

# Rafako

## Investment summary

Rafako's financial condition deteriorated considerably over 2020. We observe a significant hike of the Company's liabilities, including ST ones, suppliers backtracking from credit sales and preferring cash transactions, unfavorable key financial indicators, big operating losses, and lack of debt capacity.

Nonetheless, the Company's management believes that beside the abovementioned financial concerns there are no direct operating issues implying the risk of business discontinuation. The crucial condition for business continuation is the lack of an intent on the part of the management to discontinue business activities or lack of a decision to declare bankruptcy or put the company in liquidation. So far Rafako has not experienced any staff problems or lost any key management personnel or specialists/experts or labor force. There is neither a visible shortage of raw materials nor risk of serious competition. Neither has Rafako lost its basic markets, licenses or main suppliers though due to the lack of debt capacity the Company's ability to acquire new contracts has faltered.

We uphold our recommendations. The key factor for the Group's successful restructuring will be an approval of arrangements proposal by the parent-company's creditors. This will constitute a precondition for further restructuring pursuant to the approved plans and the rescue for the parent company from bankruptcy.

## The backlog

The Group's backlog at the end of 3Q20 stood at c. PLN 1.2 billion vs PLN 1.7 billion at the end of 2Q20. The Jaworzno III project has the biggest share in it, namely PLN 0.3 billion. The backlog does not include the Opole contract as PLN 3.2 billion attributable to the parent company have been subcontracted to the external entity (PLN 0.01 billion worth works remain to be delivered).

### Guide to adjusted profits

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

### Key data

IFRS consolidated		2019	2020E	2021E	2022E
Sales	PLN m	1,244.9	1,233.8	1,342.5	1,453.3
EBITDA	PLN m	-420.0	-288.0	44.8	51.1
Adj EBITDA	PLN m	-425.9	-288.0	44.8	51.1
EBIT	PLN m	-437.6	-301.4	32.1	38.9
Adj EBIT	PLN m	-443.5	-301.4	32.1	38.9
Net profit	PLN m	-473.1	-229.2	14.6	19.9
Adj net profit	PLN m	-477.9	-229.2	14.6	19.9
Adj EPS	PLN	-3.75	-1.80	0.11	0.16
EPS yoy chg	%	n.m.	n.m.	n.m.	36
Net debt	PLN m	60.1	139.3	253.8	212.7
P/E	x	neg.	neg.	8.5	6.3
P/CE	x	neg.	neg.	4.6	3.9
EV/EBITDA	x	neg.	neg.	8.5	6.6
EV/EBIT	x	neg.	neg.	11.8	8.7
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

Multiples priced as of the close of December 2, 2020

Source: Company, DM BOS SA estimates

### Stock performance



Source: Bloomberg

### Upcoming events

1. 4Q20 consolidated financial results release: February – March 2021

### 3Q20 financial results review

Rafako released slightly better 3Q20 financial results than we expected. Sales exceeded PLN 300 million (flattish yoy). EBIT reached PLN 7.3 million (vs our forecast at PLN 3.6 million) supported by PLN 10.5 million of gross profit on sales (a PLN 9.8 million loss in 3Q19) and PLN 13.4 million of gain from a disposal of a subsidiary (producer of electric buses). We like the OCF in 3Q20 and in 1-3Q20 that arrived at PLN 51.5 million and PLN 103.7 million, respectively.

1-3Q20 cumulative results do not look good due to the mentioned above updating of costs and revenues in the two biggest contracts:

- A deep loss at the gross profit on sales level emerged after updating the cost and revenue estimates concerning the 2 biggest contracts.
- Construction of a unit in a CHP plant in Vilnius with a PLN -105 million effect on the consolidated result, and
- Construction of a 910 MW unit in the Jaworzno III project with a PLN -89 million effect on the consolidated result.

Below we list factors with the crucial impact on Rafako's 4Q20 financial results.

- Possible changes in estimations of costs related to the contracts in progress stemming from

purchases of goods and services which may affect the result to be recognized positively/negatively after 3Q20;

- Necessity to create provisions for contractual penalties for delays in the implementation of contracts or failure to ensure technical parameters;
- Potential costs of repairs, renovation, modernization not covered by the provisions for warranty repair to be borne by Rafako during the contractual warranty period;
- FX rates movements (PLN/EUR) as significant changes of the EUR exchange rates may affect the profitability of contracts denominated in EUR;
- Failure to obtain financial guarantees impairing the contract acquisition and execution;
- Contractors' reaction to Rafako's composition proceeding;
- Negative economic fallout of the COVID-19 pandemic.

**Financial forecasts.** Our financial forecasts stay intact.

**Valuation.** Our 12M EFV for the Company's equities does not change.

**Risk factors**

1. Contractual penalties for a delay in Jaworzno and lack of the investor's participation in costs of a clearance of a breakdown.
2. Loss of liquidity – a payment of contractual penalties may result in insolvency.
3. 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.
4. 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.
5. Debt capacity as related to banking and insurance sector.
6. Meagre contracting scale – material slowdown of new contracts acquisition may translate into inferior financial results and weaker financial condition of the Company.
7. More difficult access to insurance/banking guarantees – limiting the access to funding makes a new contracts acquisition more difficult. The lack of guarantees may translate into poorer ability to acquire contracts and to realize them.
8. Increasing competition – no more 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.
9. Contractual penalties – contractual penalties, usually in the amount of 10% of the contract value, can undermine the Company's financial condition.
10. 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.
11. Underestimated costs of projects execution
12. Potential bankruptcy due to failure of composition proceedings and lack of liquidity arising from losses generated in FY19 and 1H20

**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. Avoiding contractual penalties in the Jaworzno project – will enable the Company to generate a 5% gross margin in this project.
4. Successful completion of the Jaworzno III power unit – will bring about the payment cash-in, favorable references, banking guarantees release.
5. The negative OCF trend reversal
6. Backlog increase – new contracts acquisition will translate into a future business scale-up.
7. Launch of new technologies – vital competitive edge
8. 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.

## 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	41	28	5	9	0
Percentage	49%	34%	6%	11%	0%

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

	Overweight	Neutral	Underweight	Suspended	Under revision
Numbers	33	29	12	9	0
Percentage	40%	35%	14%	11%	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.

### 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	5	5	0	2	0
Percentage	42%	42%	0%	17%	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	3	5	2	2	0
Percentage	25%	42%	17%	17%	0%

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 →

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	-	→	-	25.05.2020	26.05.2020	-	-	0.828	0.66	→
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/ 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 06.12.2021	-	0.988	0.51	→

\* 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</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/ 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	-

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



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The production of the report was completed on December 7, 2020 at 7.50 a.m.  
The report was distributed on December 7, 2020 at 8.00 a.m.

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