



Dom Maklerski BDM S.A.

# ARTIFEX MUNDI

## ANALYTICAL REPORT - SUMMARY

The recent months, due to the unfavourable market environment (seasonally high CPI), have resulted in a stabilisation of revenues while marketing budgets were reduced, which translated into the generation of a record first margin. With the upcoming Christmas season approaching rapidly, we anticipate further reductions in user acquisition spending in the last weeks of 2023. This, on one hand, will lead to a decline in revenues, but on the other hand, it will allow the company to achieve a record level of adjusted EBITDA in 4Q'23, approximately 9,8 million PLN (+210% y/y, +26% q/q). We expect a renewed increase in advertising expenditures at the turn of the year. These actions should unlock the potential of the changes made to the application in recent months and translate into its continued, dynamic progression of results from the beginning of 2024. We assume that the implementation process of the largest change to 'Unsolved' (metagame) will commence in 2H'24. We expect the release of new functionalities to be gradual, thus the effect of improving KPIs as a result of this modification will be spread over several quarters. We would like to note that the application results from the recent months exceed our earlier expectations. Consequently, we are raising our forecasts for the upcoming periods. Throughout whole 2024, we forecast that the company will achieve 114,7 million PLN in revenue (+39% y/y), 39,9 million PLN in adjusted EBITDA (+33% y/y) and 29,9 million PLN in adjusted net profit (+45% y/y). The results estimated by us imply an attractive multiple valuation for the company (adjusted P/E at a level of 7x). Additionally, there is a significant chance that, for the first time in history, the company will share profits with shareholders earned during the record-breaking 2023 (dividend or share buyback). We assume a DPS at the level of 0,6 PLN per share. With this in mind, we maintain our BUY recommendation for Artifex Mundi, while simultaneously raising the target price to 24,8 PLN per share, which is 49% above the current market price.

In our previous recommendation, we had hoped that a decrease in CPI at the turn of 3/4Q'23 would allow the company to visibly increase advertising budgets again. However, due to the extension of the period of increased e-commerce advertising budgets associated with the 'Back to School' campaign, high marketing costs persisted from mid-August to the end of beginning of October. Thus, lower user acquisition for the 'Unsolved' app affected the flat revenue dynamics in the recent period. On the other hand, the reduction in spending on marketing campaigns has resulted in the company achieving a record-breaking first margin (3.3-3.4 million PLN/month). Considering the upcoming Christmas season (high CPI), we expect that company will increase the scale of user acquisition at the turn of the year.

At the same time, thanks to a significant improvement in the application's KPIs and the diversification of marketing channels, we anticipate a weaker impact of high CPIs on results in November-December than occurred in the comparable period of 2022. In our opinion, the resilience of the application's results to seasonal variability will serve as another testament to the significant changes it has undergone. We anticipate that in 2024, the company will dynamically expand its user base, unlocking further monetization potential. The application results from the recent months surpass our earlier expectations, prompting us to raise our revenue assumptions for 2024 by 21% to a level of 106,6 million PLN.

We assume that the implementation process of the largest change to 'Unsolved' (metagame) will commence in 2H'24. We expect the release of new functionalities to be gradual, thus the effect of improving KPIs as a result of this modification will be spread over several quarters. This scenario assumes the initial release of 'Unsolved 2.0' to a small number of new players, after which, with each month, after thorough testing and feedback from the audience, the user base will gradually expand. Next year, we expect 'Unsolved' revenue progression of 49% y/y to c. PLN 106,6m with UA at the level of PLN 62,5m. For the full year 2024, we forecast the company to generate PLN 39,9m of adjusted EBITDA and PLN 29,9m of net income. The results estimated by us imply an attractive multiple valuation for the company (adjusted P/E at a level of 7x).

In our opinion, there is a big chance that, for the first time ever, the company will share with shareholders the profits generated over the record 2023 (dividend or share buyback). Taking into account generated cash flows, funds needed for further product development and user acquisition, we assume that the potential DPS could amount to PLN 0,6 per share (DY = 3,5%).

An additional element being considered by Artifex is the launch of its own shop (similar to those of Huuuge or TEN). This initiative should result in a reduction of commission costs, thereby increasing the company's revenues. Currently, we do not include this solution in our assumptions. However, we want to emphasize that the potential creation of such a platform may have a significant impact on our future updates.

The launch of a new RPG game remains a potential risk factor. At the end of Q3'23, the company had PLN 15,4m of costs capitalised on the balance sheet related to this project. Work on the new RPG game is progressing according to schedule, and we expect its release in early 2025. It is worth noting that the project will debut not only on mobile but also on PC, with cross-play functionality, which we believe increases the chances of its commercial success.

	2019	2020	2021	2022	2023F	2024F	2025F	2026F
Revenues [mln PLN]	16,7	25,7	39,1	38,5	82,8	114,7	133,1	175,7
EBITDA [mln PLN]	-8,2	17,0	20,3	14,9	29,5	39,2	48,8	66,0
EBITDA adj. [mln PLN]	11,2	19,5	21,5	16,4	30,0	39,9	49,6	66,7
EBIT [mln PLN]	-14,4	10,0	15,3	9,9	24,6	32,2	34,6	48,1
Net income [mln PLN]	-13,7	8,2	13,0	12,1	20,0	29,2	31,9	44,4
Net income adj. [mln PLN]	5,6	10,8	14,2	13,6	20,6	29,9	32,7	45,1
P/E	-	24,0	16,7	17,9	10,8	7,4	6,8	4,9
P/E adj.*	35,1	18,3	15,2	15,9	10,5	7,2	6,6	4,8
EV/EBITDA	-	11,7	10,7	14,5	7,4	5,5	4,4	3,3
EV/EBITDA adj.*	17,8	10,1	10,1	13,2	7,2	5,4	4,4	3,2
DPS	0,0	0,0	0,0	0,0	0,0	0,6	0,9	1,0
DY	0,0%	0,0%	0,0%	0,0%	0,0%	3,5%	5,4%	5,9%

\*- adj. for cost of the incentive program

# BUY

(PREVIOUS: BUY)

## TARGET PRICE 24,8 PLN

1 DECEMBER 2023, 11:40 CET

Target price [PLN]	24,8
Price upside/downside	49%
Cost of capital	15,7%
Price [PLN]	16,7
Market cap [mln PLN]	198,1
Shares mln. szt.]	11,9
Max. price 6M [PLN]	19,8
Min. price 6m [PLN]	11,4
Rate of return 3M	-9%
Rate of return 6M	44%
Rate of return 9M	98%
Shareholders (% of votes):	
Shareholders' agreement	21,6%
Warsaw Equity ASI	14,7%
Nationale-Nederlanden OFE	9,9%
G5 Entertainment AB	5,2%
Others	48,5%

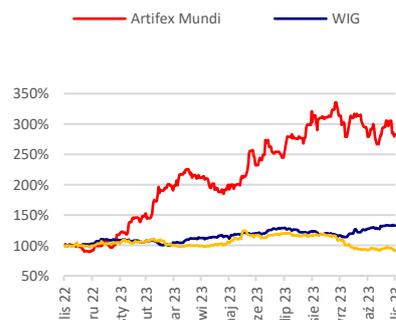
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**Valuation summary**

	Share	Valuation
DCF valuation	70%	22,0
Peer valuation	30%	31,3
<b>Target price [PLN]</b>		<b>24,8</b>

Source: BDM S.A.

**DCF valuation**

	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F
Revenues [mln PLN]	114,7	133,1	175,7	191,9	205,1	216,3	227,8	239,9	252,1	264,3
EBIT [mln PLN]	32,2	34,6	48,1	54,2	58,4	60,5	62,5	64,6	66,7	68,5
Tax rate	11,0%	11,0%	11,0%	11,0%	11,0%	11,0%	11,0%	11,0%	11,0%	11,0%
Tax on EBIT [mln PLN]	3,5	3,8	5,3	6,0	6,4	6,7	6,9	7,1	7,3	7,5
NOPLAT [mln PLN]	28,7	30,8	42,8	48,2	51,9	53,8	55,7	57,5	59,4	61,0
Amortization [mln PLN]	1,0	1,0	1,1	1,1	1,1	1,2	1,2	1,2	1,3	1,3
CAPEX [mln PLN]	-1,2	-1,3	-1,3	-1,4	-1,4	-1,4	-1,5	-1,5	-1,5	-1,6
Purchase of investment [mln PLN]	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Working capital movement [mln PLN]	-16,5	-13,4	-9,7	-10,2	-9,1	-8,2	-7,6	-7,4	-7,6	-7,7
FCF [mln PLN]	12,0	17,2	32,9	37,7	42,6	45,4	47,8	49,9	51,6	53,1
DFCF [mln PLN]	10,6	13,1	21,7	21,6	21,1	19,4	17,7	15,9	14,3	12,7
Total DFCF [mln PLN]	168,1									
Terminal value [mln PLN]	378,0									
Discounted terminal value [mln PLN]	90,4									
Enterprise value [mln PLN]	258,4									
Net debt 2023 [mln PLN]	-27,5									
<b>Equity value [mln PLN]</b>	<b>285,9</b>									
Number of shares [mln]	13,0									
<b>Value per share [PLN]</b>	<b>22,0</b>									

Terminal growth rate: 3,0%

**WACC calculation**

	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F	2033F
Risk-free rate	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%	5,5%
Risk premium	6,5%	6,5%	6,5%	6,5%	6,5%	6,5%	6,5%	6,5%	6,5%	6,5%
Beta	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10	1,10
Credit premium	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Cost of equity	15,7%	15,7%	15,7%	15,7%	15,7%	15,7%	15,7%	15,7%	15,7%	15,7%
Contribution of equity	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Cost of debt after tax	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%
Contribution of debt	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
<b>WACC</b>	<b>15,7%</b>									

Source: BDM S.A.

**Sensitivity analysis**

beta	Terminal growth rate			Risk premium	Terminal growth rate			Risk premium	Beta		
	2,5%	3,0%	3,5%		2,5%	3,0%	3,5%		1,0	1,1	1,2
1,0	22,8	23,2	23,5	5,5%	23,7	24,1	24,5	5,5%	24,5	24,1	23,7
1,1	21,7	22,0	22,3	6,5%	21,7	22,0	22,3	6,5%	22,4	22,0	21,6
1,2	20,7	20,9	21,2	7,5%	20,0	20,2	20,5	7,5%	20,6	20,2	19,9

Source: BDM S.A.

**Peer valuation – Polish game developers**

	P/E			EV/EBITDA		
	2024F	2025F	2026F	2024F	2025F	2026F
11 BIT STUDIOS	7,0	8,7	14,0	4,4	5,2	6,0
BOOMBIT	10,8	13,1	-	6,3	5,8	-
CD PROJEKT SA	42,8	78,0	24,4	26,2	43,5	12,5
CREEPY JAR	8,7	8,1	13,0	5,1	4,9	9,4
HUUUGE GAMES	6,9	7,3	7,6	2,8	2,7	1,4
PCF GROUP	30,4	5,2	5,7	15,2	2,9	1,8
PLAYWAY	13,3	13,9	10,8	9,3	9,8	6,7
TEN SQUARE GAMES	8,6	9,7	10,4	5,5	6,5	6,3
<b>Median</b>	<b>9,7</b>	<b>9,2</b>	<b>10,8</b>	<b>5,9</b>	<b>5,5</b>	<b>6,3</b>
Artifex Mundi*	7,2	6,6	4,8	5,4	4,4	3,2
Premium/discount	-25,6%	-28,2%	-55,6%	-8,1%	-21,1%	-48,6%
<b>Valuation [PLN/share]</b>	<b>22,4</b>	<b>23,2</b>	<b>37,5</b>	<b>19,1</b>	<b>22,6</b>	<b>35,6</b>
Year's contribution	33%	33%	33%	33%	33%	33%
<b>Average valuation [PLN/share]</b>	<b>27,7</b>			<b>25,8</b>		
Multiple's contribution		50%			50%	
<b>Value per share [PLN]</b>	<b>26,7</b>					

Source: BDM S.A., Bloomberg; \*-adj. for cost of the incentive program

**Peer valuation – global game developers**

	P/E			EV/EBITDA		
	2024F	2025F	2026F	2024F	2025F	2026F
PLAYTIKA HOLDING CORP	9,8	9,2	7,8	5,0	4,3	-
G5 ENTERTAINMENT AB	9,5	8,7	8,7	3,1	2,7	2,3
TENCENT HOLDINGS LTD	16,8	14,8	12,3	11,9	9,9	7,5
NETMARBLE CORP	101,7	69,8	-	22,3	20,3	-
SCIPLAY CORP-CLASS A	111,1	45,0	15,7	10,3	9,2	10,5
STILLFRONT GROUP AB	6,1	5,1	4,7	3,9	3,4	2,8
ROBLOX	-	-	-	52,9	33,8	25,1
NEXON	21,3	18,8	17,7	12,0	10,2	-
<b>Median</b>	<b>16,8</b>	<b>14,8</b>	<b>10,5</b>	<b>11,1</b>	<b>9,5</b>	<b>5,2</b>
Artifex Mundi*	7,2	6,6	4,8	5,4	4,4	3,2
Premium/discount	-56,9%	-55,3%	-54,3%	-51,0%	-54,2%	-37,4%
<b>Valuation [PLN/share]</b>	<b>38,6</b>	<b>37,3</b>	<b>36,4</b>	<b>35,0</b>	<b>37,8</b>	<b>29,8</b>
Year's contribution	33%	33%	33%	33%	33%	33%
<b>Average valuation [PLN/share]</b>	<b>37,4</b>			<b>34,2</b>		
Multiple's contribution		50%			50%	
<b>Value per share [PLN]</b>	<b>35,8</b>					

Source: BDM S.A., Bloomberg; \*-adj. for cost of the incentive program

**Main risks:** 1) Risk associated with Apple's new privacy policy and planned changes in Google's policy; 2) Risk of diverse and unpredictable demand for the company's individual products; 3) The risk related to possible delays in game production; 4) Risk related to the loss of key employees; 5) Risk related to difficulties in acquiring experienced employees; 6) Risk related to the possible failure of IT systems, telecommunications infrastructure and servers; 7) Risk related to the competitive environment; 8) Risk related to the development of new technologies and industry 9) Risk of volatility of foreign exchange rates; 10) Risks of Unity's new charging policy

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**Ratings and price targets history:**

rating	price target	previous rating	previous target price	report date	report date (hour)	price	WIG
buy *	24,8	buy*	22,8	01.12.2023	11:40 CET	16,7	75 195
buy *	22,8	buy	14,1	30.08.2023	08:50 CEST	17,6	68 795
buy	14,1	buy	18,0	13.03.2023	12:40 CET	10,4	58 050
buy	18,0	buy	22,5	18.01.2022	07:00 CEST	9,94	72 250
Buy*	22,5	buy	13,9	16.04.2021	07:00 CEST	17,8	60 280
Buy*	13,9	buy	13,6	19.10.2021	07:00 CEST	9,00	48 210
Buy*	13,6	-	-	10.08.2021	07:00 CEST	9,12	51 732

\* The report was prepared by Dom Maklerski BDM at the request of the WSE as part of the Exchange's Analytical Coverage Support Programme

**Explanations of terminology:**

EBIT - earnings before interest and tax  
 EBITDA — earnings before interest, taxes, depreciation, and amortization  
 Net debt – interest bearing debt minus cash and equivalents  
 WACC - weighted average cost of capital  
 CAGR - cumulative average annual growth  
 EPS - earnings per share  
 DPS - dividend per share  
 CEPS - net profit plus depreciation per share  
 EV – market capitalization plus interest bearing debt minus cash and equivalents  
 EV/S – market capitalization / sales  
 EV/EBITDA – EV / sales  
 P/EBIT – market capitalization / EBIT  
 MC/S – market capitalization / sales  
 P/E – market capitalization / net profit  
 P/BV – market capitalization / book value  
 P/CE - market capitalization / net profit plus depreciation  
 ROE – net profit / equity  
 ROA - net income / assets  
 Gross margin - gross profit on sales / sales  
 EBITDA margin – EBITDA / sales  
 EBIT margin – EBIT / sales  
 Net margin – net profit / sales

**Explanation of ratings:**

Buy – we believe that the security will reach the target price in the recommended period, which significantly exceeds the current market price (at least + 15%);  
 Accumulate – we believe that the security will reach the target price in the recommended period, which exceeds the current market price (in the range of +5 to + 14.99%);  
 Hold – we believe that a security in the recommended period will fluctuate around the target price, which is close to the current market price (in the range from -4.99% to + 4.99%);  
 Reduce – we believe that the security will reach the target price in the recommended period, which is lower than the market price (range of decline from 5% to 14.99%);  
 Sell – we believe that a security in the recommended period will reach the target price, which is significantly lower than the market price (suggested erosion of the value exceeds 15%).  
 Target price – the theoretical price which, in our opinion, should reach a security in the recommended period; This price is the result of the company's value (eg based on DCF, comparative and other valuations), market conditions and the industry as well as other factors subjectively considered by the analyst.  
 Recommendations made by BDM are binding for 12 months from the issue date or until the target level is reached, unless they are updated during this period of time.

**The strengths and weaknesses of the valuation methods used in the report:**

DCF – the most popular and the most effective of the valuation methods - it is based on the discounting of future cash flows generated by the company. The disadvantage is the high sensitivity to changes in the basic financial parameters forecast in the model (interest rates, exchange rates, profits, residual value).  
 DDM – the method is based on discounting future cash flows from dividends. The advantage of the valuation is the inclusion of future financial results and cash flows from dividends. The main disadvantages are the high sensitivity to changes in the basic financial parameters forecasted in the model (capital cost, profits, residual value) and the risk of changing the dividend payment policy.  
 Comparative – the method is based on current and forecasted market multipliers of companies from the industry or related industries, which better than DCF shows the current market situation. The main disadvantages are the difficulty in choosing the right companies for comparison, the risk of ineffective valuation of companies compared at a given moment, as well as high volatility (along with price fluctuations).

Distribution of BDM's recommendations in 4Q'23*:		, distribution of BDM's recommendations for the companies which BDM has supplied with investment banking services within the last 12 months	
numbers	%	numbers	%
Buy	4 100%	0 0%	0%
Accumulate	0 0%	0 0%	0%
Hold	0 0%	0 0%	0%
Reduce	0 0%	0 0%	0%
Sell	0 0%	0 0%	0%

\* detailed list of all analytical reports (recommendations) published by BDM during the last 12 months is included at <https://www.bdm.pl/analizy-i-informacje/analizy/historia-rekomendacji>

**A Legal note:**

This report (hereinafter also referred to as an analysis, a document) has been prepared in compliance with Regulation (EU) No. 596/2014 of the European Parliament and of the Council of 16 April 2014 (on market abuse), Commission Delegated Regulation (EU) 2016/958 and Commission Delegated Regulation (EU) 2017/565.

The report constitutes an investment research within the meaning of art. 36 §1 of Commission Delegated Regulation (EU) 2017/565.

The report has been prepared by Dom Maklerski BDM S.A. (hereinafter BDM S.A.) within the Exchange Analytical Coverage Support Programme (<https://www.gpw.pl/gpwpa>). BDM S.A. is a party to the „Agreement on the provision of analytical report services” concluded with the Warsaw Stock Exchange Company („GPW”), on the basis of which BDM provides services of analytical coverage of the Issuer for the term of the Agreement. Under the agreement BDM obtains remuneration from GPW. All materials prepared by BDM within the framework of co-operation are available at <https://www.bdm.pl/program-wsparcia-pokrycia-analitycznego-gpw>.

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An investor should be aware that each investment decision in the capital market is subject to numerous risks that finally can result in a financial loss suffered by him. The return rate on individual investments can fluctuate depending on various factors beyond the control of the investor. Therefore, a customer who makes a single investment decision should not only check currency and correctness of individual assumptions made by the analyst in the report but also to have an independent assessment and own analysis (also based on scenarios other than the ones presented in the report) taking into consideration the level of acceptable risk. When deciding on activity on the capital market the Investor should take into consideration the fact that the investment portfolio structure (diversification of investment through possessing more than one financial instrument) can reduce risk exposure to an individual instrument bringing a negative rate of return in a given period. At the same time, however, it can lead to limitation of a positive rate of return the investor could achieve in the case of a single financial instrument in a given time period. The investor should be aware that the investment portfolio structure and any investment strategy for the stock market do not guarantee the achievement of a positive rate of return and do not protect him against final loss.

For the first time this report has been made available to the public on 01.12.2023 (11:40 CET). Date of preparing the report is the date of making it accessible. Before the recommendation was made accessible, information included in it had been confidential.

The prices of the financial instruments listed in the document have been taken from the real-time pricing as provided by Bloomberg. Data concerning financial instrument prices used in the report could be loaded to 24 hours before the moment of completing the report.

Detailed list of all analytical reports (recommendations) published by BDM during the last 12 months is included in a cyclical “Monthly Report”.

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