | -65   |
| NWC/Sales                 | 32%  | 0%     | -20%   | -13%  | -5%    | -6%   | -6%   |
| Gross margin              | 9.4% | -23.1% | -15.6% | 8.0%  | 8.0%   | 8.0%  | 8.0%  |
| EBITDA margin             | 4.4% | -33.7% | -24.3% | 2.0%  | 3.1%   | 3.0%  | 2.9%  |
| EBIT margin               | 3.2% | -35.1% | -25.5% | 0.7%  | 2.2%   | 2.1%  | 2.0%  |
| Pretax margin             | 3.4% | -38.2% | -25.6% | 0.1%  | 1.4%   | 1.3%  | 1.2%  |
| Net margin                | 2.6% | -38.0% | -26.2% | -0.1% | 1.0%   | 0.9%  | 0.9%  |
| ROA                       | 3.0% | -31.9% | -26.4% | 0.6%  | 2.6%   | 2.5%  | 2.4%  |
| Current Ratio             | 1.5  | 0.9    | 0.7    | 0.9   | 0.9    | 0.9   | 1.0   |
| Quick Ratio               | 1.5  | 0.9    | 0.7    | 0.9   | 0.9    | 0.9   | 1.0   |
| Net debt/EBITDA           | 0.6  | n.m.   | n.m.   | 6.9   | 4.1    | 3.5   | 3.0   |

Source: The Company, DM BOŚ SA estimates



## BASIC DEFINITIONS

**A/R turnover** (in days) =  $365/(\text{sales}/\text{average A/R})$   
**Inventory turnover** (in days) =  $365/(\text{COGS}/\text{average inventory})$   
**A/P turnover** (in days) =  $365/(\text{COGS}/\text{average A/P})$   
**Current ratio** =  $(\text{current assets} - \text{ST deferred assets})/\text{current liabilities}$   
**Quick ratio** =  $(\text{current assets} - \text{ST deferred assets} - \text{inventory})/\text{current liabilities}$   
**Interest coverage** =  $(\text{pre-tax profit before extraordinary items} + \text{interest payable})/\text{interest payable}$   
**Gross margin** =  $\text{gross profit on sales}/\text{sales}$   
**EBITDA margin** =  $\text{EBITDA}/\text{sales}$   
**EBIT margin** =  $\text{EBIT}/\text{sales}$   
**Pre-tax margin** =  $\text{pre-tax profit}/\text{sales}$   
**Net margin** =  $\text{net profit}/\text{sales}$   
**ROE** =  $\text{net profit}/\text{average equity}$   
**ROA** =  $(\text{net income} + \text{interest payable})/\text{average assets}$   
**EV** =  $\text{market capitalization} + \text{interest bearing debt} - \text{cash and equivalents}$   
**EPS** =  $\text{net profit}/\text{no. of shares outstanding}$   
**CE** =  $\text{net profit} + \text{depreciation}$   
**Dividend yield** (gross) =  $\text{pre-tax DPS}/\text{stock market price}$   
**Cash sales** =  $\text{accrual sales corrected for the change in A/R}$   
**Cash operating expenses** =  $\text{accrual operating expenses corrected for the changes in inventories and A/P, depreciation, cash taxes and changes in the deferred taxes}$

DM BOŠ S.A. generally values the covered non bank companies via two methods: comparative method and DCF method (discounted cash flows). The advantage of the former is the fact that it incorporates the current market assessment of the value of the company's peers. The weakness of the comparative method is the risk that the valuation benchmark may be mispriced. The advantage of the DCF method is its independence from the current market valuation of the comparable companies. The weakness of this method is its high sensitivity to undertaken assumptions, especially those related to the residual value calculation. Please note that we also resort to other valuation techniques (e.g. NAV-, DDM- or SOTP-based), should it prove appropriate in a given case.

## KEY TO INVESTMENT RANKINGS

This is a guide to expected price performance in absolute terms over the next 12 months:

**Buy** – fundamentally undervalued (upside to 12M EFV in excess of the cost of equity) + catalysts which should close the valuation gap identified;  
**Hold** – either (i) fairly priced, or (ii) fundamentally undervalued/overvalued but lacks catalysts which could close the valuation gap;  
**Sell** – fundamentally overvalued (12M EFV < current share price + 1-year cost of equity) + catalysts which should close the valuation gap identified.

This is a guide to expected relative price performance:

**Overweight** – expected to perform better than the benchmark (WIG) over the next quarter in relative terms  
**Neutral** – expected to perform in line with the benchmark (WIG) over the next quarter in relative terms  
**Underweight** – expected to perform worse than the benchmark (WIG) over the next quarter in relative terms

The recommendation tracker presents the performance of DM BOŠ S.A.'s recommendations. A recommendation expires on the day it is altered or on the day 12 months after its issuance, whichever comes first.

Relative performance compares the rate of return on a given recommended stock in the period of the recommendation's validity (i.e. from the date of issuance to the date of alteration or – in case of maintained recommendations – from the date of issuance to the current date) in a relation to the rate of return on the benchmark in this time period. The WIG index constitutes the benchmark. For recommendations that expire by an alteration or are maintained, the ending values used to calculate their absolute and relative performance are: the stock closing price on the day the recommendation expires/ is maintained and the closing value of the benchmark on that date. For recommendations that expire via a passage of time, the ending values used to calculate their absolute and relative performance are: the average of the stock closing prices for the day the recommendation elapses and four directly preceding sessions and the average of the benchmark's closing values for the day the recommendation expires and four directly preceding sessions.

### Distribution of DM BOŠ's current recommendations

|            | Buy | Hold | Sell | Suspended | Under revision |
|------------|-----|------|------|-----------|----------------|
| Numbers    | 46  | 23   | 6    | 10        | 0              |
| Percentage | 54% | 27%  | 7%   | 12%       | 0%             |

### Distribution of DM BOŠ's current recommendations for the companies which DM BOŠ has supplied with material investment services within the last 12 months

|            | Buy | Hold | Sell | Suspended | Under revision |
|------------|-----|------|------|-----------|----------------|
| Numbers    | 9   | 4    | 0    | 1         | 0              |
| Percentage | 64% | 29%  | 0%   | 7%        | 0%             |

### Distribution of DM BOŠ's current market relative recommended weightings

|            | Overweight | Neutral | Underweight | Suspended | Under revision |
|------------|------------|---------|-------------|-----------|----------------|
| Numbers    | 36         | 28      | 11          | 10        | 0              |
| Percentage | 42%        | 33%     | 13%         | 12%       | 0%             |

### Distribution of DM BOŠ's current market relative recommended weightings for the companies which DM BOŠ has supplied with material investment services within the last 12 months

|            | Overweight | Neutral | Underweight | Suspended | Under revision |
|------------|------------|---------|-------------|-----------|----------------|
| Numbers    | 5          | 7       | 1           | 1         | 0              |
| Percentage | 36%        | 50%     | 7%          | 7%        | 0%             |

## Banks

**Net Interest Margin (NIM)** =  $\text{net interest income}/\text{average assets}$   
**Non interest income** =  $\text{fees\&commissions} + \text{result on financial operations (trading gains)} + \text{FX gains}$   
**Interest Spread** =  $(\text{interest income}/\text{average interest earning assets})/(\text{interest cost}/\text{average interest bearing liabilities})$   
**Cost/Income** =  $(\text{general costs} + \text{depreciation})/(\text{profit on banking activity} + \text{other net operating income})$   
**ROE** =  $\text{net profit}/\text{average equity}$   
**ROA** =  $\text{net income}/\text{average assets}$   
**Non performing loans (NPL)** = loans in 'basket 3' category  
**NPL coverage ratio** =  $\text{loan loss provisions}/\text{NPL}$   
**Net provision charge** =  $\text{provisions created} - \text{provisions released}$

DM BOŠ S.A. generally values the covered banks via two methods: comparative method and fundamental target fair P/E and target fair P/BV multiples method. The advantage of the former is the fact that it incorporates the current market assessment of the value of the company's peers. The weakness of the comparative method is the risk that the valuation benchmark may be mispriced. The advantage of the fundamental target fair P/E and target fair P/BV multiples method is its independence of the current market valuation of the comparable companies. The weakness of this method is its high sensitivity to undertaken assumptions, especially those related to the residual value calculation. Assumptions used in valuation can change, influencing thereby the level of the valuation. Among the most important assumptions are: GDP growth, forecasted level of inflation, changes in interest rates and currency prices, employment level and change in wages, demand on the analysed company products, raw material prices, competition, standing of the main customers and suppliers, legislation changes, etc. Changes in the environment of the analysed company are monitored by analysts involved in the preparation of the recommendation, estimated, incorporated in valuation and published in the recommendation whenever needed.

LT fundamental recommendation tracker

| Analyst             | Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Performance | Relative performance | Price at issue/reiteration* | EFV (12 months) |   |
|---------------------|----------------|-------------|------------------|-------------------|-------------|-------------|----------------------|-----------------------------|-----------------|---|
| <b>Rafako</b>       |                |             |                  |                   |             |             |                      |                             |                 |   |
| Michał Stalmach     | Buy            | 10.12.2015  | -                | 10.12.2015        | 04.12.2016  | -16%        | -22%                 | 6.70                        | 10.10           | - |
| Michał Stalmach     | -              | -           | 13.12.2015       | 14.12.2015        | -           | -           | -                    | 6.99                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 17.01.2016       | 18.01.2016        | -           | -           | -                    | 7.15                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 15.02.2016       | 16.02.2016        | -           | -           | -                    | 7.29                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 18.02.2016       | 19.02.2016        | -           | -           | -                    | 7.39                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 21.03.2016       | 22.03.2016        | -           | -           | -                    | 8.10                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 13.04.2016       | 14.04.2016        | -           | -           | -                    | 8.42                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 16.05.2016       | 17.05.2016        | -           | -           | -                    | 7.95                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 27.06.2016       | 28.06.2016        | -           | -           | -                    | 5.89                        | 10.10           | → |
| Michał Stalmach     | -              | -           | 24.07.2016       | 25.07.2016        | -           | -           | -                    | 6.50                        | 10.10           | → |
| Wojciech Romanowski | -              | -           | 11.08.2016       | 12.08.2016        | -           | -           | -                    | 6.59                        | 9.30            | ↓ |
| Wojciech Romanowski | -              | -           | 31.08.2016       | 01.09.2016        | -           | -           | -                    | 6.78                        | 9.30            | → |
| Wojciech Romanowski | -              | -           | 12.10.2016       | 13.10.2016        | -           | -           | -                    | 6.36                        | 9.30            | → |
| Wojciech Romanowski | -              | -           | 01.11.2016       | 02.11.2016        | -           | -           | -                    | 6.02                        | 7.30            | ↓ |
| Wojciech Romanowski | -              | -           | 02.11.2016       | 03.11.2016        | -           | -           | -                    | 6.02                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 14.11.2016       | 15.11.2016        | -           | -           | -                    | 5.98                        | 7.30            | → |
| Wojciech Romanowski | Buy            | 04.12.2016  | -                | 05.12.2016        | 09.05.2017  | 36%         | 6%                   | 5.61                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 12.01.2017       | 13.01.2017        | -           | -           | -                    | 6.24                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 08.02.2017       | 09.02.2017        | -           | -           | -                    | 7.22                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 21.02.2017       | 22.02.2017        | -           | -           | -                    | 7.13                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 07.03.2017       | 08.03.2017        | -           | -           | -                    | 8.80                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 11.04.2017       | 12.04.2017        | -           | -           | -                    | 8.05                        | 7.30            | → |
| Wojciech Romanowski | Hold           | 09.05.2017  | -                | 10.05.2017        | 25.03.2018  | -34%        | -31%                 | 7.62                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 30.05.2017       | 31.05.2017        | -           | -           | -                    | 8.07                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 12.07.2017       | 13.07.2017        | -           | -           | -                    | 8.05                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 26.07.2017       | 27.07.2017        | -           | -           | -                    | 7.70                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 03.09.2017       | 04.09.2017        | -           | -           | -                    | 5.90                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 15.10.2017       | 16.10.2017        | -           | -           | -                    | 4.75                        | 7.30            | → |
| Wojciech Romanowski | -              | -           | 05.11.2017       | 06.11.2017        | -           | -           | -                    | 4.49                        | 7.10            | ↓ |
| Wojciech Romanowski | -              | -           | 09.11.2017       | 10.11.2017        | -           | -           | -                    | 4.24                        | 4.70            | ↓ |
| Wojciech Romanowski | -              | -           | 15.11.2017       | 16.11.2017        | -           | -           | -                    | 4.09                        | 4.70            | → |
| Wojciech Romanowski | -              | -           | 10.12.2017       | 11.12.2017        | -           | -           | -                    | 4.18                        | 4.70            | → |
| Wojciech Romanowski | -              | -           | 10.01.2018       | 11.01.2018        | -           | -           | -                    | 4.80                        | 4.70            | → |
| Wojciech Romanowski | -              | -           | 13.02.2018       | 14.02.2018        | -           | -           | -                    | 4.89                        | 4.70            | → |
| Wojciech Romanowski | -              | -           | 12.03.2018       | 13.03.2018        | -           | -           | -                    | 4.83                        | 4.70            | → |
| Wojciech Romanowski | Under revision | 25.03.2018  | -                | 26.03.2018        | 22.05.2018  | -18%        | -17%                 | 4.80                        | Under revision  | - |
| Wojciech Romanowski | -              | -           | 16.04.2018       | 17.04.2018        | -           | -           | -                    | 4.20                        | Under revision  | - |
| Wojciech Romanowski | Sell           | 22.05.2018  | -                | 23.05.2018        | 09.12.2018  | -50%        | -49%                 | 3.94                        | 2.90            | - |
| Wojciech Romanowski | -              | -           | 29.05.2018       | 30.05.2018        | -           | -           | -                    | 3.74                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 16.07.2018       | 17.07.2018        | -           | -           | -                    | 3.46                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 02.08.2018       | 03.08.2018        | -           | -           | -                    | 3.54                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 30.08.2018       | 31.08.2018        | -           | -           | -                    | 3.38                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 11.10.2018       | 12.10.2018        | -           | -           | -                    | 2.02                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 23.10.2018       | 24.10.2018        | -           | -           | -                    | 2.03                        | 2.90            | → |
| Wojciech Romanowski | -              | -           | 14.11.2018       | 15.11.2018        | -           | -           | -                    | 1.45                        | 2.90            | → |
| Wojciech Romanowski | Hold           | 09.12.2018  | -                | 10.12.2018        | 05.12.2019  | -48%        | -46%                 | 1.970                       | 2.80            | ↓ |
| Wojciech Romanowski | -              | -           | 10.01.2019       | 11.01.2019        | -           | -           | -                    | 1.740                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 04.02.2019       | 05.02.2019        | -           | -           | -                    | 1.800                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 26.02.2019       | 27.02.2019        | -           | -           | -                    | 1.800                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 26.03.2019       | 27.03.2019        | -           | -           | -                    | 2.170                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 22.04.2019       | 23.04.2019        | -           | -           | -                    | 2.155                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 24.04.2019       | 25.04.2019        | -           | -           | -                    | 2.045                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 30.05.2019       | 31.05.2019        | -           | -           | -                    | 1.980                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 17.07.2019       | 18.07.2019        | -           | -           | -                    | 1.934                       | 2.80            | → |
| Wojciech Romanowski | -              | -           | 23.07.2019       | 23.07.2019        | -           | -           | -                    | 1.868                       | 2.40            | ↓ |
| Wojciech Romanowski | -              | -           | 30.07.2019       | 31.07.2019        | -           | -           | -                    | 1.830                       | 2.40            | → |
| Wojciech Romanowski | -              | -           | 20.08.2019       | 21.08.2019        | -           | -           | -                    | 1.330                       | 2.40            | → |
| Wojciech Romanowski | -              | -           | 25.08.2019       | 26.08.2019        | -           | -           | -                    | 1.310                       | 2.30            | ↓ |
| Wojciech Romanowski | -              | -           | 01.09.2019       | 02.09.2019        | -           | -           | -                    | 1.400                       | 2.30            | → |
| Wojciech Romanowski | -              | -           | 02.09.2019       | 03.09.2019        | -           | -           | -                    | 1.400                       | 2.30            | → |
| Wojciech Romanowski | -              | -           | 05.09.2019       | 06.09.2019        | -           | -           | -                    | 1.312                       | 2.30            | → |
| Wojciech Romanowski | -              | -           | 30.09.2019       | 01.10.2019        | -           | -           | -                    | 0.918                       | 2.30            | → |
| Wojciech Romanowski | -              | -           | 13.10.2019       | 14.10.2019        | -           | -           | -                    | 1.110                       | 2.30            | → |
| Wojciech Romanowski | -              | -           | 24.10.2019       | 25.10.2019        | -           | -           | -                    | 1.008                       | 1.80            | ↓ |
| Wojciech Romanowski | -              | -           | 17.11.2019       | 18.11.2019        | -           | -           | -                    | 1.140                       | 1.80            | → |
| Wojciech Romanowski | -              | -           | 25.11.2019       | 26.11.2019        | -           | -           | -                    | 1.058                       | 1.80            | → |
| Wojciech Romanowski | -              | -           | 27.11.2019       | 28.11.2019        | -           | -           | -                    | 1.028                       | 1.80            | → |
| Wojciech Romanowski | -              | -           | 01.12.2019       | 02.12.2019        | -           | -           | -                    | 1.068                       | 1.80            | → |
| Wojciech Romanowski | Sell           | 05.12.2019  | -                | 06.12.2019        | 06.12.2020  | -4%         | -3%                  | 1.034                       | 0.75            | ↓ |
| Wojciech Romanowski | -              | -           | 08.12.2019       | 09.12.2019        | -           | -           | -                    | 0.925                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 17.12.2019       | 18.12.2019        | -           | -           | -                    | 0.935                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 09.01.2020       | 10.01.2020        | -           | -           | -                    | 0.839                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 16.01.2020       | 17.01.2020        | -           | -           | -                    | 0.830                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 30.01.2020       | 31.01.2020        | -           | -           | -                    | 0.900                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 04.02.2020       | 05.02.2020        | -           | -           | -                    | 0.784                       | 0.75            | → |
| Wojciech Romanowski | -              | -           | 05.02.2020       | 06.02.2020        | -           | -           | -                    | 0.777                       | 0.66            | ↓ |
| Wojciech Romanowski | -              | -           | 06.02.2020       | 07.02.2020        | -           | -           | -                    | 0.770                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 03.03.2020       | 04.03.2020        | -           | -           | -                    | 0.568                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 30.03.2020       | 31.03.2020        | -           | -           | -                    | 0.445                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 22.04.2020       | 23.04.2020        | -           | -           | -                    | 0.642                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 28.04.2020       | 29.04.2020        | -           | -           | -                    | 0.706                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 19.05.2020       | 20.05.2020        | -           | -           | -                    | 0.700                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 20.05.2020       | 21.05.2020        | -           | -           | -                    | 0.700                       | 0.66            | → |
| Wojciech Romanowski | -              | -           | 25.05.2020       | 26.05.2020        | -           | -           | -                    | 0.828                       | 0.66            | → |

LT fundamental recommendation tracker (continued)

| Analyst                                  | Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Performance                  | Relative performance | Price at issue/reiteration* | EFV (12 months) |      |   |
|--|----------------|-------------|------------------|-------------------|-------------|------------------------------|----------------------|-----------------------------|-----------------|------|---|
| Wojciech Romanowski                      | -              | →           | -                | 28.05.2020        | 29.05.2020  | -                            | -                    | 1.090                       | 0.66            | →    |   |
| Wojciech Romanowski                      | -              | →           | -                | 11.06.2020        | 12.06.2020  | -                            | -                    | 1.436                       | 0.66            | →    |   |
| Wojciech Romanowski                      | -              | →           | -                | 15.06.2020        | 16.06.2020  | -                            | -                    | 1.494                       | 0.66            | →    |   |
| Wojciech Romanowski                      | -              | →           | -                | 30.06.2020        | 01.07.2020  | -                            | -                    | 1.350                       | 0.66            | →    |   |
| Wojciech Romanowski                      | -              | →           | -                | 13.07.2020        | 14.07.2020  | -                            | -                    | 1.160                       | 0.66            | →    |   |
| Wojciech Romanowski/<br>Maciej Wewiórski | -              | →           | -                | 20.07.2020        | 21.07.2020  | -                            | -                    | 1.364                       | 0.66            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 10.08.2020        | 11.08.2020  | -                            | -                    | 1.130                       | 0.66            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 01.09.2020        | 02.09.2020  | -                            | -                    | 1.050                       | 0.66            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 08.10.2020        | 09.10.2020  | -                            | -                    | 0.877                       | 0.66            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 12.10.2020        | 13.10.2020  | -                            | -                    | 0.854                       | 0.51            | ↓    |   |
| Maciej Wewiórski                         | -              | →           | -                | 08.11.2020        | 09.11.2020  | -                            | -                    | 0.680                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 26.11.2020        | 26.11.2020  | -                            | -                    | 1.000                       | 0.51            | →    |   |
| Maciej Wewiórski                         | Sell           | →           | 06.12.2020       | -                 | 07.12.2020  | Not later than<br>06.12.2021 | 44%                  | 18%                         | 0.988           | 0.51 | → |
| Maciej Wewiórski                         | -              | →           | -                | 05.01.2021        | 05.01.2021  | -                            | -                    | 0.950                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 28.01.2021        | 29.01.2021  | -                            | -                    | 1.040                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 28.02.2021        | 01.03.2021  | -                            | -                    | 1.200                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 16.04.2021        | 16.04.2021  | -                            | -                    | 1.370                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 30.05.2021        | 31.05.2021  | -                            | -                    | 1.300                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 09.07.2021        | 09.07.2021  | -                            | -                    | 1.326                       | 0.51            | →    |   |
| Maciej Wewiórski                         | -              | →           | -                | 18.07.2021        | 19.07.2021  | -                            | -                    | 1.420                       | 0.60            | ↑    |   |

\* prices at issue/reiteration are the closing prices at the report or reiteration date

Market-relative recommendation tracker

| Analyst             | Relative Recommendation | Report date | Reiteration date | Distribution date | Expiry date | Price at issue/reiteration* | Relative performance |
|---------------------|-------------------------|-------------|------------------|-------------------|-------------|-----------------------------|----------------------|
| <b>Rafako_rel</b>   |                         |             |                  |                   |             |                             |                      |
| Michał Stalmach     | Overweight              | 10.12.2015  | -                | 10.12.2015        | 31.08.2016  | 6.70                        | -5%                  |
| Michał Stalmach     | -                       | -           | 13.12.2015       | 14.12.2015        | -           | 6.99                        | -                    |
| Michał Stalmach     | -                       | -           | 17.01.2016       | 18.01.2016        | -           | 7.15                        | -                    |
| Michał Stalmach     | -                       | -           | 15.02.2016       | 16.02.2016        | -           | 7.29                        | -                    |
| Michał Stalmach     | -                       | -           | 18.02.2016       | 19.02.2016        | -           | 7.39                        | -                    |
| Michał Stalmach     | -                       | -           | 21.03.2016       | 22.03.2016        | -           | 8.10                        | -                    |
| Michał Stalmach     | -                       | -           | 13.04.2016       | 14.04.2016        | -           | 8.42                        | -                    |
| Michał Stalmach     | -                       | -           | 16.05.2016       | 17.05.2016        | -           | 7.95                        | -                    |
| Michał Stalmach     | -                       | -           | 27.06.2016       | 28.06.2016        | -           | 5.89                        | -                    |
| Michał Stalmach     | -                       | -           | 24.07.2016       | 25.07.2016        | -           | 6.50                        | -                    |
| Wojciech Romanowski | -                       | -           | 11.08.2016       | 12.08.2016        | -           | 6.59                        | -                    |
| Wojciech Romanowski | Neutral                 | 31.08.2016  | -                | 01.09.2016        | 14.11.2016  | 6.78                        | -11%                 |
| Wojciech Romanowski | -                       | -           | 12.10.2016       | 13.10.2016        | -           | 6.36                        | -                    |
| Wojciech Romanowski | -                       | -           | 01.11.2016       | 02.11.2016        | -           | 6.02                        | -                    |
| Wojciech Romanowski | -                       | -           | 02.11.2016       | 03.11.2016        | -           | 6.02                        | -                    |
| Wojciech Romanowski | Overweight              | 14.11.2016  | -                | 15.11.2016        | 21.02.2017  | 5.98                        | 15%                  |
| Wojciech Romanowski | -                       | -           | 04.12.2016       | 05.12.2016        | -           | 5.61                        | -                    |
| Wojciech Romanowski | -                       | -           | 12.01.2017       | 13.01.2017        | -           | 6.24                        | -                    |
| Wojciech Romanowski | -                       | -           | 08.02.2017       | 09.02.2017        | -           | 7.22                        | -                    |
| Wojciech Romanowski | Neutral                 | 21.02.2017  | -                | 22.02.2017        | 09.05.2017  | 7.13                        | -15%                 |
| Wojciech Romanowski | -                       | -           | 07.03.2017       | 08.03.2017        | -           | 8.80                        | -                    |
| Wojciech Romanowski | -                       | -           | 11.04.2017       | 12.04.2017        | -           | 8.05                        | -                    |
| Wojciech Romanowski | Overweight              | 09.05.2017  | -                | 10.05.2017        | 26.07.2017  | 7.62                        | 1%                   |
| Wojciech Romanowski | -                       | -           | 30.05.2017       | 31.05.2017        | -           | 8.07                        | -                    |
| Wojciech Romanowski | -                       | -           | 12.07.2017       | 13.07.2017        | -           | 8.05                        | -                    |
| Wojciech Romanowski | Underweight             | 26.07.2017  | -                | 27.07.2017        | 09.11.2017  | 7.70                        | -44%                 |
| Wojciech Romanowski | -                       | -           | 03.09.2017       | 04.09.2017        | -           | 5.90                        | -                    |
| Wojciech Romanowski | -                       | -           | 15.10.2017       | 16.10.2017        | -           | 4.75                        | -                    |
| Wojciech Romanowski | -                       | -           | 05.11.2017       | 06.11.2017        | -           | 4.49                        | -                    |
| Wojciech Romanowski | Neutral                 | 09.11.2017  | -                | 10.11.2017        | 25.03.2018  | 4.24                        | 22%                  |
| Wojciech Romanowski | -                       | -           | 15.11.2017       | 16.11.2017        | -           | 4.09                        | -                    |
| Wojciech Romanowski | -                       | -           | 10.12.2017       | 11.12.2017        | -           | 4.18                        | -                    |
| Wojciech Romanowski | -                       | -           | 10.01.2018       | 11.01.2018        | -           | 4.80                        | -                    |
| Wojciech Romanowski | -                       | -           | 13.02.2018       | 14.02.2018        | -           | 4.89                        | -                    |
| Wojciech Romanowski | -                       | -           | 12.03.2018       | 13.03.2018        | -           | 4.83                        | -                    |
| Wojciech Romanowski | Under revision          | 25.03.2018  | -                | 26.03.2018        | 22.05.2018  | 4.80                        | -17%                 |
| Wojciech Romanowski | -                       | -           | 16.04.2018       | 17.04.2018        | -           | 4.20                        | -                    |
| Wojciech Romanowski | Underweight             | 22.05.2018  | -                | 23.05.2018        | 09.12.2018  | 3.94                        | -49%                 |
| Wojciech Romanowski | -                       | -           | 29.05.2018       | 30.05.2018        | -           | 3.74                        | -                    |
| Wojciech Romanowski | -                       | -           | 16.07.2018       | 17.07.2018        | -           | 3.46                        | -                    |
| Wojciech Romanowski | -                       | -           | 02.08.2018       | 03.08.2018        | -           | 3.54                        | -                    |
| Wojciech Romanowski | -                       | -           | 30.08.2018       | 31.08.2018        | -           | 3.38                        | -                    |
| Wojciech Romanowski | -                       | -           | 11.10.2018       | 12.10.2018        | -           | 2.02                        | -                    |
| Wojciech Romanowski | -                       | -           | 23.10.2018       | 24.10.2018        | -           | 2.03                        | -                    |
| Wojciech Romanowski | -                       | -           | 14.11.2018       | 15.11.2018        | -           | 1.45                        | -                    |
| Wojciech Romanowski | Neutral                 | 09.12.2018  | -                | 10.12.2018        | 30.09.2019  | 1.970                       | -53%                 |
| Wojciech Romanowski | -                       | -           | 10.01.2019       | 11.01.2019        | -           | 1.740                       | -                    |
| Wojciech Romanowski | -                       | -           | 04.02.2019       | 05.02.2019        | -           | 1.800                       | -                    |
| Wojciech Romanowski | -                       | -           | 26.02.2019       | 27.02.2019        | -           | 1.800                       | -                    |
| Wojciech Romanowski | -                       | -           | 26.03.2019       | 27.03.2019        | -           | 2.170                       | -                    |
| Wojciech Romanowski | -                       | -           | 22.04.2019       | 23.04.2019        | -           | 2.155                       | -                    |
| Wojciech Romanowski | -                       | -           | 24.04.2019       | 25.04.2019        | -           | 2.045                       | -                    |
| Wojciech Romanowski | -                       | -           | 30.05.2019       | 31.05.2019        | -           | 1.980                       | -                    |
| Wojciech Romanowski | -                       | -           | 17.07.2019       | 18.07.2019        | -           | 1.934                       | -                    |
| Wojciech Romanowski | -                       | -           | 23.07.2019       | 23.07.2019        | -           | 1.868                       | -                    |
| Wojciech Romanowski | -                       | -           | 30.07.2019       | 31.07.2019        | -           | 1.830                       | -                    |
| Wojciech Romanowski | -                       | -           | 20.08.2019       | 21.08.2019        | -           | 1.330                       | -                    |
| Wojciech Romanowski | -                       | -           | 25.08.2019       | 26.08.2019        | -           | 1.310                       | -                    |
| Wojciech Romanowski | -                       | -           | 01.09.2019       | 02.09.2019        | -           | 1.400                       | -                    |
| Wojciech Romanowski | -                       | -           | 02.09.2019       | 03.09.2019        | -           | 1.400                       | -                    |
| Wojciech Romanowski | -                       | -           | 05.09.2019       | 06.09.2019        | -           | 1.312                       | -                    |
| Wojciech Romanowski | Underweight             | 30.09.2019  | -                | 01.10.2019        | 24.10.2019  | 0.918                       | 8%                   |
| Wojciech Romanowski | -                       | -           | 13.10.2019       | 14.10.2019        | -           | 1.110                       | -                    |
| Wojciech Romanowski | Neutral                 | 24.10.2019  | -                | 25.10.2019        | 01.12.2019  | 1.008                       | 7%                   |
| Wojciech Romanowski | -                       | -           | 17.11.2019       | 18.11.2019        | -           | 1.140                       | -                    |
| Wojciech Romanowski | -                       | -           | 25.11.2019       | 26.11.2019        | -           | 1.058                       | -                    |
| Wojciech Romanowski | -                       | -           | 27.11.2019       | 28.11.2019        | -           | 1.028                       | -                    |
| Wojciech Romanowski | Underweight             | 01.12.2019  | -                | 02.12.2019        | 06.12.2020  | 1.068                       | -4%                  |
| Wojciech Romanowski | -                       | -           | 05.12.2019       | 06.12.2019        | -           | 1.034                       | -                    |
| Wojciech Romanowski | -                       | -           | 08.12.2019       | 09.12.2019        | -           | 0.925                       | -                    |
| Wojciech Romanowski | -                       | -           | 17.12.2019       | 18.12.2019        | -           | 0.935                       | -                    |
| Wojciech Romanowski | -                       | -           | 09.01.2020       | 10.01.2020        | -           | 0.839                       | -                    |
| Wojciech Romanowski | -                       | -           | 16.01.2020       | 17.01.2020        | -           | 0.830                       | -                    |
| Wojciech Romanowski | -                       | -           | 30.01.2020       | 31.01.2020        | -           | 0.900                       | -                    |
| Wojciech Romanowski | -                       | -           | 04.02.2020       | 05.02.2020        | -           | 0.784                       | -                    |
| Wojciech Romanowski | -                       | -           | 05.02.2020       | 06.02.2020        | -           | 0.777                       | -                    |
| Wojciech Romanowski | -                       | -           | 06.02.2020       | 07.02.2020        | -           | 0.770                       | -                    |
| Wojciech Romanowski | -                       | -           | 03.03.2020       | 04.03.2020        | -           | 0.568                       | -                    |
| Wojciech Romanowski | -                       | -           | 30.03.2020       | 31.03.2020        | -           | 0.445                       | -                    |
| Wojciech Romanowski | -                       | -           | 22.04.2020       | 23.04.2020        | -           | 0.642                       | -                    |
| Wojciech Romanowski | -                       | -           | 28.04.2020       | 29.04.2020        | -           | 0.706                       | -                    |
| Wojciech Romanowski | -                       | -           | 19.05.2020       | 20.05.2020        | -           | 0.700                       | -                    |
| Wojciech Romanowski | -                       | -           | 20.05.2020       | 21.05.2020        | -           | 0.700                       | -                    |
| Wojciech Romanowski | -                       | -           | 25.05.2020       | 26.05.2020        | -           | 0.828                       | -                    |

Market-relative recommendation tracker (continued)

| Analyst                                  | Relative Recommendation | Report date | Reiteration date | Distribution date | Expiry date               | Price at issue/reiteration* | Relative performance |
|--|-------------------------|-------------|------------------|-------------------|---------------------------|-----------------------------|----------------------|
| Wojciech Romanowski                      | - →                     | -           | 28.05.2020       | 29.05.2020        | -                         | 1.090                       | -                    |
| Wojciech Romanowski                      | - →                     | -           | 11.06.2020       | 12.06.2020        | -                         | 1.436                       | -                    |
| Wojciech Romanowski                      | - →                     | -           | 15.06.2020       | 16.06.2020        | -                         | 1.494                       | -                    |
| Wojciech Romanowski                      | - →                     | -           | 30.06.2020       | 01.07.2020        | -                         | 1.350                       | -                    |
| Wojciech Romanowski                      | - →                     | -           | 13.07.2020       | 14.07.2020        | -                         | 1.160                       | -                    |
| Wojciech Romanowski/<br>Maciej Wewiórski | - →                     | -           | 20.07.2020       | 21.07.2020        | -                         | 1.364                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 10.08.2020       | 11.08.2020        | -                         | 1.130                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 01.09.2020       | 02.09.2020        | -                         | 1.050                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 08.10.2020       | 09.10.2020        | -                         | 0.877                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 12.10.2020       | 13.10.2020        | -                         | 0.854                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 08.11.2020       | 09.11.2020        | -                         | 0.680                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 26.11.2020       | 26.11.2020        | -                         | 1.000                       | -                    |
| Maciej Wewiórski                         | Underweight →           | 06.12.2020  | -                | 07.12.2020        | Not later than 06.12.2021 | 0.988                       | 18%                  |
| Maciej Wewiórski                         | - →                     | -           | 05.01.2021       | 05.01.2021        | -                         | 0.950                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 28.01.2021       | 29.01.2021        | -                         | 1.040                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 28.02.2021       | 01.03.2021        | -                         | 1.200                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 16.04.2021       | 16.04.2021        | -                         | 1.370                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 30.05.2021       | 31.05.2021        | -                         | 1.300                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 09.07.2021       | 09.07.2021        | -                         | 1.326                       | -                    |
| Maciej Wewiórski                         | - →                     | -           | 18.07.2021       | 19.07.2021        | -                         | 1.420                       | -                    |

\* prices at issue/reiteration are the closing prices at the report or reiteration date

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