



48/2023/GPW (114) November 28, 2023

This report is prepared for the Warsaw Stock Exchange SA within the framework of the Analytical Coverage Support Program 4.0.

Ferro

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This is an excerpt from the Polish version of DM BOŚ SA's research report.

Ferro

48/2023/GPW (114) November 28, 2023

Analyst: Sylwia Jaśkiewicz, CFA

Sector: Construction materials Fundamental rating: Buy (↑) Market relative: Overweight (↑) Price: PLN 26.60 12M EFV: PLN 33.3 (↑) Market Cap: US\$ 145 m Bloomberg code: FRO PW Av. daily turnover: US\$ 0.05 m 12M range: PLN 20.00-31.40

Free float: 100%

Recommended action

We upgrade our recommendations: LT fundamental to Buy (from Hold) and ST relative to Overweight (from Neutral); our 12M EFV also rises by 11% to PLN 33.3 per share (PLN 30.1 previously). 3Q23 operating results are ahead of our expectations (by 18% and 20%, respectively, on the EBITDA and EBIT level) and higher yoy, actually excelling this year. This stems from higher sales, especially in the heating systems segment, than we expected and positive impact of raw material prices and prices of goods purchase.

The launch of a logistic center in Romania should gradually contribute positively to the Company's results due to expected savings on transport costs, better accessibility of goods, and expansion of heating systems in the Southern European markets. The recent acquisition should support the Group's next year results as well.

3Q23 financial results summary

3Q23 revenues reached PLN 213 million (down 6% yoy, while we assumed a 12% yoy decline).

The segments delivered sales as follows:

- the segment of batteries and accessories: PLN 95 million, down 9% yoy,
- the installation fittings segment: PLN 74 million, down 4% yoy,
- the heating systems segment: PLN 38 million, down 4% yoy.

We assumed a 6%/9%/33% yoy decline of sales in the segments of batteries and accessories/ installation fittings/ heating systems (very weak 2Q23).

Guide to adjusted profits

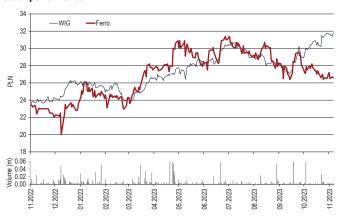
Income tax.

Key data

IFRS consolidated		2022	2023E	2024E	2025E
Sales	PLN m	914.9	796.9	888.6	1 004.1
EBITDA	PLN m	120.7	111.0	129.1	143.7
EBIT	PLN m	105.6	93.7	109.7	121.3
Net income	PLN m	65.4	62.1	75.0	86.9
EPS	PLN	3.08	2.92	3.53	4.09
Adj EPS yoy chg	%	-11	-5	21	16
Net debt	PLN m	181.6	143.7	143.5	144.7
P/E	X	8.6	9.1	7.5	6.5
EV/EBITDA	X	6.2	6.4	5.5	4.9
EV/EBIT	X	7.1	7.6	6.5	5.8
DPS	PLN	1.51	1.50	1.46	1.77
Gross dividend yield	%	5.7	5.6	5.5	6.6
Number of shares (eop)	т	21.2	21.2	21.2	21.2

Source: Company, DM BOŚ SA estimates

Stock performance



Source: Bloomberg

Recent events

- 1. Release of FY22 consolidated financial results: March 30
- 2. Release of 1Q23 consolidated financial results: May 29
- 3. Logistic center launch in Romania: 1H23
- 4. Release of 1H23 consolidated results: September 27
- 5. Release of consolidated 3Q23 financial results: November 28

Upcoming events

1. Release of consolidated 4Q23 financial results: 1Q24

Overage Program

c: US\$ 145 m



Fig. 1. Ferro; 3Q23 financial results

IFRS consolidated (PLN m)	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	3Q23E	yoy chg	1-3Q22	1-3Q23	yoy chg
Sales	255.7	224.2	226.0	209.0	207.4	182.6	212.6	199.9	-6%	705.9	602.7	-15%
EBITDA	36.1	30.4	31.5	22.8	28.9	24.3	35.1	29.8	11%	97.9	88.3	-10%
EBITDA margin	14.1%	13.6%	13.9%	10.9%	13.9%	13.3%	16.5%	14.9%	-	13.9%	14.7%	-
EBIT	32.2	26.6	27.6	19.3	24.9	20.1	30.6	25.5	11%	86.3	75.5	-13%
EBIT margin	12.6%	11.8%	12.2%	9.2%	12.0%	11.0%	14.4%	12.8%	-	12.2%	12.5%	-
Pre-tax profit	26.4	20.8	17.8	13.8	22.0	15.4	26.8	19.1	51%	65.0	64.2	-1%
Pre-tax profit margin	10.3%	9.3%	7.9%	6.6%	10.6%	8.4%	12.6%	9.5%	-	9.2%	10.7%	-
Net profit	21.4	18.6	13.7	11.7	17.5	12.6	21.1	15.3	54%	53.7	51.2	-5%
Net profit margin	8.3%	8.3%	6.1%	5.6%	8.4%	6.9%	10.0%	7.7%	-	7.6%	8.5%	

Source: Company, DM BOS SA estimates

In 3Q23 the Group's sales dropped by

- -7% yoy in Poland (PLN 91 million),
- -5% yoy in Czechia (PLN 34 million),
- -15% yoy in Slovakia (PLN 12 million),
- -6% yoy in Romania (PLN 43 million),
- -2% yoy in other countries (PLN 22 million)
- with an 8% yoy growth in Hungary (PLN 10 million).

We expected the pace of declines to decelerate in 3Q23 and assumed the Group's sales in Poland/Czechia/ Slovakia/ Romania/ Hungary/ other countries to reach PLN 78/35/13/44/8/22 million (down 21%/3%/8%/4%/15%/3% yoy).

The EBIT margin at 14% exceeded our expectations, as we expected 13% vs 12% in 3Q22; the use of materials and energy was below our assumptions, so were other costs, while the remaining costs, especially wages, were in line with our expectations.

In 3Q23 the segment

- of batteries and accessories delivered profits at PLN 37 million (down 3% yoy) with a 3 pp margin yoy growth,
- of installation fittings delivered PLN 26 million (up 11% yoy) with a 5 pp margin yoy growth,

• of heating systems delivered PLN 16 million (up 7% yoy) with a 4 pp margin yoy growth.

The Group's EBIT at PLN 31 million (up 11% yoy) beat our forecast by PLN 5 million.

The Company's net financial costs were below our expectations: PLN -4 million vs PLN -6 million, as we assumed negative FX differences at PLN -1 million vs more > PLN -5 million a year ago.

Ultimately, the Group's 3Q23 PBT hit PLN 27 million (up 51% yoy) and NI arrived at PLN 21 million (up 54% yoy) while we expected PLN 15 million (PLN 18/13 million in 1/2Q23).

At the end of 3Q23 the Group's inventories stood at PLN 283 million (down 22% yoy). Net debt reached PLN 133 million vs PLN 182 million at the end of 2022. The Group's operating/ investing cash flows reached PLN 82/-9 million in 1-3Q23 vs PLN -58/-18 million a year ago.

Acquisition of Heating Polska

In 2022 Heating Polska - consolidated since August - generated sales and net profit at PLN 14 million and PLN 3 million, respectively, while this year after 9 months it was PLN 15 million and PLN 2 million. Its contribution to the Group's 3Q23 revenues and net profit reached PLN 1 million and PLN 0.2 million, respectively. If the merger with Heating Polska had taken place on January 1, 2023, the Group's consolidated net financial result and consolidated sales revenues could have been higher by PLN 0.2 million and PLN 6 million, respectively.



Financial forecast

We modify our FY financial forecasts incorporating actual 3Q23 financial results. The economic situation seems to stabilize which bodes well for demand in the coming quarters (the low base effect). The raw material prices are relatively favorable for the Company's margins which is corroborated by the financial results, particularly in 3Q23.

Valuation

Our valuation for Ferro falls under the impact of (i) the risk free rate revision (at 5.6%, previously 5.9%, in the definite forecast period), (ii) valuation horizon forward shift in time, (iv) peer valuation update, and (v) modification of financial forecasts. Our 12M EFV constituting a 50%–50% mix of DCF FCFF method and peer-relative valuation, increases

by 11% to PLN 33.3 per share (PLN 30.1 previously). The DCF FCFF/peer-relative valuation yields PLN 38/29 per share (previously PLN 37/24 per share).

Strategy

According to the Company's management estimations the implementation of the F1R2 strategy (without acquisitions) will allow Ferro's FY26 revenues and EBITDA to reach PLN 1,400 million and PLN 193 million, respectively, with annual capex not exceeding PLN 30 million. Our forecast for FY26 assume lower top line and EBITDA (at PLN 1,135 million and PLN 162 million, respectively). The Strategy F1R2 assumes a dividend payout in the amount not less than 50% of the Company's NI in the stable market and financial situation including, among other things, the consolidated ND/ EBITDA ratio staying at 2.5x.

Risk factors

- 1. Economic slowdown in Europe
- 2. Falling demand for new flats
- 3. Falling frequency of renovations
- 4. Qualified workforce shortage
- 5. Pressure on salaries
- 6. Volatile raw materials prices (of copper and zinc, in particular)
- 7. Unfavorable/volatile FX rates (currency risk when PLN and CZK weaken against US\$ and EUR)
- 8. Lack of stability in the region
- 9. Temporary higher inventories
- 10. High interest rates

Catalysts

- 1. Higher demand in Poland and neighboring countries
- 2. Expansion in European markets
- 3. Strengthening position on the existing markets
- 4. Launch of a new logistic center in southern Europe
- New products (expanding the product offer)
- 6. Favorable FX rates and raw materials prices
- 7. Acquisitions in attractive segments
- 8. Implementation of the adopted strategy F1R2

BASIC DEFINITIONS

A/R turnover (in days) = 365/(sales/average A/R))

Inventory turnover (in days) = 365/(COGS/average inventory))

A/P turnover (in days) = 365/(COGS/average A/P))

Current ratio = ((current assets - ST deferred assets)/current liabilities)

Quick ratio = ((current assets - ST deferred assets - inventory)/current liabilities)

Interest coverage = (pre-tax profit before extraordinary items + interest payable/interest payable)

Gross margin = gross profit on sales/sales

EBITDA margin = EBITDA/sales **EBIT** margin = EBIT/sales

Pre-tax margin = pre-tax profit/sales

Net margin = net profit/sales

ROE = net profit/average equity

ROA = (net income + interest payable)/average assets

EV = market capitalization + interest bearing debt - cash and equivalents

EPS = net profit/ no. of shares outstanding

CE = net profit + depreciation

Dividend yield (gross) = pre-tax DPS/stock market price

Cash sales = accrual sales corrected for the change in A/R

Cash operating expenses = accrual operating expenses corrected for the changes in inventories and A/P, depreciation, cash taxes and changes in the deferred taxes

DM BOS 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 this 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.

Banks

Net Interest Margin (NIM) = net interest income/average assets

Non interest income = fees&commissions + result on financial operations (trading gains) + FX gains Interest Spread = (interest income/average interest earning assets)/ (interest cost/average interest bearing liabilities)

Cost/Income = (general costs + depreciation)/ (profit on banking activity + other net operating income)

ROE = net profit/average equity

HOE = net pront/average equity

ROA = net income/average assets

Non performing loans (NPL) = loans in 'basket 3' category

Net provision charge = provisions created - provisions released

NPL coverrage ratio = loan loss provisions/NPL

DM BOŚ 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.

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 BOŚ 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 average of time, the ending 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 BOS's current recommendations

	Buy	Hold	Sell	Suspended	Under revision	Not rated
Numbers	40	29	9	9	0	4
Percentage	44%	32%	10%	10%	0%	4%

Distribution of DM BOS's current market relative recommended weightings

					-	
	Overweight	Neutral	Underweight	Suspended	Under revision	Not rated
Numbers	34	31	13	9	0	4
Percentage	37%	34%	14%	10%	0%	4%

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

	Buy	Hold	Sell	Suspended	Under revision	Not rated
Numbers	6	6	1	1	0	3
Percentage	35%	35%	6%	6%	0%	18%

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

	Overweight	Neutral	Underweight	Suspended	Under revision	Not rated
Numbers	7	3	3	1	0	3
Percentage	41%	18%	18%	6%	0%	18%

LT fundamental recommendation tracker

Analyst	Recommendation		Report date	Reiteration date	Distribution date	Expiry date	Performance	Relative performance	Price at issue/ reiteration*	EFV (12 months)	
Ferro	Hald	_	21.07.2010		22.07.2010	04 10 2010	110/	200/	10.70	1710	
Sylwia Jaśkiewicz Sylwia Jaśkiewicz	Hold	_ →	21.07.2019	30.07.2019	22.07.2019 31.07.2019	04.12.2019	11%	20%	13.70 13.50	17.10 17.10	$\stackrel{-}{\rightarrow}$
Sylwia Jaśkiewicz	-		-	01.09.2019	02.09.2019	-	-	-	12.05	17.10	
Sylwia Jaśkiewicz	-	\rightarrow \rightarrow	-	10.09.2019	11.09.2019	_	-	_	12.10	17.10	\rightarrow \rightarrow
Sylwia Jaskiewicz	-	\rightarrow \rightarrow	-	15.09.2019	16.09.2019	-	-	-	12.10	17.10	\rightarrow \rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	13.10.2019	14.10.2019	-	_	_	13.40	17.10	\rightarrow
Sylwia Jaśkiewicz	_	\rightarrow	_	24.10.2019	25.10.2019	_	_	_	13.00	17.10	\rightarrow
Sylwia Jaśkiewicz	-	$\stackrel{'}{ ightarrow}$	_	17.11.2019	18.11.2019	_	_	_	13.00	17.10	$\stackrel{'}{\rightarrow}$
Sylwia Jaśkiewicz	-	\rightarrow	_	18.11.2019	19.11.2019	_	_	_	13.00	17.10	\rightarrow
Sylwia Jaśkiewicz	Buy	Ť	04.12.2019	-	05.12.2019	28.01.2020	17%	15%	15.20	17.80	Ť
Sylwia Jaśkiewicz	-	\rightarrow	-	08.12.2019	09.12.2019	-	-	-	15.00	17.80	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	09.01.2020	10.01.2020	-	_	-	16.30	17.80	\rightarrow
Sylwia Jaśkiewicz	Hold	\	28.01.2020	-	29.01.2020	22.07.2020	-4%	5%	17.80	18.50	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	04.02.2020	05.02.2020	-	-	-	17.90	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	06.02.2020	07.02.2020	-	-	-	17.50	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	03.03.2020	04.03.2020	-	-	-	15.20	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	30.03.2020	31.03.2020	-	-	-	12.25	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	22.04.2020	23.04.2020	-	-	-	14.00	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	23.04.2020	24.04.2020	-	-	-	14.00	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	19.05.2020	20.05.2020	-	-	-	13.65	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	15.06.2020	16.06.2020	-	-	-	16.60	18.50	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	13.07.2020	14.07.2020	-	-	-	17.90	18.50	\rightarrow
Sylwia Jaśkiewicz	Buy	\uparrow	22.07.2020	-	23.07.2020	16.04.2021	75%	51%	17.00	20.30	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	01.09.2020	02.09.2020	-	-	-	18.60	20.30	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	17.09.2020	18.09.2020	-	-	-	18.90	20.30	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	29.09.2020	30.09.2020	-	-	-	18.70	19.90	\downarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	08.10.2020	09.10.2020	-	-	-	19.00	19.90	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	03.11.2020	04.11.2020	-	-	-	17.30	22.00	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	08.11.2020	09.11.2020	-	-	-	17.25	22.00	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	19.11.2020	20.11.2020	-	-	-	18.40	23.40	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	26.11.2020	27.11.2020	-	-	-	20.00	23.40	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	06.12.2020	07.12.2020	-	-	-	24.80	25.70	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	05.01.2021	05.01.2021	-	-	-	25.50	25.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	28.01.2021	29.01.2021	-	-	-	26.50	25.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	09.02.2021	10.02.2021	-	-	-	25.70	30.80	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	28.02.2021	01.03.2021	-	-	-	26.10	30.80	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	31.03.2021	01.04.2021	-	-	-	27.00	30.80	\rightarrow
Sylwia Jaśkiewicz	Buy	\rightarrow	16.04.2021	-	16.04.2021	14.04.2022	16%	9%	29.30	30.80	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	10.05.2021	11.05.2021	-	-	-	29.80	34.10	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	27.05.2021	28.05.2021	-	-	-	32.50	34.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	30.05.2021	31.05.2021	-	-	-	33.00	34.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	09.07.2021	09.07.2021	-	-	-	35.30	34.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	12.08.2021	13.08.2021	-	-	-	38.00	41.70	↑
Sylwia Jaśkiewicz	-	\rightarrow	-	31.08.2021	31.08.2021	-	-	-	40.50	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	30.09.2021	01.10.2021	-	-	-	35.60	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	07.10.2021	07.10.2021	-	-	-	38.90	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	02.11.2021	03.11.2021	-	-	-	37.50	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	04.11.2021	04.11.2021	-	-	-	37.20	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	29.11.2021	30.11.2021	-	-	-	34.60	41.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	05.12.2021	06.12.2021	-	-	-	33.00	39.60	\downarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	16.01.2022	17.01.2022	-	-	-	34.80	39.60	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	01.02.2022	02.02.2022	-	-	-	32.00	39.60	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	07.02.2022	07.02.2022	-	-	-	32.50	39.60	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	28.02.2022	28.02.2022	-	-	-	29.00	39.60	\rightarrow
Sylwia Jaśkiewicz	- D	\rightarrow	14.04.0000	30.03.2022	31.03.2022	- 00 10 0000	040/	- 00/	30.90	39.60	\rightarrow
Sylwia Jaśkiewicz	Buy	\rightarrow	14.04.2022	- 00 04 0000	14.04.2022	03.10.2022	-21%	9%	31.70	39.60	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	20.04.2022 25.05.2022	21.04.2022 26.05.2022	-	-	-	31.30 27.20	37.10 37.10	↓
Sylwia Jaśkiewicz Sylwia Jaśkiewicz	-	\rightarrow	-	25.05.2022	26.05.2022	-	-	-	27.20	37.10 37.10	\rightarrow
Sylwia Jaskiewicz	-	\rightarrow \rightarrow	-	15.07.2022	15.07.2022	-	-	-	25.50	37.10	\rightarrow \rightarrow
Sylwia Jaskiewicz	-	\rightarrow \rightarrow	-	24.07.2022	25.07.2022	-	-	-	25.50	37.10	\rightarrow \rightarrow
Sylwia Jaśkiewicz	-		-	16.08.2022	16.08.2022	-	-	-	26.60	37.10	\rightarrow
Sylwia Jaśkiewicz	_	\rightarrow \rightarrow	-	02.09.2022	02.09.2022	-	-	-	25.20	37.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	20.09.2022	21.09.2022	-	-	-	25.50	37.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow \rightarrow	-	26.09.2022	27.09.2022	-	-	-	23.10	37.10	\rightarrow \rightarrow
Sylwia Jaśkiewicz	Hold	$\overrightarrow{\downarrow}$	03.10.2022	20.00.2022	04.10.2022	27.09.2023	25%	-11%	23.50	28.70	\downarrow
Sylwia Jaśkiewicz	-	\rightarrow	00.10.2022	07.10.2022	07.10.2022		23/0	-11/0	23.30	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	28.10.2022	28.10.2022	-	-	-	22.80	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	_	20.10.2022	21.11.2022	-	-	-	24.00	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	01.12.2022	02.12.2022	-	-	-	22.60	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	04.12.2022	05.12.2022	-	-	-	23.00	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	13.01.2023	13.01.2023	-	-	-	23.50	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	03.02.2023	03.02.2023	-	-	-	25.00	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	16.02.2023	17.02.2023	-	-	-	24.50	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	10.02.2023	10.03.2023	-	-	-	24.10	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	30.03.2023	31.03.2023	-	-	-	25.50	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	13.04.2023	13.04.2023	-	-	-	26.70	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	28.04.2023	28.04.2023	-	-	-	27.40	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	29.05.2023	29.05.2023	-	-	-	30.50	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	29.05.2023	29.05.2023	-	-	-	30.50	28.70	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	14.07.2023	14.07.2023	-	-	-	30.90	28.70	\rightarrow
-,		,							30.00		
Sylwia Jaśkiewicz	-	\rightarrow	-	31.07.2023	01.08.2023	-	_	-	.50 00	30.10	↑

LT fundamental recommendation tracker

Analyst	Recommendation		Report date	Reiteration date	Distribution date	Expiry date	Performance	Relative performance	Price at issue/ reiteration*	EFV (12 months)	
Sylwia Jaśkiewicz	-	\rightarrow	-	31.08.2023	31.08.2023	-	-	-	29.40	30.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	12.09.2023	13.09.2023	-	-	-	28.60	30.10	\rightarrow
Sylwia Jaśkiewicz	Hold	\rightarrow	27.09.2023	-	28.09.2023	28.11.2023	-5%	-18%	27.90	30.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	12.10.2023	12.10.2023	-	-	-	28.80	30.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	25.10.2023	25.10.2023	-	-	-	27.10	30.10	\rightarrow
Sylwia Jaśkiewicz	-	\rightarrow	-	06.11.2023	06.11.2023	-	-	-	27.40	30.10	\rightarrow
Sylwia Jaśkiewicz	Buy	↑	28.11.2023	-	29.11.2023	Not later than	-	-	26.60	33.30	↑
						28.11.2024					

^{*} prices at issue/reiteration are the closing prices at the report or reiteration date

Market-relative recommendation tracker

Market-relative recommen	Relative						Price at issue/	Relative
Analyst	Recommendation		Report date	Reiteration date	Distribution date	Expiry date	reiteration*	performance
Ferro								
Sylwia Jaśkiewicz	Neutral	-	21.07.2019	-	22.07.2019	18.11.2019	13.70	-2%
Sylwia Jaśkiewicz	-	\rightarrow	-	30.07.2019	31.07.2019	-	13.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	01.09.2019	02.09.2019	-	12.05	-
Sylwia Jaśkiewicz	-	\rightarrow	-	10.09.2019	11.09.2019	-	12.10	-
Sylwia Jaśkiewicz	-	\rightarrow	-	15.09.2019	16.09.2019	-	12.65	-
Sylwia Jaśkiewicz	-	\rightarrow	-	13.10.2019	14.10.2019	-	13.40	-
Sylwia Jaśkiewicz	-	\rightarrow	-	24.10.2019	25.10.2019	-	13.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	17.11.2019	18.11.2019	-	13.00	-
Sylwia Jaśkiewicz	Overweight	↑	18.11.2019	-	19.11.2019	28.01.2020	13.00	41%
Sylwia Jaśkiewicz	-	\rightarrow	-	04.12.2019	05.12.2019	-	15.20	-
Sylwia Jaśkiewicz	-	\rightarrow	-	08.12.2019	09.12.2019	-	15.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	09.01.2020	10.01.2020	-	16.30	-
Sylwia Jaśkiewicz	Neutral	\downarrow	28.01.2020	-	29.01.2020	23.04.2020	17.80	-1%
Sylwia Jaśkiewicz	-	\rightarrow	-	04.02.2020	05.02.2020	-	17.90	-
Sylwia Jaśkiewicz	-	\rightarrow	-	06.02.2020	07.02.2020	-	17.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	03.03.2020	04.03.2020	-	15.20	-
Sylwia Jaśkiewicz	-	\rightarrow	-	30.03.2020	31.03.2020	-	12.25	-
Sylwia Jaśkiewicz	-	\rightarrow	-	22.04.2020	23.04.2020	_	14.00	-
Sylwia Jaśkiewicz	Overweight	↑	23.04.2020	-	24.04.2020	16.04.2021	14.00	60%
Sylwia Jaśkiewicz	-	\rightarrow		19.05.2020	20.05.2020	-	13.65	-
Sylwia Jaśkiewicz	_	\rightarrow	_	15.06.2020	16.06.2020	_	16.60	_
Sylwia Jaśkiewicz	_	\rightarrow	_	13.07.2020	14.07.2020	_	17.90	_
Sylwia Jaśkiewicz		\rightarrow		22.07.2020	23.07.2020		17.00	
Sylwia Jaśkiewicz	_	\rightarrow	-	01.09.2020	02.09.2020	-	18.60	_
•	-		-			-		-
Sylwia Jaśkiewicz	-	\rightarrow	-	17.09.2020	18.09.2020	-	18.90	-
Sylwia Jaśkiewicz	-	\rightarrow	-	29.09.2020	30.09.2020	-	18.70	-
Sylwia Jaśkiewicz	-	\rightarrow	-	08.10.2020	09.10.2020	-	19.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	03.11.2020	04.11.2020	-	17.30	-
Sylwia Jaśkiewicz	-	\rightarrow	-	08.11.2020	09.11.2020	-	17.25	-
Sylwia Jaśkiewicz	-	\rightarrow	-	19.11.2020	20.11.2020	-	18.40	-
Sylwia Jaśkiewicz	-	\rightarrow	-	26.11.2020	27.11.2020	-	20.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	06.12.2020	07.12.2020	-	24.80	-
Sylwia Jaśkiewicz	-	\rightarrow	-	05.01.2021	05.01.2021	-	25.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	28.01.2021	29.01.2021	-	26.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	09.02.2021	10.02.2021	-	25.70	-
Sylwia Jaśkiewicz	-	\rightarrow	-	28.02.2021	01.03.2021	-	26.10	-
Sylwia Jaśkiewicz	-	\rightarrow	-	31.03.2021	01.04.2021	-	27.00	-
Sylwia Jaśkiewicz	Overweight	\rightarrow	16.04.2021	-	16.04.2021	05.12.2021	29.30	7%
Sylwia Jaśkiewicz	-	\rightarrow	-	10.05.2021	11.05.2021	-	29.80	-
Sylwia Jaśkiewicz	-	\rightarrow	_	27.05.2021	28.05.2021	_	32.50	_
Sylwia Jaśkiewicz	-	\rightarrow	_	30.05.2021	31.05.2021	_	33.00	_
Sylwia Jaśkiewicz	_	\rightarrow	_	09.07.2021	09.07.2021	_	35.30	_
Sylwia Jaśkiewicz	_	$\stackrel{'}{\rightarrow}$	_	12.08.2021	13.08.2021	_	38.00	_
Sylwia Jaśkiewicz		$\stackrel{'}{\rightarrow}$		31.08.2021	31.08.2021		40.50	
Sylwia Jaśkiewicz	-		-	30.09.2021	01.10.2021	-	35.60	-
Sylwia Jaśkiewicz		\rightarrow		07.10.2021	07.10.2021		38.90	
•	-	\rightarrow	-	02.11.2021		-		-
Sylwia Jaśkiewicz	-	\rightarrow	-		03.11.2021	-	37.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	04.11.2021	04.11.2021	-	37.20	-
Sylwia Jaśkiewicz	-	\rightarrow		29.11.2021	30.11.2021		34.60	-
Sylwia Jaśkiewicz	Neutral	\downarrow	05.12.2021		06.12.2021	03.10.2022	33.00	11%
Sylwia Jaśkiewicz	-	\rightarrow	-	16.01.2022	17.01.2022	-	34.80	-
Sylwia Jaśkiewicz	-	\rightarrow	-	01.02.2022	02.02.2022	-	32.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	07.02.2022	07.02.2022	-	32.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	28.02.2022	28.02.2022	-	29.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	30.03.2022	31.03.2022	-	30.90	-
Sylwia Jaśkiewicz	-	\rightarrow	-	14.04.2022	14.04.2022	-	31.70	-
Sylwia Jaśkiewicz	-	\rightarrow	-	20.04.2022	21.04.2022	-	31.30	-
Sylwia Jaśkiewicz	-	\rightarrow	-	25.05.2022	26.05.2022	-	27.20	-
Sylwia Jaśkiewicz	-	\rightarrow	-	26.05.2022	26.05.2022	-	28.20	-
Sylwia Jaśkiewicz	-	\rightarrow	-	15.07.2022	15.07.2022	-	25.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	24.07.2022	25.07.2022	-	24.30	-
Sylwia Jaśkiewicz	-	\rightarrow	-	16.08.2022	16.08.2022	-	26.60	-
Sylwia Jaśkiewicz	-	\rightarrow	-	02.09.2022	02.09.2022	-	25.20	-
Sylwia Jaśkiewicz	-	\rightarrow	-	20.09.2022	21.09.2022	-	25.50	-
Sylwia Jaśkiewicz	_	\rightarrow	-	26.09.2022	27.09.2022	-	23.10	-
Sylwia Jaśkiewicz	Underweight	\downarrow	03.10.2022	20.03.2022	04.10.2022	20.11.2022	23.50	-14%
	Officerweight		03.10.2022	0710 2022		20.11.2022		-1470
Sylwia Jaśkiewicz	-	\rightarrow	-	07.10.2022	07.10.2022	-	23.30	-
Sylwia Jaśkiewicz	-	\rightarrow		28.10.2022	28.10.2022	-	22.80	-
Sylwia Jaśkiewicz	Neutral	↑	20.11.2022		21.11.2022	16.02.2023	24.00	-8%
Sylwia Jaśkiewicz	-	\rightarrow	-	01.12.2022	02.12.2022	-	22.60	-
Sylwia Jaśkiewicz	-	\rightarrow	-	04.12.2022	05.12.2022	-	23.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	13.01.2023	13.01.2023	-	23.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	03.02.2023	03.02.2023	-	25.00	-
Sylwia Jaśkiewicz	Underweight	\downarrow	16.02.2023	-	17.02.2023	25.10.2023	24.50	1%
Sylwia Jaśkiewicz	-	\rightarrow	-	10.03.2023	10.03.2023	-	24.10	-
Sylwia Jaśkiewicz	-	\rightarrow	-	30.03.2023	31.03.2023	-	25.50	-
Sylwia Jaśkiewicz	-	\rightarrow	-	13.04.2023	13.04.2023	-	26.70	-
Sylwia Jaśkiewicz	-	$\stackrel{'}{\rightarrow}$	-	28.04.2023	28.04.2023	-	27.40	-
Sylwia Jaśkiewicz	_	\rightarrow	_	29.05.2023	29.05.2023	_	30.50	_
Sylwia Jaśkiewicz	_		-	29.05.2023		-	30.50	-
	-	\rightarrow	-		29.05.2023	-		-
Sylwia Jaśkiewicz	-	\rightarrow	-	14.07.2023	14.07.2023	-	30.90	-
Sylwia Jaśkiewicz	-	\rightarrow	-	31.07.2023	01.08.2023	-	30.00	-
Sylwia Jaśkiewicz	-	\rightarrow	-	02.08.2023	03.08.2023	-	30.70	-

Market-relative recommendation tracker

Analyst	Relative Recommendation	Relative Recommendation		Reiteration date	Distribution date	Expiry date	Price at issue/ reiteration*	Relative performance
Sylwia Jaśkiewicz	-	\rightarrow	-	31.08.2023	31.08.2023	-	29.40	-
Sylwia Jaśkiewicz	-	\rightarrow	-	12.09.2023	13.09.2023	-	28.60	-
Sylwia Jaśkiewicz	-	\rightarrow	-	27.09.2023	28.09.2023	-	27.90	-
Sylwia Jaśkiewicz	-	\rightarrow	-	12.10.2023	12.10.2023	-	28.80	-
Sylwia Jaśkiewicz	Neutral	↑	25.10.2023	-	25.10.2023	28.11.2023	27.10	-8%
Sylwia Jaśkiewicz	-	\rightarrow	-	06.11.2023	06.11.2023	-	27.40	-
Sylwia Jaśkiewicz	Overweight	↑	28.11.2023	-	29.11.2023	Not later than 28.11.2024	26.60	=

^{*} prices at issue/reiteration are the closing prices at the report or reiteration date

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